

**ANNUAL
REPORT
2014-15**

**CONSTANTLY EVOLVING
TO MEET CHANGING TIMES**



**UNIVERSITY
of TORONTO**

SickKids®

THE HOSPITAL FOR
SICK CHILDREN

Department of
Paediatrics

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OUR MISSION



Dedicated to improving children's lives through advances in clinical care, research and innovation and the education of future caregivers.

EXECUTIVE SUMMARY



*From Left to Right:
Dr. Jeremy Friedman,
Ben Vozzolo, Dr. Denis
Daneman, Dr. Rayfel
Schneider, Dr. Meredith
Irwin, Marilyn Monk*

This year's Annual Report represents the tenth and final one of my term as Chair of Paediatrics at the University of Toronto and Paediatrician-in-Chief at The Hospital for Sick Children. It has been a distinct honor and privilege to serve in these capacities, not only because of the prestigious nature of these two illustrious institutions, but even more so because of the opportunity it has afforded me to work alongside an incredibly talented faculty that has gone from strength to strength during these ten years. This is not to say we haven't had significant challenges

along the way, but progress has been made in all areas of the academic and clinical enterprise.

- **Faculty size:** we have recruited close to 100 new faculty members in all job profiles, Clinician Scientist, Clinician Investigators, Clinician Educators and Academic Clinicians. Most divisions have grown larger and more productive. This is evidenced by promotion of 137 members of the faculty to Associate or Full Professor during this time.

- **Clinical care:** examples of improvement in clinical care abound: an Emergency Department that functions amongst Ontario's best; shortened average lengths of stay; new programs in childhood obesity, brain inflammation, palliative care and many more; a focused departmental scorecard; a menu of items for the Choosing Wisely campaign to reduce unnecessary healthcare spending. Jeremy Friedman and the Clinical Excellence Committee warrant our heartiest congratulations on these efforts.
- **Research:** we have reinforced our fundamental research with key recruits in, for example, very early onset inflammatory bowel disease; muscular dystrophies and hypotonia; kidney disease; bolstered clinical and translational investigation across the full spectrum of paediatric disorders, including common paediatric conditions (TargetKids!), asthma (C.H.I.L.D.), obesity (STOMP), and diabetes (TrialNet, TRIGR, AddIT). We continue to explore new areas of interest in health services research, health policy and economics. Research funding has almost tripled in the last 10 years and we rank second among all North American Departments of Paediatrics in numbers of publications. Meredith Irwin leads these efforts together with the Research Advisory Committee.
- **Education:** Our educational activities have become increasingly diversified with many more sites around the Greater Toronto Area. All of our Postgraduate Training Programs are fully accredited with the Royal College and highly sought after by trainees around the world. Rayfel Schneider leads the education enterprise with a hugely effective group of educators.

Our vision these past 10 years has been “to continuously evolve as one of the world’s leading paediatric departments.” There can be no doubting that we have succeeded in this. Nonetheless, dwindling health care budgets, at the university, hospital and individual department level have already put pressure on us to perform more efficiently and in a less costly manner. Some cuts help us prioritize, when they get too deep they threaten our *raison d’être*.

During the course of my almost 40 year career in Paediatrics, we have practiced what I would term “sweat of our brow medicine,” and it has paid off in buckets. Impressive gains have been made in virtually every field in Paediatrics, but there is more to come, much more. I am envious of the next generation of paediatricians who will, no doubt, have new and better therapies, precision therapeutics, to offer their patients. We will continue to sweat about two issues, first, those who do not respond to these treatments, and, second, those children who live at a disadvantage due to poverty, exclusion, discrimination. Our Social Paediatrics program has put the spotlight on the second, and the light should focus intensely until these problems have been licked.

SickKids and UofT are great institutions because of the people who work here. This is certainly true in Paediatrics. I cannot stress enough the joy it has been to have had the privilege of leadership from 2006-2016. Don’t let up.

Thank you and all the best.

Denis Daneman, MBBCh, FRCPC, DSc(Med)

FACULTY PROMOTED IN 2015

Full Professor

Jill Hamilton
Hartmut Grasmann
Patrick McNamara
Vicky Ng
Mark Palmert
Chris Parshuram
Elena Pope
Lillian Sung
Shelly Weiss

Associate Professor

Sarah Alexander
Yaron Avitzur
Sarah Bowdin
Migel Cortez
Doug Campbell
James Dowling
Mahendranath Moharir
Farid Mahmud
Tal Schechter-Finkelstein
Rachel Wald

RECOGNIZING OUR STAFF

I would like to take this opportunity to recognize our Department of Paediatrics office staff members for their ongoing commitment and operational excellence over the past calendar year.

Paediatrics Office Staff

Anna Capizzano, Executive Assistant
Amoye Henry, Project Coordinator
Maureen Lum, Financial Analyst
Angela McGerrigle, Executive Assistant
Diva Mendes, Administrative Assistant,
Office Secretary
John Vetta, Manager of Finance, Controller

Medical Education Staff

Mary Antonopoulos,
Clerkship Program Administrator
Joanna Barnes, Program Coordinator,
Pre-clerkship, Electives, TTR

Josefina Bento, Administrative Assistant
Susan Jenkins, Business Supervisor, Postgraduate
Sandra Layno, Program Coordinator, Postgraduate
Clare Schlesinger, Education Coordinator
Michelle Wan, Conference Administrator

Paediatric Consultants Billing Office

Shelley Todd, Supervisor
Shannon Baksh
Ella Frias
Kyle Martin
Shara Ramsaywack
Indra Samaroo
Jenette Singh
Meena Singh

CHANGING TIMES

As we continue to evolve as one of the world's leading academic institutions in Paediatrics, our commitment to quality through our clinical, research and education programs remains a constant. Through distinct clinical excellence and cutting edge research innovation, our future generation of medical professionals are destined to affect global change. Although the times are surely changing, one thing prevails: the dedication to Paediatric care in our department. We profile our six new faculty who share some of their thoughts on care for the generation to come.





**Krishna Anchala,
Academic
Clinician, Paediatric
Emergency Medicine**

Emergency Care, Always Changing

Dr. Krishnapriya Anchala is an associate professor in the division of emergency medicine. She joins SickKids from McMaster Children's Hospital where she was an associate professor in the Department of Pediatrics. During her eleven years at McMaster, she was instrumental in establishing a new pediatric emergency program to service the southeastern region of Ontario.

Her interests include novel curriculum development and emergency department team training. Dr. Anchala has led hospital wide patient safety initiatives, assisted with provincial trauma planning for pediatrics and managed the pediatric emergency medicine clinical teaching unit at McMaster.

"Prior to joining SickKids, I was fortunate to have been involved with the transformation of pediatric emergency medicine care for the Hamilton region. As our healthcare system evolves, we will be challenged to find new and innovate ways to deliver emergency care to the GTA and surrounding region. I look forward to working with SickKids as we navigate these exciting and changing times"



**Thomas Eiwegger,
Immunology Allergy**

Developing and facilitating new concepts in the treatment of food allergy

Thomas Eiwegger earned his doctoral degree at the Medical University of Vienna, Austria, where he also completed his paediatric training. He did his post Doc in the Swiss Institute of Asthma and Allergy in the group of Cezmi Akdis from 2008-2010. Before moving to Sickkids Dr. Eiwegger was principal investigator and associate Professor at the Department of Paediatrics and Adolescent medicine, Medical University of Vienna, Austria.

As a clinician and scientist Dr. Eiwegger will focus on food allergy.

Being allergic to food is special since hidden food components may result in life-threatening reactions. This generates fear that severely impacts daily life of the affected child, the family and the environment. Until now allergen avoidance is the only available treatment.

Dr. Eiwegger will focus on better understanding of the mechanisms of tolerance development to allergens. Dr. Eiwegger will define new treatment approaches by delineating the sequence of events that take place in children that lose their food allergy.

"Learning from these children will provide us with new, innovative therapeutic approaches to cure food allergy."



**Regan Giesinger,
Academic Clinician,
Neonatology**

Shifting the perception of neonatal hemodynamics and echocardiography

Dr. Regan Giesinger graduated from Queen's University in Kingston, Canada in 2008. She went on to receive her Specialist designation in Pediatrics in 2012. She completed Neonatology training at the University of Toronto and obtained her Specialist designation in Neonatal-Perinatal Medicine from the Royal College of Physicians and Surgeons of Canada in 2014. She has completed an additional year of Subspecialty training as a fellow in Targeted Neonatal Echocardiography at the University of Toronto. Dr. Giesinger's area of focus is 'neonatal hemodynamics and echocardiography' and her research interests include the physiology and management of hypotension and the hemodynamics of perinatal asphyxia.

"At no other time in life does the human undergo more change than in the evolution from a preterm born at the limits of viability to a term baby on the way home. The more we understand these changes, the more smoothly we can usher them through. I'm proud to begin my career as a member of the world leading Targeted Neonatal Echocardiography program which is already advancing the field by mapping out the impact of transitioning physiology, pharmacology and disease on our fragile patients."



**Jennifer Harrington,
Academic Clinician,
Endocrinology**

Expanding our understanding of bone health in children

Dr. Jenny Harrington earned her medical school degree at the University of Adelaide, Australia. She undertook her residency training and a pediatric endocrine fellowship through the Women's and Children's Hospital in Adelaide. During her fellowship she completed a PhD which focused on monitoring vascular health in children at risk for accelerated atherosclerosis. In 2010 she came to SickKids, and it was during her fellowship at SickKids that she developed a clinical and research interest into the management of children with disorders of calcium homeostasis and bone health. Her research looks at the long term outcome of children with hypoparathyroidism and bone microarchitecture in children with glucocorticoid induced osteoporosis. Ongoing research interests include the assessment of bone health in children with genetic disorders of bone fragility, such as Osteogenesis Imperfecta, as well as those with osteoporosis secondary to chronic diseases, such as in boys with Duchenne Muscular Dystrophy.

"Our understanding of the genetic underlying conditions leading to bone fragility in children is rapidly expanding. Just in the last five years, over 15 new genes leading to osteogenesis imperfecta have been identified. Through studying the relationship between genotype, clinical presentation and response to treatment, we can aim to tailor our management to optimize outcomes."



**Linda Hiraki,
Clinician Scientist,
Rheumatology**

Understanding the genetic origins of complex rheumatic diseases

Dr. Linda Hiraki is a Clinician-Scientist in the Division of Rheumatology and Scientist Track investigator in Child Health Evaluative Sciences, Research Institute at SickKids. She earned her MD at Queen's University, and completed her clinical training in paediatrics and rheumatology at SickKids. Following her clinical training, Dr. Hiraki went on to pursue research training at the Harvard School of Public Health, funded by the Harvard, Frank Knox Scholarship and subsequently the Canadian Institutes of Health Research (CIHR) to complete a Masters and Doctor of Science in epidemiology, with a focus on genetic epidemiology. She then completed postdoctoral training in the Andrew Paterson's laboratory, Genetics & Genome Biology at SickKids. Dr. Hiraki's current research interests include examining the genetic contribution to complex, rheumatic diseases and their associated long-term outcomes. Dr. Hiraki is coordinating a large, international cohort of systemic lupus erythematosus patients followed prospectively over years of disease to understand the genetics of lupus, its manifestations and related outcomes.

"I've come to recognize research as a critical component of my clinical practice, adding dimension and depth to my clinical care and patient interactions. Reciprocally, my care for patients and families guides my research."



**Neal Sondheimer,
Clinician Scientist
– Clinical and
Metabolic Genetics**

Transitioning the focus from Diagnosis to Treatment; the Evolution of Mitochondrial Care Possibilities

Dr. Neal Sondheimer completed his M.D. and Ph.D. at The University of Chicago where he did graduate work on the formation of prions with Susan Lindquist. He did residency in clinical genetics and pediatrics at The Children's Hospital of Philadelphia, and also completed fellowship in Clinical Biochemical Genetics where he later served as program director for medical genetics. He became an Assistant Professor at The University of Pennsylvania in 2009. His research program has focused on the transcription of the mitochondrial genome and the effect of mitochondrial genetic variation on common and rare disease. In the Division of Clinical and Metabolic Genetics, he is an Associate Scientist in Genetics and Genome Biology. His work will focus on novel aspects of treatment approaches to mitochondrial disorders by exploring opportunities to lower the overall heteroplasmy burden. He is also part of a long-term study of the role of mitochondrial bioenergetics in prematurity funded by the March of Dimes.

"The history of genetics is that it was a field that diagnosed children and provided guidance to their families. In these changing times genetics will take a more active role in providing treatment options. I am interested in leading this effort in the field of mitochondrial medicine."

DIVISION OF ADOLESCENT MEDICINE

The Division of Adolescent Medicine at The Hospital for Sick Children is an interprofessional group committed to promoting and providing excellence in adolescent health care, and collaborating with local, national and international communities in the areas of patient care, training, education and research. Some of the exciting events of the year included: a successful external review; seeing our 100th patient in the Transgender Youth Clinic; and an unprecedented number of SickKids research presentations and workshops at the Society for Adolescent Health and Medicine conference in Los Angeles. Members of the Division published 15 papers in 12 journals.



*The Good 2 Go
Transition team:
Megan Henze
Dr. Miriam Kaufman
Khush Amaria
Geraldine Cullen-Dean*

Exciting Adolescent Medicine events included: a successful external review; publications in 15 papers in 12 journals; seeing our 100th patient in the Transgender Youth Clinic; and an unprecedented number of presentations at the Society for Adolescent Health and Medicine conference.

The Young Families' Program continues to offer interprofessional education and experience to trainees from a variety of disciplines including medicine, nursing, social work and psychiatry with a particular focus on social paediatrics to its clinical, research and educational programs. Research and Quality Improvement projects include work in the areas of maternal and child outcomes, infant mental health, developmental screening and evidence-based health services for adolescent parents. The program continues its progress towards the development of evidence based adolescent parenting intervention with a particular emphasis on maternal and infant mental health. Outreach to Community networks and affiliations remains an active focus.

The Substance Abuse Program provides continuum of care from outpatient to day treatment, incorporating best practices in clinical care, while providing learning for a variety of health professional trainees. The program also provides outreach to schools, group homes and youth-serving agencies across the GTA. The program has introduced enhanced services for parents and is also one of the lead agencies involved in a pilot project aimed at enhancing program evaluation of youth addiction programs in Ontario. The program is also launching a new education resource for teens about the health risks of cannabis use entitled 'Just Weed'.

The Good 2 Go Transition Program continues to support SickKids staff and members of the paediatric and adult healthcare community in servicing the needs of youth in healthcare transitions. Highlights from the past year include supporting novel initiatives via a transition navigator in sickle cell program, transfer clinics in aftercare oncology and transition education events in neurosurgery outreach program. We continue to serve as consultants/experts at the local hospital community level and nationally, with our work with the Epilepsy Transition Working group and efforts to develop clinical practice guidelines for transitions with the Canadian Association of Paediatric Health Centres, respectively. We published research in the area of youth-focused interventions for transition to adult healthcare and continue our research in palliative care, inflammatory bowel disease, and transition-specific initiatives such as Transfer Clinics.

The Eating Disorders Program provides integrated clinical services (Inpatient, Day Hospital, Outpatient and Consultation) to adolescents and their families. All aspects of the program are interdisciplinary and family-based, as fits with best evidence based practice. Our newest program, the Children's Outpatient Program for Eating Disorders (COPE), provides care specially designed for those under 12 years old who struggle with eating issues and co-morbid illnesses. Educating current and new providers on best practices in eating disorders care remains a core mission of the program.

Current research is in the areas of transition to adult care, trauma and eating disorders, and the treatment of children with eating disorders. We continue to participate in the Ontario Community Outreach Program for Eating Disorders which strengthens care for sufferers of eating disorders throughout the province.

SITY continues to provide adolescent health care for young people with chronic illness or disability, with regular clinics in solid organ transplant, rheumatology, haematology, STOMP, sleep and spina bifida clinics. The Transgender Youth Clinic (TYC), operated jointly by Adolescent Medicine and Endocrinology has seen over 100 patients since it's creation and is experiencing increasing numbers of referrals from across the province with 23 in June alone. An additional monthly follow up clinic has been added to meet this demand. TYC is also participating in the Ontario Centres of Excellence initiative to optimize clinic flow and patient outcomes. SITY is an important educational resource, providing continuity clinics for fellows and subspecialty residents and teaching about a broad range of adolescent issues. SITY continues to optimize the involvement of practitioners and trainees in a number of disciplines to role-model and deliver care in an integrated and interprofessional manner. Current research is in the areas of HPV immunization in solid organ transplantation, adherence to treatment, mHealth and eHealth.

Publications

Dimitropoulos G, Toulany A, Herschman J, Kovacs A, Steinegger C, Bardsley J, Sandhu S, Gregory C, Colton P, Anderson J, Kaufman M. A Qualitative Study on the Experiences of Young Adults with Eating Disorders Transferring From Pediatric To Adult Care. *Eating Disorders: The Journal of Treatment and Prevention*, 2014 Nov 17:1-19.C

Katzman D. Higher Calorie Diets Increase Rate of Weight Gain and Shorten Hospital Stay in Hospitalized Adolescents with Anorexia Nervosa [commentary] in *Year Book of Pediatrics 2015*. Cabana MD, Ed. (Elsevier, Philadelphia, PA).

Katzman DK, Garber AK, Kohn M, Golden NH. Refeeding hypophosphatemia in hospitalized adolescents with anorexia nervosa. *J Adolescent Health*. 2014; 55: 455-457.

Katzman DK, Stevens K, Norris M. Redefining feeding and eating disorders: What is avoidant/restrictive food intake disorder?" *Paediatric Child Health* 2014; 19 (8): 445-6.

McLaughlin T, Korenblum C, Loverdos I, Toulany A. Weight lost...and Found. *Paediatrics and Child Health*, 2014 Oct;19(8):e117-118. SRI

Ornstein RM, Katzman DK. Child and Adolescent Feeding and Eating Disorders and the DSM-5: A Brave New World. In : *Adolescent Medicine: State of the Art Reviews (AM:STAR)*. American Academy of Pediatrics. Holland C, Braverman P, eds. 2014; 25: 360-376.

Strike C, Vandermorris A, Rudzinski K, Mozygemba K, Wekerle C, Erickson P. -2014. Emergency departments and street-involved youth: factors influencing utilization. *Journal of Social Distress and the Homeless* 23(1): 42-50.C

Young MM, Adrienne S, Galipeau J, Pirie T, Chantelle G, Singh K, Yazdi F, Golfam M, Pratt M, Turner L, Porath-Waller A, Arratoon C, Haley N, Leslie K, Reardon R, Sproule B, Grimshaw J and David Moher D. Effectiveness of brief interventions as part of the Screening, Brief Intervention and Referral to Treatment (SBIRT) model for reducing the non-medical use of psychoactive substances: a systematic review *Systematic Reviews* 2014 May 24;3:50

Book Chapters

Toulany A and Katzman DK. Eating Disorders. in *The Female Athlete Triad: A Clinical Guide*, edited by Gordon C, Leboff MS. Springer Science+Business Media, New York, 2015. PA

Grants and Funding

A Mobile Phone-Based Supported Self-Management System for Adolescents with Type 1 Diabetes. Palmert M, Casselman M, Cafazzo J, Katzman DK, Leonard K. **Thrasher Research Fund**. \$396,912 USD. Sept 2012-August 2015.

A Novel Family Based Intervention for Transition Age Youth and their Families: A Two Phase Feasibility Study. Dimitropoulos G (PI), Colton P, Olmsted M, Kovacs A, Woodside B, Steinegger C, Kaufman M, Toulany A. **Ontario Mental Health Foundation**. \$110,000 CAD. March 2013 – March 2016.

Assessment and Treatment of Oppositional Behaviour, Conduct Problems and Aggression in Children with Attention Deficit Hyperactivity Disorder, Oppositional Defiant Disorder and Conduct Disorder: Bringing Knowledge to Action Among Family Physicians and Pediatricians. Pringsheim T (PI), Johnson D (PI). Gorman D (Co-I), Cooke L (Co-I), Doja A (Co-I), Andrade B (Co-I), Millette J (Co-I), Ng V (Co-I), Thomas R (C), Mousmanis P (C), Handanos D (C), Goldade R (C), Belanger S (C), Wong S (C), Carrey N (C), Leverette J (C), Katzman DK (C), Murphy A (C), Brehaut J (C). **Shire, Canada**. \$100,000 CAD. Jan 2015

Connecting Adolescents and Young Adults to Preventive Health Care Services. CoPIs: Klein JD and Santelli JS, The Society for Adolescent Health and Medicine (Katzman DK (Co-I), Ford (Co-I), American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), and the American College of Obstetricians and Gynecologists (ACOG). **Merck Adolescent Health Consortium Grant** \$3,100,000 USD. August 2014 – August 2018.

Design and initial testing of a wearable sleep sensor and mHealth intervention to promote sleep for adolescents. **Canadian Institute of Health Research**. Stremler R (PI), Cafazzo J., Katzman DK (Co-I), Keilty K, Maser C, Pullyenayegam E. \$267,442 CAD. Jan 2014 – Sept 2016.

Effects of Anorexia on Peak Bone Mass.
Katzman, Debra. **National Institutes of Health (NIH)** \$387,571.00 USD. April 9 2011 – March 30, 2015

Introducing an mHealth Platform to Improve Patient Engagement. Kaufman M., Whitehouse S. **Ontario Centers of Excellence.** \$350,0000 CAD. March 2015-Feb 2017

Team to Address Bariatric Care in Canadian Children (Team ABC3), PI: Ball, Co-PIs: Birken, Hamilton, Holt, Masse, Morrison, Co-Is: Anderson, Buchholz, Carsley, Chanoine, Cordeiro, Dettmer, Forhan, Hadjiyannakis, Haines, Ho, Legault, Luca, Maguire, Maximova, McPherson, Parkin, Perez, Sprague, Toulany, Tremblay, Tu. Canadian Institute of Health Research: **Team Grant in Bariatric Care.** \$1,480,881 CAD. October 2014 - October 2019

DIVISION OF ADOLESCENT MEDICINE

Division Head
Dr. Miriam Kaufman

Full-Time

Dr. Katherine Hick
Dr. Debra Katzman
Dr. Cathleen Steinegger
Dr. Alene Toulany

Part-Time

Dr. Joey Bonifacio
Dr. Ian Chen
Dr. Eudice Goldberg
Dr. Sarah Kearney
Dr. Rahul Saxena

Clinical Fellows

Dr. Alanoud Al Ansari
Dr. Zahra Alebraheem
Dr. Mariano Macias
Dr. Renee Morgan

Subspecialty Residents

Dr. Mariel Heller
Dr. Megan Cooney
Dr. Chana Korenblum
Dr. Allison Rodrigues
Dr. Ashley Vandermorris

Administrative Staff

Noreen Akhtar
Joy Gouldbourne

DIVISION OF CARDIOLOGY

The Division of Cardiology at The Hospital for Sick Children was established in 1938, as one of the first dedicated units treating children with congenital heart disease. Almost 80 years later, the Division remains one of the most prestigious and productive in the world.



Dr. Andreea Dragulescu

The most recent achievement of the division is the establishment of a long-awaited neurodevelopmental outcome program.

As an integral partner in the Labatt Family Heart Centre, it forms an important part of a multi-disciplinary and “expert model of care” team, with dedicated cardiac intensive care facilities, world-leading imaging teams, internationally renowned interventional cardiology and electrophysiology services, and one of the largest heart function and transplant groups.

The fellowship program attracts high caliber candidates from North America and around the world.

Research and development has always been at the forefront of the activities of the Division, and the current Faculty continues to perform at the highest level. It is a long-standing member of the Paediatric Heart Network, an NIH funded network of centres of excellence, houses the Congenital Heart Surgeons Society, and leads the world in the clinical epidemiology and outcomes analysis of congenital heart disease. At a mechanistic level, our world leading imaging research spans all disciplines from CT, MRI, to echocardiography and fetal medicine, alongside this, the heart function and transplant research activities have made a world impact. Working closely with our surgical colleagues, the interventional cardiology program has been at the leading edge of the field for well over 20 years, and continues to develop novel interventions, hybrid procedures, and our multi-disciplinary imaging faculty is unsurpassed in cardiovascular functional research.

The most recent achievement of the division is the establishment of a long-awaited neurodevelopmental outcome program. This will help us to better define and treat the challenges our patients face in this sphere related to their cardiac anomalies coupled with the additive deleterious effects of open heart surgery and chronic illness and hospitalization.

In summary, the Division, working in close collaboration with colleagues from surgery, anesthesia, intensive care, and all the specialties involved in the care of children with heart disease, goes from strength to strength in each of the clinical, educational, and research domains.

Honors and Awards

Golding, F: Winner of Robert Salter Humanitarian Award, The Hospital for Sick Children, Toronto, Ontario, Canada. November, 2014

Koopmann, T; Hamilton, R: Winner of Paul C. Gillette Award, Pediatric and Congenital EP Society (PACES), Aurora, Colorado, United States. April, 2014

Liu, J; Hamilton, R: Finalist for Best Manipulation Paper Award (Paper entitled: Automated microrobotic characterization of cell-cell communication), IEEE International Conference on Robotics and Automation (ICRA), Hong Kong, China. June, 2014

Liu, J; Hamilton, R: Winner of Best Student Paper Award (Paper entitled: Automated microrobotic characterization of cell-cell communication), IEEE International Conference on Robotics and Automation (ICRA), Hong Kong, China. June, 2014

Mroczek, D; Lee, K-J; Sandoval-Jones, JP; Houle, H; Benson, L; Dragulescu, A; Chaturvedi, RR: Winner of Best Paper Award (Oral presentation: 3D echo and invasive pressure synchronization - Generating real time, multi cycle pressure volume loops), CARDIOTECHNIX: International Congress on Cardiovascular Technologies, Rome, Italy. October, 2014

Sandoval, J; Asoh, K; Kato, A; Lee, KJ; Benson, L; Chaturvedi, RR: Winner of Best Abstract in the PICS ~ AICS 2014 Symposium (Oral presentation: Balloon angioplasty of native aortic coarctation in infants), Pediatric and Adult Interventional Cardiac Symposium (PICS ~ AICS), Rush University Medical Center, Chicago, Illinois, United States. June, 2014

Sun, L; MacGowan, CK; Seed, M: Winner of 2014 Young Researcher Award (Abstract entitled: Feasibility of comprehensive hemodynamic assessment in the normal late gestation human fetus by phase contrast MR and T2 mapping), International Society for Magnetic Resonance in Medicine (ISMRM), Milan, Italy. May, 2014

Publications

Aiyagari R, Rhodes JF, Shrader P, Radtke WA, Bandisode VM, Bergersen L, Gillespie MJ, Gray RG, Guey LT, Hill KD, Hirsch R, Kim DW, Lee KJ, Pelech AN, Ringewald J, Takao C, Vincent JA, Ohye RG. Pediatric Heart Network Investigators. Impact of pre-stage II hemodynamics and pulmonary artery anatomy on 12-month outcomes in the Pediatric Heart Network Single Ventricle Reconstruction trial. *The Journal of Thoracic and Cardiovascular Surgery* 2014; 148 (4): pp 1467-1474.

Alsoufi B, Manlhiot C, Ehrlich A, Oster M, Kogon B, Mahle WT, Maher K, McCrindle BW, Kanter K. Results of palliation with an initial pulmonary artery band in patients with single ventricle associated with unrestricted pulmonary blood flow. *The Journal of Thoracic and Cardiovascular Surgery* 2015; 149 (1): pp 213-220.

Alsoufi B, Manlhiot C, Mahle WT, Kogon B, Broder WL, Cuadrado A, Vincent R, McCrindle BW, Kanter K. Low-weight infants are at increased mortality risk after palliative or corrective cardiac surgery. *The Journal of Thoracic and Cardiovascular Surgery* 2014; 148 (6): pp 2508-2514.

Armsby L, Beekman Rh, Benson LN, Fagan T, Hagler DJ, Hijazi ZM, Holzer R, Ing F, Kreutzer J, Lang P, Levi DS, Latson L, Moore P, Mullins C, Ruiz C, Vincent R. SCAI expert consensus statement for advanced training programs in pediatric and congenital interventional cardiac catheterization. *Catheterization and Cardiovascular Interventions* 2014; 84 (5): pp 779-784.

Asakai H, Kirsh JA. Optimizing outcomes of catheter ablation in infants and toddlers. *Expert Reviews in Cardiovascular Therapy* 2015; 13 (3): pp 333-340.

Atz AM, Zak V, Mahony L, Uzark K, Shrader P, Gallagher D, Paridon SM, Williams RV, Breitbart RE, Colan SD, Kaltman JR, Margossian R, Pasquali SK, Allen K, Lai WW, Korsin R, Marino BS, Mirarchi N, McCrindle BW. Pediatric Heart Network Investigators: Survival data and predictors of functional outcome an average of 15 years after the Fontan procedure: The Pediatric Heart Network Fontan Cohort. *Congenital Heart Disease* 2015; 10 (1): pp E30-42.

Avila ML, Lee KJ, Bouskill V, Rand ML, James P, Carcao M. Acquired von Willebrand syndrome in pediatric patients with congenital heart disease: challenges in the diagnosis and management of this rare condition. *Haemophilia* 2015; 21(1): pp E89-92.

Benden C, Goldgarb SB, Edwards LB, Kucheryavaya AY, Christie JD, Dipchand AI, Dobbels F, Levvey BJ, Lund LH, Meiser B, Yusen RD, Stehlik J. The Registry of the International Society for Heart and Lung Transplantation: seventeenth official pediatric lung and heart-lung transplantation report-2014; focus theme: retransplantation. *Journal of Heart and Lung Transplantation* 2014; 33 (10): pp 1025-1033.

Borik S, Crean A, Horlick E, Osten M, Lee KJ, Chaturvedi R, Friedberg MK, McCrindle BW, Manlhiot C, Benson L. Percutaneous pulmonary valve implantation: 5 years of follow-up: does age influence outcomes? *Circulation: Cardiovascular Intervention* 2015; 8 (2): pp E001745.

Borik S, MacGowan CK, Seed M. Maternal hyperoxygenation and foetal cardiac MRI in the assessment of the borderline left ventricle. *Cardiology in the Young* 2014: Epub Oct 2014

Burchill L, Edwards LB, Dipchand AI, Stehlik J, Ross HJ. Impact of adult congenital heart disease on survival and mortality after heart transplantation. *Journal of Heart and Lung Transplantation* 2014; 33 (11): pp 1157-1163.

Burns KM, Byrne BJ, Gelb BD, Kuhn B, Leinwand LA, Mital S, Pearson GD, Rodefeld M, Rossano JW, Stauffer BL, Taylor MD, Towbin JA, Redington AN. New mechanistic and therapeutic targets for pediatric heart failure: report from a national heart, lung, and blood institute working group. *Circulation* 2014; 130 (1): pp 79-86.

Buske O, Manickaraj A, Mital S, Ray P, Brudno M. Identification of deleterious synonymous variants in human genomes. *Bioinformatics* 2015; 31 (5): pp 799.

Carsley S, Borkhoff CM, Maguire JL, Birken CS, Khovratovich M, McCrindle B, Macarthur C, Parkin PC, on behalf of the TARGet Kids! Collaboration: Cohort profile: The Applied Research Group for Kids (TARGet Kids!). *International Journal of Epidemiology* 2014: Epub Jun 2014.

Caterini JE, Elzibak AH, Michel EJ, McCrindle BW, Redington AN, Thompason S, Noseworthy MD, Wells GD. Characterizing blood oxygen level-dependent (BOLD) response following in-magnet quadriceps exercise. *MAGMA* 2015; 28 (3): pp 271-278.

Chen CK, Manlhiot C, Conway J, Allain-Rooney T, McCrindle BW, Tinckam K, Dipchand AI. Development and impact of de novo anti-HLA antibodies in pediatric heart transplant recipients. *American Journal of Transplantation* 2015: Epub Mar 2015.

Cifra B, Dragulescu A, Brun H, Storch C, Friedberg MK, Manlhiot C, McCrindle BW, Dipchand A, Mertens L. Left ventricular myocardial response to exercise in children after heart transplant. *The Journal of Heart and Lung Transplantation* 2014: 33 (12): pp 1241-1247.

Conway J, Dipchand AI. Challenges with sensitized recipients in pediatric heart transplantation. *Clinics (Sao Paulo)*. 2014: 69 (Suppl 1): pp 17-21.

Crosson JE, Callans DJ, Bradley DJ, Dubin A, Epstein M, Etheridge S, Papez A, Phillips J, Rhodes L, Saul P, Stephenson E, Stevenson W, Zimmerman F. PACES/HRS expert consensus statement on evaluation and management of ventricular arrhythmias in the child with a structurally normal heart. *Heart Rhythm* 2014: 11 (9): pp E55-78.

Dallaire F, Storch C, Hui W, Sarkola T, Friedberg MK, Bradley T, Jaeggi E, Dragulescu A, Mertens L. Reference values for pulse wave doppler and tissue doppler imaging in pediatric echocardiography. *Circulation: Cardiovascular Imaging* 2015: 8 (2): pp E002167.

DeLiva R, Patterson C, So S, Pellow V, Miske S, McLister C, Manlhiot C, Pollock-Bar-Zi S, Drabble A, Dipchand AI. The World Transplant Games: An incentive to improve physical fitness and habitual activity in pediatric solid organ transplant recipients. *Pediatric Transplantation* 2014: 18 (8): 889-895.

Di Maria MV, Younoszai AK, Mertens L, Landeck BF 2nd, Ivy DD, Hunter KS, Friedberg MK. RV stroke work in children with pulmonary arterial hypertension: estimation based on invasive haemodynamic assessment and correlation with outcomes. *Heart* 2014: 100 (17): 1342-1347.

Dipchand AI, Edwards L, Kucheryavaya A, Benden C, Dobbels F, Levvey B, Lund L, Meiser B, Yusef R, Stehlik J. The Registry of the International Society for Heart and Lung Transplantation: seventeenth official pediatric heart transplantation report-2014: focus theme: retransplantation. *Journal of Heart and Lung Transplantation* 2014: 33 (10): pp 985-995.

Dipchand AI, White M, Manlhiot C, Pollock-Bar-Ziv S, Allain-Rooney T, West L, He Y, Touyz RM. Myocyte growth, repair and oxidative stress following pediatric heart transplantation. *Pediatric Transplantation* 2014: 18 (7): pp 764-770.

Dragulescu A, Friedberg MK, Grosse-Wortmann L, Redington A, Mertens L. Effect of chronic right ventricular volume overload on ventricular interaction in patients after tetralogy of Fallot repair. *Journal of the American Society of Echocardiography* 2014: 27 (8): pp 896-902.

El-Khuffash AF, Jain A, Weisz D, Mertens L, McNamara PJ. Assessment and treatment of post patent ductus arteriosus ligation syndrome. *The Journal of Pediatrics* 2014; 165 (1): pp 46-52.

Etoom Y, Govindapillai S, Hamilton R, Manlhiot C, Yoo SJ, Farhan M, Sarikouch S, Peters B, McCrindle BW, Grosse-Wortmann L. Importance of CMR within the Task Force criteria for the diagnosis of ARVC in children and adolescents. *Journal of the American College of Cardiology* 2015; 65 (10): pp 987-995.

Firdouse M, Agarwal A, Grosse-Wortmann L, Mondal TK. Acquired unilateral pulmonary vein atresia in a 3-year-old boy. *Journal of Ultrasound* 2014; 18 (1): pp 73-78.

Forsha D, Slorach C, Chen CK, Stephenson EA, Risum N, Hornik C, Wagner G, Mertens L, Barker P, Kisslo J, Friedberg MK. Classic-pattern dyssynchrony and electrical activation delays in pediatric dilated cardiomyopathy. *Journal of the American Society of Echocardiography* 2014; 27 (9): pp 956-964.

Frommelt PC, Gerstenberger E, Cnota JF, Cohen MS, Gorentz J, Hill KD, John JB, Levine JC, Lu JC, Mahle WT, McCandless RT, Mertens L, Pearson GD, Spencer C, Thacker D, Williams IA, Wong PC, Newburger JW for the Pediatric Heart Network Investigators. Impact of initial shunt type on cardiac size and function in children with single right ventricle anomalies prior to the fontan procedure – the single ventricle reconstruction extension trial. *Journal of the American College of Cardiology* 2014; 64 (19): pp 2026- 2035.

Gaynor JW, Kim DS, Arrington CB, Atz AM, Bellinger DC, Burt AA, Ghanayem NS, Jacobs JP, Lee TM, Lewis AB, Mahle WT, Marino BS, Miller SG, Newburger JW, Pizarro C, Ravishankar C, Stolle CA, Wilder NS, Jarvik GP, Mital S, Russell MW. Validation of association of the apo-lipoprotein E (APOE) ε2 allele with neurodevelopmental dysfunction after cardiac surgery in neonates and infants. *Journal of Thoracic Cardiovascular Surgery* 2014; 148 (6): pp 2560-2568.

Genest J, Hegele RA, Bergeron J, Brophy J, Carpentier A, Couture P, Davignon J, Dufour R, Frohlich J, Gaudet D, Gupta M, Krishanmoorthy P, Mancini J, McCrindle BW, Raggi P, Ruel I, St-Pierre J. Canadian Cardiovascular Society position statement on familial hypercholesterolemia. *Canadian Journal of Cardiology* 2014; 30 (12): pp 1471-1481.

Grattan MJ, Mertens L. Echocardiographic assessment of ventricular function in pediatric patients: a comprehensive guide. *Future Cardiology* 2014; 10 (4): pp 511-523.

Grattan MJ, Thomas DS, Hornberger LK, Hamilton RM, Midodzi WK, Vohra S. Maternal hypothyroidism maybe associated with congenital heart disease in offspring. *Cardiology in the Young* 2014; Epub Oct 2014.

Grotenhuis HB, Mertens L. Recent evolutions in pediatric and congenital echocardiography. *Current opinion in Cardiology* 2015; 30 (1): pp 118-124.

Grotenhuis HB, Zhou C, Seed M, Grosse - Wortmann L, Yoo SJ. Cardiothoracic ratio on chest radiograph does not predict cardiac volumes from magnetic resonance imaging. *Canadian Journal of Cardiology* 2014; 30: pp S107.

Haller C, Honjo O, Bradley T, Dragulescu A, Van Arsdell GS. Atresia of the ascending aorta in hypoplastic left heart syndrome. *Circulation* 2015; 131 (10): pp 925-926.

Horlick E, Benson LN. Caveat emptor: self-expanding stents in the management of arch coarctation in the adult. *Circulation. Cardiovascular interventions* 2015; 8 (1): pii: E002208.

Hui W, Slorach C, Dragulescu A, Mertens L, Bijnen B, Friedberg MK. Mechanisms of right ventricular electromechanical dyssynchrony and mechanical inefficiency in children after repair of tetralogy of Fallot. *Circulation Cardiovascular Imaging* 2014; 7 (4): pp 610-618.

Hyldebrandt JA, Frederiksen CA, Heiberg J, Rothmann S, Redington AN, Schmidt MR, Ravn HB. Inotropic therapy for right ventricular failure in newborn piglets: effect on contractility hemodynamics and interventricular interaction. *Pediatric Critical Care Medicine* 2014; 15 (7): pp E327-333.

Iwamoto Y, Inage A, Tomlinson G, Lee KJ, Grosse-Wortmann L, Seed M, Wan A, Yoo SJ. Direct measurement of aortic regurgitation with phase-contrast magnetic resonance is inaccurate: proposal of an alternative method of quantification. *Pediatric Radiology* 2014; 44 (11): pp 1358-1369.

Jain A, Mohamed A, El-Khuffash A, Connelly KA, Dallaire F, Jankov R, McNamara P, Mertens L. A comprehensive echocardiographic protocol for assessing neonatal right ventricular dimensions and function in the transitional period: normative data and z-scores. *Journal of the American Society of Echocardiography* 2014; 27 (12): pp 1293-1304.

James A, Cocoran JD, Mertens L, Franklin O, El-Khuffash A. Left ventricular rotational mechanics in preterm infants less than 29 weeks' gestation over the first week after birth. *Journal of the American Society of Echocardiography* 2015: Epub Mar 2015.

James AT, Corcoran JD, Jain A, McNamara PJ, Mertens L, Franklin O, El-Khuffash AE. Assessment of myocardial performance in preterm infants less than 29 weeks gestation during the transitional period. *Early Human Development* 2014; 90: pp 829-835.

Jeewa A, Chin C, Pahl E, Atz AM, Carboni MP, Pruitt E, Naftel DC, Rodriguez R, Dipchand AI. Outcomes after percutaneous coronary artery revascularization procedures for cardiac allograft vasculopathy in pediatric heart transplant recipients: A multi-institutional study. *Journal of Heart and Lung Transplantation* 2014: Epub Nov 2014.

Kang K, Etheridge S, Kantoch MJ, Tisma-Dupanovic S, Bradley D, Balaji S, Hamilton R, Singh A, Cannon BC, Schaffer M, Potts J, Sanatani S. Current management of focal atrial tachycardia in children: A multi-center experience. *Circulation Arrhythmia and Electrophysiology* 2014; 7 (4): pp 664-670.

Kato H, Fu YY, Zhu J, Wang L, Aafaqi S, Rahkonen O, Slorach C, Traister A, Leung CH, Chiasson D, Mertens L, Benson LN, Weisel RD, Hinz B, Maynes JT, Coles JG, Caldarone CA. Pulmonary vein stenosis and the pathophysiology of “upstream” pulmonary veins. *The Journal of Thoracic and Cardiovascular Surgery* 2014: 148 (1): pp 245-253.

Kirk R, Dipchand AI, Rosenthal DN, Addonizio L, Burch M, Chrisant M, Dubin A, Everitt M, Gajarski R, Mertens L, Miyamoto S, Morales D, Pahl E, Shaddy R, Towbin J, Weintraub R. The International Society of Heart and Lung Transplantation Guidelines for the management of pediatric heart failure: Executive summary. *The Journal of Heart and Lung Transplantation* 2014: 33 (9): pp 888-909.

Kirk R, Dipchand AI, Rosenthal DN, Addonizio L, Burch M, Chrisant M, Dubin A, Everitt M, Gajarski R, Mertens L, Miyamoto S, Morales D, Pahl E, Shaddy R, Towbin J, Weintraub. The International Society for Heart and Lung Transplantation Guidelines for the management of pediatric heart failure: Executive Summary. *Journal of Heart and Lung Transplantation* 2014: 42 (5): pp 1104.

Kocel SL, Russell J, O'Connor DL. Fat-modified breast milk resolves chylous pleural effusion in infants with post-surgical Chylothorax but is associated with slow growth. *Journal of Parenteral and Enteral Nutrition* 2015: Epub Jan 2015.

Koopman LP, Mertens L. Impact of childhood obesity on cardiac structure and function. *Current Treatment Options in Cardiovascular Medicine* 2014: 16 (11): pp 345.

Kotani Y, Anggriawan S, Chetan D, Zhao L, Liyanage N, Saedi A, Mertens L, Caldarone CA, Van Arsdell GS, Honjo O. Fate of the hypoplastic proximal aortic arch in infants undergoing repair for coarctation of the aorta through a left thoracotomy. *The Annals of Thoracic Surgery* 2014: 98 (4): pp 1386-1393.

Kotani Y, Chetan D, Saedi A, Zhu J, Grosse-Wortmann L, Coles JG, Caldarone CA, Van Arsdell GS, Honjo O. Persistent fenestration may be a marker for physiologic intolerance after Fontan completion. *The Journal of Thoracic and Cardiovascular Surgery* 2014: 148 (6): pp 2532-2538.

Li J, Rohaila S, Gelber N, Rutka J, Sabah N, Gladstone R, Wei C, Kharbanda R, Redington AN. MicroRNA-144 is a circulating effector of remote ischemic preconditioning. *Basic Research in Cardiology* 2014: 109 (5): pp 423.

Liu J, Siragam V, Gong Z, Chen J, Fridman MD, Leung C, Lu Z, Ru C, Xie S, Luo J, Hamilton RM, Sun Y. Robotic adherent cell injection (RACI) for characterizing cell-cell communication. *IEEE Transactions on Biomedical Engineering* 2015: 62 (1): pp 119-125.

Luca P, Dettmer E, Khoury M, Grewal P, Manlhiot C, McCrindle BW, Birken CS, Hamilton JK. Adolescents with severe obesity: outcomes of participation in an intensive obesity management programme. *Pediatric Obesity* 2014: Epub Sep 2014.

Lund LH, Edwards LB, Kucheryavaya AY, Benden C, Christie JD, Dipchand AI, Dobbels F, Goldfarb SB, Levvey BJ, Meiser B, Yusef RD, Stehlik J. The registry of the International Society for Heart and Lung Transplantation: thirty-first official adult heart transplant report-2014: focus theme: Retransplantation. *Journal of Heart and Lung Transplantation* 2014; 33 (10): pp 996-1008.

MacColl CE, Manlhiot C, Page C, McCrindle BW, Miner SE, Jaeggi ET, Nield LE. Factors associated with in utero demise of fetuses that have underlying pathologies. *Pediatric Cardiology* 2014; 35 (8): pp 1403-1414.

Mackie AS, Islam S, Magill-Evans J, Rankin KN, Robert C, Schuh M, Nicholas D, Vonder Muhl I, McCrindle BW, Yasui Y, Rempel GR. Healthcare transition for youth with heart disease: clinical trial. *Heart* 2014; 100 (14): pp 1113-1118.

Mah K, Friedberg MK. Congenitally corrected transposition of the great arteries: situs solitus or inversus. (Images in Cardiovascular medicine) *Circulation Cardiovascular Imaging* 2014; 7 (5): pp 849-851.

Manase D, D'Alessandro LCA, Manickaraj AK, Turki SA, Hurles ME, Mital S. High throughput exome coverage of clinically relevant cardiac genes. *BMC Genomics* 2014; 7 (1): pp 67

Margossian R, Sharkey A, Szostak A, Canter C, Radojewski E, Golding F, Shirali G, Altmann K, Tani L, Campbell M, Tierney S, Chen S, Colan S, Sleeper LA, Seda E, Lloyd Y, Pediatric Heart Network Investigators. The reproducibility and absolute values of echocardiographic measurements of left ventricular size and function in children are algorithm dependent. *Journal of the American Society of Echocardiography* 2015: Epub Feb 2015.

McCrindle BW, Clarizia NA, Khaikin S, Holtby HM, Manlhiot C, Schwartz SM, Caldarone CA, Coles JG, Van Arsdell GS, Scherer SW, Redington AN. Remote ischemic preconditioning in children undergoing cardiac surgery with cardiopulmonary bypass: a single-center double-blinded randomized trial. *Journal of the American Heart Association* 2014; 3 (4): pp E000964.

McCrindle BW, Li JS, Manlhiot C, Tweddell JS, Giglia TM, Massicotte MP, Monagle P, Krishnamurthy R, Mahaffey KW, Michelson AD, Verdun N, Almond CS, Newburger JW, Brandao LR, Esmon CT, Manco-Johnson MJ, Ichord R, Ortel TL, Chan AK, Portman R, Rose M, Strony J, Kaltman JR. Challenges and priorities for research: a report from the National Heart, Lung, and Blood Institute (NHLBI)/National Institutes of Health (NIH) working Group on thrombosis in pediatric cardiology and congenital heart disease. *Circulation* 2014; 130 (14): pp 1192-1203.

McCrindle BW. Cardiovascular consequences of childhood obesity. *Canadian Journal of Cardiology* 2015; 31 (2): pp 124-130.

McCrandle BW. The contribution of anthropometry, adiposity, and adiposopathy to cardiometabolic disturbances in obese youth. *Journal of Pediatrics* 2014; 165 (6): pp 1083-1084.

McDonald MA, Braga JR, Li J, Manlhiot C, Ross HJ, Redington AN. A randomized pilot trial of remote ischemic preconditioning in heart failure with reduced ejection fraction. *PLoS One* 2014; 9 (9): pp E105361.

Mertens L. What is wrong with the right ventricle after surgical closure of a ventricular septal defect? *European Heart Journal – Cardiovascular Imaging* 2015; 16 (5): pp 473-474.

Miner S, Nield L, Plante S, Goldman L, Prabhakar M, Elliott K, Manlhiot C, McCrandle BW. Risk scores do not adjust for aggressive, evidence-based changes in percutaneous coronary intervention practice patterns. *Future Cardiology* 2015; 11 (2): pp 137-146.

Mondal T, Slorach C, Manlhiot C, Hui W, Kantor PF, McCrandle BW, Mertens L, Friedberg MK. Prognostic implications of the systolic to diastolic duration ratio in children with idiopathic or familial dilated cardiomyopathy. *Circulation – Cardiovascular Imaging* 2014; 7 (5): pp 773-780.

Moola FJ, Faulkner GE, White L, Kirsh JA. The psychological and social impact of camp for children with chronic illnesses: a systematic review update. *Child: Care, Health and Development* 2014; 40 (5): pp 615-631.

Moon-Grady AJ, Morris SA, Belfort M, Chmait R, Dangel J, Devlieger R, Emery S, Frommelt M, Galindo Moore JP, Patel PA, Shannon KM, Albers EL, Salerno JC, Stein MA, Stephenson EA, Mohan S, Shah MJ, Asakai H, Pflaumer A, Czosek RJ, Everitt MD, Garnreiter JM, McCanta AC, Papez AL, Escudero C, Sanatani S, Cain NB, Kannankeril PJ, Bratincsak A, Mandapati R, Silva JN, Knecht KR, Balaji S. Predictors of myocardial recovery in pediatric tachycardia-induced cardiomyopathy. *Heart Rhythm* 2014; 11 (7): pp 1163-1169.

Moore JW, Vincent RN, Beekman RH, Benson LN, Bergersen L, Holzer R, Jayaram N, Jenkins K, Li Y, Ringel R, Rome J, Martin GR. NCDR IMPACT Steering Committee. Procedural results and safety of common interventional procedures in congenital heart disease: initial report from the National Cardiovascular Data Registry. *Journal of the American College of Cardiology* 2014; 64 (23): pp 2439-2451.

Nyns EC, Cifra B, Dragulescu A, Brun H, Slorach C, Friedberg MK, Manlhiot C, McCrandle BW, Dipchand A, Mertens L. Left ventricular myocardial response to exercise in children after heart transplant. *The Journal of Heart and Lung Transplantation* 2014; *Pediatric Radiology* 2014; 33 (12): pp 1241-1247.

Nyns EC, Dragulescu A, Yoo SJ, Grosse-Wortmann L. Evaluation of knowledge-based reconstruction for magnetic resonance volumetry of the right ventricle in tetralogy of Fallot. *Pediatric Radiology* 2014; 44 (12): pp 1532-1540.

Ohno N, Chaturvedi RR, Lee KJ, Benson L. Characteristics of secundum atrial septal defects not percutaneously closed. *Catheter Cardiovascular Interventions* 2015; 85 (2): pp 234-239.

Okumura K, Humpl T, Dragulescu A, Mertens L, Friedberg MK. Longitudinal assessment of right ventricular myocardial strain in relation to transplant-free survival in children with idiopathic pulmonary hypertension. *Journal of the American Society of Echocardiography* 2014; 27 (12): pp 1344-1351.

Otaño L, Pedra C, Pedra S, Pruetz J, Quintero R, Ryan G, Sharland G, Simpson J, Vlastos E, Tworetzky Patel BP, Anderson GH, Vien S, Bellissimo N, McCrindle BW, Hamilton JK. Obesity, sex and pubertal status affect appetite hormone responses to a mixed glucose and whey protein drink in adolescents. *Clinical Endocrinology (Oxf)* 2014; 81 (1): pp 63-70.

Poirier P, McCrindle BW, Leiter LA. Obesity – it must not remain the neglected risk factor in cardiology. *Canadian Journal of Cardiology* 2015; 31 (2): pp 105-108.

Prsa M, Hussein T, McCrindle BW, Grosse-Wortmann L. Comprehensive evaluation of a patient with Kawasaki disease and giant coronary aneurysms with cardiac magnetic resonance. *Congenital Heart Disease* 2014; 9 (6): pp E195-198.

Prsa M, van Amerom JFP, Yoo S - J, Grosse-Wortmann L, Jaeggi E, Macgowan C, Seed M. Normal ranges of blood flow in the major vessels of the normal human fetal circulation at term by phase contrast MRI. *Circulation Cardiovascular Imaging* 2014; 7 (4): pp 663-670.

Rahkonen O, Lee KJ, Chaturvedi R, Benson L. The First Ten of Everything: a review of past and current practice in pediatric cardiac percutaneous interventions. *Congenital Heart Disease* 2015: Epub Jan 2015.

Reddy S, Fung A, Manlhiot C, Tierney ESS, Chung WK, Blume E, Kaufman BD, Goldmuntz E, Colan S, Mital S. Adrenergic receptor genotype influences heart failure severity and β -blocker response in children with dilated cardiomyopathy. *Pediatric Research* 2015; 77 (2): pp 363-369.

Riesenkampff E, Messroghli DR, Redington AN, Grosse-Wortmann L. Myocardial T1 mapping in pediatric and congenital heart disease. *Circulation – Cardiovascular Imaging* 2015; 8 (2): pp E002504.

Roche SL, Grosse-Wortmann L, Friedberg MK, Redington AN, Stephens D, Kantor PF. Exercise echocardiography demonstrates biventricular systolic dysfunction and reveals decreased left ventricular contractile reserve in children after tetralogy of Fallot repair. *Journal of the American Society of Echocardiography* 2015; 28 (3): pp 294-301.

Rumman RK, Nickel C, Matsuda-Abedini M, Lorenzo AJ, Langlois V, Radhakrishnan S, Amaral J, Mertens L, Parekh RS. Disease beyond the arch: a systematic review of middle aortic syndrome in childhood. *American Journal of Hypertension* 2015: Epub Jan 2015.

Sarkola S, Ojala TH, Ulander VM, Jaeggi E, Pitkanen OM. Screening for congenital heart defects by transabdominal ultrasound: role of early gestational screening and importance of operator training. *Acta Obstetrica et Gynecologica Scandinavica* 2015; 94 (3): pp 231-235.

Schantz D, Dragulescu A, Grotenhuis H, Seed M, Grosse - Wortmann L. Effects of preload on atrial and ventricular volumes and function. *Thoracic Cardiovascular Surgery* 2014; 62: pp 26.

Schwartz A, Patel BP, Vien S, McCrindle BW, Anderson GH, Hamilton J. Acute decrease in serum testosterone after a mixed glucose and protein beverage in obese peripubertal boys. *Clinical Endocrinology (Oxf)* 2014: Epub Oct 2014.

Siragam V, Cui X, Masse S, Ackerley C, Aafaqi S, Strandberg L, Tropak M, Fridman MD, Nanthakumar K, Liu J, Sun Y, Su B, Wang C, Liu X, Yan Y, Mendlowitz A, Hamilton RM. TMEM43 mutation p.S358L alters intercalated disc protein expression and reduces conduction velocity in arrhythmogenic right ventricular cardiomyopathy. *PLoS One* 2014; 9 (10): pp E109128.

Somani R, Krahn AD, Healey JS, Chauhan VS, Birnie DH, Champagne J, Sanatani S, Angaran Gow RM, Chakrabarti S, Hamilton RM, Gerull B, Yee R, Skanes AC, Gula LJ, Leong-Sit P, Klein GJ, Gollob MH, Talajic M, Gardner M, Simpson CS. Procainamide infusion in the evaluation of unexplained cardiac arrest: from the Cardiac Arrest Survivors with Preserved Ejection Fraction Registry (CASPER). *Heart Rhythm* 2014; 11 (16): pp 1047-1054.

Tamayo C, Manlhiot C, Patterson K, Lalani S, McCrindle BW. Longitudinal evaluation of the prevalence of overweight/obesity in children with congenital heart disease. *Canadian Journal of Cardiology* 2015; 31 (2): pp 117-123.

Traister A, Li M, Aafaqi S, Lu M, Arab S, Radisic M, Gross G, Guido F, Sherret J, Verma S, Slorach C, Mertens L, Hui W, Roy A, Olguin PD, Hannigan G, Maynes J, Coles J. Integrin-linked kinase (ILK) mediates force transduction in cardiomyocytes by modulating SERCA2a/PLN function. *Nature Communications* 2014; 11 (5): pp 4533.

Valsangiacomo Buechel ER, Grosse-Wortmann L, Fratz S, Eichhorn J, Sarikouch S, Greil GF, Beerbaum P, Bucciarelli-Ducci C, Bonello B, Sieverding L, Schwitler J, Helbing WA. Indications for cardiovascular magnetic resonance in children with congenital and acquired heart disease: an expert consensus paper of the Imaging Working Group of the AEPC and the Cardiovascular Magnetic Resonance Section of the EACVI. *European Heart Journal – Cardiovascular Imaging* 2015; 16 (3): 281-297.

Vanderlaan RD, Manlhiot C, Conway J, Honjo O, McCrindle BW, Dipchand AI. Perioperative factors associated with in-hospital mortality of retransplantation in pediatric heart transplant recipients. *The Journal Thoracic and Cardiovascular Surgery* 2014; 148 (1): pp 282-289.

Vincent RN, Moore J, Beekman RH, Benson LN, Bergersen L, Holzer R, Jayaram N, Jenkins K, Ringel R, Rome J, Martin GR. Procedural characteristics and adverse events in diagnostic and interventional catheterizations in paediatric and adult CHD: initial report from the IMPACT Registry. *Cardiology in the young* 2015: Epub Feb 2015.

Wald RM, Altaha MA, Alvarez N, Caldarone CA, Cavalle-Garrido T, Dallaire F, Drolet C, Grewal J, Hancock Friesen CI, Human DG, Hickey E, Kayedpour C, Khairy P, Kovacs AH, Lebovic G, McCrindle BW, Nadeem SN, Patton DJ, Redington AN, Silversides CK, Tham EB, Therrien J, Warren AE, Wintersperger BJ, Vonder Muhll IF, Farkouh ME. Rational and design of the Canadian outcomes registry late after tetralogy of Fallot repair: the CORRELATE study. *Canadian Journal of Cardiology* 2014; 30 (11): pp 1436-1443.

Wan AW, Lee KJ, Benson LN. Infolding of covered stents use for aortic coarctation: Report of two cases. *Catheter Cardiovascular Interventions* 2014; 83 (1): pp 104-108.

Weber R, Kantor P, Chitayat D, Friedberg MK, Golding F, Mertens L, Nield LE, Ryan G, Seed M, Yoo SJ, Manlihot C, Jaeggi E. Spectrum and outcome of primary cardiomyopathies diagnosed during fetal life. *JACC Heart Failure* 2014; 2 (4): pp 403-411.

Woo R, Seto W, Pong S, Gilhooly T, Russell JL, Chan C. Effectiveness of medication reconciliation performed by a pharmacy technician for paediatric cardiology patients: a prospective cohort comparison study. *Canadian Journal of Hospital Pharmacy* 2015; 68 (1): pp 8-15.

Yoo SJ, Prsa M, Schantz D, Grosse-Wortmann L, Seed M, Kim TK, Wald R, Chaturvedi RR. MR Assessment of abdominal circulation in Fontan physiology. *International Journal of Cardiovascular Imaging* 2014; 30 (6): pp 1065-1072.

Yusen R, Edwards L, Kucheryavaya A, Benden C, Dipchand AI, Dobbels F, Goldfarb S, Levvey B, Lund L, Meiser B, Stehlik J. The Registry of the International Society for Heart and Lung Transplantation: thirty-first official adult heart transplant report-2014: focus theme: retransplantation. *Journal of Heart and Lung Transplantation* 2014; 33 (10): pp 1009-1024.

Book Chapters

Ameduri R, Boucek R, DiFilippo S, Gosset J, Jeffries JL, Kindel S, Perens G, Ravishankar C, Redington A, Scheel J, Singh RK. Etiology and pathophysiology of heart failure. In: *ISHLT Monograph Series – ISHLT Guidelines for the management of pediatric heart failure*. (Kirklin J, Kirk R, Dipchand AI, Rosenthal D, eds). UAB Printing 2014: Chapter 4: pp 22-57

Friedberg MK, Mertens L. The role of echocardiography in adult congenital heart disease. In: *European Society of Cardiology Textbook of Cardiovascular Imaging* (Zamorano JL, Bax JJ, Radmakers F, Knuuti, eds). Springer-Verlag, 2015: pp 565-588

Friedberg MK. Right-left ventricular interactions in RV afterload and preload. In: *Right Ventricular Physiology, Adaptation and Failure in Congenital And Acquired Heart Disease* (Friedberg MK, Redington AN, eds). Springer, 2014

Ganame J, Mertens L. Quantitative Methods in echocardiography – advanced techniques for the assessment of ventricular function. In: *Echocardiography in Pediatric and Adult Congenital Heart Disease 2nd Edition* (Eiden B, O’Leary P, Cetta F, eds). Wolters Kluwer, 2014: pp 62-90

Mertens L, Friedberg M. The role of echocardiography in adult congenital heart disease. In: European Society of Cardiology Textbook of Cardiovascular Imaging (Zamorano J, Bax J, Knuuti J, Sechtem U, Lancellotti P, Badano L, eds). 2015: pp 565-588

Seed M. Advanced Fetal Cardiac MRI. In: Diagnostic imaging of fetal anomalies: ultrasound and MRI. (Kline-Fath B, Bulas D, Bahado-Singh R, eds). Wolters Kluwer, 2015 pp 228-234

Silverman ED, Buyon G, Jaeggi E. Neonatal lupus erythematosus in Textbook of Pediatric Rheumatology. 2015: Chapter 25: pp 336-350

Grants and Funding

A pharmacogenetic trial of tacrolimus after pediatric transplantation. Mital S. SickKids **Transplant Centre Catalyst Grant**. \$150,000 CAD. February 1-2012-May 1-2015

A randomised, controlled, multidose, multicentre, adaptive phase II/III study in infants with proliferating infantile hemangiomas requiring systemic therapy to compare four regimens of propranolol (1 or 3 mg/kg for 3 or 6 months) to placebo (double blind). Pope E, Bradley TJ, Chakkittakandiyil A, Lara-Corrales I. **Pierre Fabre Dermatology**. \$373,044 CAD. February 1-2010-May 1-2014

A randomized controlled trial of hybrid and Norwood surgical strategies for single ventricle congenital heart disease. Caldarone C, McCrindle BW. **Heart and Stroke Foundation of Ontario**. \$228,234 CAD. April 1-2012-March 31-2016

Adolescent type I diabetes cardio renal intervention trial (AddIT) - Canada Site: (1) Randomized controlled trial; (2) Follow-up of non-randomized low risk subjects; (3) Ancillary study - urinary proteomics in adolescents with type 1 diabetes. Daneman D, Mahmud FH, Sochett EB, Curtis JR, Moineddin R, Bradley TJ, Cherney DZI, Reich HN, Scholey JW. **Juvenile Diabetes Research Foundation**. \$3,657,088 CAD. March 1-2011-February 29-2016

Advanced MRI methods for placental dysfunction and fetal distress. Sled J, MacGowan C, Seed M, Kingdom J, Adamson L. **CHRP Canadian Institutes of Health Research (CIHR)**. \$631,718 CAD. October 1-2013-September 30-2016

An International cohort study on DISCOrdant Atrio-ventricular connection. Multicentre retrospective case series. Baruteau A, L'institut du Thorax, Nantes, University of Nantes, France. Munk N, Nield L, Parker R. **Association of European Paediatric Cardiologist**. 30,000 Euros. January 1-2014-December 31-2017

Assessment of the cardiovascular health of pediatric liver transplant recipients. Mouzaki M, Mertens L, Kamath B, Al Nasser Y, McCrindle B, Ng V. **Labatt Family Heart Centre Innovation Funds**. \$24,900 CAD. November 6-2014-March 31-2016

Beta blockers for treatment of pulmonary arterial hypertension in children. Friedberg MK, Humpl T, **The Hospital for Sick Children Labatt Family Heart Centre Innovation Fund**. \$23,297 CAD. April 1-2013-April 30-2015

Biologic determinants of right ventricular remodeling in tetralogy of Fallot. Mital S, Redington AN, McCrindle B, Mertens L. **Heart & Stroke Foundation of Canada.** \$150,634 CAD. March 1-2011-February 20-2016

Can sustained post-operative biventricular pacing improve hemodynamics in children with electro-mechanical dyssynchrony after repair of congenital heart disease? Friedberg MK, Stephenson E, Van Arsdell G, Schwartz S. **Heart and Stroke Foundation of Ontario Grant In Aid.** \$172,481 CAD. July 1-2012-June 30-2015

Canadian National Transplant Research Program: Increasing donation and improving transplantation outcomes. Hebert M-J, Mital S, West LJ. **CIHR Program Grant in Transplantation Research.** \$1,500,000 CAD. April 1-2013-April 1-2018

Cardiac Respiratory Syncytial Virus “RSV” Prophylaxis Programme. Immunoprophylaxis in children with congenital heart disease. Lee K-J, Slater N. **Abbvie Corporation,** Quebec. \$115,000 CAD. July 1-2014-June 30-2015

Cardiovascular biomarker discovery in disease and development through predictive precision proteomics (CBD3P3). Keller G, Liu P, Mital S. **Ministry of Research and Innovation Ontario Research Fund - Global Leadership Round in Genomics & Life Sciences Competition (GL2 Competition).** \$280,000 CAD. January 1-2012-December 31-2015

Clinical Assessment of Thrombosis in Children and Heart surgery: The CATCH study. McCrindle B, Mital S. **CIHR Operating Grant.** \$1,514,330 CAD. October 1-2010-September 30-2015

Comparison of immune profiles of idiopathic dilated cardiomyopathy and maternal anti-Ro and anti-La antibody associated endocardial fibroelastosis in the fetal and neonatal heart. Von Both I, Strachan K, Taylor G, Manlhiot C, McCrindle B, Atkinson A, Jaeggi E, Shannon P, Nield L. **Labatt Family Heart Centre, Innovations.** \$25,000 CAD. June 1-2015-August 31-2015

Creating a fetal lamb model of hypoplastic left heart syndrome. Chaturvedi RR, Jaeggi ET, Keunen H, Ryan G, de Vrijer B. **The Oakville Community Foundation, Donor: Andrew & Susan Cockwell.** \$47,490 CAD. June 1-2011-May 31-2015

CTOT-C (Clinical Trials in Organ Transplantation in Children) U01AI104336-01: Chronic graft dysfunction: interplay of allo- and autoantibodies and nonadherence. Webber S, Dipchand AI, Blume E, Canter C, Naftel D, Hsu D. **National Institutes of Health.** \$5,205,958 CAD. July 1-2013-July 1-2018

Determinants of disease progression and recovery in pediatric heart failure. Kantor P, Mertens L. **Heart and Stroke Foundation of Ontario.** \$400,000 CAD. July 1-2012-June 30-2015

Development of myocardial T1 mapping in children. Grosse-Wortmann L. **Siemens Medical Solutions.** \$25,000 CAD. November 1-2013-December 1-2014

Does myocardial scarring identify patients at risk in childhood hypertrophic cardiomyopathy? A multicenter study. Grosse-Wortmann L, Maron M, Benson L, Chan R. **Labatt Family Heart Centre Innovation Funds**. \$24,500 CAD. February 1-2015-February 1-2016

DOIT Study: Rosuvastatin for treatment of combined dyslipidemia of obesity in children and adolescents. McCrindle B. **National Institutes of Health (NIH)**. \$36,083 USD. July 1-2013-June 30-2015

Early detection and neurodevelopmental outcome in late onset intrauterine growth restriction. Seed M, Jaeggi E, Miller S, Kingdom J, MacGowan C, Yoo SJ, Kelly E, Blaser S, McCrindle B. **SickKids Foundation/ CIHR new investigator**. \$298,390 CAD. October 1-2013-March 31-2016

Early identification of cardiac dysfunction in obese adolescents: mechanisms and modulation. Banks L, McCrindle B, Wells G, Mertens L, Seed M. **CIHR - Bridge funding - Institute of Respiratory and Circulatory Health**. \$100,000 CAD. March 1-2013-March 1-2015

EARLY: Early Assessment of Risk: Lipids in Youth Study. Khoury M, Manlhiot C, Gibson D, Stearne K, Chahal N, Dobbin S, Hamilton J, McCrindle BW, Birken C. **Labatt Family Heart Centre Innovation Funds**. \$22,615 CAD. July 1-2015-June 30-2017

Echocardiography teaching module development and research. Golding F, Bennett S, McCrindle BW, Manlhiot C. **Labatt Family Heart Centre Innovation Funds**. \$20,310 CAD. July 1-2015-June 30-2017

EMPOWER: Enhancing Breast Milk Production with Domperidone in Mothers of Preterm Neonates. Assessment of infant electrocardiograms to determine the presence of Q-Tc interval prolongation and cardiac arrhythmias for the EMPOWER Trial. Asztalos E, Campbell-Yeo M, Da O, Nield, LE. **Sunnybrook Research Institute Funding, Canadian Institute for Health Research**. \$999,454 CAD. January 1-2013-December 31-2016

Evaluation of knowledge translation and retention using an interactive echocardiography training module. Bennett S, Golding, F, Manlhiot C, McCrindle BW. **Labatt Family Heart Centre Innovation Funds**. \$20,310 CAD. November 1-2014-November 1-2016

Exome sequencing a family with gene-negative epidermolysis bullosa superficialis/ichthyosis of bullosa of Siemens. Hamilton R. **Rare Diseases Foundation and the BC Children's Hospital Foundation (BCCNF)**. \$3500 CAN. January 1-2014-December 31-2014

Exome sequencing for RV remodeling after tetralogy of Fallot repair. Manickaraj AK, Mital S. **Heart and Stroke Foundation of Canada Research Fellowship Award**. \$83,000 CAD. July 1-2013-June 30-2015

Factors determining myocardial performance after aortic valve surgery in children-influence of perioperative coronary flow patterns on myocardial function and myocardial response to exercise echocardiography. Mertens L, Dragulescu A, Cifra B, Manlhiot C, Van Arsdell G, McCrindle B. Cifra B, Dragulescu A, Manlhiot C, McCrindle B, Mertens L, Van Arsdell G, Nield LE, **Labatt Family Heart Centre Innovation Funds**, \$23,050 CAD. June 1-2014-June 30-2016

Fetal Atrial Flutter & Supraventricular Tachycardia (FAST) Therapy Trial. Blom NA, Carvalho JS, Cuneo B, Gembruch U, Golding F, Jaeggi E, Kelly E, McCrindle B, Moon-Grady A, Offringa M, Ryan G, Saul P. **Canadian Institute of Health Research**. \$1,349,755 CAD. July 1-2014-June 30-2019

Glucose homeostasis and cardiac output after paediatric cardiac surgery. Schwartz S, McCrindle B, Mital S, Van Arsdell G. **Heart and Stroke Foundation of Ontario**. \$195,019 CAD. July 1-2011-June 30-2015

Identification of genes predisposing to familial arrhythmia syndromes. Hamilton R. **Rare Diseases Foundation and the BC Children's Hospital Foundation (BCCNF)**. \$3,500 CAD. January 1-2014-December 31-2014

Immunogenetic markers of extreme clinical phenotypes of post-transplant lymphoproliferative disorder: A pilot project. Allen U, Dipchand AI, Grunebaum E, Beyene J, Preiksaitis J, Levings M, Hu P, Ng V. **Enduring Hearts Foundation Inc.** \$43,729 CAD. April 1-2015-March 31-2016

iPS cells to model vascular disease in patients with Williams-Beuren syndrome. Ellis J, Mital S. **CIHR Operating Grant**. \$640,182 CAD. January 1-2013-March 31-2018

Kawasaki Disease: On our way to unraveling the pathogenesis. Yeung R, Siminovich K, McCrindle BW. **Canadian Institutes of Health Research**. \$192,548 CAD. June 1-2011-March 31-2016

Large diameter advanta V12 covered stent trial for coarctation of the aorta. Benson L, Chaturvedi R, Eastaugh L, Golding F, Kyong-Jin L. **Atrium Medical Corporation**. \$4,550 USD per patient. August 1-2009-August 31-2014

Late functional status of a cohort of survivors with critical aortic stenosis: A Congenital Heart Surgeons Society Study. Poynter J, Sananes R, McCrindle BW, Kovacs A. **Children's Heart Foundation**. \$196,790 CAD. April 1-2013-March 30-2015

Mechanistic interrogation of bicuspid aortic valve associated aortopathy. Dietz H, Loeys B, Mertens L, Mital S. **Leducq Foundation Transatlantic Network of Excellence**. \$687,095 CAD. January 1-2013-December 31-2017

MRI assessment of the impact of fetal brain oxygenation on brain development in congenital heart disease. Seed M, Jaeggi E, Miller S, Kingdom J, MacGowan C, Yoo SJ, Kelly E, Blaser S, McCrindle B. **Pediatric Heart Network Scholar Awards Funding For Mentored Research**. \$75,000 CAD. July 1-2013-June 30-2015

Network catalyst – infection and immunity (III) Congenital Heart Block International Research Group (CIRN). Hamilton R, Jaeggi E, Silverman E, Hornberger L. **Canadian Institute of Health Research**. \$311,172 CAD. June 1-2012-May 31-2015.

Neural and peripheral approaches linking circuitry and circulation in adolescent bipolar disorder. Goldstein B, Andreatza A, Macintosh B, Young L, Feinstein A, Youngstrom E, McCrindle BW, Levitt A, Sassi R. **Canadian Institutes of Health Research**. \$945,525 CAD. July 1-2014-June 3-2019

Non-invasive monitoring of pediatric kidney allograft injury to improve diagnosis and patient outcome. Hansen T-B, Mital S. **CIHR Operating Grant**. \$984,717 CAD. October 1-2012-September 30-2017

Novel approaches to the prediction, diagnosis and treatment of cardiac late effects in survivors of childhood cancer. Mital S, Nathan P. **Canadian Institutes for Health Research Team Grant**. \$2,797,749 CAD (Mital: \$702,107 CAD). June 1-2011-June 1-2016

Pediatric echocardiography Z-score and electrocardiogram database project for the Pediatric Heart Network (PHN). McCrindle B. **National Institutes of Health (NIH)**. \$1,212 CAD. January 28-2013-April 30-2015.

Pediatric Heart Network – The Hospital for Sick Children, Toronto. Schwartz S, Mital S, Benson L, Brandao L, McCrindle BW, Caldarone C, Chan A, Gruenwald C, Holtby H, Manlhiot C, Mertens L, Russell J, Sivarajan B, Van Arsdell G, Sananes R. **NIH NHLBI (1U10HL109777-1)**. \$7,518,965 USD. September 1-2011- June 30-2016

Physiological determinants of outcomes in dilated cardiomyopathy. Jean-St-Michel E, Manlhiot C, Redington A, Conway J **The Hospital for Sick Children Labatt Family Heart Centre Innovation Fund**. \$17,989 CAD. March 1-2014-April 30-2015

Prenatal versus postnatal diagnosis of congenital heart defects requiring neonatal intervention: a population-based study. **Pediatric Research and Clinical Summer (PeRCS) Program**. Student: Lauren Glick, University of Toronto. \$3,300 CAD. July 1-2014-June 30-2015

Prevalence and evolution of late gadolinium enhancement and myocardial hypertrophy in childhood hypertrophic cardiomyopathy. Grosse-Wortmann L, Maron M, Benson L, Chan R. **Children's Cardiomyopathy Foundation**. \$46,917.61 USD. February 1-2015-February 1-2016

Primary EBV Infection in the Immunosuppressed Setting of Organ Transplantation: Determinants of Virus-Host Interaction. Allen U, Beyene J, Dipchand A, Grunebaum E, Hebert D, Husain S, Mazulli T, Ng V, Read S, Robinson J, Tellier R, Weitzman S. **Canadian Institutes of Health Research (CIHR)**. \$509,125 CAD. January 1-2010-September 30-2014

PROMOTE: Preschoolers at Risk – Obesity Trajectories and Cardiometabolic Factors: Towards Early Identification. Birken C, Adeli K, Hamilton J, Hanley A, McCrindle BW, Lebovic G, Maguire J, Mamdani M, Parkin P, Tremblay M. **Canadian Institutes of Health Research**. \$655,640CAD. July 1-2012-June 30-2016

Prospective cohort study of adults after tetralogy of Fallot: A Canada-wide registry. Wald R, Redington AN, Benson L, Caldarone C, McCrindle B, Farkouh, Oechslin E, Silversides C, Vonder Muhll I, Grewal J, Nadeem N, Siu S, Therrien J. **Canadian Institute of Heart Research**. \$771,662 CAD. March 1-2012-February 28, 2015

Prospective registry on the treatment of fetal atrial flutter & supraventricular tachycardia: FAST Therapy Registry. Jaeggi E. **SickKids Foundation**. \$20,000 CAD. October 1-2014-September 30-2019

Quantification of diffuse myocardial fibrosis in congenital and acquired heart disease. Grosse-Wortmann L. **Labatt Family Heart Centre Innovation Funds**. \$23,000 CAD. March 21-2013-March 20-2015

Rehabilitative exercise and activity clinical trial in congenital heart disease: a pilot study. McCrindle B, McKillop A, Kovacs A, Granton J, Russell J. **Heart & Stroke Foundation of Ontario**. \$70,000 CAD. July 1-2013-June 30-2015

**DIVISION OF
CARDIOLOGY**

Division Head

Dr. Andrew Redington
(Apr 2014 – Oct 2014)
Dr. Jennifer Russell
(Interim Nov 2014 –
Present)

Full-Time

Dr. Lee Benson
Dr. Tim Bradley
Dr. Rajiv Chaturvedi
Dr. Anne Dipchand
Dr. Andreea Dragulescu
Dr. Mark Friedberg
Dr. Fraser Golding
Dr. Gil Gross
Dr. Lars
Grosse-Wortmann
Dr. Robert Hamilton
Dr. Edgar Jaeggi
Dr. Emilie Jean-St-Michel
Dr. Joel Kirsh
Dr. Kyong-Jin Lee
Dr. Brian McCrindle
Dr. Luc Mertens
Dr. Seema Mital
Dr. Jennifer Russell
Dr. Mike Seed
Dr. Elizabeth
Stephenson

Part-Time

Dr. Anil Menon
Dr. Lynne Nield
Dr. Varsha Thakur

Cross-Appointees

Dr. Claudia Almeida
Dr. Sarah Bowdin
Dr. Jack Coleman
Dr. Luis Altamirano Diaz
Dr. Rejane Dillenburg
Dr. Alejandro Floh
Dr. Ra Han
Dr. Tilman Humpl
Dr. Alexandra
Jevremovic
Dr. Afrothite Kotsakis
Dr. Tapas Mondal
Dr. Kambiz Norozi
Dr. Erwin Oechslin
Dr. Lucy Roche
Dr. Steven Schwartz
Dr. Ben Sivarajan
Dr. Rachel Wald
Dr. Roxanne Walker
Dr. Eva Welisch
Dr. Shi-Joon Yoo

TAC-CALL: Toronto Aortic Care - Comprehensive Aortic Care on-Line from Acute Presentation to Long-term Follow-up. Peterson MD, Fam N, Moloney T, Bohn D, Bradley TJ, Caldarone C, Dueck A, Fremes S, Lindsay T, Manlhiot C, Maral C, Rao V, Wijeyesundera H. **St. Michael's Hospital AHSC AFP Innovation Fund.** \$187,356 CAD. 2013-2015

Ted Rogers Personalized Genomic Medicine Program. SickKids Scientific Co-Lead, Mital S, Cohn, R. **Ted Rogers Centre for Heart Research.** \$40,000,000 CAD. (Mital, \$16,000,000). December 1-2014-Dec 1-2021

The CHAPTER Study: Congenital Heart Adolescents Participating in Transition Evaluation Research. Mackie A, Kaufman M, McCrindle BW, Anthony S, Oeschlin E, Sananes R, Kovacs A, Rempel G, Magill-Evans J, Nicholas D, Yasui U, Robert C, Rankin K, McCrindle BW Manlhiot C. **Heart and Stroke Foundation as a Multi-Provincial Grant-in-Aid.** \$206,173 CAD. July 1-2012-June 30-2015

The CORRELATE Study: Canadian Outcomes Registry Late After Tetralogy of Fallot Repair. Wald R, Farkouh M, McCrindle BW, Caldarone C, Cavaller-Garrido T, Grewal J, Hancock-Friesen C, Human D, Kovacs A, Lebovic G, Nadeem S, Redington A, Silversides C, Tham E, Therrien J, Vonder Muhl I, Wintersperger B. **Canadian Institutes of Health Research.** \$533,085 CAD. July 1-2012-June 30-2015

The role of miR-144 in the cardioprotection associated with remote pre-conditioning. Redington AN. **Canadian Institute of Health Research.** \$427,674 CAD. March 1-2014-February 28-2017

Thromboprophylaxis before Fontan for neonates and infants with single ventricle physiology. McCrindle B, Mital S, Schwartz S.

NIH/NLHBI Pediatric Heart Network (1U10HL109777-1). \$7,518,965 CAD. September 1-2011-June 30-2016

TLR4 signaling in acute and chronic responses to remote ischemic conditioning. Redington AN, Rohailla S. **Canadian Institute of Health Research.** \$360,099 CAD. March 1-2013-February 28-2016

Toronto Aortic Collaborative: Multidisciplinary management of patients with thoracic aortic dilatation. Canadian Vascular Network. Weisel R, Rakowski H, Peterson M, Bradley TJ, Dueck A, Caldarone C, Lindsay T, Siminovitch K, Paul N, Billia P, Ouzounian M. **Seed Funding Grant.** \$15,000 CAD. 2013-2015

Towards a better understanding of Kawasaki disease. Yeung R, McCrindle BW, Siminovitch K. **Canadian Institutes of Health Research.** \$792,717 CAD. April 1-2011-March 31-2016

Trial of beta blocker therapy (Atenolol) vs. angiotensin II receptor blocker therapy (Losartan) in individuals with Marfan syndrome. Lacro RV, Dietz HC, McCrindle BW, Bradley TJ. **National Institutes of Health/National Heart, Lung and Blood Institute.** \$1,619,555 CAD. September 1-2011-June 30-2016

Ventricular function in children with aortic stenosis. Dragulescu A, Golding F, Manlihot C, Mertens L, Nield L, Van Arsdell G. **Labatt Family Heart Centre Innovation Funds.** \$23,500.00 CAD. March 1-2014-March 31-2017

Clinical Fellows

Dr. Emilio Alvarellos
Dr. Hiroko Asakai
Dr. Tanmay Bhamare
Dr. Yoav Bolkier
Dr. Sharon Borik
Dr. Paweena
Chungsomprasong
Dr. Santokh Dhillon
Dr. Michael Grattan
Dr. Heynric Grotenhuis
Dr. Antony Hermuzi
Dr. Haruki Ide
Dr. Nobuhiko Kan
Dr. Atsuko Kato
Dr. Michael Houry
Dr. Hanna Krymko
Dr. Carmen Lopez
Dr. Jacob Mathew
Dr. Conall Morgan
Dr. Annika Ohman
Dr. Guido Pieles
Dr. Prashob Porayette
Dr. Ronand Ramroop
Dr. Eugenie
Riesenkampff
Dr. Juan Pablo
Sandoval Jones
Dr. Martijn Sliker
Dr. Sharmila Udupa
Dr. Deane Yim

Subspecialty Residents

Dr. Kandice Mah

Research Fellows

Dr. Barbara Cifra
Dr. Lisa D'Alessandro
Dr. Mieke Driessen
Dr. Olga Gomez
Dr. Ryo Ishii
Dr. Wen-Hsien Lu
Dr. Kenichi Okumura
Dr. Sara Roldan
Dr. Selvi Senthilnathan
Dr. Liqun Sun
Dr. Catalina Tamayo
Dr. Jeong Jin Yu

Adjunct

Dr. Jennifer Conway
Dr. Paul Kantor
Dr. Andrew Redington
(Nov 2014 – Mar 2015)

Administrative Staff

Theresa Braggs
Christa Chartrand
Clara Cheng
Judy Grundy
Pamela Hardy
Divya Hari Kannan
Shelley Kahn
Diana Kuzmanovski
Michelle Leusenko
Jacqueline
Moonsammy

Sue Morton

Judith Speck

DIVISION OF CLINICAL AND METABOLIC GENETICS



*From left to right:
Cheryl Shuman
Dr. Roberto Mendoza
Dr. Sarah Bowdin*

The Division of Clinical and Metabolic Genetics in collaboration with the Centre for Genetic Medicine continued to play a pivotal role in elevating the ‘genetics dialogue’ both within SickKids and with key stakeholders to lead and inform change in research, clinical care & discovery, and education. To address the changing environment of clinical genetics, SickKids partnered with the Children’s Hospital of Philadelphia this year to lead an international Think-Tank with leaders from across Canada and the US to lead and inform change on best practices for next generation genomic testing through a publication in a peer reviewed journal. To address the ongoing genomic education needs within SickKids and our health provider community, the Centre for Genetic Medicine launched a 7-part lecture series and webinar “Conversations with Genetics: You and Your Practice”, which launched in January 2015.

To address the ongoing genomic education needs within SickKids and our health provider community, the Centre for Genetic Medicine launched a 7-part lecture series and webinar “Conversations with Genetics: You and Your Practice”, which launched in January 2015.

Four Divisional staff contributed as key note speakers with over 140 delegates participating for each lecture. Additionally, the Centre for Genetic Medicine hosted a 2014 spring symposium, “Genetic Medicine: Advancing Family Health Care”, with over 240 delegates in attendance offering the Division an opportunity to share clinical outcomes and best practices in genomic discoveries.

Members from the Division contributed to a number of provincial planning initiatives with a lens to influence provincial policy development targeting ‘key’ components required for a provincial genetic services model and associated funding. Specifically, SickKids led the development of a Provincial Clinical Genetics Wait Time Project resulting in the completion of Ontario’s first provincial standardized wait times report released in January 2015 as well as leading a provincial genetics Think Tank & Consultation with the MOHLTC on provincial genetic services planning strategy. From a national perspective, the Centre provided planning to support the McLaughlin sponsored ‘Canadian Prenatal Genomic Microarray and Sequencing Symposium’, held at SickKids in the fall of 2014. This national forum brought global leaders together to discuss and build consensus related to policy, clinical utility & validity, test interpretation and related reporting and patient counselling issues in the application of new genomic testing for prenatal care and screening.

As one of the only G8 countries without legislation to protect individuals against genetic discrimination, the Centre through leadership within the Division of Clinical and Metabolic Genetics has publicly advocated with federal and provincial government leaders to influence content and adoption of legislation. Learning’s and data as a result of the Centre’s Genome Clinic has armed the hospital with quantitative data profiling the profound impact on families and patients when making decisions related to genomic testing.

Division Chief, Dr. Ronald Cohn received the Muscular Dystrophy Campaign UK Award for Innovative Neuromuscular Treatments. Dr. Sarah Bowdin received a promotion to the rank of Associate Professor. The year also brought many successes for many trainees, including our former Chief Resident Dr. Rebekah Jobling, who was invited to present at the European Human Genetics Conference in Glasgow, UK and to present at a platform presentation at the Department of Paediatrics Research Day she also recently published a paper in *Brain*, A journal of Neurology entitled PMPCA mutations cause abnormal mitochondrial protein processing in patients with non-progressive cerebellar ataxia.

The Division of Clinical and Metabolic Genetics has led very important teaching initiatives and is a host to a variety of training programs

in medical genetics. The Royal College of Physicians and Surgeons-certified residency program in Medical Genetics and the Canadian College of Medical Geneticists-certified clinical fellowship programs in Medical and Biochemical genetics are the largest in Canada. This year, Dr. Melissa Carter became the new Program Director for our Medical Genetics training program. The Division is also home to the MSc Program in Genetic Counselling. Through its links to the Research Institute, the genetics centre and the Department of Paediatric Laboratory Medicine, the Division is actively involved in the training of scientists and physicians that work together translating new discoveries into clinical practice and realizing the ideal of individualized genomic medicine.

Cheryl Shuman, the Program Director for the MSc program in Genetic Counselling at the University of Toronto received a promotion to the rank of Professor and the program celebrated the graduation of its 16th class.

Genetic Counsellors Stacy Hewson, Nada Quercia and Eriskay Liston organized the second annual evening event for families and health care professionals in recognition of International Rare Disease Day 2015. This was a very successful function and included great talks from Dr. Janet Rossant, Mr. Ryan Walton, founding member of the Rare Disease Foundation and Mr. Chris Gilmor, an active participant in the Toronto Parent2Parent Resource Network. The Toronto Parent-2-Parent Resource Network is one of 6 such groups in Canada supported by the Rare Disease Foundation.

The first North American Nicolaides-Baraitser syndrome (NCBRS) parent meeting was held at SickKids Peter Gilgan Centre for Research and Learning Tower on Saturday, July 11th, 2015. Bringing together families from Yukon to Florida, the meeting served as a unique venue for individuals and families affected by Nicolaides-Baraitser syndrome to share their stories and gain further knowledge about the rare disorder. The full day meeting was arranged by the Division of Clinical and Metabolic Genetics and was spearheaded by Drs. David Chitayat and Resham Ejaz in the Division of Clinical and Metabolic Genetics and parent organizer, Mrs. Helen Robinson. The meeting was met with an overwhelming positive response by attending families and plans are underway to make this meeting an annual event.

In June, the 22q11 Deletion Syndrome Clinic held their fifth annual International 22q at the Zoo Awareness Day at the Toronto Zoo for patients, families and health professionals. The clinic has begun offering twice yearly Transition To Adult Care Clinics, in collaboration with Dalglish Family Hearts and Minds Clinic for Adults with 22q11 DS and the SickKids Good-2-Go program. They have graduated 13 teens to date through this program. In collaboration with a dedicated parent group and with assistance from the SickKids Foundation Conference Grant, the clinic will be hosting the 2nd 22q11.2 Family Education Conference on November 7, 2015.

Honors and Awards

Cohn, RD: Winner of the Muscular Dystrophy Campaign UK Award for Innovative Neuromuscular Treatments, London, England, UK, 2014

Publications

Aiyar L, Shuman C, Hayeems R, Dupuis A, Pu S, Wodak S, Chitayat D, Velsher L, Davies J: Risk estimates for complex disorders: comparing personal genome testing and family history. *Genetics in Medicine* 2014: 16 (3): pp 231-237

Al-Maawali A, Blaser S, Zhao XY, Yoon G. Prospective Study of Activities of Daily Living Outcomes in Children with Cerebellar Atrophy. *Developmental Medicine and Child Neurology*. 2014: 56(5):460-467

Al-Maawali A, Dupuis L, Blaser S, Heon E, Tarnopolsky M, Al-Murshedi F, Marshall CR, Paton T, Scherer SW; for the FORGE Canada Consortium, Roelofsen J, van Kuilenburg AB, Mendoza-Londono R. Prenatal growth restriction, retinal dystrophy, diabetes insipidus and white matter disease: expanding the spectrum of PRPS1-related disorders. *European Journal of Human Genetics*. (25 June 2014): doi: 10.1038/ejhg. 2014. 112

Al-Maawali A, Marshall CR, Scherer SW, Dupuis L, Mendoza-Londono R, Stavropoulos DJ. Clinical characteristics in patients with interstitial deletions of chromosome region 12q21-q22 and identification of a critical region associated with keratosis pilaris. *American Journal of Medical Genetics*. 2014; 164(3): 796-800. Impact Factor: 2. 30

Al-Maawali AA, Miller E, Schulze A, Yoon G, Blaser SI: Subcutaneous fat pads on body MRI—an early sign of congenital disorder of glycosylation PMM2-CDG (CDG1a). *Pediatr Radiol* 2014: 44: 222-225

Anderson, J, Hayheems R, Szego M, Hayeems R, Shuman C, Monfared N, Bowdin S, Zlotnik-Shaul R and Meyn MS. Predictive Genetic Testing for Adult-Onset Disorders in Minors: A Critical Analysis of the Arguments For and Against the 2013 ACMG guidelines. *Clinical Genetics* 87: 301-310 (2015)

Atkinson C, Miousse IR, Watkins D, Rosenblatt DS, Raiman JA. Clinical, Biochemical, and Molecular Presentation in a Patient with the cblD-Homocystinuria. *Inborn Error of Cobalamin Metabolism*. *J Inherit Metab Dis Reports* 2014 [Epub ahead of print]. Impact Factor 4. 138

Barkova E, Mohan U, Chitayat D, Keating S, Toi A, Frank J, Frank R, Tomlinson G, Glanc P: Fetal skeletal dysplasias in a tertiary care center: radiology, pathology, and molecular analysis of 112 cases. *Clinical Genetics* 2015: 87 (4): pp 330-337

Batshaw ML, Tuchman M, Summar M, Seminara J, Members of the UCDC (incl. Schulze A): A longitudinal study of urea cycle disorders. *Mol Genet Metab* 2014: 113 (1-2): 127-130

Bönnemann CG, Wang CH, Quijano-Roy S, Deconinck N, Bertini E, Ferreiro A, Muntoni F, Sewry C, Bérout C, Mathews KD, Moore SA, Bellini J, Rutkowski A, North KN; Members of International Standard of Care Committee for Congenital Muscular Dystrophies. Diagnostic approach to the congenital muscular dystrophies. *Neuromuscul Disord*. 2014 Apr;24(4):289-311

Bowdin S, Hayeems RZ, Monfared N, Cohn RD, Meyn MS. The SickKids Genome Clinic: Developing and evaluating a pediatric model for individualized genomic medicine. *Clinical Genetics*. 2015 Feb 25 [Epub ahead of print]

Bowdin S, Monfarad N, Cohn RD, Hayeems R and Meyn MS. The Genome Clinic: Developing and evaluating a pediatric model for individualized genomic medicine. *Clinical Genetics* doi: 10. 1111/cge. 12579. -2015

Bowdin S, Ray P, Cohn RD, and Meyn MS. The Genome Clinic: A multidisciplinary approach to assessing the opportunities and challenges of integrating genomic analysis into clinical care. *Hum Mutation* 35: 513-519 (2014)

Bowdin S*, Vaags AK*, Smith ML, Gilbert-Dussardier B, Brocke KS, Sinopoli K, Gilles C, Haaland TB, Vincent-Delorme C, Lagrue E, Harbuz R, Walker S, Marshall CR, Houge G, Kalscheuer VM, Scherer SW, Minnassian BA. Absent CNKSR2 causes seizures and intellectual, attention, and language deficits. *Annals of Neurology* 2014: 76(5):758-764

Bowdin S, Ray PN, Cohn RD*, Meyn MS. The genome clinic: a multidisciplinary approach to assessing the opportunities and challenges of integrating genomic analysis into clinical care. *Hum Mutat*. 2014 May;35(5):513-9. doi: 10.1002/humu.22536. Epub 2014 Apr 7

Boycott K, Hartley T, Adam S, Bernier F, Chong K, Fernandez B, Friedman JM, Geraghty M, Hume H, Knoppers, Laberge A-M, Majewski J, Mendoza-Londono R, Meyn MS, Michaud J, Nelson TN, Richer J, Sadikovic B, Skidmore DL, Stockley T, Taylor S, van Karnebeek C, Zawati M, Julie Lauzon J, and Armour C, on behalf of the Canadian College of Medical Geneticists. The clinical application of genome-wide sequencing for monogenic diseases in Canada – Position Statement of the Canadian College of Medical Geneticists. *J Med Genet* doi:10. 1136/ jmedgenet- 2015-103144 (2015)

Burrage LC, Jain M, Gandolfo L, Lee BH, Members of the UCDC (incl. A. Schulze), Nagamani SC: Sodium phenylbutyrate decreases plasma branched-chain amino acids in patients with urea cycle disorders. *Mol Genet Metab* 2014: 113(1-2): 131-135

Chaudhry A, Noor A, Baker K, Boerkoel C, Brady AF, Chitayat D, Dymont D, Filges I, Hutchison HT, Jeng LBJ, Laumonnier F, Raymond FL, Roberts W, Rupps R, Schrandt-Stumpel CTRM, Stevens SJC, Thomas ERA, Toutain A, Scherer SW, Vincent J, Carter MT: Phenotypic spectrum associated with PTCHD1 deletions and truncating mutations includes intellectual disability and autism spectrum disorder [Epub ahead of print]. *Clinical Genetics* 2014

Chaudhry A, Noor A, Degagne B, Baker K, Bok LA, Brady AF, Chitayat D, Hon-Yin BC, Cytrynbaum C, Dymont D, Filges I, Helm B, Hutchison HT, Jeng LJ, Laumonier F, Marshall CR, Menzel M, Parkash S, Parker MJ; The DDD Study, Raymond FL, Rideout AL, Roberts W, Rupps R, Schanze I; Schrandt-Stumpel CT, Speevak MD, Stavropoulos DJ, Stevens SJ, Thomas ER, Toutain A, Vergano S, Weksberg R, Scherer SW, Vincent JB, Carter MT. Phenotypic spectrum associated with PTCHD1 deletions and truncating mutations includes intellectual disability and autism spectrum disorder. *Clinical Genetics*. 2014 Aug 14. doi: 10.1111/cge.12482

Chaudhry A, Degagne B, Noor A, Baker K, Bok LA, Brady AF, Chitayat D, Chung BH, Cytrynbaum C, Dymont D, Filges I, Helm B, Hutchinson HT, Jeng LJB, Laumonier F, Marshall CR, Menzel M, Parkash S, Parker MJ, The DDD Study, Raymond LF, Rideout AL, Roberts W, Rupps R, Schanze I, Schrandt-Stumpel CTRM, Speevak MD, Stavropoulos DJ, Stevens SJC, Thomas ERA, Toutain A, Vergano S, Weksberg R, Scherer SW, Vincent JB, Carter MT. Phenotypic spectrum associated with PTCHD1 deletions and truncating mutations includes intellectual disability and autism spectrum disorder. *Clin Genet*. 2014 Aug 14. [Epub ahead of print]

Chénier S, Yoon G, Argiropoulos B, Lauzon J, Laframboise R, Ahn JW, Ogilvie CM, Lionel AC, Marshall CR, Vaags AK, Hashemi B, Boisvert K, Mathonnet G, Tihy F, So J, Scherer SW, Lemyre E, Stavropoulos DJ. CHD2 haploinsufficiency is associated with developmental delay, intellectual disability, epilepsy, and neurobehavioral problems. *Journal of Neurodevelopmental Disorders*. 2014; 6(1):9

Chung BH, Bradley T, Grosse-Wortmann L, Blaser S, Dirks P, Hinek A, Chitayat D: Hand and fibrillin-1 deposition abnormalities in Loeys-Dietz syndrome-expanding the clinical spectrum. *American Journal of Medical Genetics A* 2014: 164 A (2): pp 461-466

Crow YJ, Chase DS, Chitayat D et al: Characterization of human disease phenotypes associated with mutations in TREX1, RNASEH2A, RNASEH2B, RNASEH2C, SAMHD1, ADAR, and IFIH1. *American Journal of Medical Genetics A* 2015: 167 (2): pp 296-312

Fairbrother LC, Cytrynbaum C, Boutis P, Buiting K, Rosanna Weksberg, Williams C. Mild Angelman Syndrome Phenotype due to a Mosaic Methylation Imprinting Defect. *American Journal of Medical Genetics* 2015. Apr 21

Goh ES, Banwell B, Stavropoulos DJ, Shago M, Yoon G. Mosaic Microdeletion of 17p11.2-p12 and Duplication of 17q22-q24 in a Girl with Smith Magenis Phenotype and Peripheral Neuropathy. *American Journal of Medical Genetics*. 2014; 64(3):748-752

Guo A, Chitayat D, Blaser S, Keating S, Shannon P: Fetal syringomyelia. *Acta neuropathologica communication* 2014: 2: pp 91

Haas D, Gan-Schreier H, Langhans CD, Anninos A, Haege G, Burgard P, Schulze A, Hoffmann GF, Okun JG: Diagnosis and therapeutic monitoring of inborn errors of creatine metabolism and transport using liquid chromatography-tandem mass spectrometry in urine, plasma and CSF. *Gene* 2014: 538: 188-194

Hashemi B, Branson HM, Moharir M, Yoon G. X-linked Joubert syndrome: Neuroimaging and clinical features associated with a novel mutation in oral-facial-digital syndrome type 1. *Journal of Pediatric Neurology*. 2014; 12(3):157-160

Hayeems RZ, Hoang N, Chenier S, Stavropoulos DJ, Pu S, Weksberg R, Shuman C. Capturing the clinical utility of genomic testing: medical recommendations following pediatric microarray. *European Journal of Human Genetics*. 2014 Dec 10

Hendriksz CJ, Berger KI, Giugliani R, Harmatz P, Kampmann C, Mackenzie WG, Raiman J, Solano Villarreal M, Savarirayan R. International Guidelines for the Management and Treatment of Morquio A Syndrome. *Am J Med Genet* 2015;167(1):11-25. Impact Factor 2. 48

Hendriksz CJ, Giugliani R, Harmatz P, Mengel E, Guffon N, Valayannopoulos V, Parini R, Hughes D, Pastores GM, Lau HA, Al-Sayed MD, Raiman J, STRIVE Investigators, Yang K, Mealiffe M, Haller C. Multi-domain impact of elosufase alfa in Morquio A syndrome in the pivotal phase III trial. *Mol Genet Metab* 2014. Impact Factor 2. 827 COLL [Epub ahead of print]

Inbar-Feigenberg M, Meirowitz N, Nanda D, Toi A, Okun N, Chitayat D: Beals syndrome (congenital contractural arachnodactyly) - Prenatal Ultrasound Findings and Molecular analysis. *Ultrasound in Obstetrics and Gynecology* 2014; 44(4): pp 486-490

Jain-Ghai S, Mishra N, Hahn C, Blaser S, Mercimek-Mahmutoglu S: Fetal onset ventriculomegaly and subependymal cysts in a pyridoxine dependent epilepsy patient. *Pediatrics* 2014;133(4):e1092-6

Jobling R, Assoum M, Gakh O, Blaser S, Raiman JA, Mignot C, Roze E, Durr A, Brice A, Levy N, Prasad C, Paton T, Paterson AD, Roslin NM, CR Marshall, Desvignes JP, Roeckel-Trevisiol N, Scherer SW, Rouleau GA, Megarbane A, 1Isaya G, Delague V, Yoon G. PMPCA mutations cause abnormal mitochondrial protein processing in patients with non-progressive cerebellar ataxia. *Brain* 2015: 1-13

Jobling R, D'Souza R, Baker N, Lara-Corrales I, Mendoza-Londono R, Savarirayan R, Ala-Kokko L, Kannu P. The collagenopathies: review of clinical phenotypes and molecular correlations. *Current Rheumatology Reports* 2014; 16(1):394

Jones CA, Kolomietz E, Maire G, Vlasschaert M, Joseph-George AM, Myles-Reid D, Chong K, Chitayat D, Arthur R: PGD for a carrier of an intrachromosomal insertion using aCGH. *Systems Biology in Reproductive Medicine* 2014; 23: pp 1-6

Kannu P, Howard A. Morbus Perthes. *Praxis (Bern)* 1994). 2015 Jan 1;104(1):45-8. doi: 10.1024/1661-8157/a001888

Kannu P, Howard A. Perthes' disease. *BMJ* 2014; 349:g5584

Komosa M, Root HA and Meyn MS.
Quantitative visualization and analysis of extrachromosomal telomeric repeat DNA in individual human cells using Halo-FISH. *Nucleic Acids Res* doi: 10. 1093/nar/gkv091 (2015)

Lee B, Diaz GA, Rhead WA, Lichter-Konecki U, Feigenbaum A, Berry SA, Le Mons C, Bartley J, Longo N, Nagamani SC, Berquist W, Gallagher R, Bartholomew D, Harding CO, Korson MS, McCandless SE, Smith W, Cederbaum S, Wong D, Merrit JL, Schulze A, Vockley J, Kronn D, Zori R, Summar M, Milikien DA, Marino M, Coakley DF, Mokhtarani M, Scharschmidt BF: Blood ammonia and glutamine as predictors of hyperammonemic crises in urea cycle disorder patients. *Genet Med* 2014. Epub PM:25503497

Lines MA, Hewson S, Halliday W, Sabatini PJ, Stockley T, Dipchand AI, Bowdin S, Siriwardena K. Danon Disease Due to a Novel LAMP2 Microduplication. *Journal of Metabolic Inherited Diseases Reports*. 2014: 14:11-16

Lo R, Weksberg R. Biological and biochemical modulation of DNA methylation. *Epigenomics* 2014 Dec; 6(6): 593-602

Lowe GC, Corben LA, Duncan RE, Yoon G, Delatycki MB. "Both sides of the wheelchair": The views of individuals with, and parents of individuals with Friedreich ataxia regarding pre-symptomatic testing of minors. *Journal of Genetic Counseling*. 2015 January 17 Epub

MacCarrick G, Black JH, Bowdin S, El-Hamamsy I, Frischmeyer-Guerrero PA, Guerrero AL, Sponseller PD, Loeys B, Dietz HC. Loeys-Dietz Syndrome: A primer for diagnosis and management. *Genetics in Medicine* 2014: 16(8):576-587

Machado A, Vural S, Mercimek-Mahmutoglu S: Pyridoxine dependent epilepsy: Seizure onset, seizure types and EEG features. *J Pediatr Neurol* 2014:3(4):235-240

Madjunkova S, Tong Li C, Vlasschaert M, Adams M, Chitayat D, Maire G, Kolomietz E: QF-PCR rapid aneuploidy screen and aCGH analysis of cell free fetal (cff) DNA in supernatant of compromised amniotic fluids (AF). *Prenatal Diagnosis* 2014: 10: pp 970-976

Malam, Z, Cohn, RD. Stem cells on alert: priming quiescent stem cells after remote injury. *Cell Stem Cell*. 2014 Jul 3;15(1):7-8. doi: 10.1016/j.stem.2014.06.012

Marshall CR, Farrell SA, Cushing D, Paton T, Stockley TL, Stavropoulos DJ, Ray PN, Szego M, Lau L, Pereira SL, Cohn RD, Wintle RF, Abuzenadah AM, Abu-Elmagd M, Scherer SW. Whole-exome analysis of foetal autopsy tissue reveals

Martin CA, Ahmad I, Klingseisen A, Hussain MS, Bicknell LS, Leitch A, Nürnberg G, Toliat MR, Murray JE, Hunt D, Khan F, Ali Z, Tinschert S, Ding J, Keith C, Harley ME, Heyn P, Müller R, Hoffmann I, Daire VC, Dollfus H, Dupuis L, Bashamboo A, McElreavey K, Kariminejad A, Mendoza-Londono R, Moore AT, Sagggar A, Schlechter C, Weleber R, Thiele H, Altmüller J, Höhne W, Hurles ME, Noegel AA, Baig SM, Nürnberg P, Jackson AP. Mutations in PLK4, encoding a master regulator of centriole biogenesis, cause microcephaly, growth failure and retinopathy. *Nat Genet*. 2014 Dec; 46(12):1283-92. doi: 10. 1038/ng. 3122. epub 2014 Oct 26

Melamed N, Choufani S, Wilkins-Haug LE, Koren G, Weksberg R. Comparison of Genome-Wide and Gene-Specific DNA Methylation between ART and Naturally Conceived Pregnancies. *Epigenetics* 2015 Jan 12:0

Mendoza-Londono R, Fahiminiya S, Majewski J, Care4Rare Canada Consortium, Tetreault M, Nadaf J, Kannu P, Sochett E, Howard A, Stimec J, Dupuis L, Roschger P, Klaushofer K, Palomo T, Ouellet J, Al-Jallad H, Mort JS, Moffatt P, Boudko S, Bachinger HP, Rauch F: Recessive Osteogenesis Imperfecta Caused by Missense Mutations in SPARC. *American Journal of Human Genetics* 2015

Mercimek-Mahmutoglu S, Cordeiro D, Cruz V, Hyland K, Struys EA, Kyriakopoulou L, Mamak E: Novel therapy for pyridoxine dependent epilepsy due to ALDH7A1 genetic defect: Larginine supplementation alternative to lysine-restricted diet. *Paediatric Res* 2014;16(6):741-6

Mercimek-Mahmutoglu S, Cordeiro D, Nagy L, Mutch C, Carter M, Struys E, Kyriakopoulou L: Lysine restricted diet and mild cerebral serotonin deficiency in a patient with pyridoxinedependent epilepsy caused by ALDH7A1 genetic defect. *Mol Genet Metab Reports* 2014;1:124-128

Mercimek-Mahmutoglu S, Ndika J, Kanhai W, de Villemeur TB, Cheillan D, Christensen E, Dorison N, Hannig V, Hendriks Y, Hofstede FC, Lion-Francois L, Lund AM, Mundy H, Pitelet G, Raspall-Chaure M, Scott-Schwoerer JA, Szakszon K, Valayannopoulos V, Williams M, Salomons GS: Thirteen new patients with guanidinoacetate methyltransferase deficiency and functional characterization of nineteen novel missense variants in the GAMT gene. *Hum Mutat* 2014;35(4):462-9

Mercimek-Mahmutoglu S, Roscher A, Patel J, Hewson S, Nagy L, Feigenbaum A, Kronick J, Raiman J, Schulze A, Siriwardena K. Natural history of glycogen storage disease type VI and IX: long-term outcome from the largest metabolic center in Canada. *Mol Genet Metab* 2014;113(3):171-6. Impact Factor 2. 827

Mercimek-Mahmutoglu S, Salomons GS, Chan A: Case study for evaluation of current treatment recommendations of GAMT deficiency: ineffectiveness of sodium benzoate. *Pediatr Neurol* 2014;51(1):133-7

Metcalf JL, Bradshaw PS, Komosa M, Greer SN, Meyn MS, and Ohh M. K63-ubiquitylation of VHL by SOCS1 mediates DNA double-strand break repair. *Oncogene* 33: 1055-1065 (2014)

Metsu S, Rainger J, Debacker K, Bernhard B, Rooms L, Grafodatskaya D, Weksberg R, Frombonne E, Taylor M, Scherer S, Kooy F, Fitzpatrick. A CGG-repeat expansion mutation in ZNF713 causes FRA7A: Association with autistic spectrum disorder in two families. *Human Reproduction* 2014 Nov; 35(11): 1295-300. doi: 10.1002/humu.22683

Michot C, Le Goff C, Mahaut C, Afenjar A, Brooks AS, Campeau PM, Destree A, Di Rocco M, Donnai D, Hennekam R, Heron D, Jacquemont S, Kannu P, Lin AE, Manouvrier-Hanu S, Mansour S, Marlin S, McGowan R, Murphy H, Raas-Rothschild A, Rio M, Simon M, Stolte-Dijkstra I, Stone JR, Sznajder Y, Tolmie J, Touraine R, van den Ende J, Van der Aa N, van Essen T, Verloes A, Munnich A, Cormier-Daire V. Myhre and LAPS syndromes: clinical and molecular review of 32 patients. *European Journal of Human Genetics*. January 2014: doi: 10.1038/ejhg.2013.288. Impact Factor 3.56

Moalem S, Brouillard P, Kuypers D, Legius E, Harvey E, Taylor G, Francois M, Vikkula M, Chitayat D: Hypotrichosis-Lymphedema-Telangiectasia-Renal defect Associated with a truncating mutation in the SOX18 gene. *Clinical Genetics* 2015: 87(4): pp 378-382

Munoz T, Patel J, Badilla-Porras R, Kronick J, Mercimek-Mahmutoglu S: Severe scoliosis in a patient with severe methylenetetrahydrofolate reductase deficiency. *Brain Dev* 2015:37(1):168-70

Munoz T, Raiman JAJ. Epilepsy and Niemann Pick C disease. *Journal of Pediatric Epilepsy* 3 2014: 229–234

Nasr E, Mamak E, Feigenbaum A, Donner E, Mercimek-Mahmutoglu S: Long-term treatment outcome of two patients with pyridoxine-dependent epilepsy caused by ALDH7A1 mutations: normal neurocognitive outcome. *J Child Neurol*. [Epub ahead of print 2014 May 1]

Raiman J, D'Aco K. An 8-year-old girl with a history of stiff and painful joints. *Pediatric Annals* 2014: 43(8): 307-9. No abstract available. Impact Factor 0. 288

Robinson AJ, Blaser S, Vladimirov A, Drossman D, Chitayat D, Ryan G: Fetal “Black Bone” MRI: Utility in assessment of the fetal spine. *The British Journal of Radiology* 2015: 88 (1046): pp 20140496

Roifman M, Marcelis C, Paton T, Marshall C, Silver R, Lohr J, Yntema H, Venselaar H, Kayserili H, van Bon B, Seaward G; FORGE Canada Consortium, Brunner H, Chitayat D: De novo WNT5A-associated autosomal dominant Robinow syndrome suggests specificity of genotype and phenotype. *Clinical Genetics* 2015: 87: pp 34-41

Roscher A, Patel J, Hewson S, Nagy L, Feigenbaum A, Kronick J, Raiman J, Schulze A, Siriwardena K, Mercimek-Mahmutoglu S: The natural history of glycogen storage disease types VI and IX: Long-term outcome from the largest metabolic center in Canada. *Mol Genet Metab* 2014:113(3):171-6

Sakhuja P, Whyte H, Kamath B, Martin N, Chitayat D: Williams syndrome presenting with findings consistent with Alagille syndrome. *Clinical Care Reports* 2015: 3 (1): pp 24-28

Sawyer SL, Schwartzenruber J, Beaulieu CL, Dymont D, Smith A, Chardon JW, Yoon G, Rouleau GA, Suchowersky O, Siu V, Murphy L, Hegele RA, Marshall CR; FORGE Canada Consortium, Bulman DE, Majewski J, Tarnopolsky M, Boycott KM. Exome sequencing as a diagnostic tool for pediatric-onset ataxia. *Human Mutation*. 2014: 35(1):45-49

Shapiro E, Yund B, Rudser K, Ahmed A, Kovac V, Nestrail I, Raiman J, Mamak E, Harmatz P, Steiner R, Lau H, Vekaria P, Wozniak JR, Lim KO, Delaney K, Whitley CB. Cognitive, Medical, and Neuroimaging Characteristics of Attenuated Mucopolysaccharidosis Type II. *Molecular Genetics and Metabolism* 2014. Impact Factor 2. 827. COLL [Epub ahead of print]

Shugar AL, Shapiro JM, Cytrynbaum C, Hedges S, Weksberg R, Fishman L. An increased prevalence of thyroid disease in children with 22q11. 2 deletion syndrome. *Am J Med Genet Part A* 9999A:1–5

Sousa SB, Hennekam RC, the Nicolaides-Baraitser Syndrome International Consortium*. Phenotype and genotype in Nicolaides-Baraitser syndrome. *American Journal of Medical Genetics, Part C, Seminars in Medical Genetics* 2014; 166 C(3):302-314

Stockler-Ipsiroglu S, van KC, Longo N, Korenke GC, Mercimek-Mahmutoglu S, Marquart I, Barshop B, Grolik C, Schlune A, Angle B, Araujo HC, Coskun T, Diogo L, Geraghty M, Haliloglu G, Konstantopoulou V, Leuzzi V, Levtova A, MacKenzie J, Maranda B, Mhanni AA, Mitchell G, Morris A, Newlove T, Renaud D, Scaglia F, Valayannopoulos V, van Spronsen FJ, Verbruggen KT, Yuskiv N, Nyhan W, Schulze A: Guanidinoacetate methyltransferase (GAMT) deficiency: Outcomes in 48 individuals and recommendations for diagnosis, treatment and monitoring. *Mol Genet Metab* 2014; 111: 16-25

Szego M, Meyn MS, Anderson J, Hayeems R, Shuman C, Monfared N, Bowdin S, and Zlotnik- Shaul R. Predictive genomic testing of children for adult onset disorders: a Canadian perspective. *Am J Bioethics* 14: 19-21 (2014)

Tonni G, Lituanica M, Bonasoni PM, Chitayat D, Keating S, Thompson M, Shannon P: Complete trisomy 9 with unusual phenotypic associations: Dandy-Walker malformation, cleft lip and cleft palate, cardiovascular abnormalities. *Taiwanese Journal of Obstetrics and Gynecology* 2014; 53 (4): pp 592-597

Tran C, Hewson H, Steinberg S, Mercimek-Mahmutoglu S: Late-onset Zellweger spectrum disorder caused by PEX6 mutations mimicking x-Linked adrenoleukodystrophy. *Pediatr Neurol* 2014;15(2):262-5

Tran C, Yazdanpanah M, Kyriakopoulou L, Levandovskiy V, *Zahid H, *Naufer A, Isbrandt D, Schulze A: Stable isotope dilution microquantification of creatine metabolites in plasma, whole blood and dried blood spots for pharmacological studies in mouse models of creatine deficiency. *Clin Chim Acta* 2014; 436C: 160-168

Trang H, Stanley SY, Thorner P, Faghfoury H, Schulze A, Hawkins C, Pearson CE, Yoon G. Massive CAG repeat expansion and somatic instability in maternally transmitted infantile SCA7. *JAMA Neurology*. 2015; 72(2): 219-223

Wang DC, Shannon P, Toi A, Chitayat D, Mohan U, Barkova E, Keating S, George T, Glanc P: Temporal Lobe Dysplasia: A Characteristic Sonographic Finding in Thanatophoric Dysplasia. *Ultrasound Obstet Gynecol* 2014; 44 (5): pp 588-594

Weber R, Kantor P, Chitayat D, Friedberg MK, Golding F, Mertens L, Nield LE, Ryan G, Seed M, Yoo SJ, Manlihot C, Jaeggi E: Spectrum and Outcome of Primary Cardiomyopathies Diagnosed During Fetal Life. *JACC Heart Fail* 2014; 2 (4): pp 403-411

Wilson RD; SOGC Genetics Committee, Wilson RD, Audibert F, Brock JA, Campagnolo C, Carroll J, Cartier L, Chitayat D, Gagnon A, Johnson JA, Langlois S, MacDonald WK, Murphy-Kaulbeck L, Okun N, Pastuck M; Special Contributors, Popa V: Prenatal screening, diagnosis, and pregnancy management of fetal neural tube defects. *Journal of Obstetrics and Gynaecology Canada* 2014; 36 (10): pp 927-939

Wu AM, Yang M, Dalvi P, Turinsky AL, Wang W, Butcher D, Egan SE, Weksberg R, Harper PA, Ito S. Role of STAT5 and epigenetics in lactation-associated upregulation of multidrug transporter ABCG2 in the mammary gland. *Am J Physiol Endocrinol Metab*. 2014 Aug 12. pii: ajpendo. 323. 2014

Yuen M, Sandaradura SA, Dowling JJ, Kostyukova AS, Moroz N, Quinlan KG, Lehtokari VL, Ravenscroft G, Todd EJ, Ceyhan-Birsoy O, Gokhin DS, Maluenda J, Lek M, Nolent F, Pappas CT, Novak SM, DAmico A, Malfatti E, Thomas BP, Gabriel SB, Gupta N, Daly MJ, Ilkovski B, Houweling PJ, Davidson AE, Swanson LC, Brownstein CA, Gupta VA, Medne L, Shannon P, Martin N, Bick DP, Flisberg A, Holmberg E, Van den Bergh P, Lapunzina P, Waddell LB, Sloboda DD, Bertini E, Chitayat D, Telfer WR, Laquerriere A, Grego: Leiomodin-3 dysfunction results in thin filament disorganization and nemaline myopathy. Erratum in: *J. Clin. Invest*. 2015 Jan; 125 (1):456-457. *Journal of Clinical Investigation* 2014: 124 (11): pp 4693-4708

Yuen M, Sandaradura SA, Dowling JJ, Kostyukova AS, Moroz N, Quinlan KG, Lehtokari VL, Ravenscroft G, Todd EJ, Ceyhan-Birsoy O, Gokhin DS, Maluenda J, Lek M, Nolent F, Pappas CT, Novak SM, DAmico A, Malfatti E, Thomas BP, Gabriel SB, Gupta N, Daly MJ, Ilkovski B, Houweling PJ, Davidson AE, Swanson LC, Brownstein CA, Gupta VA, Medne L, Shannon P, Martin N, Bick DP, Flisberg A, Holmberg E, Van den Bergh P, Lapunzina P, Waddell LB, Sloboda DD, Bertini E, Chitayat D, Telfer WR, Laquerriere A, Grego: Leiomodin-3 dysfunction results in thin filament disorganization and nemaline myopathy. *Journal of Clinical Investigation* 2015: 125 (1): pp 456-457

Yuen RKC, Thiruvahindrapuram B, Merico D, Walker S, Tammimies K, Hoang N, Chrysler C, Nalpathamkalam T, Pellecchia G, Liu Y, Gazzellone MJ, D'Abate L, Deneault E, Howe JL, Liu RSC, Thompson A, Zarrei M, Uddin M, Marshall CR, Ring RH, Zwaigenbaum L, Ray PN, Weksberg R, Carter M, Fernandez BA, Roberts W, Szatmari P, Scherer SW. Whole-genome sequencing of quartet families with autism spectrum disorder. *Nature Medicine* 2015 Feb;21(2):185-91

Yund B, Rudser K, Ahmed A, Kovac V, Nestrasil I, Raiman J, Mamak E, Harmatz P, Steiner R, Lau H, Vekaria P, Wozniak JR, Lim KO, Delaney K, Whitley C, Shapiro EG. Cognitive, medical, and neuroimaging characteristics of attenuated mucopolysaccharidosis type II. *Mol Genet Metab* 2014. Impact Factor 2. 827. COLL [Epub ahead of print]

Book Chapters

Baskin B, Bowdin S, Ray PN. Chapter: Cherubism. *GeneReviews* [Internet]. Pagon RA, Adam MP, Ardinger HH, et al, editors. Seattle (WA), University of Washington, Seattle, 1993-2014

Martínez Cedeño P, Neilson B, Yoon G, Raiman J. The Empowerment of Women as Social Strategy in The Empowerment of Women as an Individual Strategy: The Experience of an Interdisciplinary Team in Advocating for Mothers of Children with Inherited Diseases who are Victims of Domestic Violence. (M. Silvestre, R. Rojo & E. Escudero, eds). *Deusto Publications Publicaciones Universidad de Deusto Bilbao Spain* 2014: 53-60

Roifman M, Brunner H, Lohr J, Mazzeu J, Chitayat D: Autosomal Dominant Robinow Syndrome. In: GeneReviews[®] [Internet]. (Pagon RA, Adam MP, Ardinger HH, Bird TD, Dolan CR, Fong CT, Smith RJH, Stephens K, eds). Seattle, WA 2015

Stoeckler-Ipsiroglu S, Braissant O, Schulze A: Creatine Disorders. In: N. Blau, M. Duran, K. M. Gibson and C. Dionisi-Vici (eds). Physician's Guide to the Diagnosis, Treatment, and Follow-Up of Inherited Metabolic Diseases. 3rd ed. Springer-Verlag, Heidelberg New York Dordrecht London. 2014

Grants & Funding

Accelerator Grant: Identifying the genes and underlying causes for intractable epilepsies by next generation sequencing. Mahmutoglu, S., Minassian, B. **McLaughlin Centre, University of Toronto**. \$75,000 CAD. April 30, 2013 – September 29, 2015

Aquaporins: Essential proteins regulating chondrocytes in osteoarthritis. Kannu, P, Alman, B. **The Arthritis Society**. \$300,000 CAD. June 30, 2013 – June 29, 2016

Ascertaining the genetic etiologies of stillbirth via whole exome sequencing. Meyn MS, Stavropoulos J, Chitayat D, Chong K, Shannon P, Keating S, Kolomietz E, Maire G. **Accelerator Grant, McLaughlin Centre at the University of Toronto**. \$40,000 CAD. May 2014 – April 2015.

Canadian “rare diseases: models and mechanisms network”. **Canadian Institutes of Health Research (CIHR)**. Cohn RD. \$230,000 CAD. October 1, 2014 – April 20, 2018

Cellular and molecular mechanisms of skeletal muscle homeostasis during hibernation. Cohn, R. **University of Toronto**. \$265,000 CAD. March 31, 2014 – March 30, 2019

Co-clinical Trials in Mice and Humans in Autism. Anagnostou A, Lerch J, Foster J, Greenberg B, Weksberg R, Scherer S, Bennett T, Nicolson R. **Azrieli Foundation/Brain Canada**. \$2,497,761 CAD. April 2014-March 2019.

Common pathways of human DNA double strand break repair and telomere maintenance. Meyn S. **Canadian Cancer Society Research Institute**. \$614,384 CAD. July 1, 2009 – June 30, 2014

Computerized patient phenotyping to connect Canadian clinical genetics clinics. **Canadian Institutes of Health Research (CIHR)**. Brudno M, Bowdin S, Boycott K, Chitayat D. \$423,000 CAD.

Determination of molecular signatures that allow differentiation between unilateral and bilateral Wilms' tumors using genome-wide arrays and whole-exome sequencing. Lorenzo, A, Bagli, D, Gerstle, T., Shuman, Grant, R., Weksberg, R., Choufani, S., **C17 Research Network**. \$150,000 CAD. July 31, 2013 – July 30 – 2015

Determining the genetic etiologies of stillbirth via WES-based analysis. **McLaughlin Centre, University of Toronto.** Meyn S. \$40,000 CAD. May 1, 2014 – April 30, 2016.

Determination of Molecular Subgroups in Wilms Tumors. Weksberg R, Goldenberg A, Lorenzo A, Grant R. **A Collaborative Pediatric Cancer Research Awards Program** (The Rally Foundation, Bear Necessities, The Truth 365, Arms Wide Open). \$50,000 CAD. April 2015-March 2016.

Emerging team to identify and characterize novel and existing Hereditary Spastic Paraplegia (HSP). Yoon, G. **McGill University.** \$35,000 CAD. September 30, 2013 – March 30, 2018

First steps to the improvement of long-term outcome of GAMT deficiency by using an international database. Mahmutoglu, S., Salomons, G. **Rare Disease Foundation, Microgrant Program.** \$3,500 CAD. 2012 - 2014

Genetic and Epigenetic Determinants of Syndromic Intellectual Disability. Ray, P., Chitayat, D., Weksberg, R. **Canadian Institutes of Health Research (CIHR).** \$750,400 CAD. December 31, 2012 – March 30, 2018

Genetic signatures of paediatric cancer predisposition syndromes. **McLaughlin Centre, University of Toronto.** Tabori U, Meyn S, Malkin D, Shlien A. \$80,000 CAD. May 1, 2014 – April 30, 2015

HPN-009. An Open Label Study of the Safety, Efficacy and Pharmacokinetics of Glycerol Phenylbutyrate (GPG; RAVICTI) in Pediatric Subjects under Two Years of Age with Urea Cycle Disorders (USCDs). **Hyperion Therapeutics.** \$24,892 + 42,000 USD per patient. December 2014 - November 2016

Identification of genes involved in epilepsy and epilepsy pharmacoresistance. Minassian, B., Mahmutoglu, S., Andrade, D. **McLaughlin Centre, Accelerator Grants in Genomic Medicine.** \$75,000 CAD. 2014 – 2015

Identification of New Human Imprinted Genes: A Novel Approach. Weksberg R. **National Sciences and Engineering Research Council of Canada.** \$140,000 CAD. April 2012-March 2017

IIA GC MedSavant: An Integrative Framework for Clinical and Research Analysis of Human Genomics. Scherer, S. Brudno, M., Meyn, S, Ray, P. **University of Toronto.** \$277,720 CAD. June 30, 2013 – June 29, 2016

Implementation and Commercialization of a Novel DNA Methylation-Based Diagnostic Tool. Weksberg R, Basran R, Cytrynbaum C, Choufani S, Brudno M. **Canadian Institute of Health Research (CIHR).** \$160,000 CAD. October 2015- September 2016

Investigating the “Two-Hit Hypothesis” for neurodevelopmental disorders associated with recurrent copy number variants. Carter, M. **Physicians’ Services Incorporated Foundation (PSI).** \$102,500 CAD. March 31, 2014 – March 30, 2016

Investigation of copy number variation in the placentas of pregnancies with intrauterine growth Restriction. Yuen R, Scherer S, Weksberg R. **Thrasher Research Fund**. \$26,750 CAD. January 2015 - December 2016

Is low creatine kinase a nonspecific-screening marker for creatine deficiency syndromes? Mahmutoglu, S., Kyriakopoulou, L. **Rare Disease Foundation, Microgrant Program**. \$7,000 CAD. 2012 – 2014

Long term use of HPN-100 in Urea Cycle Disorders (HPN 100 - 011). **Hyperion Therapeutics**. \$77,000 USD. December 2010 - December 2014

Longitudinal Study of Urea Cycle Disorders. **Children's Research Institute**. \$100,000 USD. August 2014 – July 2018

Longitudinal Study of Urea Cycle Disorders. Operating Grant. **Children's Research Institute**. \$20,000 USD. 2013 – 2014

MedSavant: An integrative framework for clinical and research analysis of human genomes. **Genome Canada**. Brudno M, Meyn S, Ray P, Scherer S, Bader G. \$1,093,699 CAD. May 1 2013 – April 30 2016

Pilot study for newborn screening for guanidinoacetate methyltransferase deficiency. Salomons, G., Mahmutoglu, S., Loeber, RIVM., Struys, E., Jakobs, C. **MetaKids. The Netherlands**. \$55,500 EUR. 2012-2014

Prevalence of MPS in individuals undergoing nerve conduction study for carpal tunnel syndrome. Mahmutoglu, S., Raiman, J., Vijsar, J. Funding Amount: \$25,000 CAD. **Genzyme**. 2014-2015

Province of Ontario Neurodevelopmental Disorders Network (POND). Anagnostou E, Scherer S, Arnold P, Schacher R, Szatmari P, Marshall C, Nicolson R, Weksberg R (Co-PI), Lerch J, Beyene J, Reitzel J, Soreni N, Edwards A, Bountra C, Manassis K, Brian J, Roberts W, Mendlowitz S, Gorman D, Charach A, Woodbury Smith M, Thorpe K, Ellis J, Foster J, Henkelman M, Taylor M. **Ontario Brain Institute**. \$4,713,758 CAD. April 2013 - March 2018

Rare Diseases Clinical Research Consortia (RDCRC) for the RDCR Network. Urea Cycle Disorder Consortium, Batshaw, ML. **National Institute of Child Health and Human Development and National Centre for Advancing Translational Sciences**. \$8M USD. August 2014 - July 2019

Small Molecule Substrate Reduction Therapy for Six Mucopolysaccharidoses. Mahuran, D., Schulze, A. **The Sanfilippo Children's Research Foundation**. \$157,000 CAD. December 31, 2013 – December 30, 2015

The effects of creatine supplementation on muscle function in childhood myositis. Feldman, B., Schulze, A., Stephens, S., Wells, G., Tein, I. **Myositis Association**. \$100,000 CAD. May 2013 - April 2015

The Genetic Epidemiology of Autism; Family and Molecular Studies. Paterson, A., Anagnostou, E., Carter, M., Szatmari, P., Scherer, S. **Canadian Institutes of Health Research (CIHR)**. \$1,112,424 CAD. August 6, 2013 – September 29, 2018

Urea Cycle Disorder Research.
Private Restricted Donation Account.
\$200,000 CAD. 2013-2017

Whole Exome Sequencing in the NICU – Developing a rapid, specific and sensitive pipeline for the diagnosis of genetic disease in the newborn. **McLaughlin Centre, University of Toronto**. Cohn RD, Bowdin S, Moore A, Whyte H, Bedford M, Doctor S. \$20,000 CAD. May 2014 – April 2016

Whole Genome Sequencing in paediatric care: an informed implementation. **McLaughlin Centre, University of Toronto**. Zlotnik Shaul R, Meyn S, Szego M, Shuman C, Hayeems R, Bowdin S. \$50,000 CAD. May 1, 2013 – April 30, 2016

Whole genome sequencing for paediatric patients. **Complete Genomics**. Cohn RD and Scherer S. \$600,000 CAD. September 1, 2013 – August 31, 2016

**DIVISION OF
CLINICAL AND
METABOLIC GENETICS**

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Dr. Komudi Siriwardena
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Dr. Bitra Hashemi
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Khadine Wiltshire

DIVISION OF CLINICAL PHARMACOLOGY

Our division provides medical and educational oversight to two call centers (Motherisk and Ontario/Manitoba Poison Information Centre), clinical pharmacology consultation services and outpatient clinics. The outpatient clinics consist of Motherisk clinic, DART clinic (Drug Allergy/Reaction and Toxicology), and Fetal Alcohol Spectrum Disorder clinic. In 2014, the Ontario/Manitoba Poison Information Centre and the Motherisk received together nearly 100 thousand inquiries about emergency cases of overdose/poison exposure, and fetal/neonatal toxicity of drugs/chemicals.



*From left to right:
Dr. Howard An
Dr. Shinya Ito
Dr. Peter Wu
Dr. Jesse Godwin*

We have accelerated preparation of gene-based personalized medicine approach to prevent adverse drug reactions and therapeutic failure.

These programs provided excellent educational platforms for trainees in various disciplines including emergency medicine, medical genetics, genetic counseling and midwifery. The clinical pharmacology consultation service also experienced a productive year. Particularly, we have accelerated preparation of gene-based personalized medicine approach to prevent adverse drug reactions and therapeutic failure. In collaboration with the Genetics center, this approach based on pharmacogenetics (PGX) is now at its final stage of implementation as a regular consultation service, and the clinical PGX consultation service will be launched through our adverse drug reaction clinic (DART clinic: Drug Allergy/Reaction and Toxicology) by the end of 2015. The Fetal Alcohol Spectrum Disorder (FASD) clinic is the only interdisciplinary, hospital based, clinic in Ontario that serves this challenging and complex population. In 2014, the FASD team performed a comprehensive diagnostic assessment for 81 children. More than half of them were diagnosed as the Fetal Alcohol Spectrum disorder and provided with treatment planning and case navigation. All of these clinical programs are also effective educational platforms, and in 2014, we had 12 trainees in our program, including subspecialty residents, elective residents and fellows and medical students.

Honors and Awards

Ito, S: Winner of Distinguished Service and Education award, Canadian Society of Pharmacology and Therapeutics, Winnipeg, Manitoba, Canada. June, 2014

Koren, G: Mentor award, Department of Pediatrics, Hospital for Sick Children, Toronto, Ontario, Canada. November, 2014

Nulman, I: Winner of Centre of Excellence for Early Childhood Development (CEECD) and the Strategic Knowledge Cluster on Early Child Development, Montreal, Quebec, Canada. November, 2014

Publications

Amstutz U, Shear NH, Rieder MJ, Hwang S, Fung V, Nakamura H, Connolly M, Ito S, Carleton BC, and CPNDS clinical recommendation group. Recommendations for HLA-B*15:02 and HLA-A*31:01 genotyping and carbamazepine-induced hypersensitivity reactions. *Epilepsia* 2014; 55(4):496-506.

Burnett HF, Tanoshima R, Chandranipapongse W, Madadi P, Ito S, Ungar WJ. Testing for thiopurine methyltransferase status for safe and effective administration of thiopurines: A systematic review of clinical guidance documents. *The Pharmacogenomics Journal* 2014;14:493-502.

Gijsen VMGJ, van Schaik RHN, Soldin OP, Soldin SJ, Nulman I, Koren G, de Wildt SN. P450 oxidoreductase *28 (POR*28) and tacrolimus disposition in pediatric kidney transplant recipients: a pilot study. *Therapeutic Drug Monitoring* 2014; 36 (2): pp 152-158.

Neuman G, Nulman I, Khosrow A, Koren G, Colantonio DA, Helldén A. Implications of Serum Creatinine Measurements on GFR estimation and Vancomycin Dosing in Children. *Journal of Clinical Pharmacology*. 2014 July; 54(7):785-91.

Newman G, Boodhan S, Wurman I, Koren G, Bitnun A, Kirby-Allen M, Ito S. Ceftriaxone-induced immune hemolytic anemia. *Annals of Pharmacotherapy* 2014;48:1594-1604.

Newman G, Colantonio D, Delaney S, Szykaruk M, Ito S. Bupropion and escitalopram during lactation. *Annals of Pharmacotherapy* 2014; 48:928-931.

Ornoy A, Koren G. Selective serotonin reuptake inhibitors in human pregnancy: On the way to resolving the controversy. *Seminars in Fetal and Neonatal Medicine* 2014: 19 (3): pp 188-194.

Ragnhild Eek Brandlistuen, PhD, Eivind Ystrom, PhD , Irena Nulman, MD , Gideon Koren, MD, Hedvig Nordeng, PhD In reply to methodological considerations on the study of in utero exposure to paracetamol and neurodevelopmental outcomes. *Basic and Clinical Pharmacology and Toxicolog*. October 2014.

Shihmanter R, Nulman I, Goland S, Caspi A, Bar-Haim A, Harary I, Berkovitch M, Arcavi L. Variation in the CYP2D6 Genotype is Not Associated With Carvedilol Dose Changes in Patients With Heart Failure. *J Clin Pharm Ther*. 2014 Aug;39(4):432-8.

Tanoshima R, Garcia-Bournissen F, Tanigawara Y, Kristensen JH, Taddio A, Ilett KF, Begg BJ, Wallach I, Ito S. Population PK modeling and simulation based on fluoxetine and norfluoxetine concentrations in milk: A milk concentration-based prediction model. *Br J Clin Pharmacol* 2014;78:918-928 PMID: 24773313

Zelner I, Matlow JN, Natekar A, Koren G. Synthesis of fatty acid ethyl esters in mammalian tissues after ethanol exposure: a systematic review of the literature. *Drug Metabol Rev* 2014: 45 (3): pp 277-299.

Book Chapters

Chandranipapongse W, Ito S. Breastfeeding and use of antiepileptics. in Women with epilepsy, Bui E, Klein A eds. Cambridge University press. Sept 2014

Grants and Funding

Child Neurodevelopment after In Utero Exposure to Diclectin for Nausea and Vomiting of Pregnancy. Koren, Gideon.

Duchesnay Inc. \$1,364,100 CAD.

April 8, 2011 – December 30, 2016.

A randomized, open-label, study of pre-emptive treatment of severe nausea and vomiting of pregnancy. Koren, Gideon. **Duchesnay**

Inc. \$932,754 CAD. September 14, 2005 – December 30, 2016.

Genotype Specific Approaches to therapy in Childhood (GATC). Koren, Gideon. **University of British Columbia.** \$350,700.00 CAD.

September 30, 2005 – December 30, 2014.

Optimizing Perconceptional and Prenatal Folic Acid Supplementation. Koren, Gideon.

Duchesnay Inc. \$536,475.00 CAD. November 30, 2006 – December 30, 2016.

CIHR Team Grant in the Effects of Brominated Flame Retardants on Reproductive Health: Animal, Human, Ethical, Legal and Social Studies. Koren, Gideon. **The Research Institute of the McGill University Health Centre.**

\$211,450.00 CAD. September 30, 2009 – March 30, 2016.

Drugs and Human Milk: mammary xenobiotics transporter. Ito, Shinya. **Canadian Institutes of Health Research (CIHR).** \$602,292.00 CAD.

September 30, 2010 – September 29, 2015.

Consortium Agreement – GRIP. Ito, Shinya.

European Commission/Azienda Ospedaliera di Padova. \$120,300.00 March 31, 2011 – March 30, 2016.

Services Agreement for Parallel cohort data collection for Novartis study code FTY720D2404. Koren, Gideon. **Novartis Pharma AG.** \$595,625.00 CAD. September 26, 2011 – September 25, 2017.

Team Grant: Neurocognitive-Phenome, Genome, Epigenome and Nutriome in Childhood leukemia survivors: N-PhenoGENICS. Ito, Shinya.

Canadian Institutes of Health Research (CIHR). \$1,783,381.00 CAD. September 30, 2011 – September 29, 2016.

DIVISION OF CLINICAL PHARMACOLOGY	Dr. Pauline De Bruyne Dr. Yifat Gadot Dr. Tom Leibson Dr. Nir Melamed
Division Head Dr. Shinya Ito	Dr. Gal Neuman Dr. Jak Ozsarfati Dr. Gali Pariente
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Dr. Gideon Koren	Dr. Reo Tanoshima
Dr. Irena Nulman	
Dr. Margaret Thompson	Subspecialty Residents
	Dr. Howard An
Part-Time	Dr. Emily Austin
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Dr. David Juurlink	Dr. Jesse Godwin
Dr. Christopher Lazongas	Dr. Shaun Hosein
Dr. Peter Wu	
Dr. Connie Mackenzie	
Dr. Marco Sivilotti	Research Fellows
	Dr. Tohru Kobayashi
Scientific Staff	Dr. Ernest Kopecky
Iris Cohn, RPh	Dr. Parvaz Madadi
	Dr. Noga Rogalla
Cross-Appointees	Dr. Masanobu Takeuchi
Dr. Sylvain Baruchel	
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Dr. Anna Taddio	Hila Halshtok
	Leah Moscato
Clinical Fellows	Joycelyn Peters-Adams
Dr. Eran Barzilay	Victoria Snell
Dr. Nirmala Chandrasekaran	Donna Tedesco
Dr. Shahnaz Chaudhry	Shannon Vanderkooi

Diclectin Surveillance Program Clinical Study. Koren, Gideon. **Duchesnay Inc.** \$987,000.00 CAD. March 21, 2012 – March 20, 2017.

The use of freezies in morning sickness. Koren, Gideon. **Intec Healthcare Solutions, Inc.** \$39,100.00 CAD. July 14, 2012 – May 30, 2015.

Neurocognitive-Phenome, Genome, Epifenome and Nutriome in Childhood leukemia Survivors: N-PhenoGENICS. Ito, Shinya. **C17 Research Network.** \$75,000.00 CAD. March 31, 2013 – September 29, 2016.

A prospective Open Label Study on Prevegynne Effectiveness. Koren, Gideon. **Duchesnay Inc.** \$84,000.00 CAD. April 7, 2013 – April 20, 2015.

5-HT3 Antagonists (antiemetics) and cardiac safety, using an active surveillance approach. Koren, Gideon. **University of British Columbia.** \$32,000.00 CAD. February 28, 2014 – February 28, 2016.

DIVISION OF DEVELOPMENTAL PAEDIATRICS

The Division of Developmental Paediatrics is situated at the Holland Bloorview Kids Rehabilitation Hospital. The division consists of full time academic clinicians as well as a community section of developmental paediatricians. The main clinical focus of the division is on childhood neuro-developmental and neuro-rehabilitation disorders.



*From left to right:
Dr. Darcy Fehlings
Dr. Laura McAdam
Dr. Evdokia Anagnostou
Dr. Sharon Smile
Dr. Golda Milo-Manson
Dr. Andrea Hoffman
Dr. Joeline Huber
Dr. Jackie Chiang
Dr. Angela Orsino*

Comprehensive assessment and treatment programs are run for children and youth with conditions such as cerebral palsy, acquired brain injury, neuromuscular disorders and spina bifida.

Comprehensive assessment and treatment programs are run for children and youth with conditions such as cerebral palsy, acquired brain injury, neuromuscular disorders and spina bifida. Inpatient services are provided for children with medical conditions requiring complex continuing care. Specialized assessment clinics provide diagnostic assessments for children and youth with autism spectrum disorder with clinics located at Holland Bloorview as well as regional developmental clinics situated throughout the metropolitan Toronto area. The division runs a large psychopharmacology clinic providing consultation for children and youth with complex neuro-behavioural needs.

The division members lead research teams in applied childhood disability studies, in association with the Bloorview Research Institute led by Professor Tom Chau. Highlights include leadership of two Ontario-based translational neuroscience research networks funded by the Ontario Brain Institute – one focused on autism spectrum disorder led by Dr. Evdokia Anagnostou and one focused on cerebral palsy led by Dr. Darcy Fehlings.

Within the division, there is a strong commitment to education. Under the leadership of Dr. Anne Kawamura as program director, the fully accredited subspecialty residency program in Developmental Paediatrics is the largest in Canada. Paediatric, psychiatry, and neurology residents and medical students are trained in applied childhood disability. A highlight of the divisions' educational activities is the Child Development Update – a national conference held once every 3 years

– chaired by Dr. Golda Milo-Manson and supported by the continuing educational office of the Hospital for Sick Children and the Department of Paediatrics. This conference attracts attendees from across Canada.

Division members hold National/International leadership positions with Dr. Darcy Fehlings being the 2015 President of the American Academy for Cerebral Palsy and Developmental Medicine (AAPDM) and Dr. Golda Milo-Manson being the chair of the Royal College of Physicians and Surgeons subspecialty committee in Developmental Paediatrics. Dr. Peter Rumney was the 2014 recipient of the Dr. Jane Gillett Award from the Brain Injury Association of Canada.

Honours and Awards

Anagnostou, E: Received, Canada Research Chair - Tier 2, Translational Therapeutics in ASD, Canada Research Chair, April, 2014

Church, P: Nominated, Emerging Leader in Neonatology, Canadian Paediatric Society, June, 2014

Church, P: Received, Neonatal-Perinatal Medicine Faculty Teaching Award, University of Toronto, Toronto, ON, Canada, 2015

Fehlings, D: Received, AAPDM Student Scholarship, Awardee Name: Rhandi Christensen. American Academy for Cerebral Palsy and Developmental Medicine, United States, June, 2014

Fehlings, D: Received, The Holland Bloorview Foundation Graduate Student Scholarships Award for 2015, Awardee Name: Samantha D'Souza. Holland Bloorview Kids Rehabilitation Hospital, Toronto, December, 2014

Fehlings, D: Received, The 8th Annual Anne & David Ward Student Research Day "Best Research Presentation" - Tied 1st Place, Awardee Name: Seema Emami. Holland Bloorview Kids Rehabilitation Hospital, Toronto, July, 2014

Fehlings, D: Received, The 8th Annual Anne & David Ward Student Research Day "Best Research Presentation" - Tied 1st Place, Awardee Name: Briar Findlay. Holland Bloorview Kids Rehabilitation Hospital, Toronto, July, 2014

Penner, M: Awarded, CIHR Institute of Health Services and Policy Research/Canadian Association of Health Services and Policy Research Student Poster Competition, 3rd Prize, Canadian Association of Health Services and Policy Research Annual Meeting, Montreal, Quebec, Canada, 2015

Penner, M: Awarded, Best Platform Presentation in Developmental Paediatrics, Canadian Paediatric Society Annual Meeting, Montreal, Quebec, Canada, 2014

Publications

Abdullah K, Thorpe K, Mamak E, Maguire J, Birken C, Fehlings D, Hanley A, Macarthur C, Zlotkin S, Parkin P. Optimizing early child development for young children with non-anemic iron deficiency in the primary care practice setting (Optec): Study protocol for a randomized controlled trial. *Trials* 2015: Mar 16: pp 132.

Amin R, Sayal A, Syed F, Daniels C, Hoffman A, Moraes TJ, Cox P. How long does it take to initiate a child on long-term invasive ventilation? Results from a Canadian pediatric home ventilation program. *Canadian Respiratory Journal* 2015: March 22(2): pp 103-108.

Anagnostou E, Soorya L, Brian J, Dupuis A, Mankad D, Smile S, Jacob S. Intranasal oxytocin in the treatment of autism spectrum disorders: a review of literature and early safety and efficacy data in youth. *Brain Research*. 2014 Sep 11;1580:188-198. Principal Author.

Anagnostou E, Zwaigenbaum L, Szatmari P, Fombonne E, Fernandez BA, Woodbury-Smith M, Brian J, Bryson S, Smith IM, Drmic I, Buchanan JA, Roberts W, Scherer SW. Autism spectrum disorder: advances in evidence-based practice. *Canadian Medical Association Journal*. 2014 Apr 15;186(7):509-519. Principal Author.

Chiang J, Raiman J, Cutz E, Solomon M, Dell S. Sanfilippo syndrome diagnosed through lung biopsy. *Pediatrics* 2014: 134(3): e884-e888.

deSouza MR, Church PT, Elias T, Frim D. Closed spinal dysraphism and tethered cord syndrome: A review of multidisciplinary team management. *ACNR* 2014:14: pp 28-33.

Donald K, Kakooza A, Wammanda R, Mallewa M, Samia P, Babakir H, Bearden D, Majnemer A, Fehlings D, Shevell M, Chugani H, Wilmshurst J. Paediatric cerebral palsy in Africa: Where are we? *Journal of Child Neurology*. 2014 Oct. DOI: 10.1177/0883073814549245.

Downey LC, O'Shea TM, Allred EN, Kuban K, McElrath TF, Warner DD, Ware J, Hecht L, Onderdonk A, Leviton A, ELGAN Study Investigators (Church PT). Antenatal and postnatal antecedents of parent-reported attention problems at 2 years of age. *Journal of Pediatrics* 2015; 166: pp 20-25.

Doyle-Thomas KA, Lee W, Foster NE, Tryfon A, Ouimet T, Hyde KL, Evans AC, Lewis J, Zwaigenbaum L, Anagnostou E: NeuroDevNet ASD Imaging Group. Atypical functional brain connectivity during rest in autism spectrum disorders. *Annals of Neurology* 2015; May 77(5): pp 866-876.

Dyk Jv, Ramanjan V, Church P, Koren G, Donald K. Maternal methamphetamine use in pregnancy and long-term neurodevelopmental and behavioral deficits in children. *Journal of Population Therapy and Clinical Pharmacology* 2014: e185-196.

Ellegood J, Anagnostou E, Babineau DA, Crawley JN, Lin L, Genestine M, DiCicco-Bloom E, Lai JK, Foster JA, Peñagarikano O, Geschwind DH, Pacey LK, Hampson DR, Laliberté CL, Mills AA, Tam E, Osborne LR, Kouser M, Espinosa-Becerra F, Xuan Z, Powell CM, Raznahan A, Robins DM, Nakai N, Nakatani J, Takumi T, van Eede MC, Kerr TM, Muller C, Blakely RD, Veenstra-VanderWeele J, Henkelman RM, Lerch JP. Clustering autism: Using neuroanatomical differences in 26 mouse models to gain insight into the heterogeneity. *Molecular Psychiatry* 2015; Feb 20(1): pp 118-125.

Hadley D, We ZL, Kao C, Kini A, Mohamed-Hadley A, Thomas K, Vazquez L, Qiu H Mentch F, Pellegrino R, Kim C, Connolly J Anagnostou E, Glessner J, Hakonarson H: AGP Consortium. The impact of the metabotropic glutamate receptor and other gene family interaction networks on autism. *National Communication* 2014: Jun 13 5: pp 4074.

Hoffman A, Matlow A, Shroff M, Cohen E. Factors impacting same-day cancellation of outpatient pediatric magnetic resonance imaging under anesthesia. *Pediatric Radiology* 2015: 45(1): pp 99-107.

Kapadia NM, Nagai MK, Zivanovic V, Bernstein J, Woodhouse J, Rumney P, Popovic MR. Functional electrical stimulation therapy for recovery of reaching and grasping in severe chronic pediatric stroke patients. *Journal of Child Neurology* 2014: 29(4): pp 493-499.

Kawamura A, Orsino A, Mylopoulos M. Integrating competencies: Exploring complex problem solving through case formulation in developmental paediatrics. *Academic Medicine* 2014: 89(11): pp 1497-1501.

Knights S, Graham N, Switzer L, Hernandez H, Ye Z, Findlay B, Xie W, Wright V, Fehlings D. An innovative exergame cycling program to promote cardiovascular fitness and health-related quality of life in youth with cerebral palsy. *Developmental Neurorehabilitation*. 2014: Jun: pp 1-6.

Knights S, Dato N, Kawamura A, Switzer L, Fehlings D. Further evaluation of the scoring, reliability, and validity of the hypertonia assessment tool (HAT). *Journal of Child Neurology*. 2014 Apr;29(4):500-504. doi: 10.1177/0883073813483903 (April 12, 2013). Senior Responsible Author.

Kuban KC, O'Shea TM, Allred EN, Paneth N, Hirtz D, Fichorova RN, Leviton A, ELGAN Study Investigators (Church PT). Systemic inflammation and cerebral palsy risk in extremely preterm infants. *Journal of Child Neurology* 2014: 29: pp 1692-1698.

Kushki A, Brian J, Dupuis A, Anagnostou E. Functional autonomic nervous system profile in children with autism spectrum disorder. *Molecular Autism* 2014: Jul 5: pp 39.

Kushki A, Khan A, Brian J, Anagnostou E. A Kalman. Framework for physiological detection of anxiety-related arousal in children with autism spectrum disorder. *IEEE Transactions on Biomedical Engineering* 2015: Mar 62(3): pp 990-1000.

Leung RC, Vogan VM, Powell TC, Anagnostou E, Taylor MJ. T A Kalman filtering framework for physiological detection of anxiety-related arousal in children with autism spectrum disorder. *Child Neuropsychology* 2015: Mar 3: pp 1-9.

Lindsay S, Hoffman A. A complex transition: Lessons learned as three young adults with complex care needs transition from an in-patient pediatric hospital to adult community residence. *Child: Care, Health & Development* 2014: 41(3), pp 397-407.

Mankad D, Dupuis A, Smile S, Roberts W, Brian J, Lui T, Genore L, Zaghoul D, Laboni A, Marcon P, Anagnostou E. A randomized, placebo controlled trial of omega-3 fatty acids in the treatment of young children with autism. *Molecular Autism* 2015: 6: pp 18.

McPherson AC, Leo J, Lyons J, Church P, Swift JA. An environmental scan of weight assessment and management practices in paediatric spina bifida clinics across Canada. *Journal of Pediatric Rehabilitation Medicine* 2014: 7: pp 207-217.

Neul JL, Glaze DG, Percy AK, Feyma T, Beisang A, Dinh T, Suter B, Anagnostou E, Snape M, Horrigan J, Jones NE. Improving treatment trial outcomes for Rett Syndrome: The development of Rett-specific anchors for the Clinical Global Impression Scale. *Journal of Child Neurology* 2015: Apr 20. pii: 0883073815579707 (Epub ahead of print)

Ngoma MS, Hunter JA, Harper JA, Church PT, Mumba Chandwe M, Cote HC, Albert AY, Smith ML, Selemani C, Sandstrom PA, Bandenduck L, Ndlova U, Khan S, Roa L, Silverman MS. Cognitive and language outcomes in HIV-uninfected infants exposed to combined antiretroviral therapy in utero and through extended breast-feeding. *AIDS* 2014: 28: S323-330.

Ni L, Fehlings D, Biddiss E. Design and evaluation of virtual reality-based therapy games with dual focus on therapeutic relevance and user experience for children with cerebral palsy. *Games for Health*. 2014 Jun;3(3):162-71. doi: 1089/g4h.2014.0003.

O'Shea TM, Joseph RM, Kuban KC, Allred EN, Ware J, Coster T, Fichorova RN, Dammann O, Leviton A, ELGAN Study Investigators (Church PT). Elevated blood levels of inflammation related proteins are associated with an attention problem at age 24 mo in extremely preterm infants. *Pediatric Research* 2014; 75: pp 781-787.

Pinto D, Delaby E, Barbosa M, Merikangas A, Klei L, Thiruvahindrapuram B, Xu X, Ziman R, Wang Z, Vorstman JA, Anagnostou E, Thompson A, Regan R, Pilorge M, Pellecchia G, et al. Convergence of genes and cellular pathways dysregulated in autism spectrum disorders. *American Journal of Human Genetics*. 2014 May 1;94(5):677-694. Coauthor or Collaborator.

Rumney P, Anderson JA, Ryan SE. Ethics in pharmacologic research in the child with a disability. *Paediatric Drugs* 2015: Feb 17(1): pp 61-68.

Vara AS, Pang EW, Vidal J, Anagnostou E, Taylor MJ. Neural mechanisms of inhibitory control continue to mature in adolescence. *Developmental Cognitive Neuroscience* 2014: Oct 10: pp 129-139.

Weiss T, Tirosh E, Fehlings D. Role of virtual reality for cerebral palsy. *Journal of Child Neurology* 2014: May 29(8): pp 1119-1124.

Wright V, Rosenbaum P, Fehlings D, Mesterman R, Breuer U, Kim M. The quality function measure: Reliability and discriminant validity of a new measure of quality of gross motor movement in ambulatory children with cerebral palsy. *Developmental Medicine and Child Neurology* 2014: 56: pp 770-778.

Book Chapters

Anagnostou E, Mankad D. Future direction in psychopharmacology of autism spectrum disorder. In: *Frontiers in Autism Research New Horizons for Diagnosis and Treatment* (VW Hu ed). World Scientific Publishing Co 2014: pp 473-495.

Wang M, Anagnostou E. Using virtual reality as a treatment tool for children with autism. In: *Comprehensive Guide to Autism* (Patel, V, Victor R, Martin Colin R, eds). Springer Inc. 2014: pp. 2125-2126.

Grants and Funding

Anagnostou E (PI). Unrestricted grant. **Sanofi-Aventis (Canada)**. 64,800 CAD. July 2012-Jun 2014

A multi-site double-blind placebo-controlled trial of memantine vs. placebo in children with autism targeting motor skills. Anagnostou E, Soorya L. **Autism Speaks (USA)**. \$200,000 USD. Sep 2011-Aug 2015

A pilot dose finding study of pioglitazone in children with ASD. Anagnostou E, Brian J. **Physicians Services Incorporated Foundation**. \$127,700 CAD. Aug 2012-Aug 2015

A pilot, randomized, placebo-controlled trial of omega-3 fatty acids in the treatment of young children with autism. Brian J, Anagnostou E. **Alva Foundation**. \$150,000 CAD. Sep 2009-Sep 2014

A smartphone application designed for teaching children 9-1-1 emergency safety skills. Huber J. **Paediatric Consultant's Education Research Grant – The Hospital for Sick Children.** \$5000. May 2015-Apr 2016

An evaluation of the long-term effectiveness of botulinum toxin in children with spastic cerebral palsy. Goldsmith C, Narayanan U, Rosenbaum P, Wright W. **Canadian Institutes of Health Research.** \$442,307 CAD. Apr 2008-Mar 2015

Assessing the efficacy of group intervention for developmental coordination disorder in former preterm infants. Church P, Cooper L, vanDyk J. **Sunnybrook AFP Innovation Fund.** \$23,650 CAD. July 2015-June 2016.

Autism Intervention Research Network for Physical Disorders (AIR-P). Kulthau K, Brian J, Anagnostou, E, Perrin J, Loh A, Roberts W. **Health Resource Services Administration (HRSA) - Maternal Child Health Bureau.** \$150,000 CAD. Sep 2011-Aug 2014

Autism Speaks Autism Treatment Network. Brian J, Anagnostou E, Loh, A. **Autism Speaks.** \$420,000 CAD. Sep 2014-Aug 2017

Autism Spectrum and Associated Neurodevelopmental Disorders: Genomes to Outcome. Scherer S, Anagnostou E. **Ontario Research Fund.** \$8,920,652 CAD. Oct 2010-Sep 2015

Autism spectrum disorders: Genomes to outcomes. Scherer S, Szatmari P, Anagnostou E. **Genome Canada/Canadian Institute of Health Research/Ontario Ministry of Economic Developmental and Innovation.** \$10,000,000 CAD. Apr 2013- Mar 2017

Botox Treatment in Paediatric Upper Limb Spasticity: Double-blind Study. **Allergan (North America).** Pharmaceutical Drug Study. PI: Fehlings, D. Collaborator(s): Kawamura, A. 255,937 CAD. Jan 2013-Oct 2015

Botox treatment in paediatric upper limb spasticity: Open-label study. Fehlings D, Switzer L. **Allergan (North America).** Pharmaceutical Drug Study. \$337,079 CAD. Jan 2013-Oct 2015

Bone fragility in boys with Duchenne Muscular Dystrophy. Ward L, McAdam L, Craven BC. **Physicians' Services Incorporated Foundation (PSI).** \$170,000 CAD. Nov 2014-Nov 2016

Bridging worlds by integrating perspectives and competencies - exploring the development of adaptive expertise. Kawamura A, Mylopoulos M. **Bloorview Research Institute Catalyst Grant.** \$12,000 CAD. Apr 2014-Mar 2015

CBT for the treatment of anxiety in youth with ASD. **Royal Bank of Canada.** Anagnostou E (PI). Collaborator(s): Holland Bloorview (Co-investigator). \$1,000,000 CAD. July 2012-Jun 2017

Childhood Cerebral Palsy Integrated Discovery Network "CP-NET". Fehlings D, deVeber G, Fehlings M, Menon R, Rosenbaum P, Scherer S., Ansari D, Biddiss E, Campbell C, Carter M, Chau T, Chen R, Cheyne D, Ferro M, Frid P, Gorter JW, Graham N, Hall G, Henkelman M, Kawamura A, Kingsnorth S, McCormick A, Mesterman R, Miller S, Morshead C, Palisano R, Paterson A, Pelland L, Raybaud C, Samdup D, Scott S, Segalowitz S, Shroff M, Strothers S, Taylor M, van der Kooy D, Wintle R, Wright V: **Ontario Brain Institute.** \$7,500,000 CAD. Apr 2013-Mar 2018

Co-clinical trials in mice and humans in autism. **Brain Canada**. Anagnostou E, Lerch J. \$2,500,000 CAD. Apr 2014-Mar 2019

CP cycle to fun. Graham N, Fehlings D, Mandryk R, Warburton D, Rhodes R, Wright V. **Collaborative Health Research Projects (CHRP) Natural Sciences and Engineering Research Council of Canada (NSERC), CIHR, CHIR-IMHA**. \$510,978 CAD. Apr 2012-Mar 2015

Enhancement of developmental motor plasticity in perinatal stroke with TDCS. Kirton A, Hill MD, Fehlings D, Andersen J, Goodyear B, Dukelow S, Beaulieu C, Dewey D, Chen R, Majnemer A. **Heart and Stroke Foundation**. \$270,000 CAD. Apr 2012-Mar 2015

Evaluation of the effectiveness of robotic gait training and gait-focused physical therapy programs for children and youth with cerebral palsy: A mixed methods RCT. Wright V, Wiart L, Andersen J, Fehlings D, Gaebler-Spira D, Levac D, Phelan S, Rosychuk R. **Canadian Institutes of Health Research**. \$876,150 CAD. Apr 2014-Mar 2019

Gathering evidence to support families in transition to development/rehabilitation services for children with neurodevelopmental disorders: Understanding parents' experiences and needs. Church P, Ballantyne M. **Bloorview Research Institute 2015 Catalyst Grant**. \$9,660 CAD. Apr 2015-Mar 2016

Intranasal oxytocin for social cognition/function in adults with autism. Anagnostou E, Woodbury-Smith M, Szatmari P, Brian J. **Canadian Institutes of Health Research**. \$1,073,417 CAD. Jan 2012-Jan 2016

Intranasal oxytocin for the treatment of children and adolescence with autism spectrum disorders (ASD). Anagnostou E, Jacob S, Brian J. **Department of Defense (USA)**. \$801,790 USD. Sep 2010-Aug 2015

"My Child has Autism?": Teaching developmental pediatrics residents to explore patient and family perspectives through a novel family facilitator-standardized patient educational model. Kawamura A, Mylopoulos M, Jimenez E, Orsino A, McNaughton N. **Associated Medical Services (AMS) Phoenix Grant**. \$10,730 CAD. Apr 2013-Mar 2014

Network of Centres of Excellence in Brain Development (NeuroDevNet) - Network Director: Dan Goldowitz. **Network of Centres of Excellence (NCE). NEURODEVNET**. Zwaigenbaum L, Anagnostou E. \$3,248,200. Jun 2010-May 2015

OptEC: Optimizing Early Child Development in the Primary Care Practice Setting: Pragmatic randomized trial of iron treatment for young children with non-anemic iron deficiency. Parkin, P, Birken C, Fehlings D, Macarthur C, Maguie J, Mamak E, Mamdan M, Thorpe K, Zlotkin S. **Canadian Institutes of Health Research**. \$541,567 CAD. Apr 2011-Mar 2016

Paediatric career decision-making: The role of a summer pre-clerkship education program at Holland Bloorview Kids Rehabilitation Hospital. Orsino A, Schwellnus H, McAdam L. **Paediatric Consultant's Education Innovation and Development**. \$4,957. Apr 2014-Mar 2015

Partnering to promote healthy living through leisure participation for children and youth with physical disabilities. Majnemer A, Wittich W, Fehlings D, Bushfield J, Law M. Child Health Initiatives Limiting Disability Through Leisure - CHILD Leisure-Net.

Canadian Institutes of Health Research. \$19,910 CAD. Nov 2013-Oct 2014

PROMPT Identification of Cerebral Palsy: Primary-care Referral of Motor-impaired Children: Physician Tools. Majnemer A., Ahmed S, Burko B, Dagenais L, Kirton C, Rodriguez R, Shiller M, Andersen J, Bussieres A, Darsaklis V, Leduc D, Shevell M, Snider L, Bergman H, Dagenais E, Fehlings D, Li P, Shikako Thomas D, Thibault J. **Canadian Institutes of Health Research - Human Development, Child and Youth Health.** \$330,576 CAD. Apr 2014-Mar 2018

Province of Ontario Neurodevelopmental Disorders Network (POND). **Ontario Brain Institute.** Anagnostou E (PI). Collaborator(s): Arnold P (Co-investigator), Szatmari P (Co-investigator), Schachar R (Co-investigator), Scherer S (Co-investigator), Lerch J (Co-investigator), Nicolas R (Co-investigator). 18,750,000 CAD. Jul 2013-Jun 2018

QI initiative: Prevention of osteoporosis - Clinical practice guideline use within the inpatient program at Holland Bloorview Kids Rehabilitation Hospital. Hoffman A. **Innovation Fund AHSC AFP.** \$66,800 CAD. Feb 2015-Jan 2017

Randomized controlled trial in robotic therapy for children with cerebral palsy.. Wright V, Fehlings D. **CIBC & Three to Be Foundation.** \$950,000 CAD. Apr 2012-Mar 2014

Screening practices and factors influencing Autism Spectrum Disorder (ASD) screening by community paediatricians. Smile S. **The Hospital for Sick Children Paediatric Consultants Education Research Committee.** \$5,000 CAD. Nov 2014-Mar 2015

Strengthening connections: Evaluation of a novel educational program to increase diagnostic capacity for autism spectrum disorder among general paediatricians. Penner M, Kawamura A, Chiba Branson J, Jimenez E, Ms. Townley A, Brian J. **Centres for Leadership, Child Development.** \$6,586 CAD. Apr 2015-Mar 2016

The Canadian Neuromuscular Disease Registry. Korngut L, McAdam L. **ALS Canada, Jesse's Journey, Families of SMA Canada.** \$10,000 CAD. Jan 2011-present

The Cerebral Palsy Discovery Project. Goldowitz D (Scientific Director of NeuroDevNet). **NeuroDevNet, Networks of Centres of Excellence of Canada (NCE).** Collaborator(s): Yager J (2nd lead), Shevell M, Fehlings M, Majnemer A, Miller S, Kirton A. \$1,060,000 CAD. Apr 2013-Mar 2015

The Challenge Module for Evaluating Advanced Motor Skills of Children with Cerebral Palsy: From Measurement to Child-centred Goal Setting. Wright V, Gibson B, Rosenbaum P, Fehlings D, Anderson J, Wood E, Mesterman R, Glazebrook C. **Canadian Institutes of Health Research.** \$348,000 CAD. Apr 2012-Mar 2015

The Sequential Oral Sensory (SOS) approach intervention in treating children with autism spectrum disorder and limited food repertoire: A Pilot Study. Smile S, Perry K, Lynch M, Penna M. **Department of Pediatrics, The Hospital for Sick Children.** \$10,000 CAD. Apr 2014-Mar 2015

DIVISION OF DEVELOPMENTAL PAEDIATRICS	Dr. Nicola Jones-Stokreef
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	Dr. Zina Levichek
Division Head	Dr. Anne Richards
Dr. Darcy Fehlings	Dr. Lilly Rojnica
	Dr. Clive Schwartz
Full-Time	Dr. David Shawn
Dr. Evdokia Anagnostou	Dr. Diann Superina-Bell
Dr. Jolene Huber	
Dr. Ryan Hung	Cross-Appointees
Dr. Elizabeth Jimenez	Dr. Jessica Brian
Dr. Anne Kawamura	Dr. Melissa Carter
Dr. Alvin Loh	Dr. Patricia McKeever
Dr. Laura McAdam	
Dr. Golda Milo-Manson	Clinical Fellows
Dr. Angela Orsino	Dr. Mohammad Zubairi
Dr. Wendy Roberts	
Dr. Jay Rosenfield	Subspecialty Residents
Dr. Peter Rumney	Dr. Jenna Doig
Dr. Sharon Smile	Dr. Jennifer Das
	Dr. Abigail Siapno
Part-Time and/or Community Physicians	Dr. Alysha Ladha
	Dr. Angie Ip
Dr. Douglas Biggar	Dr. Shannon Knights
Dr. Paige Church	
Dr. Janine Flanagan	Administrative Staff
Dr. Cynthia Goldfarb	Romana, Karnetova
Dr. Mark Handley-Derry	Merlene Chin
Dr. Carolyn Hunt	Joanne, Jenah
Dr. Anita Jethwa	Sharon, Ouellette

Therapists' beliefs regarding the value of walking. Gibson B, Fehlings D, Narayanan U, Wright V, Teachman G. **University of Toronto**. Connaught New Researcher Award. \$45,294 CAD. Jul 2012-Jun 2014

Treatment of overweight induced by antipsychotic medication in young people with ASD. **Health Resources and Services Administration (HRSA) (USA)**. Anagnostou E (PI). Collaborator(s): Veenstra-VanderWeele J (Co-investigator), Handen B (Co-investigator), Butter E (Co-investigator), Aman M (Co-investigator). 1,418,395 USD. Apr 2012-Aug 2015

Typical and atypical development of frontal lobe systems and the maturation of social cognitive function. Taylor MJ, Anagnostou E. **Canadian Institutes of Health Research**. \$766,896 CAD. Jan 2012-Jan 2017

Training Grant in Autism Research (ART). Zwaigenbaum L, Anagnostou E. **Canadian Institutes of Health Research**. \$1,440,000 CAD. Apr 2009-Mar 2015

Validation of a Smartphone Application to Teach Emergency Safety Skills to Children. Huber J, **Pediatric Summer Research Program (PeRCS) – The Hospital for Sick Children**. \$2,000 CAD. May 2015-Apr 2016

DIVISION OF PAEDIATRIC EMERGENCY MEDICINE



*From left to right:
Dr. Jason Fischer
Kate Langrish
Linette Margallo*

The 2014-2015 academic year continued the story of success for pediatric emergency medicine (PEM). Clinically, we managed a fall season marked by very high volume and high acuity for respiratory cases (the EVD68 wave!), and confronted the complex challenge of preparing for an Ebola response that brought the theme of communicable diseases and disaster preparedness to the forefront of everyone's minds. Although our volumes continued their upward trajectory, a data-driven staffing plan successfully addressed a core efficiency goal of improving our times from arrival to first physician assessment. Through the first 6 months of 2015, SickKids moved into top 5 of pay for results ranked hospitals in the province!

Success and change go hand in hand. Our team through the last year experienced several departures and additions to key individuals, but emerged at the conclusion of the year with a strong cohesive group of leaders.

Academically, our faculty posted an outstanding year with recognition through high-impact publications and educational awards and organizational leadership. Dr. Suzanne Schuh and Dr. Yaron Finkelstein had manuscripts appear in JAMA, and the overall number of published peer-reviewed articles exceeded 40. Dr. Finkelstein's work on suicide mortality risk was honored with a "best of" research award at the Pediatric Academic Societies meeting in May. Dr. Jason Fischer as leader of the P2 network, an international collaborative for point of care ultrasound in academic PEM, has set this new organization on a road towards success in collaborative research and innovation. Faculty were also recognized with end-of-year teaching awards from the Department of Pediatrics (Drs. Kempinska for subspecialty teaching and Fischer for continuing education).

Success and change go hand in hand. Our team through the last year experienced several departures and additions to key individuals, but emerged at the conclusion of the year with a strong cohesive group of leaders. We begin the 2015-2016 year excited by the leadership of Linette Margallo as Clinical Director and Krista MacMurdo as the Clinical Manager for PEM. For physicians, Dr. Jason Fischer will assume leadership as interim Division Chief and Dr. Trent Mizzi will begin a newly created role as Medical Director.

Honors and Awards

Beno, S: Winner of Faculty of the Year, Paediatric Emergency Medicine Point of Care Ultrasound, The Hospital for Sick Children, Division of Paediatric Emergency Medicine, Toronto, ON, Canada. June, 2014

Beno, S: Recognition for Excellence in Advocacy/Leadership, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Boutis, K: Winner of Physician Researcher Award for Scientific Accomplishments, Department of Pediatrics, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Boutis, K: Recognition for Excellence in Evidence-based Practice, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014.

Etoom, Y: Winner of the Community Paediatrics Postgraduate Award for Excellence in Teaching, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Fischer, JW: Clinical Teaching Recognition Award, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Kempinska, A: Recognition for Excellence in Clinical Teaching, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Kempinska, A: Recognition for Excellence in Evidence-Based Practice, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Komar L, et al: Winner of General Surgery Divisional Research Award, General Surgery Department, The Hospital for Sick Children, Toronto, ON, Canada. May, 2014

Mehta, S: Winner of Teaching Award For Best Paediatric Emergency Medicine Staff Physician Presentation (“Shock”), Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Mehta, S: Winner of Teaching Award For Best Paediatric Emergency Medicine Staff Physician Presentation (“Giving Effective Presentations”), Division of Paediatric Emergency Medicine, Toronto, ON, Canada. June, 2014

Mizzi, T: Recognition for Communication & Collaboration Excellence Award, Division of Paediatric Emergency Medicine Educational Rounds, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Ostrow, O: Recognition for Excellence in Communication, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Pirie, J: Runner-up of the Subspecialty Teaching Award, Department of Paediatrics, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Schneeweiss, S: Recognition for Excellence in Collaboration/Leadership, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Schneeweiss, S: Recognition for Excelling at Excellence, ER-Pain Management Working Group, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto, ON, Canada. June, 2014

Publications

Ahmad S, Scolnik D, Snehal V, Glatstein M: Use of naloxone for clonidine intoxication in the pediatric age group: case report and review of the literature. *Am J Ther.* 2015; 22(1):e14-6

Al-Qadhi, Constan N, Corrin M, Pirie J. An Innovated Pediatric Chest Tube Insertion Bench Model Simulation, a Usability Study of the Pilot Model. *Simulation in Healthcare* 2014: April 29

Amarilyo G, Glatstein M, Alper A, Scolnik D, Lavie M, Schneebaum N, Grisaru-Soen G, Assia A, Ben-Sira L, Reif S: IV penicillin G is as effective as IV cefuroxime in treating community-acquired pneumonia in children. *Am J Ther.* 2014;21(2):81-4

Barata I, Brown KM, Fitzmaurice L, Griffin ES, Snow SK, American Academy of Pediatrics Committee on Pediatric Emergency Medicine, American College of Emergency Physicians Pediatric Emergency Medicine Committee, Emergency Nurses Association Pediatric Committee. Best Practices For Improving Flow And Care of Pediatric Patients In The Emergency Department. *Pediatrics*. 2015; 135(1): e273-e283. (C)

Beno S, Ackery AD, Callum J, Rizoli S. Tranexamic Acid in Pediatric Trauma: Why Not? *Critical Care*. 2014; 18:313

Berant R and Scolnik D: Topical lidocaine-epinephrine-tetracaine is effective in reducing pain during laceration repair with tissue adhesive in children. *Evidence-Based Nursing* 2014;17:118

Bhatt M, Roback MG, Joubert G, Farion KJ, Ali S, Beno S, McTimoney CM, Dixon A, Dubrovsky AS, Barrowman N, Johnson DW; Sedation Safety Study Group of Pediatric Emergency Research Canada. The design of a multicentre Canadian surveillance study of sedation safety in the pediatric emergency department. *BMJ Open*. 2015 May 29;15(5)

Boutis K, Fischer J, Freedman SB, Thomas K. Physician Perceptions of the Possible Risks from Diagnostic Testing that Exposes Children to Ionizing Radiation. *J Emerg Med*. 2014 Jul;47(1):36-44

Boutis K, Howard A, Somji F, Constantine E, Cuomo A, Narayanan U. Evidence to Practice: Orthopedic Management of Common Pediatric Fractures. *Journal of Pediatric Orthopedics*. 2014 May 30 [Epub ahead of print]

Boutis K, Weerdenburg K, Koo E, Schneeweiss S, Zemek R. The diagnosis of concussion in a pediatric emergency department. *J Pediatr*. 2015 May;166(5):1214-1220.e1. doi: 10.1016/j.jpeds.2015.02.013.

Chou EH, Dickman E, Tsou PY, Tessaro M, Tsai YM, Ma MH, Lee CC, Marshall J. Ultrasonography for confirmation of endotracheal tube placement: a systematic review and meta-analysis. *Resuscitation*. 2015 Feb 21. 90: 97-103. Impact Factor 3.771

Cohen S, Glatstein M, Scolnik D, Rom L, Yaron A, Otremski S, Reif S: Propofol for pediatric colonoscopy: the experience of a large, tertiary care pediatric hospital. *Am J Ther* 2014;21(6):509-11

Cohen-Silver JH, Muskat B, Ratnapalan S. Autism in the Emergency Department. *Clin Pediatr (Phila)*. 2014 Oct;53(12):1134-8.

Dubrovsky AS, Kempinska A, Bank I, Mok E. Accuracy of Ultrasonography for Determining Successful Realignment of Pediatric Forearm Fractures. *Annals of Emergency Medicine* published online 2014 Oct 16 (proof in print)

Dudley N, Ackerman A, Brown KM, Snow SK, American Academy of Pediatrics Committee on Pediatric Emergency Medicine, American College of Emergency Physicians Pediatric Emergency Medicine Committee, Emergency Nurses Association Pediatric Committee. Patient- And Family-Centered Care Of Children In The Emergency Department. *Pediatrics*. 2015; 135(1): e255-e272. (C)

Etoom Y. Importance of Magnetic Resonance within the Task Force Criteria for the Diagnosis of Arrhythmogenic Right Ventricular Cardiomyopathy in Children and Adolescents *Journal of the American College of Cardiology JACC*, December 15, 2014

Evans A, Caudarella A, Ratnapalan S, Chan K. The cost and impact of the interim federal health program cuts on child refugees in Canada. *PLoS One*. 2014 May 8;9(5):e96902.

Finkelstein Y, Fischer JW. Young child with strabismus. *Ann Emerg Med* 2014;64(2):213-7

Finkelstein Y, Macdonald EM, Hollands S, Sivilotti ML, Hutson JR, Mamdani MM, Koren G, Juurlink DN; Canadian Drug Safety and Effectiveness Research Network (CDSERN). Risk of Suicide Following Deliberate Self-poisoning. *JAMA Psychiatry*. 2015 Apr 1. doi: 10.1001/jamapsychiatry. 2014. 3188. [Epub ahead of print]

Finkelstein Y, Macdonald EM, Li P, Hutson JR, Juurlink DN. Recurrence and mortality following severe cutaneous adverse reactions. *JAMA- Journal of the American Medical Association*. 2014 Jun4;311(21):2231-2

Fischer JW and Kwan C. Emergency point-of-care ultrasound diagnosis of hematocolpometra and imperforate hymen in the Pediatric Emergency Department. *Paediatr Emerg Care* 2014;30(2):128-30

Fischer JW, Finkelstein Y. Young child with strabismus. *Annals of Emergency Medicine* 2014 Aug; 64(2):213-7

Freedman SB, Thull-Freedman J, Manson D, Follett Rowe M, Rumantir M, Eltorki M, Schuh S. Pediatric abdominal x-ray use, constipation, and significant misdiagnoses. *Journal of Pediatrics* 2014 164(1): 83-88

Freedman SB, Thull-Freedman J, Rumantir M, Eltorki M, Schuh S. Pediatric constipation in the emergency department: Evaluation, treatment and outcomes. *Journal of Pediatric Gastroenterology & Nutrition* 2014; 59 (3): 327-33

Freedman SB, Urquhart S, Schuh S, Sherman P, Farion K, Gouin S, Willan A, Goeree R, Johnson D, Black K, Schnadower D, Gorelick M. Impact of emergency department probiotic treatment of pediatric gastroenteritis: Study Protocol for the PROGUT (Probiotic Regimen for Outpatient Gastroenteritis Utility of Treatment) randomized controlled trial. *Trials* 2014 14; 15(1): 170

Freedman SB, Rumantir M, Uleryk E, Finkelstein Y. Ondansetron and the risk of cardiac arrhythmias: a systematic review and post-marketing analysis. *Annals of Emergency Medicine* 2014 Jul;64(1):19-25.

Frenkel O, Liebmann O and Fischer JW. Ultrasound-Guided Forearm Nerve Blocks in Kids: A Novel Method for Pain Control in the Treatment of Hand-Injured Pediatric Patients in the Emergency Department. *Pediatr Emerg Care*. 2015:1

Glatstein M, Ayelet R, Danino D, Weiss K, Scolnik D: Severe allergic contact dermatitis from temporary 'black henna' coloring of the hair during religious cultural celebrations: three different cases, same history. *Am J Ther* 2014 Mar 26

Glatstein M, Danino D, Wolyniez I, Scolnik D: Seizures caused by ingestion of atropa belladonna in a homeopathic medicine in a previously well infant: case report & review of the literature. *Am J Ther* 2014;21(6):e196-8

Glatstein M, Morag S, Scolnik D, Alper A, Reif S, Grisaru-Soen G: Acute mastoiditis before the introduction of pneumococcal conjugate vaccine: the experience of a large, tertiary care pediatric hospital. *Am J Ther* 2014 Oct 3. [Epub ahead of print]

Glatstein M, Scolnik D: Asorbic Acid for the treatment of methemoglobinemia: The experience of a large tertiary care paediatric hospital. *Am J Ther*. 2014 Jul-Aug;21(4):240-3

Glatstein M, Scolnik D: Clinical characterization of idiopathic intracranial hypertension in children presenting to the emergency department: the experience of a large, tertiary care pediatric hospital. *Pediatr Emerg Care*. 2015;31(1):6-9

Glatstein M, Scolnik D: Resistance patterns of typhoid fever in children: a longitudinal, community-based study. *Amer J Ther* 2014 Jul 1. [Epub ahead of print]

Hudson J, Ratnapalan S. Teaching clinical skills with patient resources. *Can Fam Physician*. 2014 Jul;60(7):674-7

Hudson J, Ratnapalan S. Enseigner les habiletés cliniques avec l'aide des patients. *Can Fam Physician*. 2014 Jul;60(7):e372-e375. French.

Imazio M, Brucato A, Ferrazzi P, Pullara A, Adler Y, Barosi A, Caforio AL, Cemin R, Chirillo F, Comoglio C, Cugola D, Cumetti D, Dyrda O, Ferrua S, Finkelstein Y, Flocco R, Gandino A, Hoit B, Innocente F, Maestroni S, Musumeci F, Oh J, Polizzi V, Ristic A, Simon C, Spodick DH, Tarzia V, Trimbol S, Valenti A, Belli R, Gaita F, for the COPPS-2 Investigators. Colchicine for prevention of post-pericardiotomy syndrome and post-operative atrial fibrillation: the COPPS-2 randomized clinical trial *JAMA - Journal of the American Medical Association*. 2014 Sep 10; 312(10): 1016-23

Jones P, Papadimitropoulos L, Tessaro MO. Thyrotoxic periodic paralysis in a pediatric patient. *Pediatric Emergency Care*. 2014, 30: 35-37. Impact Factor 0.923.

Kagedan DJ, *Haasz M, *Chadha NK, Mehta SV. Epiglottitis As A Presentation Of Leukemia In An Adolescent. *Ped Emerg Care*. 2014;30(10):733-735

Kempinska AY, Bhanji F, Larouche S, Dubrovsky AS. A Novel Simulation-Based Program for Ultrasound-guided Fracture Reductions: Program Evaluation. *American Journal of Emergency Medicine* 2014 Dec 32(12): 1547-9

Khoury, M, Principi T, Beenish I, Friedman J, Bismilla Z. "What is a resident?" Assessing parental knowledge and preferences regarding residents in the pediatric emergency department." *Pediatric Academic Societies*. E- PAS2014:3836.422 (Trainee Publication, [Michael Khoury, PGY3])

Khoury, M, Principi T, Beenish I, Friedman J, Bismilla Z. "What is a resident?' Assessing parental knowledge and preferences regarding residents in the pediatric emergency department." *Pediatrics and Child Health*, 2014. 19 (6) e73. (Trainee Publication, [Michael Khoury, PGY3])

Koelink E and Boutis K. Evidence into Practice: A Survey Pediatrician Follow Up of Common Minor Fractures. *Pediatrics and Child Health*. 2014 Oct; 19(8):407-12

Kwan C, Doan Q, Howard A, Ouyang M, Oliveria JP, Boutis K. Fracture Severity in Overweight Versus Non-overweight Children Presenting to a Pediatric Emergency Department. *Journal of Pediatrics and Child Health*. 2014 May;19(5):251-5

Marin JR, Lewiss RE; American Academy of Pediatrics, Committee on Pediatric Emergency Medicine, 2013-2014; Society for Academic Emergency Medicine (Reviewers); American College of Emergency Physicians, Pediatric Emergency Medicine Committee, 2013-2014; World Interactive Network Focused on Critical Ultrasound Board of Directors (reviewers); American Academy of Pediatrics Committee on Pediatric Emergency Medicine 2013-2014; Society for Academic Emergency Medicine Reviewers; American College of Emergency Physicians Pediatric Emergency Medicine Committee 2013-2014; World Interactive Network Focused on Critical Ultrasound Board of Directors reviewers. Point-of-Care ultrasonography by pediatric emergency medicine physicians. *Ann Emerg Med*. 2015 (C) E Mehta

Marin JR, Lewiss RE; American Academy of Pediatrics, Committee on Pediatric Emergency Medicine; Society for Academic Emergency Medicine, Academy of Emergency Ultrasound; American College of Emergency Physicians, Pediatric Emergency Medicine Committee; World Interactive Network Focused on Critical Ultrasound. Point-of-Care ultrasonography by pediatric emergency medicine physicians. Policy Statement. *Pediatrics*. 2015. Mar 30. Pii: peds. 2015-0342 (C) E Mehta

Mehta S. American College of Surgeons Committee on Trauma, American College of Emergency Physicians Pediatric Emergency Medicine Committee, National Association of Ems Physicians; American Academy of Pediatrics Committee on Pediatric Emergency Medicine, Fallat ME. Withholding Or Termination Of Resuscitation In Pediatric Out-Of-Hospital Traumatic Cardiopulmonary Arrest. *Ann Emerg Med*. 2014;63(4):504-15. (C)

Mehta S. American College of Surgeons Committee on Trauma, American College of Emergency Physicians Pediatric Emergency Medicine Committee, National Association of Ems Physicians; American Academy of Pediatrics Committee on Pediatric Emergency Medicine, Fallat ME. Withholding Or Termination Of Resuscitation In Pediatric Out-Of-Hospital Traumatic Cardiopulmonary Arrest. *Pediatrics*. 2014;133(4):e1104-16. (C)

Moler FW, Silverstein FS, Holubkov R, Slomine BS, Christensen JR, et al and THAPCA Trial Investigators (Boutis K, contributor). Therapeutic Hypothermia after Out-of-Hospital Cardiac Arrest in Children. *N Engl J Med*. 2015 Apr 25. Epub ahead of print

Moore G, Talarico S, Kempinska A, Lawrence SE, Weisz DE. An Innovative On-Call System for Pediatric Residency Programs: The Alternative Night Float. *Pediatrics and Child Health In Print* Accepted for publication Dec 18th 2014

O'Malley P, Barata I, Snow S, American Academy of Pediatrics Committee on Pediatric Emergency Medicine, American College of Emergency Physicians Pediatric Emergency Medicine Committee, and Emergency Nurses Association Pediatric Committee. Death Of A Child In The Emergency Department. *J Emerg Nurs.* 2014;40(4):301-304. (C)

O'Malley P, Barata I, Snow S, American Academy of Pediatrics Committee on Pediatric Emergency Medicine, American College of Emergency Physicians Pediatric Emergency Medicine Committee, and Emergency Nurses Association Pediatric Committee. Death Of A Child In The Emergency Department. *Ann Emerg Med.* 2014;64:102-105. (C)

Plint A, Boutis K, Klassen T, Johnson D, Porter R, et al. How safe are our pediatric emergency departments? A national prospective cohort study" *BMJ Open.* 2014 Dec 4;4(12):e007064

Principi T, Lima, M, Porter, SC. Content analysis of parents' needs and expectations for emergency care of children. *CJEM,* 2014. 15 (S1): p. S63. PI

Pusic M, Boutis K, Hatala R, Cook D. Learning curves: A Primer for Health Professions Education. *Acad Med.* 2014. September 27 - Epub ahead of print

Ramakrishna J, Valani R, Sriharan A, Scolnik D: Design and pilot implementation of an evaluation tool assessing professionalism, communication, and collaboration during a unique global health elective. *Medicine, Conflict and Survival Journal* Jan 13 2014

Ratnapalan S, Uleryk E. Organizational Learning in Health Care Organizations. *Systems* 2014, 2(1), 24-33

Rosenfield D, Fischer JW, Kwan C. Point-of-Care Ultrasound: an emerging technology in Canadian paediatrics. *Paediatr Child Health,* 2015 20(1): 67-8

Sabhaney V, Boutis K, Barra L, Tripathi R, Doan Q. The Effect of Body Mass Index on the Risk of Fractures in Children. *Journal of Pediatrics.* 2014 Aug;165(2):313-318. Co-PA (Enrolled 75% of patients, performed analyses, wrote most of the manuscript)

Schnadower D, Finkelstein Y, Freedman SB. Ondansetron and probiotics in the management of pediatric acute gastroenteritis in developed countries. *Current Opinion in Gastroenterology.* 2015 Jan;31(1):1-6

Schonfeld D, Bressan S, Da Dalt L, Henien M, Winnett J, Nigrovic LE. Pediatric Emergency Care Applied Research Network (PECARN) head injury prediction rules are reliable in practice. *Arch Dis Child* 2014; doi:10. 1136/archdischild-2013-305004

Schuh S, Chan K, Langer J L, Kulik D, Preto-Zamperlini M, Al Aswad N, Man C, Mohanta A, Stephens D, Doria A S. Diagnostic Properties of Ultrasound Pathway in Suspected Appendicitis and Related CT Use. *Academic Emergency Medicine*, 2015;4, 406-414

Steadman P, Crudden J, Naranian T, Oliveria JP, Boutis K. The Effectiveness of Student-Volunteers For Research in a Pediatric Emergency Department. *J Emerg Med*. 2014 September 27 [Epub ahead of print]; 2015 Mar; 48 (3)

Tessaro MO, McGovern TR, Dickman E, Haines LE. Point-of-Care ultrasound detection of acute scaphoid fracture. *Ped Emerg Care*. 2015 Mar. 31(3): 222-24. Impact Factor 0.923

Tessaro MO, Salant E, Arroyo A, Haines L, Dickman E. Tracheal rapid ultrasound saline test (T.R.U.S.T.) for confirming correct endotracheal tube depth in children. *Resuscitation*. 2015 Apr. 89: 8-12. Impact Factor 3.771

Tessaro MO, Arroyo A, Haines L, Dickman E. Inflating the endotracheal tube cuff with saline to confirm correct depth using bedside ultrasonography. *Canadian Journal of Emergency Medicine*. 2014. 16(0): 12-21. Impact Factor 1.051.

Tricco AC, Antony J, Angeliki VA, Ashoor H, Hutton B, Hemmelgarn BR, Moher D, Finkelstein Y, Gough K, Straus, SE. Safety and effectiveness of anti-retroviral therapies for HIV-infected women and their infants and children: Protocol for a systematic review and network meta-analysis

Tricco AC, Cogo E, Angeliki VA, Soobiah C, Hutton B, Hemmelgarn BR, Moher D, Finkelstein Y, Straus SE. Comparative safety of anti-epileptic drugs among infants and children exposed in utero or during breastfeeding: protocol for a systematic review and network meta-analysis. *Systematic Reviews*. 2014 Jun 25;3(1):68-73. [Epub ahead of print]

Tripathi R, Doan Q, Sabhaney V, Barra L, Tran K, Boutis K. Accuracy of the Weight-for-age Index in Identifying Obese Children in the Emergency Setting 2014. *Journal of Obesity Research*. Volume 2014; 558641; DOI: 10. 5171/2014. 558641. <http://www.ibimapublishing.com/journals/OBES/2014/558641/a558641.Html>

Weerdenburg K, Finkelstein Y. A 12-year old girl with seizures after intentional drug overdose. Bupropion overdose. *Pediatric Emergency Care*. 2015 Mar; 31(3):217-219

Zaher E, Keogh K, Ratnapalan S. Effect of domestic violence training: Systematic review of randomized controlled trials. *Can Fam Physician*. 2014 Jul;60(7):618-624.

Zaher E, Keogh K, Ratnapalan S. Effets de la formation sur la violence conjugale: Révision systématique d'études randomisées contrôlées. *Can Fam Physician*. 2014 Jul;60(7):e340-e347. French.

Zelner I, Matlow J, Hutson JR, Wax P, Koren G, Brent J, Finkelstein Y; Toxicology Investigators Consortium (ToxIC). Acute Poisoning During Pregnancy: Observations from the Toxicology Investigators Consortium. *J Med Toxicol*. 2015 Mar 18

Book Chapters

- Beno S, Nadel F. Central Venous Access. In: Zaoutis LB, Chiang VW, eds. Comprehensive Pediatric Hospital Medicine. Philadelphia, PA: Elsevier Inc. 2014 PA
- Kwan C. Paediatric Emergency U Itrasound Subsections. PEMSsoft. 2014. www.pemsoft.com
- Kwan C. Emergency Department Echo Textbook. Paediatric Emergency Medicine Section. 2014-present. Chapter Contributor.
- Mehta SV, Pirie J: Pediatric Orthopedic Injuries. In: Emergency Medicine Cases Digest Volume 1 – MSK & Trauma (Helman, A, Lloyd, T, eds). Toronto, ON. Medicine Cases, 2015. (PA) C
- Schneeweiss S: Pain and Sedation of Children in the Emergency Setting. In: The Encyclopedia of Pain, 2nd Edition (Schmidt RF, Gebhart GF, eds). Springer Verlag, Berlin Heidelberg, 2013:pp2572-2576
- Schonfeld D, Levin, A. Ophthalmic Emergencies. In Bachur R, Shaw K, Chamberlain J, Lavelle J, Nagler J, Shook J (eds): Fleisher and Ludwig's Textbook of Pediatric Emergency Medicine, 7th ed. Philadelphia PA: Lippincott Williams and Wilkins, 2015
- Schuh S: Bronchiolitis. In: Rosen and Barkin's 5-Minute Emergency Medicine Consult. Lippincott Williams & Wilkins, 2014. PA, C Invited expert state of the art review of therapy of this common disease

Tessaro MO, Naser B. Pain and Sedation. The Hospital for Sick Children Handbook of Pediatrics, 11th Edition. Toronto: Elsevier Health Sciences. 2014

Weerdenburg K, Finkelstein Y. CHAPTER 180: Hazardous Household Chemicals: Hydrocarbons, Alcohols, and Caustics. In: "Zaoutis & Chiang Comprehensive Pediatric Hospital Medicine". Pub. Mosby. Second Ed. 2015

Grants and Funding

- 5-HT3 Antagonists (Antiemetics) and Cardiac Safety, Using an Active Surveillance Approach. Carleton B, Ross C, Koren G, Ito S, Hayden M, Rieder M, Rassekh R, vonDadelszen P, Whyte S, Sanatani S, Freedman S, Finkelstein Y. **Canadian Institute of Health Research (CIHR) 2013 competition.** \$425,000 CAD. Apr 2013 to Mar 2015
- A Deliberate Practice Method for Learning the Spectrum of Physical Examination Findings in Child Sexual Abuse. Boutis K, David A, Pecaric M, Pusic M. **Department of Paediatrics, Division of Paediatric Emergency Medicine.** \$6,000 CAD. 2014-2015
- A Feasibility Study on D-dimer Testing to Rule Out Venous Thrombotic Events in Children. L Brandao, C Sabapathy, Y Finkelstein, S Schwartz, V Chan, L Trotier, W Brien. **Paediatric Consultants Partnership Grant for Creative Professional Activity, The Hospital for Sick Children.** \$10,000 CAD. Jul 2013 to Jun 2015

Antagonists (Antiemetics) and Cardiac Safety, Using an Active Surveillance Approach. Carleton B, Ross C, Koren G, Ito S, Hayden M, Rieder M, Rassekh R, vonDadelszen P, Whyte S, Sanatani S, Freedman SB, Finkelstein Y. **Canadian Institute of Health Research (CIHR)**. \$425,000 CAD. 2013-2015

Assessment for learning: Examining the use of learning curves for ECG interpretation. Htala R, Boutis K, Pusic M. **Royal College of Physicians and Surgeons of Canada, Medical Education Grant**. \$17,000 CAD. July 2014 – June 2017

Bridging the GAP: A Deliberate Practice Method of Learning Genital Abnormalities in Prepubescent Girls. Davis A, Boutis K (mentor). **Residency Trainee Start Up Fund**. \$3,000 CAD. May 2015-April 2017

“Bronchiolitis Epidemiology: Air Pollution and Trends of Hospitalization (The BREATH Study)”. Finkelstein Y, Schuh S, Brook J, Sander B, Kwong J, Chen H. **Physicians’ Services Incorporated (PSI) Foundation**. \$169,000 CAD 2015-2017

Bupropion vs. Antidepressants: the Risk of Seizures. Y Finkelstein, E McDonald, J Hutson, M Mamdani, D Juurlink. **Canadian Drug Safety and Effectiveness Research Network** (CDSERN-funded by CIHR DSEN Emerging Teams). \$15,000. Jul 2013 to Jun 2015

Climbing the Learning Curve-Teaching the Medical Learner How to Interpret Pediatric Electrocardiograms (PC Education Innovation and Development Grant). Boutis, K. **Paediatric Consultants**. \$5000 CAD. March 3, 2014 – March 2, 2015

Dept of Paed - Startup - Stephen Porter. **SickKids Division of Paediatric Medicine**. \$200,000 CAD. December 4, 2012 – June 29, 2016

Development of novel clinical tests to diagnose and monitor asthma in preschool children. Boutis K, Stanojevic S. **Ontario Thoracic Society**. \$92,335 CAD. Nov 2013 to Dec 2015

Evaluation of Educational and Infrastructural Interventions Targeted at Barriers to Prompt Antibiotic Delivery in Febrile Neutropenia: A Follow Up Initiative. Principi T (PI), Burry E, Glanfield C, Gupta S. **Paediatric Emergency Department Divisional Grants, Department of Paediatrics, The Hospital for Sick Children**. \$5,015 CAD 2014-2015

How safe are our pediatric emergency departments? A national perspective cohort study. Boutis, K. **Children’s Hospital of Eastern Ontario**. \$101,693 CAD. March 31, 2014 – March 30, 2014

How safe are our pediatric emergency departments? A national prospective cohort study. Plint A, Calder L, Stang A, Bhatt M, Johnson D, Klassen T, Farion K, Gouin S, Doan Q, Boutis K, Sawyer S, Newton A. **Canadian Institutes of Health Research (CIHR)**. \$1,129,364 CAD 2014-2018

Impact of Emergency Department Probiotic Treatment of Pediatric Gastroenteritis: Randomized Controlled Trial. Freedman, S. **University of Calgary**. \$85,000 CAD. March 31, 2013 – March 30, 2017

Intentional Self Poisoning: inferences from a population. Finkelstein Y, Sivilotti M, McDonald E, Hollands S, Hutson J, Mamdani M, Juurlink D. **Canadian Drug Safety and Effectiveness Research Network** (CDSERN-funded by CIHR DSEN Emerging Teams). \$45,000 CAD. Apr 2013 to Mar 2015

Learning retention and the timing of refresher education after the deliberate practice of radiograph interpretation. Boutis, K. **Royal College of Physicians and Surgeons of Canada**. \$40,000 CAD. December 31, 2011 – December 31, 2014

Learning the Interpretation of Point of Care Emergency Ultrasound Images. Kwan C, Boutis K, Fischer J, Pecaric M, Pusic M. **Academic Pediatric Association**. \$10,000 CAD 2014-2015

“MAGIC (Methods and Application Group for Indirect Comparisons) Collaborating Centre” Hutton B, Moher D, Straus S, Tricco A, Wells G, Co-Investigators: Bjerre L, Cameron C, Clifford T, Coyle D, Fergusson D, Finkelstein Y, Grimshaw J, Hartling L, Hayden J, Hemmelgarn B, Lee Karen, Majumdar S, Reeves B, Schunemann H, Shea B, Stacey D, Sullivan S, Thabane L, Tugwell P. **Canadian Institute of Health Research (CIHR), Drug Safety and Effectiveness Network (DSEN) for Network Meta-Analysis**. \$7,000,000 CAD. September 2014 – August 2019

MAGnesium Nebulization Utilization Management in Pediatric Asthma (MAGNUM PA Trial). Schuh S (PI), Zemek, R, Plint A, Johnson DW, Freedman S, Thompson G, Ducharme F, Gravel J, Klassen T, Curtis S, Beer D, Black K, Coates A, Willan A. **PSI**. \$ 170,000 CAD. 2014-2016

MAGnesium Nebulization Utilization in Management of Pediatric Asthma - MagNUM PA Trial. Coates, A., Freedman, S., Schuh, S. **Canadian Institutes of Health Research (CIHR)**. \$2,137,058 CAD. September 30, 2013 – September 29, 2018

Pathogen specific effectiveness of probiotics in children with acute gastroenteritis. Freedman SB, Finkelstein Y, Chui L, Lee B, Louie M, Netter-Aguirre A, Pang X. **Canadian Institute of Health Research (CIHR)**. \$607,892 CAD. 2014-2018

Pediatric Environmental Health Specialty Unit (PEHSU) Program. Baum C, Wax P, MaKay C, Finkelstein Y, Lancaster L. **Centers for Disease Control and Prevention (CDC)**. \$6,300,000 CAD 2014-2019

Pharmacogenetic Predictors of Toxicity and Cognitive Deficits among Leukemia Survivors. Cole P, Finkelstein Y, Waber D, Dahlberg S. **St. Baldrick's Foundation 2012 Research Grant**. \$50,000 US. Jan 2012 to Dec 2014

Pharmacogenomic Determinants of Ketamine Neurotoxicity in Young Children. Finkelstein Y, Boutis K, Hutchison J, Post M, Soriano S, Kim R. **McLaughlin Centre for Genomic Medicine 2012 Accelerator Grant, University of Toronto**. \$50,000 CAD. Jan 2012 to Dec 2015

Prognosticators of persistent concussion symptoms following pediatric minor traumatic head injury. Boutis, K. **Children's Hospital of Eastern Ontario**. \$183,097.32 CAD. September 10, 2013 – December 30, 2017

Predicting Persistent Postconcussive Problems in Pediatrics (5P). Zemek R, Anderson P, Barlow K, Barrowman N, Boutis K, DeMatteo C, Farion K, Freedman S, Gagnon I, Gravel J, Hoshizaki B, Keightley M, Klassen T, Meeuwisse W, Meehan W, Mikrogjanakis A, Vassilyadi M. **Canadian Institutes of Health Research (CIHR)**. \$1.273 million CAD. Mar 2013 to Feb 2018

Radiation Exposure From Diagnostic Imaging: What the Clinician Needs to Know to Have Informed Risk/Benefit Discussions with Parents. Boutis K, Thomas K. **Division of Paediatric Emergency Medicine, The Hospital for Sick Children**. \$7,000 CAD. Jan 2014 to Jan 2015

Radiation Exposure from Diagnostic Imaging: What the Clinician Needs to Know to Have Informed Risk/Benefit Discussions with Parents. Boutis K, Thomas K. **Hospital for Sick Children Innovation Fund**. \$10,000 CAD. 2014

Rapid Funding for Drug Safety and Effectiveness Network Targeted Research: Levetiracetam and Developmental Toxicity, using a network meta-analysis approach. Straus S, Cricco A, Beyene J, Finkelstein Y, Hemmelgarn B, Hutton B, Moher D, Perrier L. **Canadian Institute of Health Research (CIHR)**. \$100,000 CAD. 2013-2015

Rapid Funding for Drug Safety and Effectiveness Network Targeted Research: Darunavir and congenital malformations, using a network meta-analysis approach. Straus S, Cricco, A, Beyene J, Finkelstein Y, Hemmelgarn B, Hutton B, Moher D, Perrier L. **Canadian Institute of Health Research (CIHR)**. \$100,000 CAD. 2013-2015

DIVISION OF PAEDIATRIC EMERGENCY MEDICINE	Part-Time
	Dr. Daniela Ardelean
	Dr. Allison Bahm
	Dr. Sherri Baine
Division Head	Dr. Anna Banerji
Dr. Stephen C. Porter	Dr. Alexander Barron
	Dr. Andreanne Benidir
Full-Time	Dr. Susanna Benseler
Dr. Iwona Baran	Dr. Joey Bonifacio
Dr. Suzanne Beno	Dr. Rae Brager
Dr. Maala Bhatt	Dr. Jack Brzezinski
Dr. Kathy Boutis	Dr. Kevin Chan
Dr. Vicky Fera	Dr. Ian Chen
Dr. Yaron Finkelstein	Dr. Jackie Chiang
Dr. Jason Fischer	Dr. Justine
Dr. Anna Kempinska	Cohen-Silver
Dr. Luba Komar	Dr. Malini Dave
Dr. Charisse Kwan	Dr. Anh Do
Dr. Trent Mizzi	Dr. Janine Flanagan
Dr. Olivia Ostrow	Dr. Beth Gamulka
Dr. Jonathan Pirie	Dr. Sabine George
Dr. Tania Principi	Dr. Donna Goldenberg
Dr. Savithiri Ratnapalan	Dr. Silvio Gonzalez
Dr. Vanessa Razack	Dr. Lana Grigoriou
Dr. Suzan Schneeweiss	Dr. Leah Harrington
Dr. Deborah Schonfeld	Dr. Shauna Jain
Dr. Suzanne Schuh	Dr. Karim Jessa
Dr. Dennis Scolnik	Dr. Edward Jin
Dr. Mark Tessaro	Dr. Mikael
Dr. Kirstin Weerdenburg	Katz-Lavigne
	Dr. Kelly Keogh
Half-Time	Dr. Celine Kim
Dr. Yousef Etoom	Dr. Lauren Kitney
Dr. Claudio Fregonas	
Dr. Sanjay Mehta	
Dr. Susanna Talarico	
Dr. Talya Wise	

Dr. Dina Kulik	Clinical Fellows
Dr. Amina Lalani	2014-2015
Dr. Eddy Lau	Dr. Abdullah Akkam
Dr. Ilana Magder	Dr. Huba Atiq
Dr. Karen Mandel	Dr. Macarena Castro
Dr. Sonia Menard	Dr. Roser Martinez Mas
Dr. Ripudaman Minhas	Dr. Gal Neuman
Dr. Steven Moss	Dr. James Thorburn
Dr. William Mounstephen	Academic Fellows
Dr. Pat Neelands	2013-2014
Dr. Melissa Parker	Dr. Adrienne Davis
Dr. Michelle Porepa	Dr. Max Ben-Yakov
Dr. James Edward Pugh	Dr. Roaa Jamjoom
Dr. Evelyn Rozenblyum	Dr. Celine Kim
Dr. Tania Samanta	Dr. Lianne McLean
Dr. Natasha Saunders	Dr. Hasan Merali
Dr. Gordon Soon	Dr. Laura Simone
Dr. Heshy Sturm	Dr. Laura Weingarten
Dr. Alene Toulany	
Dr. Jeff Weisbrot	Academic Fellows
Dr. Kevin Weingarten	2014-2015
Dr. Brent Williams	Dr. Faisal Al-Sani
	Dr. Jessica Gantz
Cross Appointees	Dr. Greg Harvey
Dr. Hartmut Grasemann	Dr. Lianne McLean
	Dr. Hasan Merali
Clinical Fellows	Dr. Daniel Rosenfield
2013-2014	Dr. Laura Simone
Dr. Ahmad Al Thekair	Dr. Laura Weingarten
Dr. Sandra Cardenas	
Dr. Mara Hosang	
Dr. Sara Jones	

Research Training in Pediatric Emergency Medicine. Mandl K (PI), Finkelstein Y (Role: Training Faculty). **National Institute of Health (NIH)-Eunice Kennedy Shriver National Institute of Child Health and Human Development-T32 G Training Grant (2T32HD040128-11A1)**. \$1,341,625 USD. October 2014 – September 2019

Severe influenza in infants, children and youths: Role of clinical and epidemiologic risk factors. Tran D, Bettinger J, Ipp M, Mcgreer A, Richardson S, Schuh S, Dery P, Le Saux N, Moore D, Salvadori M, Vaudry W, Gubbay J, Loeb M, O'Connor D, Sauve L. **Canadian Institutes of Health Research**. \$241,553 CAD. Apr 2012 - Apr 2016

Strengthening Transitions in Pediatric Emergency Care: A Qualitative Study. Curran J, Fitzpatrick E, Chorney J, Murphy A, Porter S, MacPhee S, McNeil K. **Canadian Institutes of Health Research: Regional Partnership Program – Nova Scotia**. \$436,287 CAD. Apr 1, 2013 to Mar 31, 2016.

The Burden of Severe Drug-Induced Adverse Reactions. Finkelstein Y, To T, Hutson J, Mamdani M, Juurlink D. **Canadian Drug Safety and Effectiveness Research Network** (CDSERN-funded by CIHR DSEN Emerging Teams). \$15,000 CAD. Apr 2013 to Dec 2014

The Pharmacokinetics of Antibiotics Delivered in the Emergency Department Setting. Scolnik D, Finkelstein Y, Tessaro M. **Apotex Fund**. \$15,000 CAD. Jan 2011 to Dec 2015

Translating Emergency Knowledge For Kids (TREKK). Klassen T, Hartling L, Jabbour M, Johnson D, Porter S, Scott S, Sinclair D, Lang E, Freedman SB, Black B, Gouin S, Stang A. **Networks of Centres of Excellence (NCE) Program - Knowledge Mobilization.** \$1,200,000 CAD. Jan 1-2011 to Dec 31-2015.

SubIn/Univ of Manitoba: Translating Emergency Knowledge for Kids (TREKK). Porter, S. **University of Manitoba.** \$86,801.89 CAD. January 31, 2012 – January 30, 2016

The Deliberate Practice of Pediatric ECGs. Boutis K, Etoom Y, Pecaric M, Pusic M. **Department of Paediatrics, Division of Paediatric Emergency Medicine.** \$6,000 CAD 2014-2015

Understanding Discharge Instructions for Children and Caregivers in the Transition from Pediatric Emergency Care. Curran J (PI), Porter SC. **Canadian Institute of Health Research (CIHR).** \$436,287 CAD 2013-2016

Validating an on-line learning intervention that teaches the interpretation of pediatric electrocardiograms. Boutis K, Pusic M, Pecaric M, Etoom Y. **Department of Paediatrics, Paediatric Consultants, Innovation Fund.** \$5,000 CAD. 2014-2015

Ultrasound Fellows 2013-2014

Dr. Ron Berant
Dr. Marcela Preto
Dr. Kirstin Weerdenburg

Administrative Staff
Syed Azmat
Caseita Dewar
Angie Frisk
Ritsa Iriotakis
Dragan Kljujic

Ultrasound Fellows 2014-2015

Dr. Mara Hosang
Dr. Sara Jones

Laurie McQuarrie
Henna Mian
Sandra Miller
David Nissan
Nicole Rivera

SIM Fellow 2013-2014

Dr. Wail Seleem

Majda Savaglio
Pauline Smith
Kelly Sobie

SIM Fellow 2014-2015

Dr. Sandra Cardenas

Annabel Sousa
Maggie Stevanovic
Deborah Taylor

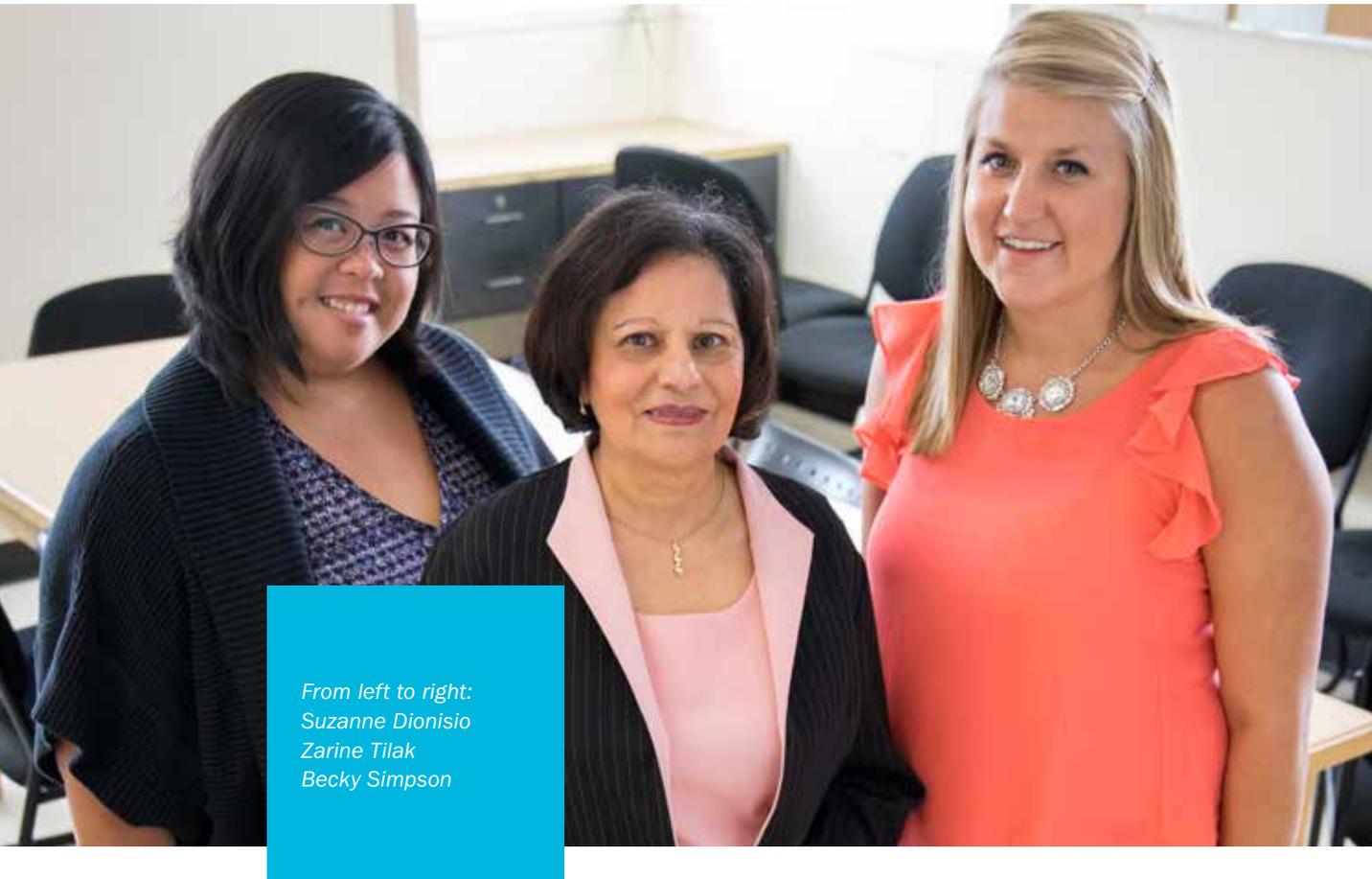
Trauma Fellow

2014-2015
Dr. Ahmad Al Thekair

Research Fellow

2014-2015
Dr. Adrienne Davis

DIVISION OF ENDOCRINOLOGY



*From left to right:
Suzanne Dionisio
Zarine Tilak
Becky Simpson*

2014-2015 was another productive year for the Division of Endocrinology.

We continued to provide high quality, comprehensive care for children and youth with a wide variety of endocrine disorders. These efforts include care for patients with (i) type 1 and type 2 diabetes, diabetes that results from medications such as glucocorticoids, and diabetes secondary to cystic fibrosis; (ii) general endocrine disorders, including growth, thyroid disease, disorders of sex development, pubertal disorders and reproductive endocrine disorders; (iii) abnormalities of calcium metabolism and bone health; and (iv) endocrine cancers, including thyroid cancer, adrenal cortical carcinoma, and pheochromocytoma.

We continued to provide high quality, comprehensive care for children and youth with a wide variety of endocrine disorders.

The Division of Endocrinology is highly collaborative and is engaged in joint clinical programs with care providers from many different disciplines. Ongoing collaborations exist with social work, general pediatrics, general surgery, urology, genetics, oncology, orthopedic surgery, psychology, nuclear medicine, and respirology. The interdisciplinary medical-surgical SickKids Team Obesity Management Program (STOMP) continues to flourish, and, within Endocrinology, the Section of Paediatric and Adolescent Gynecology provides care to pre-teen and adolescent girls with gynecology disorders and to pregnant adolescents. The Trans Youth Clinic (TYC) has been developed in collaboration with colleagues in the Division of Adolescent Medicine. In its first full year in operation, the TYC performed primary evaluations and treatment for over 100 youth.

In addition to clinical care, the Division of Endocrinology continued out efforts to train future Endocrinologists from Canada and around the world. This year, we had seven trainees in our subspecialty training program: four from Canada, one from Netherlands, one from Israel and one from Australia.

The Division also maintained a substantial focus on research, with faculty having now secured several million dollars of funding. Diabetes remained the area of greatest focus with involvement in (i) prediction and prevention of type 1 diabetes through involvement in the multinational TrialNet and TRIGR study

groups; (ii) implications and treatment of insulin resistance and obesity among children and adolescents; (iii) the evolution of obesity and insulin resistance in young children; (iv) prevention and treatment of the medical complications of diabetes and (v) use of iPhone-based technology to assist youth with diabetes self-management. Our Juvenile Diabetes Research Foundation (JDRF)-sponsored Canadian Clinical Trial Network (CCTN) site is also very active, with three ongoing studies. Other research areas include investigation of the factors that regulate the timing of puberty, effects of sex steroid on brain development, and etiology and management of thyroid disorders.

Honors and Awards

Allen, L: Winner of James C Fallis Award, Hospital for Sick Children (Postgraduate MD) Best Grand Rounds Presentation, Division of Pediatric Emergency Medicine Rounds, Department of Pediatrics, The Hospital for Sick Children, Toronto, Ontario, Canada. April, 2014

Daneman, D: Winner of Alton Goldbloom Visiting Lecturer Award, McGill University, Montreal Children's Hospital, Montreal, Quebec, Canada. June, 2014

Mahmud, FH: Winner of Best Clinical Research Paper, SickKids Research Institute Second Annual Discovery Forum, Toronto, Ontario, Canada. April, 2014

Hamilton, J: Winner of Chair (Inaugural Holder) Award: Mead Johnson Chair in Nutritional Science, The Hospital for Sick Children and University of Toronto, Toronto, Ontario, Canada. November, 2014

Hamilton, J: Winner of Lilac Award: Turner Syndrome Society of Canada President's Volunteer Award (Award for longstanding volunteer contributions and promoting public awareness about Turner Syndrome), Turner Syndrome Society, Ottawa, Ontario, Canada. May, 2014

Palmert, MR: Winner of 8th Annual Dr. Noni MacDonald Award (Given to one article published each year by Paediatrics & Child Health that made an important contribution to paediatric practice. Awarded to collaborative group for work re: new growth charts for Canada), Canadian Pediatric Society, Ottawa, Ontario, Canada. May, 2014

Palmert, MR: Winner of Choice Awards: Service Provider of the Year from Planned Parenthood Toronto awarded to the Transgender Youth Clinic, The Hospital for Sick Children, Toronto, Ontario, Canada. September, 2014

Publications

Assor E, Davies-Shaw J, Marcon MA, Mahmud FH. Estimation of dietary gluten content using total protein in relation to gold standard testing in a variety of foods. *Journal of Nutrition and Food Sciences* 2014: doi: 10.4172/2155-9600.1000296

Clarson C, Brown H, De Jesus S, Jackman M, Mahmud FH, Prapavessis H, Robinson T, Shoemaker K, Watson M, Dowd J, Hill DJ. Effects of a comprehensive, intensive lifestyle intervention combined with Metformin extended release in obese adolescents. *International Scholarly Research Notices* 2014: doi.org/10.1155/2014/659410

Corre C, Friedel M, Vousden DA, Metcalf A, Spring S, Qiu LR, Lerch JP, Palmert MR. Separate effects of sex hormones and sex chromosomes on brain structure and function revealed by high-resolution magnetic resonance imaging and spatial navigation assessment of the four core genotype mouse model. *Brain Structure and Function* 2014: Epub Dec 2014

Evans K, Richardson C, Landry A, Muileboom J, Cormack C, Mahmud FH, Lawson ML. (for the CGM TIME Trial Study Group and the JDRF Canadian Clinical Trial Network CCTN1101). Experience with the Enlite Sensor in a Multicentre Pediatric Study. *Diabetes Educator* 2015: 4 (1): pp 31-37

Haji J, Hamilton JK, Ye C, Swaminathan B, Hanley AJ, Sermer M, Connelly PW, Zinman B, Retnakaran R. Delivery by Caesarean section and infant cardiometabolic status at one year of age. *Journal of Obstetrics and Gynaecology Canada* 2014: 36 (10): pp 864-869

Har RL, Reich HN, Scholey JW, Daneman D, Dunger DB, Moineddin R, Dalton RN, Motran L, Elia Y, Deda L, Ostrovsky M, Sochett EB, Mahmud FH, Cherney DZ. The urinary cytokine/chemokine signature of renal hyperfiltration in adolescents with type 1 diabetes. *Public Library of Science (PLoS One)* 2014: 9 (11): e1111131

Harrington J, Sochett EB, Howard A. Update on the evaluation and treatment of osteogenesis imperfecta. *Pediatric Clinics of North America* 2014; 61 (6): pp 1243-1257

Hepburn CM, Daneman D. Child well-being in Canada: how can we improve on “average”? *Canadian Medical Association Journal* 2015; 187 (5): pp 311-312

Kilday JP, Laughlin S, Urbach S, Bouffet E, Bartels U. Diabetes insipidus in pediatric germinomas of the suprasellar region: characteristic features and significance of the pituitary bright spot. *Journal of Neuro-Oncology* 2015; 121 (1): pp 167-175

Kramer CK, Hamilton JK, Ye C, Hanley AJ, Connelly PW, Sermer M, Zinman B, Retnakaran R. Differential impact of maternal and paternal ethnicity on the pattern of fat distribution in infants at age 3 months. *Pediatric Obesity* 2015: Epub Feb 2015

Kirkham Y, Ornstein MP, Aggarwal A, McQuillan S, Canpago Committee, Allen L, Millar D, Dalziel N, Gascon S, Hakim J, Ryckman J, Spitzer R, Van Eyk N. Menstrual suppression in special circumstances. *Journal of Obstetrics and Gynaecology Canada* 2014; 36 (10): pp 915-924

Knip M, Åkerblom HK, Becker D, Dosch HM, Dupre J, Fraser W, Howard N, Ilonen J, Krischer JP, Kordonouri O, Lawson ML, Palmer JP, Savilahti E, Vaarala O, Virtanen SM; TRIGR Study Group. Hydrolyzed infant formula and early β -cell autoimmunity: a randomized clinical trial. *Journal of the American Medical Association* 2014; 311 (22): pp 2279-2287

Lawson ML, Bradley B, McAssey K, Clarson C, Kirsch S, Mahmud FH, Curtis JR, Richardson C, Courtney J, Cooper T, Downie C, Rajamannar G, and Barrowman N, for the CGMS TIME Trial Study Group and the JDRF Canadian Clinical Trial Network CCTN1101. The JDRF CCTN CGM TIME Trial – Timing of Initiation of Continuous Glucose Monitoring in Established Pediatric Type 1 Diabetes: Research Design, Methods, and Recruitment. *BMC Pediatrics* 2014; doi:10.1186/1471-2431-14-183

Leung JS, Perlman K, Rumantir M, Freedman SB. Emergency department ondansetron use in children with type 1 diabetes mellitus and vomiting. *Journal of Pediatrics* 2015; 166 (2): pp 432-438

Leviton R, Rivera J, Silveira P, Steiner M, Gaudreau H, Hamilton J, Kennedy J, Davis C, Dube L, Fellows L, Wazana A, Matthews S, Meaney M. Gender differences in the association between stop-signal reaction times, weight status and/or dietary intake in preschool children: an early model of compromised inhibitory control and risk for obesity. *International Journal of Obesity (London)* 2015; 39 (4): pp 614-619

Maftei O, Pena AS, Sullivan T, Jones TW, Donaghue KC, Cameron FJ, Davis E, Cotterill A, Craig M, Gent R, Dalton N, Daneman D, Dunger D, Deanfield J, Couper JJ, AdDIT Study Group. Early atherosclerosis relates to urinary albumin excretion and cardiovascular risk factors in adolescents with type 1 diabetes: Adolescent type 1 Diabetes cardio-renal Intervention Trial (AddIT). *Diabetes Care* 2014; 37 (11): pp 3069-3075

Mangerel J, Price A, Castelo-Branco P, Brzezinski J, Buczkowicz P, Wasserman JD, Rakopoulos P, Merino D, Baskin B, Mistry M, Barszczyk M, Picard D, Mack S, Remke M, Starkman H, Samuel C, Zhang C, Alon N, Lees J, Andrulis I, Wunder J, Jabado N, Johnston D, Rutka J, Dirks P, Bouffet E, Taylor MD, Huang A, Malkin D, Hawkins C, Tabori U. Alternative lengthening of telomeres is enriched in, and impacts survival of TP53 mutant pediatric malignant brain tumours. *Acta Neuropathologica* 2014; 128 (6): pp 853-862

Mohammed J, Deda L, Clarson C, Cuerden M, Mahmud FH. Assessment of habitual physical activity in adolescents with type 1 diabetes. *Canadian Journal of Diabetes* 2014; 38 (4): pp 250-255

Morrison KM, Damanhoury S, Buchholz A, Chanoine JP, Lambert M, Tremblay MS, Berall G, Hamilton J, Laberge AM, Legault L, Thabane L, Jakymyshyn M, Ambler KA, Ball GDC. The CANadian Pediatric Weight Management Registry (CANPWR): study protocol. *BMC Pediatrics* 2014; 14 (1): pp 161

Rogers EM, Allen L, Kives S. The recurrence rate of ovarian dermoid cysts in pediatric and adolescent girls. *Journal of Pediatric & Adolescent Gynaecology* 2014; 27 (1): pp 222-226

Rzeczowska PA, Hou H, Wilson MD, Palmert MR. Epigenetics: a new player in the regulation of mammalian puberty. *Neuroendocrinology* 2014; 99 (3-4): pp 139-155

Wasserman JD, Novokmet A, Eichler-Jonsson C, Ribeiro RC, Rodriguez-Galindo C, Zambetti GP, Malkin D. Prevalence and Functional Consequence of TP53 mutations in Pediatric Adrenocortical Carcinoma: A Children's Oncology Group Study. *Journal of Clinical Oncology* 2015; 33 (6): pp 602-609

Wendland B, Atkinson L, Steiner M, Fleming AS, Moss E, Gaudreau H, Arenovich T, Hamilton J, Matthews SG, Meaney MJ, Levitan RD. Low maternal sensitivity at 6 but not 18-months of age predicts higher BMI in girls but not boys. *Appetite* 2014; 82 (1): pp 97-102

Wherrett, DK. Trials in Prevention of Type 1 Diabetes: Current and Future. *Canadian Journal of Diabetes* 2014; 38 (4): pp 279-284

Yeshayahu Y, Koltin D, Hamilton J, Nathan PC, Urbach S. Medication-induced diabetes during induction treatment for ALL, an early marker for future metabolic risk? *Pediatric Diabetes* 2015; 16 (2): pp 104-108

Book Chapters

Al Remeithi S, Wherrett D. Disorders of Sex Development. In: *Neonatal-Perinatal Medicine 10th Edition*. (Martin R, Fanaroff A, Walsh M, eds). Elsevier, Philadelphia PA 2015: pp 1516-1552

Allen L. Adolescent Gynaecology. In: *Adolescent Medicine: Nelson Essentials of Paediatrics 7th Edition*. (Marcdante KJ, Kliegman RM, eds). Elsevier, Philadelphia PA 2015: pp 242-247

Ball GDC, Avis, JLS, Buchholz A, Bridger T, Chanoine JP, Hadjiyannakis S, Hamilton J, Jetha MM, Legault L, Morrison KM, Wareham A. Beyond weight loss: experiences and insights related to working effectively with families and within the health care system to manage pediatric obesity. In: Metabolic Syndrome and Obesity in Childhood and Adolescence. Pediatric Adolescent Medicine (Kiess W, Wabitsch M, Maffeis C, Sharma AM, eds). Karger, Basel Switzerland 2015: pp 187-103

Cohen M, Harrington J, Narang I, Hamilton J. Growth hormone secretion decreases with age in pediatric Prader Willi Syndrome. Clinical Endocrinology (Oxford) 2015: Epub Jan 2015

Daneman D. Frank M. The student with diabetes. In: Medical Problems in the Classroom (Haslam R, Valletutti P, eds). Pro-Ed, Austin TX 2014

Daneman D. Growth, development and endocrine disorders. In: Medical Problems in the Classroom (Haslam R, Valletutti P, eds). Pro-Ed, Austin TX 2014

Luca P, Dettmer E, Langer JC, Hamilton JK. Adolescent Bariatric Surgery: Current Status in an Evolving Field. In: Metabolic Syndrome and Obesity in Childhood and Adolescence. Pediatric Adolescent Medicine (Kiess W, Wabitsch M, Maffeis C, Sharma AM, eds). Karger, Basel Switzerland 2015: pp 179-186

Grants and Funding

A Phase 1 study of safety and pharmacological activity of Substance P (sP) in the reversal of recent-onset Type 1 Diabetes (T1D). Sochett EB, Connolly B, Hayes J, Salter M. **Vanilloid Genetics Inc.** \$1,136,990 CAD. October 17-2014-April 16-2016

A Pilot study of energy expenditure, body composition and neurocognitive function in pseudohypoparathyroidism 1a - Altered resting energy expenditure as a cause of altered energy homeostasis in abnormal GNAS inheritance (including PHP1a, other forms of AHO and uniparental disomy of GNAS). Sochett EB, Harrington J. **Children's Hospital of Philadelphia (CHOP)**. \$3,721 CAD. January 15-2013-January 14-2015

A randomized controlled trial to evaluate the efficacy and safety of a gluten-free diet in patients with asymptomatic celiac disease and type 1 diabetes. Celiac and Diabetes: Dietary Intervention and Evaluation Trial (CD DIET). Mahmud FH. **JDRF Canadian Clinical Trial Network (CCTN)**. \$3,200,000 CAD. January 1-2012-December 31-2015

Adolescent type 1 diabetes cardio-renal intervention trial, AddIT. Daneman D, Mahmud FH, Sochett E, Curtis J. **Cambridge, London, United Kingdom Subcontract - Juvenile Diabetes Research Foundation.** \$379,932 USD. September 1-2007-August 30-2012, Extension \$28,811 USD. September 1-2012-April 30-2016

Adolescent type 1 diabetes cardio-renal intervention trial, AdDIT Expansion. Mahmud FH, Daneman D, Sochett E, Curtis J. **Juvenile Diabetes Research Foundation - Canadian Clinical Trial Network**, \$3,657,088 CAD. March 1-2011-February 28-2016

Adolescent Type 1 diabetes Cardio-Renal Intervention Trial (AdDIT). Daneman D, Curtis J, Mahmud F, Bradley T, Sochett EB. **Juvenile Diabetes Research Foundation. Canadian Coordinating Trials Network**. \$234,196 CAD. March 1-2011-February 28-2016

Adolescent type 1 diabetes cardio-renal intervention trial, AdDIT. Daneman D, Mahmud FH, Sochett E, Curtis J. **British Heart Foundation**. £60,800 GBP. March 27-2008-March 26-2013, Extension to no defined dollar amount until March 26-2017

An early developmental model of overeating, obesity and executive dysfunction. Levitan R, Meany M, Davis C, Dubé L, Gruber R, Hamilton J, Kennedy J, Matthews S, Soares C, Steiner M. **Canadian Institutes of Health Research**. \$763,130 CAD. April 1-2010-March 31-2015

Assessment of an electronic self-management tool on glycemic control in teens with type 1 diabetes. Palmert MR, Cafasso J, Katzman D, Skinner H, Rotondi M. **Thrasher Research Fund**. \$435,700 CAD. January 1-2013-December 31-2015

CANadian pediatric weight management registry (CANPWR). Identifying the characteristics of successful change in Canadian pediatric weight management programs. Morrison K, Hamilton J, Ball G, Berall G, Buchholz A, Chanoine JP, Legault L, Thabane L, Tremblay M. **Canadian Institutes of Health Research**. \$943,636 CAD. September 1-2012-August 31-2017

Carbohydrate Counting and Type 1 Diabetes: assessment of accuracy in adolescents who currently count, and a randomized controlled trial of internet-based teaching for those learning to count. Hamilton J, Pais V. **The Lawson Foundation**. \$92,000 CAD. August 1-2014-July 31-2016

Cardiometabolic risk, obesity and the microbiome: development over the first two years of life in children exposed to gestational diabetes in utero. Hamilton J, Retnakaran R, Hanley AJ, Zinman B, Parkinson J, Comelli E. **Heart and Stroke Foundation of Canada**. \$263,561 CAD. June 1-2014-May 31-2017

Clinical features and immune mechanisms of ROHHAD (Rapid Onset Obesity, Hypothalamic Dysfunction, Hypoventilation, Autonomic Dysfunction). Yeh A, Hamilton J, Narang I, Dalmau J. **Rare Disease Foundation BC Children's Hospital Foundation (BCCNF)**. \$3,500 CAD. January 1-2014-December 31-2014

CONTACT—conditional nuclei tagging in specific cell types to study the epigenetics of early brain development and disease. Palmert MR, Wilson M Lefebvre, Matthews J, Soctt I. **Centre for Brain and Mental Health: Chase-an-idea in Early Brain Development Grant**. \$49,995 CAD. January 1-2015-January 1-2016

Deciphering the bases of sex differences in the brain and their role in psychiatric disorders. Palmert MR, Lerch J, Amold P, Foster J. **Canadian Institute of Health Research**. \$779,590 CAD. October 1-2012-September 30-2017

Early identification of cardiac dysfunction in obese adolescents: mechanisms and modulation. Wells G, Banks L, McCrindle B, Hamilton J, Sneed M, Noseworthy L, Mertens L. **Canadian Institutes of Health Research**. \$100,000 CAD. October 1-2013-September 30-2014

Epigenetic changes in DNA infants exposed to gestational diabetes in utero. Hamilton J, Palmert MR. **Canadian Diabetes Association**. \$272,967 CAD. July 1-2012-June 3-2015

Food intake control in children. Anderson GH, Hamilton J, Luhovyy B, Thomas S. **Canadian Institutes of Health Research**. \$660,000 CAD. September 1-2010-August 31-2015

Genetic Characterization of Pediatric Papillary Thyroid Carcinoma. Wasserman J. **C17 Research Network Operating Grant**. \$150,000 CAD. August 1-2014-July 31-2016

Genetic Determinants of Congenital Hypothyroidism. Wasserman J. **American Thyroid Association**. \$57,500 CAD. July 1-2013-June 30-2015

Genome wide DNA methylation alterations in infants exposed to gestational diabetes in utero. Hamilton J, Retnakaran R, Hanley A, Palmert M, Weksberg R. **Canadian Diabetes Association**. \$272,973 CAD. May 1-2012-June 30-2015

Health care utilization following thyroid cancer diagnosis in childhood. Wasserman J. **POGO Research Unit Seed Funding Grant**. \$15,000 CAD. April 15-2013-April 15-2014

Idiopathic juvenile osteoporosis – the next generation of sequencing data. Kannu P, Levi I, Sochett EB. **McLaughlin Centre (Accelerator Grant in Genomic Medicine, University of Toronto) with matching funds from The Department of Paediatrics, The Hospital for Sick Children**. \$40,000 CAD. July 1-2014-June 30-2015

Initiative to Maximize Progress in AYA Cancer Therapy (IMPACT). Nathan P, Baxter N, Wasserman J. **Canadian Institutes of Health Research**. \$1,250,020 CAD. January 1-2014-December 31-2018

Male-Female Differences in Pubertal timing: Use of Perturbations of the Lin28/let-7 Axis to Examine Mechanisms. Palmert MR, Wilson M, Goldenberg A. **Canadian Institute of Health Research**. \$556,148 CAD. April 1-2014-March 31-2018

MiTy Kids (Metformin in women with type 2 diabetes in pregnancy kids trial). Feig D, Hamilton J, Haqq A, Asztalos E, Ohlsson A, Murphy K, Lee S, Ryan E, Zinman B, Fantus G, Tomlinson G, Lipscomb L, Armson A. **Canadian Institutes of Health Research**. \$1,299,072 CAD. January 1-2012-December 31-2017

OPTIMOM: Programmatic grants in food and health. O'Connor D, Unger S, Doesburg S, Hamilton J, Miller S, Pencharz P, Rovet J, Shah P, Stintzi A, Taylor M. **Canadian Institutes of Health Research**. \$1,999,672 CAD. October 1-2013-November 30-2018

Pediatric Thyroid Nodule Score (PTNS) Derivation and Validation of a Predictive Score for Thyroid Nodules. Wasserman J. **Rare Disease Foundation**. \$3,500 CAD. April 1-2015- March 31-2016

PROMOTE: Preschoolers at Risk - Obesity trajectories & cardiometabolic factors: towards early identification. Birken C, Adeli K, Hamilton K, Hanley A, Maguire J, Mamdani M, McCrindle B, Parkin P, Thorpe K. **Canadian Institutes of Health Research**. \$645,963 CAD. January 1-2011-December 31-2014

Simultaneous versus delayed initiation of real-time continuous glucose monitoring in children and adolescents with type 1 diabetes starting insulin pump therapy (CGM TIME Trial "timing of initiation of continuous glucose monitoring in established pediatric diabetes). Mahmud FH, Curtis J. **JDRF Canadian Clinical Trials Network**. \$400,532 CAD. August 1-2011-July 31-2015

Talking with children and families about weight-related issues: a scoping review of best practices. McPherson AC, Hamilton J, Swift JA, Ball GDC, Steinberg A, Chen L, Philpott J. **Canadian Institute of Health Research**. \$47,180 CAD. January 1-2013-December 31-2014

Team to Address Bariatric care in Canadian Children (Team ABC). Ball G, Hamilton J, Birken C, Morrison K, Holt N, Masse L, Luca P, Anderson L, Buchholz A, Carsley S, Chanoine JP, Dettmer E, Cordeiro K, Forhan M, Hadjiyannakis S, Haines J, Legault L, Ho J, Maguire J, Parkin P, Maximova K, McPherson A, Perez A, Sprague A, Tu K, Toulany A, Tremblay M. **Canadian Institute of Health Research**. \$1,555,881 CAD. January 1-2015-February 28-2020

The genetics and neuroendocrinology of short stature (GeNeSIS). Hamilton J. **Lilly International Growth Study**. \$358,542 CAD. March 1-2002-April 30-2015

The hyperglycemia and adverse pregnancy outcome (HAPO) follow-up study. Metzger B, Hamilton J. **National Institutes of Health**. \$794,918 CAD. January 1-2012-December 31-2017

TRIGR (Trial to reduce insulin-dependent diabetes in the genetically at risk). Daneman D. **National Institute of Health**. \$450,000 CAD. July-1-2012-June-30-2017

Type 1 Diabetes TrialNet: Toronto Clinical Centre. Wherrett DK. **National Institute of Health/University of South Florida**. \$307,036 USD. May 1-2014-April 30-2015

Type 1 diabetes TrialNet: Toronto Clinical Centre. Wherrett DK. **National Institute of Health**. \$535,000 CAD. May 1-2013-April 30-2014

Understanding the effects of social, behavioural and metabolic factors on early childhood growth trajectories among Aboriginal Canadians. Hanley A, Hamilton J, Birken C, Maguire J, Parkin P, Harris S, Rae J, Zinman B. **Canadian Institutes of Health Research**. \$793,317 CAD. April 1-2013-March 31-2018

Use of ACASI to gather information on risk behaviours in a referral population of pregnant Canadian adolescents. Spitzer RF, Allen L. **Physicians Services Incorporated Foundation (PSI)**. \$37,800 CAD. March 1-2011-February 28-2015

DIVISION OF ENDOCRINOLOGY

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Full-Time

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Dr. Jill Hamilton

Dr. Farid Mahmud

Dr. Kusiel Perlman

Dr. Etienne Sochett

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GYNAECOLOGY

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DIVISION OF GASTROENTEROLOGY/ HEPATOLOGY/NUTRITION

The members of the Division of Gastroenterology, Hepatology and Nutrition (GHN) aims to brighten the future for children with GHN disorders through provision of excellent and safe clinical care, cutting edge research to discover disease mechanisms and new cures, and world-class education for the next generation of GHN subspecialists.



*From left to right:
Dr. Vicky Ng
Dr. Margaret Marcon
Dr. Anne Griffiths*

The Division's clinics saw over 6500 ambulatory visits, 1500 endoscopic procedures were performed, and 2014 was the busiest year yet for liver transplantation (38 liver transplants performed).

Our clinical activities continue to increase in volume and complexity, driven particularly by the children with inflammatory bowel disease (IBD) and children requiring liver transplantation. The Division's clinics saw over 6500 ambulatory visits, 1500 endoscopic procedures were performed, and 2014 was the busiest year yet for liver transplantation (38 liver transplants performed). We implemented quality improvement initiatives in both ambulatory and in-patient settings; GHN clinic led the ambulatory roll-out of the daily Continuous Improvement Program at SickKids, and our in-patient services introduced coordinated care initiatives and family-centered rounding. Important contributions were made to clinical guidelines and review articles, including those related to very early onset IBD (VEOIBD, Dr. Muise), paediatric liver transplantation (Dr. Ng), hepatic complications of autosomal recessive polycystic kidney disease (Dr. Kamath) and nutrition in end-stage liver disease (Dr. Mouzaki). Dr. Mouzaki undertook important work with her multidisciplinary collaborators to improve the provision and cost-effectiveness of parenteral nutrition in the hospital.

Members of the division published more than 60 papers in 2014. Among the highlights this year were many high-impact publications from Dr. Muise's laboratory and collaborators, including the description of NADP oxidase variants contributing to VEOIBD and the report by Drs. Avitzur and Muise of a new form of VEOIBD caused by mutations in the TTC7A gene. Dr. Ng published results of her international study to derive and validate a quality of life score for

children after liver transplantation. Collaborations with investigators in the Department of Diagnostic Imaging reported the role of MRI for evaluation of IBD and of liver masses in children. Active laboratory- and patient-based research continued in many other areas, including cystic fibrosis, malnutrition, liver disease, intestinal failure, *Helicobacter pylori*, the intestinal microbiome and intestinal inflammation.

The Division plays an important leadership role in several international research consortia. We achieved successful applications to the NIH for renewal of our involvement in their Childhood Liver Disease Research and Education Network (PI Dr. Kamath) and Cystic Fibrosis Liver Disease Network. Dr. Anne Griffiths and IBD team members led the Canadian Children Inflammatory Bowel Disease Network (CIDsCaNN) to achieve active enrollment across Canada in 2014. The international VEOIBD network (NEOPICS) continues strongly under Dr. Muise's leadership.

The Division's fellowship training program is now under the directorship of Dr. Yaron Avitzur and continues to attract excellent fellows from North America, Europe, Asia and Australia to train in SickKids. Members of the Division's faculty were invited to speak about their areas of research and clinical expertise at numerous international meetings. Dr. Catharine Walsh joined the Division and will pursue educational research, building on her previous work designing and validating a tool to evaluate competency in colonoscopy.

Important achievements during the year included prominent national and international awards for Drs. Griffiths and Muise, renewal of Dr. Sherman's tier 1 Canada Research Chair, and academic promotions for Drs. Ng and Avitzur.

Dr. Griffiths stepped down as Division Head effective March 31, 2015 to continue her important work at SickKids in paediatric IBD. During 6 years of excellent leadership, Dr. Griffiths steered the Division through numerous transitions in staffing and transformed the accessibility of clinical activities of the Division whilst maintaining clinical quality, educational excellence and the high level of research achievement for which the Division has been known over many years. Thanks to Dr. Griffiths' outstanding work, our Division is strongly placed to face its current and future challenges.

Honors and Awards

Avitzur, Y: Winner of the Fellows Award for Teaching and Mentorship, Division of Gastroenterology, Hepatology and Nutrition, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto, Ontario, Canada. June, 2014.

Griffiths, AM: Winner of the Canadian Association of Gastroenterology, 2015/2016 Visiting Clinical Professor Award, Toronto, Ontario, Canada. February, 2015.

Griffiths, AM: Elected as Member International Organization of Inflammatory Bowel Disease (IOIBD). November 2014.

Mouzaki, M: Winner of the American Society for Parenteral and Enteral Nutrition - Clinical Nutrition Week 2015, Best International Abstract Award, Long Beach, California, USA. February, 2015.

Muise A: Winner of the Canadian Institute of Health Research. Institute of Nutrition, Metabolism and Diabetes (INMD) New Investigator Partnership Prize, Ottawa, Ontario, Canada. February, 2014.

Muise, A: Winner of the Canadian Association of Gastroenterology Young Investigator Award, Toronto, Ontario, Canada. February, 2014.

Sherman, P: Winner of the Physician Research Award for Career Excellence, Department of Paediatrics, University of Toronto, Toronto, Ontario, Canada. May, 2014.

Sherman, P: Winner of the Canada Research Chair, Tier 1 (second renewal), Toronto, Ontario, Canada. October, 2014.

Walters, TD: Winner of Best Clinical Research Paper, Second Annual Discovery Forum, The Hospital for Sick Children, Toronto, Ontario, Canada. April, 2014

Walters, TD: Runner-up for Dr. R.H.A. Haslam Preclerkship Teaching Award for Excellence in Preclerkship Teaching, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, Toronto, Ontario, Canada. June, 2014

Publications

A. Assa, L. Vong, L. Pinnell, J. Rautava, N. Avitzur, K. Johnson-Henry, P. Sherman. Vitamin D deficiency predisposes to adherent-invasive Escherichia coli-induced barrier dysfunction and experimental colonic injury. *Inflammatory Bowel Diseases*, 21:297-306, 2015

Allen U, Avitzur Y. Eosinophilic esophagitis after organ transplantation and post-transplant lymphoproliferative disorder: More questions than answers. *Pediatric Transplantation*, Nov 2014; 18 (7): pp 665-667. PMID:25250970

Alqatie A, Mann E, Moineddin R, Kamath BM, Chavhan GB. Solitary liver lesions in children: interobserver agreement and accuracy of MRI diagnosis. *Clin Imaging* 39:442-8, 2015

Assor E, Davies-Shaw J, Marcon MA, Mahmud FH. Estimation of dietary gluten content using total protein in relation to gold standard testing in a variety of foods. *Journal of Nutrition and Food Sciences*, July 2014:4(5): pp 1-4

Avitzur Y, Guo C, Mastropaolo LA, Bahrami E, Chen H, Zhao Z, Elkadri A, Dhillon S, Murchie R, Fattouh R, Huynh H, Walker JL, Wales PW, Cutz E, Kakuta Y, Dudley J, Kammermeier J, Powrie F, Shah N, Walz C, Nathrath M, Kotlarz D, Puchaka J, Krieger J, Racek T, Kirchner T, Walters TD, Brumell JH, Griffiths AM, Rezaei N, Rashtian P, Najafi M, Monajemzadeh M, Pelsue S, McGovern DP, Uhlig HH, Schadt E, Klein C, Snapper SB, Muise AM. Mutations in tetratricopeptide repeat domain 7A Result in a severe form of very early onset inflammatory bowel disease. *Gastroenterology* Apr 2014; 146 (4): pp 1028-1039. PMID: 24417819

Avitzur Y, Wang JY, de Silva N, Burghardt KM, DeAngelis M, Grant D, Ng VL, Jones NL, Wales PW. The impact of intestinal rehabilitation program and its innovative therapies on the outcome of intestine transplant candidates. *Journal of Pediatric Gastroenterology & Nutrition* 2015 Jan 21 [Epub ahead of print]. PMID: 25611029

Avitzur Y*, Guo C*, Mastropaolo LA, Bahrami E, Chen H, Zhao Z, Elkadri A, Dhillon S, Murchie R, Fattouh R, Huynh H, Walker JL, Wales PW, Cutz E, Kakuta Y, Dudley J, Kammermeier J, Powrie F, Shah N, Walz C, Nathrath M, Kotlarz D, Puchaka J, Krieger J, Racek T, Kirchner T, Walters TD, Brumell JH, Griffiths AM, Rezaei N, Rashtian P, Najafi M, Monajemzadeh M, Pelsue S, McGovern DP, Uhlig HH, Schadt E, Klein C, Snapper SB, Muise AM. Mutations in tetratricopeptide repeat domain 7A result in a severe form of very early onset inflammatory bowel disease. *Gastroenterology* Apr 2014; 146 (4): pp 1028-1039. PMID: 24417819

Baird LC, Smith ER, Ichord R, Piccoli DA, Bernard TJ, Spinner NB, Scott B, Kamath BM. Moyamoya Syndrome Associated with Alagille Syndrome: Outcome after Surgical Revascularization. *J Pediatrics*, 166: pp 470-3, 2015

Bandsma RH, Bozic MA, Fridell JA, Crull MH, Molleston J, Avitzur Y, Mozer-Glassberg Y, Gonzalez-Peralta RP, Hodik M, Fecteau A, de Angelis M, Durie P, Ng VL. Simultaneous liver-pancreas transplantation for cystic fibrosis-related liver disease: A multicenter experience. *J Cyst Fibros* 2014;13(4):471-7

Baxter JA, Roth DE, Al Mahmud A, Ahmed T, Islam M, Zlotkin SH. Tablets are preferred and more acceptable than powdered prenatal calcium supplements among pregnant women in Dhaka, Bangladesh. *J Nutr.* 2014 Jul;144(7):1106-12. doi: 10.3945/jn.113.188524

Baxter JB, Al-Madhaki FI, Zlotkin SH. Prevalence of malnutrition at the time of admission among patients admitted to a Canadian tertiary-care paediatric hospital. *Paediatr Child Health.* 2014 Oct; 19(8): 413-7

Benchimol EI, Mack DR, Nguyen GC, Snapper SB, Li W, Mojaverian N, Quach P, Muise AM. Incidence, Outcomes, and Health Services Burden of Very Early Onset Inflammatory Bowel Disease. *Gastroenterology* 2014;147(4): 803-13. PMID: 24951840. **This manuscript was featured in "American Gastroenterology Association Editors Top Choice" and "CME Exam" in *Gastroenterology*

Benidir AN, Laughlin S, Ng VL. Visual disturbances in a total parenteral nutrition dependent liver transplant pediatric patient. *TPN-Dependent Liver Transplant Pediatric Patient. Gastroenterology* 2014 May;146(5):e10-11

Chavhan GB, Mann E, Kamath BM, Babyn PS. Gadobenate-dimeglumine-enhanced magnetic resonance imaging for hepatic lesions in children. *Pediatric Radiology*, 44(10): pp1266-74, 2014

Church P, Guan J, Walters T, Assa A, Frost K, Muise A, Griffiths AM. Infliximab maintains durable response and facilitates growth in paediatric Crohn's disease. *Inflamm Bowel Dis* 2014; 20(7): 1177-86

Church PC, Guan J, Walters TD, Frost K, Assa A, Muise AM, Griffiths AM. Infliximab maintains durable response and facilitates catch-up growth in luminal pediatric Crohn's disease. *Inflammatory Bowel Diseases* Jul 2014; 20 (7): pp 1177-1186. PMID: 24865777

Church PC, Turner D, Feldman BM, Walters TD, Greer ML, Amitai MM, Griffiths AM; the ImageKids Study Group. Systematic review with meta-analysis: magnetic resonance enterography signs for the detection of inflammation and intestinal damage in Crohn's disease. *Aliment Pharmacol Ther.* 2015; 41(2): 153-166

Colli A, Gana JC, Turner D, Yap J, Adams-Webber T, Ling SC, Casazza G. Capsule endoscopy for the diagnosis of oesophageal varices in people with chronic liver disease or portal vein thrombosis. *Cochrane Database Systematic Reviews* 2014, 1;10:CD008760

Courtney-Martin G, Kosar C, Campbell A, Avitzur Y, Wales PW, Steinberg K, Harrison D, Chambers K. Plasma aluminum concentrations in pediatric patients receiving long-term parenteral nutrition. *Journal of Parenteral and Enteral Nutrition* 2014 Apr 17. [Epub ahead of print]. PMID:24743391

Cozijnsen MA, Escher JC, Turner D, Griffiths AM, De Ridder L. The benefits and risks of combining anti-tumour necrosis factor with immunomodulator therapy in pediatric inflammatory bowel disease. *Inflamm Bowel Dis* 2015; 21(4): 951-961

Czuczman MA, Fattouh R, van Rijn JM, Canadien V, Osborne S, Muise AM, Kuchroo VK, Higgins DE, Brumell JH. *Listeria monocytogenes* exploits efferocytosis to promote cell-to-cell spread. *Nature* 2014 May 8; 509(7499): 230-234. PMID: 24739967

Dagher M, Ng VL, Carpenter A, Rankin S, De Angelis M, Avitzur Y, Mouzaki M. Overweight, central obesity and cardiometabolic risk factors in pediatric liver transplantation. *Journal of Pediatric Gastroenterology and Nutrition* 2015 Mar;19(2):175-181

Derepas C, Kosar C, Avitzur Y, Wales PW, Courtney-Martin G. Decreased bone turnover markers in children on long-term parenteral nutrition (PN) for intestinal failure (IF). *Journal of Parenteral and Enteral Nutrition* Jan 2015; 39 (1): pp 85-94. PMID: 3976773

Zlotkin S. Design and development of a combined calcium-iron-folic acid prenatal supplement to support implementation of the new World Health Organization recommendations for calcium supplementation during pregnancy. *Food Nutr Bull.* 2014 Jun;35(2):221-9

Dhillon SS, Fattouh R, Elkadri A, Xu W, Murchie R, Walters T, Guo CH, Mack D, Huynh H, Baksh S, Silverberg M, Griffiths AM, Snapper S, Brumell JH, Muise AM. Variants in NADPH oxidase complex components determine susceptibility to very early onset inflammatory bowel disease. *Gastroenterology.* 2014; 147(3): 680-89. PMID: 24931457

Diamond IR, Grant R, Feldman B, Tomlinson G, Pencharz P, Ling SC, Moore A, Wales P. Expert beliefs regarding novel lipid based approaches to pediatric intestinal failure associated liver disease. *J Parenteral Enteral Nutr* 2014;38(6):702-710

Dillon SS, Fattouh R, Elkadri A, Xu W, Murchie R, Walters T, Guo C, Mack D, Huynh HQ, Baksh S, Silverberg MS, Griffiths AM, Snapper SB, Brumell JH, Muise AM. Variants in nicotinamide adenine dinucleotide phosphate oxidase complex components determine susceptibility to very early onset inflammatory bowel disease. *Gastroenterology* 2014; 147(3): 680-689. Epub 2014 Jun 12

Eckford PDW, Ramjeesingh M, Molinski S, Pasyk S, Li C, Ahmadi S, Ip W, Chung TE, Du K, Yeger H, Gonska T, Bear CE. VX-809 and Related Corrector Compounds Exhibit Secondary Activity Stabilizing Active F508del-CFTR after Its Partial Rescue to the Cell Surface. *Chem Biol.* 2014 May; 21(5): 666-78. PMID: 24726831

Fattouh R, Kwon H, Czuczman M, Copeland J, Pelletier L, Quinlan M, Muise AM, Higgins D, Brumell JH. The Diaphanous-related Formins Promote Protrusion Formation and Cell-to-Cell Spread of *Listeria monocytogenes*. *Journal of Infectious Diseases* 2015;1;211(7):1185-95. PMID: 25281757

G. Shen-Tu, H. Kim, M. Liu, K. Johnson-Henry, P. Sherman. Protein kinase C mediates enterohemorrhagic *Escherichia coli* O157:H7-induced attaching and effacing lesions. *Infection and Immunity*, 82:1648-1656, 2014

Gassas A, Courtney S, Armstrong C, Kapllani E, Muise AM, Schechter. Unrelated donor hematopoietic stem cell transplantation for infantile enteropathy due to IL-10/IL-10 receptor defect. *Pediatr Transplant*. 2015 Jun;19(4):E101-3. PMID: 25761563

Goettel JA, Biswas S, Lexmond WS, Yeste A, Passerini L, Patel B, Yang S, Sun J, Ouahed J, Shouval DS, McCann KJ, Horwitz BH, Mathis D, Milford EL, Notarangelo LD, Roncarolo MG, Fiebiger E, Marasco WA, Bacchetta R, Quintana FJ, Pai SY, Muise AM, Snapper SBFatal autoimmunity in mice reconstituted with human hematopoietic stem cells encoding defective FOXP3. Accepted in *Blood*. Apr 1. pii: blood-2014-12-618363. PMID: 25833964

Goyal A, Hyams JS, Lerer T, Leleiko NS, Otleigh AR, Griffiths AM, Rosh JR, Cabrera, JM., Oliva-Hemker M, Mack DR†, Rick, J, Pfefferkorn MD, Carvalho R, Grossman AB Hitch MC, Sudel B, Kappelman M, Saeed SA, Faubion WA, Schaefer M, Markowitz J and Keljo DJ, for the Pediatric Inflammatory Bowel Disease Collaborative Research Group. Liver Enzyme Elevations within 3 months of Diagnosis of Inflammatory Bowel Disease and Likelihood of Liver Disease. *J Pediatr Gastroenterol Nutr*. 2014; 59(3): 321-3

Guay-Woodford LM, Bissler JJ, Braun MC, Bockenhauer D, Cadnapaphornchai MA, Dell KM, Kerecuk L, Liebau MC, Alonso-Peclet MH, Shneider B, Emre S, Heller T, Kamath BM, Murray KF, Moise K, Eichenwald EE, Evans J, Keller RL, Wilkins-Haug L, Bergmann C, Gunay-Aygun M, Hooper SR, Hardy KK, Hartung EA, Streisand R, Perrone R, Moxey-Mims M. Consensus Expert Recommendations for the Diagnosis and Management of Autosomal Recessive Polycystic Kidney Disease: Report of an International Conference. *J Pediatrics*, 165(3): pp611-7, 2014

Haberman Y, Tickle TL, Dexheimer PJ, Kim M-O, Tang D, Karns R, Baldassano R, Noe JD, Rosh J, Markowitz J, Heyman MB, Griffiths AM, Crandall WV, Mack DR, Baker SS, Huttenhower C, Keljo DJ, Hyams JS, Kugathasan S, Walters TD, Aronow B, Xavier RJ, Gevers D, Denson LA. Pediatric Crohn disease patients exhibit specific ileal transcriptome and microbiome signature. *J Clin Invest* 2014; 124(8): 3617-33

Haberman Y, Tickle TL, Dexheimer PJ, Kim MO, Tang D, Karns R, Baldassano RN, Noe JD, Rosh J, Markowitz J, Heyman MB, Griffiths AM, Crandall WV, Mack DR, Baker SS, Huttenhower C, Keljo DJ, Hyams JS, Kugathasan S, Walters TD, Aronow B, Xavier RJ, Gevers D, Denson LA. Corrigendum. Pediatric Crohn disease patients exhibit specific ileal transcriptome and microbiome signature. *The Journal of Clinical Investigation* Mar 2015; 125 (3): pp 1363. PMID: 25729854

Hatlani MA, Kortan P, May G, Ling SC, Walters TD, Avitzur Y. Wire-guided cannulation versus contrast-guided cannulation in pediatric endoscopic retrograde cholangiopancreatography. *Saudi Journal of Gastroenterology*. Feb 2015; 21 (1): pp 25-29. PMID: 25672235

Hayes W, Tschumi S, Ling SC, Feber J, Licht C. Eculizumab hepatotoxicity in pediatric aHUS. *Pediatric Nephrology* 2014 Nov 22 Epub ahead of print

J. Rautava, L. Pinnell, L. Vong, N. Akseer, A. Assa, P. Sherman. Oral microbiome composition changes in mouse models of colitis. *Journal of Gastroenterology and Hepatology*, 30:521-527, 2015

Jancelewicz T, Barmherzig R, Chung CT, Ling S, Kamath BM, Ng VL, Amaral J, O'Connor C, Fecteau A, Langer J. A screening algorithm for the efficient exclusion of biliary atresia in infants with cholestatic jaundice. *Journal of Pediatric Surgery* 2015 Mar;50(3):363-370

K. Howe, R. Lorentz, A. Assa, L. Pinnell, K. Johnson-Henry, P. Sherman. Transforming growth factor-beta1 protects against intestinal epithelial barrier dysfunction caused by hypoxia-reoxygenation. *Shock*, 43: 483–489, 2015

K. Johnson-Henry, L. Pinnell, A. Waskow, T. Irrazabal, A. Martin, M. Hausner, P. Sherman. Short-chain fructo-oligosaccharide and inulin modulate inflammatory responses and microbial communities in Caco-2-bbe cells and in a mouse model of intestinal injury. *Journal of Nutrition*, 144:1725-1733, 2014

Kevans D, Turpin D, Madsen K, Meddings J, Shestopaloff K, Xu W, Moreno-Hagelsieb G, Griffiths A, Silverberg M, Paterson A, Croitoru K. Determinants of Intestinal Permeability in Healthy First Degree Relatives of Individuals with Crohn's Disease. *Inflamm Bowel Disease* 2015; 21(4): 879-887

Khan WU, Shafique S, Shikder H, Shakur YA, Sellen WD, Chowdhury JS, ZLOTKIN SH. Home fortification with calcium reduces Hb response to iron among anaemic Bangladeshi infants consuming a new multi-micronutrient powder formulation. *Pub Health Nutr. Public Health Nutr.* 2014 Jul;17(7):1578-86

Kuenzig ME, Rezaie A, Seow CH, Otley AR, Steinhart AH, Griffiths AM, Kaplan GG, Benchimol E. Budesonide for maintenance of remission of Crohn's disease. *Cochrane Database Syst Rev* 2014; 8:CD002913 (epub ahead of print)

L. Vong, R. Lorentz, A. Assa, M. Glogauer, P. Sherman. Probiotic *Lactobacillus rhamnosus* inhibits the formation of neutrophil extracellular traps. *Journal of Immunology*, 192:1870-1877, 2014

Lee CH, Hsu P, Nanan B, Nanan R, Wong M, Gaskin KJ, Leong RW, Murchie R, Muise AM*, Stormon MO*. Novel de novo mutations of the Interleukin-10 receptor gene lead to infantile onset inflammatory bowel disease. *Journal of Crohn's & Colitis*. 2014 Nov 1;8(11):1551-6. PMID: 24813381

Lev-Tzion R, Renbaum P, Beeri R, Ledder O, Mevorach R, Karban A, Koifman E, Efrati E, Muise AM, Chowers Y, Turner D. Rac1 Polymorphisms and Thiopurine Efficacy in Children with Inflammatory Bowel Disease. *J Pediatr Gastroenterol Nutr*. 2015 Apr 10. [Epub ahead of print]. PMID: 25885881

Li B, Lee C, Zani A, Zani-Ruttenstock E, Ip W, Chi L, Olguin PD, Gonska T, Pierro A. Early maternal separation induces alterations of colonic epithelial permeability and morphology. *Pediatr Surg Int*. 2014 Dec; 30(12): pp 1217-22. PMID 25358892

Ling SC, Avitzur Y. Predicting outcomes for children awaiting liver transplantation – is serum sodium the answer? *Hepatology* 2014;59(5):1678-80

Ling SC. Management of Adult Survivors of Biliary Atresia. *Clinical Liver Disease* 2014; 4(4):86-88

Mankad D, Dupuis A, Smile S, Roberts W, Brian J, Lui T, Genore L, Zaghoul D, Iaboni A, Marcon PM, Anagnostou E. A randomized, placebo controlled trial of omega-3 fatty acids in the treatment of young children with autism. *Molecular Autism*, 2015 Mar 21;6:18. doi: 10.1186/s13229-015-0010-7. eCollection 2015. PMID: 25798215

Mansoor S, Yerian L, Kohli R, Xanthakos S, Angulo P, Ling S, Lopez R, Christine CK, Feldstein AE, Alkhoury N. The evaluation of hepatic fibrosis scores in children with nonalcoholic fatty liver disease. *Dig Dis Sci* 2015;60(5):1440-7

Mathur S, Janaudis-Ferreira T, Wickerson L, Singer LG, Patcai J, Rozenberg D, Blydt-Hansen T, Hartmann EL, Haykowsky M, Helm D, High K, Howes N, Kamath BM, Lands L, Marzolini S, Sonnenday C. Meeting Report: Consensus Recommendations for a Research Agenda in Exercise in Solid Organ Transplantation. *Am J Transplant*, 14(10): pp2235-45, 2014

Minar P, Haberman Y, Jurickova I, Wen T, Rothenberg ME, Kim Mo, Saeed SA, Baldassano RN, Stephens M, Markowitz J, Rosh J, Crandall WV, Heyman MB, Mack DR, Griffiths AM, Baker SS, Hyams JS, Kugathasan S, Denson LA. Utility of neutrophil Fcγ receptor 1 (CD64) index as a biomarker for mucosal inflammation in pediatric Crohn's disease. *Inflamm Bowel Dis* 2014; 20(6): 1037-48

Molinski SV, Gonska T, Huan LJ, Baskin B, Janahi IA, Ray PN, Bear CE. Genetic, cell biological and clinical interrogation of the CFTR mutation 3.3700A>G (p.Ile1234Val) informs strategies for future medical intervention. *Genet Med*. 2014 Aug; 16(8): pp 625-632. PMID: 24556927

Moran CJ, Muise AM, Klein C, Snapper SB. Very Early Onset Inflammatory Bowel Disease – Gaining Insight through Focused Discovery. *Inflammatory Bowel Disease Journal* 2015; 21(5): 1166-75. PMID: 25895007

Morinville VD, Lowe ME, Ahuja M, Barth B, Bellin MD, Davis H, Durie PR, Finley B, Fishman DS, Freedman SD, Garipey CE, Giefer MJ, Gonska T, Heyman MB, Himes R, Husain S, Kumar S, Ooi CY, Pohl JF, Schwarzenberg SJ, Troendle D, Werlin SL, Wilschanski M, Yen E, Uc A. Design and Implementation of Inspire (International Study Group of Pediatric Pancreatitis: in Search for a Cure). *J Pediatric Gastroenterology Nutrition*. 2014 Sept; 59(3): pp 360-364. PMID: 24824361

Mouzaki M, Ng V, Kamath BM, Selzner N, Pencharz P, Ling SC. Enteral energy and macronutrients in end-stage liver disease. *J Parenter Enteral Nutr* 2014;38(6):673-68

Mouzaki M, Vresk L, Gonska T. An infant with vomiting, diarrhea and failure to thrive. *Clinical Challenge and Image in GI. Gastroenterology*. 2014 Apr;146(4): 912, 1137-8. doi. PMID: 24560855

Murugan D, Albert MH, Langemeier J, Bohne J, Puchalka J, Järvinen PM, Hauck F, Klenk AK, Prell C, Schatz S, Diestelhorst J, Sciskala B, Kohistani N, Belohradsky BH, Müller S, Kirchner T, Walter MR, Bufler P, Muise AM, Snapper SB, Koletzko S, Klein C, Kotlarz D. Very early onset inflammatory bowel disease associated with aberrant trafficking of IL-10R1 and cure by T cell replete haploidentical bone marrow transplantation. *Journal of Clinical Immunology*. 2014: Apr; 34(3): 331-339. PMID: 24519095

Ng VL, Haber BH, Magee JC, Miethke A, Murray KF, Michail S, Karpen SJ, Kerkar N, Molleston JP, Romero R, Rosenthal P, Schwarz KB, Shneider BL, Turmelle Y, Alonso EM, Sokol RJ for the Childhood Liver Disease Research and Education Network (ChiLDREN). Medical Status of 219 Children with Biliary Atresia Surviving Long-term with their Native Livers: Results from a North American Multicenter Consortium. *Journal of Pediatrics* 2014 Sept;165(3):539-546

Ng VL, Nicholas D, Dhawan A, Yazigi N, Ee L, Stormon M, Gilmour S, Schrieber R, Taylor R, Andreou P, Otley A, and the PeLTQL Study Group. Development and Validation of the PeLTQL: A Disease-Specific Quality of Life Measure for Pediatric Liver Transplant Recipients. *Journal of Pediatrics* 2014 Sept;165(3):547-555

Ooi CY, Dupuis A, Gonska T, Ellis L, Ni A, Jarvi K, Martin S, Ray P, Steele L, Kortan P, Dorfman R, Solomon M, Zielenski J, Corey M, Tullis E, Durie P. Does integration of different ion channel measurements improve diagnostic performance in cystic fibrosis? *Chest. Ann Am Thorac Soc*. 2014 May;11(4): pp 562-70. PMID 24697796

P. Sherman, M-J Makarchuk, P. Belanger. Research agenda to support sodium reduction in Canada. *Applied Physiology, Nutrition and Metabolism*, 39:396-398, 2014

Propst E, Ling SC, Daneman A, Langer J. Endoscopic clip for closure of persistent tracheoesophageal fistula in an infant. *The Laryngoscope* 2014;124(9):2182-5

Rizzuti D, Ang M, Sokollik C, Wu T, Fattouh R, Reardon C, Schindler C, Jones NL. Helicobacter pylori inhibits dendritic cell maturation via interleukin-10 mediated activation of the signal transducer and activator of transcription 3 (STAT3) pathway. *Journal of Innate Immunity* Feb 2015; 7 (2): pp 199-211. PMID: 25412627

Roth DE, Pezzack B, Mahmud AA, Abrams SA, Islam M, Aimone Phillips A, Baxter JB, Dimitris MC, Hawthorne KM, Ahmed T, Zlotkin SH. Bioavailability of enteric-coated microencapsulated calcium during pregnancy: a randomized crossover trial in Bangladesh. *Am J Clin Nutr.* 2014 Dec; 100(6): 1587-95. doi: 10.3945/ajcn.114.90621

Rowe SM, Heltshe SL, Gonska T, Donaldson SH, Borowitz D, Gelfond D, Sagel SD, Khan U, Mayer-Hamblett N, Van Daltsen JM, Joseloff E, Ramsey BW Clinical Mechanism of the CFTR Potentiator Ivacaftor in G551D-Mediated Cystic Fibrosis. *Am J Respir Crit Care Med.* 2014 July; 190(2): pp 175-184. PMID: 24927234

Ruemmele F, Hyams JS, Otlej AR, Griffiths A, Kolho K-L, Dias JA, Levine A, Escher JC, Taminiau J, Veres G, Colombel J-F, Vermeire S, Wilson DC, Turner D. Outcome measures for clinical trials in paediatric inflammatory bowel disease: an evidence-based, expert-driven practical statement paper of the paediatric ECCO committee. *Gut* 2014; 61(3): 535-542

Ruemmele FM, Veres G, Kolho KL, Griffiths A, Levine A, Escher J, Dias JA, Barabino A, Braegger C, Bronsky J, Buderus S, de Carpi J, de Ridder L, Fagerberg UL, Hugot J-P, Kierkus J, Kolacek S, Koletzko S, Lionetti P, Miele E, Navas Lopez V, Paerregaard A, Russell R, Serban D, Shaoul R, Van Rheenen P, Veereman G, Weiss B, Wilson D, Dignass A, Eliakim A, Winter H, Turner D. Consensus Guidelines of ECCO/ESPGHAN on the medical management of pediatric Crohn's disease. *J Crohn Colitis* 2014; 8(10): 1179-1207

S. Freedman, S. Williamson-Urquhart, S. Schuh, P. Sherman, K. Farion, S. Gouin, A. Willan, R. Goeree, D. Johnson, K. Black, D. Schnadower, M. Gorelick. Impact of emergency department probiotic treatment of pediatric gastroenteritis: study protocol for the PROGUT (probiotic regimen for outpatient gastroenteritis utility of treatment) randomized controlled trial. *Trials*, 15:170(9 pages), 2014

Sambrotta M, Strautnieks S, Papouli E, Rushton P, Clark BE, Parry DA, Logan CV, Newbury LJ, Kamath BM, Ling S, Grammatikopoulos T, Wagner BE, Magee JC, Sokol RJ, Mieli-Vergani G, University of Washington Center for Mendelian Genomics, Smith JD, Johnson CA, McClean P, Simpson MA, Knisely AS, Bull L, Thompson RJ. Mutations in TJP2 cause progressive cholestatic liver disease. *Nature Genetics*, 46(4): pp326-8, 2014

Seemann NM, Elkadri A, Walters TD, Langer JC. The role of surgery for children with perianal Crohn's disease. *Journal of Paediatric Surgery* Jan 2015; 50 (1): pp 140-143. PMID: 25598111

Shouval DS, Biswas A, Goettel JA, McCann K, Conaway E, Redhu NS, Mascanfroni ID, Al Adham Z, Lavoie S, Ibourk M, Nguyen DD, Samsom JN, Escher JC, Somech R, Weiss B, Beier R, Conklin LS, Ebens CL, Santos FG, Ferreira AR, Sherlock M, Bhan AK, Müller W, Mora JR, Quintana FJ, Klein C, Muise AM, Horwitz BH, Snapper SB. Interleukin-10 receptor signaling in innate immune cells regulates mucosal immune tolerance and anti-inflammatory macrophage function. 2014 May 15; 40(5): 706-719. PMID: 24792912

Singla DR, Shafique S, Zlotkin SH, Aboud FE. A 22-Element Micronutrient Powder Benefits Language but Not Cognition in Bangladeshi Full-Term Low-Birth-Weight Children. *J Nutr*. 2014 Aug 20. pii: jn. 114. 190488. [Epub ahead of print] PubMed PMID: 25143375. 8

Smith, J. Emge, K. Berzins, L. Lung, R. Khamishon, P. Shah, D. Rodrigues, A. Sousa, C. Reardon, P. Sherman, K. Barrett, M. Gareau. Probiotics normalize the gut-brain-microbiota axis in immunodeficient mice. *American Journal of Physiology*, 307:G793-G802, 2014

Sorensen L, Neighbors L, Zhang S, Limbers CA, Varni JW, Ng VL, Squires RH, Alonso EM. Neuropsychological Functioning and Health-Related Quality of Life: Pediatric Acute Liver Failure Study Group Results. *Journal of Pediatric Gastroenterology and Nutrition* 2015 Jan;60(1):75-83

Squires RH, Ng V, Romero R, Ekong R, Ekong U, Hardikar W, Emre S, Mazareigos G. AASLD Practice Guidelines: Evaluation of the Pediatric Patient for Liver Transplantation: 2014 Practice Guideline by the American Association for the Study of Liver Diseases, American Society of Transplantation, and the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition. *Hepatology* 2014 Jul;60(1):362-398. PMID:24782219

Sunseri W, Hyams JS, Lerer T, Mack DR, Griffiths AM, Otley AR, Rosh JR, Carvalho R, Grossman AB, Cabrera J, Pfefferkorn MD, Rick J, Leleiko NS, Hitch MC, Oliva-Hemker M, Saeed SA, Kappelman M, Markowitz J, Keljo DJ, Pediatric IBD Collaborative Research Group. Retrospective cohort study of methotrexate use in the treatment of pediatric Crohn's disease. *Inflamm Bowel Dis* 2014; 20(8): 1341-5

T. Abrahamsson, P. Sherman. Multi-faceted effects of human milk oligosaccharides (editorial). *Journal of Infectious Diseases*, 209:323-324, 2014

T. Abrahamsson, S. Rautava, A. Moore, J. Neu, P. Sherman. The time for a confirmative necrotizing enterocolitis probiotics prevention trial in the extremely low birth weight infant in North America is now! *Journal of Pediatrics*, 165:389-394, 2014

Teckman JH, Rosenthal P, Abel R, Bass LM, Michail S, Murray KF, Rudnick DA, Thomas DW, Spino C, Arnon R, Hertel PM, Heubi J, Kamath BM, Karnsakul W, Loomes KM, Magee JC, Molleston JP, Romero R, Shneider BL, Sherker AH, Sokol RJ. Baseline Analysis of a Young Alpha-1-AT Deficiency Liver Disease Cohort Reveals Frequent Portal Hypertension. *J Pediatr Gastroenterol Nutr*. 2015 Feb 2. [Epub ahead of print]

Tsouka A, Mahmud FH, Marcon MA. Celiac disease associated with type 1 diabetes and celiac disease alone: Are these patients different? *Journal of Pediatric Gastroenterology Nutrition*, 2015 Mar 19 [Epub ahead of print]. PMID: 25806677

Turner D, Doveh E, Cohen A, Wilson ML, Grossman AB, Rosh JR, Lu Y, Bousvaros A, Deslandres C, Noble A, Baldassano RN, Levine A, Griffiths AM. Methotrexate may be prescribed orally in pediatric Crohn's disease: a multicentre propensity score study. Published on-line *Gut* 21 November 2014

Uhlrig HH, Schwerd T, Koletzko S, Shah N, Kammermeier J, Elkadri A, Ouahed J, Wilson D, Travis S, Turner D, Klein, Snapper S, Muise AM. Very early onset inflammatory bowel disease diagnostic approach to complex monogenic diseases. *Gastroenterology* 2014; 147(4): 990-1007. PMID: 25058236

Valentino PL, Church, Shah, Beyene, Griffiths, Feldman, Kamath BM. Hepatotoxicity due to Methotrexate Therapy in Children with Inflammatory Bowel Disease: A Systematic Review and Meta-Analysis. *Inflammatory Bowel Disease*, 20(1): pp 47-59, 2014

Valentino PL, Ling SC, Ng VL, John P, Bonasoni P, Castro DA, Taylor G, Chavhan GB, Kamath BM. The Role of Diagnostic Imaging and Liver Biopsy in the Diagnosis of Focal Nodular Hyperplasia in Children. *Liver International*, 34(2): pp227-34, 2014

Venkat VL, Shneider BL, Magee JC, Turmelle Y, Arnon R, Bezerra JA, Hertle P, Karpen SJ, Kerkar N, Loomes KM, Molleston J, Murray K, Ng VL, Raghunathan T, Rosenthal P, Schwartz K, Sokol RJ, Teckman J, Wang K, Whittington PF, Heubi JE, Total Serum Bilirubin Predicts Fat-Soluble Vitamin Deficiency Better Than Serum Bile Acids in Infants with Biliary Atresia. *Journal of Pediatric Gastroenterology and Nutrition* 2014 Dec;59(6):702-707

Vy H. D. Kim, Rae Brager, Julia Upton, Bo Ngan, Andrea Newell, Maian Roifman, Aleixo M. Muise, Susanne M. Benseler, Eyal Grunebaum, Chaim M. Roifman. Hematopoietic stem cell transplantation completely reversed colitis but not arthritis in IL-10R α deficiency. *LymphoSign Journal*, 2014, 1(2): 77-86

Walsh CM, Ling SC, Khanna N, Cooper MA, Grover SC, May G, Walters TD, Rabeneck L, Reznick R, Carnahan H. Gastrointestinal endoscopy competency tool: development of a procedure-specific assessment tool for colonoscopy. *Gastrointest Endosc* 2014;79(5):798-807

Walsh CM, Ling SC, Khanna N, Grover SC, Yu JJ, Cooper MA, Yong E, Nguyen GC, May G, Walters TD, Reznick R, Rabeneck L, Carnahan H. Gastrointestinal endoscopy competency assessment tool: reliability and validity evidence. *Gastrointest Endosc* 2015 (Epub ahead of print)

Walsh CM, Ling SC, Walters TD, Mamula P, Lightdale JR, Carnahan H. Development of the gastrointestinal endoscopy competency assessment tool for pediatric colonoscopy (GiECATKIDS). *J Pediatr Gastroenterol Nutr* 2014;59(4):480-6

Walters TD, Hyams JS. Can early anti-TNF- α treatment be an effective therapeutic strategy in children with Crohn's disease? *Immunotherapy* Jul 2014; 6 (7): pp 799-802. PMID: 25290411

Book Chapters

Bandsma RH, Hulst JM. Congenital Diarrheal Disorders. *Textbook of Pediatric Gastroenterology*. 2014 (Dutch)

Elkadri A, Muise A, Mouzaki M, Kamath B, Valentino P, Sokollik C, O'Connor C, Ling S, Gonska T. "Pediatric Gastroenterology". *First Principles of Gastroenterology Pediatric GI section*. 7th edition. Editor: A. Thompson, E. Shaffer and T. Gonska. Capstone-Canadian Academic Publisher, 2014

Gonska T, Mouzaki M, Valentino PL, Kamath BM. General approach to Paediatric Gastroenterology and Hepatology. In: *First Principles of Gastroenterology and Hepatology in Adults and Children*. Eds: Thomson ABR, Shaffer EA, Gonska T 2014: pp317-342

Kamath BM, Spinner N, Piccoli D: In: *Alagille syndrome, Liver Disease in Children*, 4th ed: Eds: Suchy, Sokol, Balistreri. 2014: pp216-233

Loverdos I, Ling SC. Vascular Liver Disease. In: *Diseases of the Liver in Children: Evaluation and Management*. First Edition. Eds: Murray, Karen F; Horslen, Simon. Springer, New York. 2014: pp 403-422

O'Connor C, Ling SC. Viral hepatitis. In: *First Principles of Gastroenterology and Hepatology in Adults and Children*. Volume 2, Hepatology and Paediatrics. Eds: Thomson ABR, Shaffer EA, Gonska T. Canadian Academic Publishers Ltd., London Ontario. 2014: pp 373-381

Valentino PL, Kamath BM. Autoimmune Hepatitis. In: *First Principles of Gastroenterology and Hepatology in Adults and Children*. (Thomson ABR, Shaffer EA, Gonska T. eds) 2014: pp367-372

Valentino PL, Kamath BM. Biliary Atresia. In: *First Principles of Gastroenterology and Hepatology in Adults and Children*. (Thomson ABR, Shaffer EA, Gonska T. eds) 2014: pp401-402

Grants and Funding

Adherent and invading Escherichia coli engagement of CEA-CAM6: defining the link to Crohn's disease. Gary-Owen S, Sherman PM. **Crohn's and Colitis Foundation of Canada**. \$375,000 CAD. July 2011 - June 2014

A Multidisciplinary Approach to Target Chronic Inflammation of the Gut, Liver and Joint. Elsteem J, Kamath B. **CIHR Team Grant**. \$2,443,500 CAD. July 2014 2014 - July 2019

A Multi-center Randomized Controlled Trial Evaluating the Impact of Regular Telephone Contact with an Inflammatory Bowel Disease (IBD) Registered Nurse (RN) during Transition from Pediatric to Adult Care. Nguyen G, Griffiths AM. **Crohn's and Colitis Foundation of Canada**. \$221,272 CAD. May 2013 - June 2015

A multi-disciplinary human study on the genetic, environmental and microbial interactions that cause IBD. K Croitoru K, Griffiths AM. **Helmsley Foundation and Crohn's and Colitis Foundation of Canada**. \$9,000,000 CAD. May 2013- June 2018

A prospective observational study of the incidence of antibiotic-associated diarrhea in children. Johnson B, Sherman PM et al. **BioK, Sweden.** \$33,287 CAD. January 2013 - December 2014

A Randomized Controlled Trial to Evaluate the Efficacy and Safety of a Gluten-Free Diet in Patients with Asymptomatic Celiac Disease and Type 1 Diabetes, Celiac Disease and Diabetes - Dietary Intervention and Evaluation Trial (CD-DIET). Mahmud F, Assor E, Cutz E, Marcon MA. **Juvenile Diabetes Research Foundation.** \$3,200,000 CAD. May 2012 - December 2016

Assessment of the cardiovascular health for pediatric liver transplant recipients. Mouzaki M, AlNaseer Y, Mertens L, Kamath B, McCrindle B, Ng VL. **Sickkids Labatt Family Heart Centre Innovation Fund.** \$24,900 CAD. July 2014 - June 2016

Autism Treatment Network Registry. Loh A, Roberts W, Anagnostou E, Marcon MA, Weiss S, Brian J, Feigenbaum A, Schulze A, Logan W, Chitayat D, Weksberg R, Green P, Weiss J, Mitchell S, Berall G, Bradley E, Freeman N, Stinson J, Ornstein M, Atkinson A, Goldfarb C, Flanagan J, Superina D, Jiminez E, Jones Stokreef N, Orsino A, Isaacs B, Handley Derry M. **Autism Speaks.** \$420,000 CAD. January 2011 - December 2016

Burden and variation of pediatric inflammatory bowel disease in Canada: A population-based study. Benchimol E, Griffiths AM. **Crohn's and Colitis Canada.** \$369,560 CAD. July 2014 - June 2017

Canadian Children Inflammatory Bowel Disease Network: a joint partnership of CIHR and C.H.I.L.D. Foundation. Griffiths AM, Muise AM, Walters TD. **Canadian Institutes for Health Research.** \$5,000,000 CAD. April 2013 - March 2018

Canadian Pediatric Clinician Scientist Program. Jones NL. **The Hospital for Sick Children Foundation.** \$900,000 CAD. April 2012 - March 2015

Canadian Pediatric Clinician Scientist Program. Jones NL. **B.C Research Institute for Children and Women's Health.** \$450,000 CAD. April 2012 - March 2015

Canadian Pediatric Clinician Scientist Program. Jones NL. **Women's and Children's Health Research Institute.** \$105,000 CAD. April 2012 - March 2015

Canadian Pediatric Clinician Scientist Program. Jones NL. **Manitoba Institute of Child Health.** \$150,000 CAD. April 2012 - March 2015

CCFA PROKIIDS: NEOPICS – Defining Very Early Onset IBD. Muise AM. **Cronhs and Colitis Foundation of America.** \$100,000 USD. January 2014 – December 2015

Celiac Disease and Gluten-free Diet Teaching: Is Online Education Effective? Walsh C, Vresk L, Marcon MA. **Paediatric Consultant's Educational Development & Innovation.** \$5,000 CAD. December 2014 - December 2015

Cell Signalling in Mucosal Inflammation and Pain. McCullough C, Sherman PM. **Canadian Institutes for Health Research.** \$1,625,000 CAD. June 2009 - July 2015

Characterizing the translocation and distribution of Lactobacillus species in fetuses of CD-1 and C56BL/6 mouse dams. Sherman PM. **Lallem and Human Nutrition**. \$29,000 CAD. January 2015 - December 2016

Childhood Liver Disease Research Network (ChiLDReN). Kamath B, Ng VL, Sokol R. **National Institute of Health, NIDDK**. \$1,372,992 CAD. July 2014 – June 2019

CIHR Canadian Child Health Clinician Scientist Training Program. Jones NL. **Strategic Training Initiative in Health Research, Canadian Institutes of Health Research**. \$975,000 CAD. April 2012 - March 2015

Cystic Fibrosis Liver Disease Research Network: Prediction by ultrasound of the risk of hepatic cirrhosis in cystic fibrosis ('PUSH'). Ling SC et al. **Cystic Fibrosis Foundation and National Institutes of Health**. \$620,000 USD. January 2009- December 2020

Defining and Developing the Therapeutic Pipeline for VEO IBD: Toronto Studies. Muise AM. **The Leona M. and Harry B. Helmsley Charitable Trust**. \$1,587,892 US. October 2014 - September 2017

De-novo autoimmune hepatitis in pediatric liver transplantation. Ekong U, Avitzur, Y. **Liver Centre Grant, Yale Liver Centre, Yale University**. \$25,000 USD. October 2013 - October 2016

Discovery Partnership with Academia – first project in Canada. Identification of new drugs targeting dF508 mutants –from discovery to clinical trial. Bear CE, Gonska T, Melnyk R. **GlaxoSmithKline**. \$5,000,000 USD. January 2013 - December 2016

Does child and parent perceptions of the quality of life in families of different ethnicities influence dietary adherence to the gluten free diet and nutritional intake of children with Celiac Disease. Marcon MA, Mager D. **Canadian Foundation for Dietetic Research**. \$12,000 CAD September 2014 - August 2015

Engaging patients and caregivers in research for pediatric IBD. Otley A, Griffiths AM. **Canadian Institute for Health Research**. \$15,000 CAD. March 2014 - April 2015

Epithelial cell signaling responses to attaching-effacing intestinal pathogens. Sherman PM. **Canadian Institutes of Health Research**. \$751,916 CAD. April 2014 - March 2018

Establishing The Global Registry for Outcomes of Varices in Children. Gana C, Ling SC. **The Hospital for Sick Children Paediatric Consultants Creative Professional Activity Grant**. \$9,817 CAD. October 2013 - October 2014

Expansion of patient-specific Cystic Fibrosis epithelial cells for drug screening through transient partial reprogramming. Waddell TK, Keshavjee S, Nagy A, Gonska T, Bear CE. **McEwen Centre-CCRM Commercialization Impact Prize**. \$300,000 CAD. July 2013 - June 2015

Exploratory observational study of therapeutic feeds to treat intestinal inflammation in Malawian children. Allen S, Bandsma R. **Medical Research Council**. \$272,000 CAD. January 2015 - January 2017

Extended nutritional investigation and assessment of CFTR function in G551D patients undergoing treatment with Ivacaftor.

Gonska T. Vertex Pharmaceuticals.

\$164,242 CAD. July 2014 - June 2016

Extension and Expansion of the Sweat Rate Sub-study as part of the G551D Observational Study (GOAL-e2) Gonska T. **Cystic Fibrosis Foundation Therapeutics, Inc.** \$10,162 USD. January 2014 - March 2015

Frailty in Children with End-Stage Liver and Renal Disease. Kamath B, Ng VL. **Transplant and Regenerative Medicine Center, SickKids Catalyst Grant.** \$14,000 CAD. July 2014 - July 2015

Genetic and Functional Studies in Very Early Onset IBD (NEOPICS). Muise AM. **Canadian Institutes for Health Research.** \$866,005 CAD. January 2012 - March 2017

HEAL (Healing of intestine on MR enterography with adalimumab long-term therapy) study. Griffiths A. **Abbvie Canada.** \$244,545 CAD. January 2015 - December 2016

Immunosuppression Withdrawal for Stable Pediatric Liver Transplant recipients (iWITH). Feng S, Ng V, Avitzur Y. **National Institutes of Health.** \$210,586 USD. July 2012 - June 2017

Impact of emergency department probiotic treatment of pediatric gastroenteritis: randomized controlled trial. Freedman S, Sherman PM et al. **Canadian Institutes of Health Research.** \$2,935,915 CAD. April 2013 - March 2018

Impact of feeding type and nutrient fortification on the gut microbiome of very low birth weight infants. O'Connor D, Unger S, Sherman PM et al. **Canadian Institutes of Health Research.** \$496,254 CAD. April 2013 - March 2016

Induced Pluripotent Stem Cell Models of Alagille Syndrome. Kamath B, Ghanekar A. **Alagille Syndrome Alliance (foundation).** \$50,000 CAD. July 2013 - July 2015

Innate dysregulation and growth failure in pediatric Crohn's disease. Denson, LA, Griffiths AM, Walters TD. **Crohn's and Colitis Foundation of America.** \$360,000 CAD. July 2011 - June 2014

IMAGEKIDS: a multi-center international study. Development of Magnetic resonance-based multi-item measures of inflammatory activity and structural damage in pediatric Crohn's disease. Turner D, Griffiths AM, Walters TD, Church PC. **Abbott International.** \$1,600,000 CAD. November 2012 - October 2015

Interrogation of SLC6A14 as a modifier for drug treatment in CF disease. Gonska T. **SickKids Foundation- CIHR IHDCYH New Investigator Award.** \$300,000 CAD. July 2012 - June 2015

Introduction of a Pureed Diet in Children Dependent on Enteral Feeding for their Nutrition: Blenderized Enteral Nutrition Diet Study (BLEND). Marcon MA, Carpenter A, Gallagher K, Haliburton B, Bannister L, Hoffman L, Mack D, Stintzi A. **John Garfield Campbell Fund for Pediatric GI Motility Research/SickKids Foundation.** \$69,089 CAD. August 2013 - December 2015

Investigating the role of vitamin D deficiency in the development of cystic fibrosis liver disease. Gonska T, Ling SC, Loverdos I. **CF Centre Catalyst Research Grant-SickKids**. \$50,000 CAD. May 2014 - April 2015

Long-Term Survival in Childhood Solid Organ Transplants. Parekh RS, Dipchand AL, Hebert D, Kim S, Nathan P, Ng VL, Patterson M, Solomon M, Thomas K. **Canadian Institutes of Health Research (CIHR) Operating Grant**. \$514,679 CAD. July 2014 –June 2018

NADPH oxidase function in the pathogenesis of pediatric IBD and JIA. Brumell J, Muise A, Ellis J, Parkinson J, Yeung R, Vallance B, Benchimol E, Kaplan G, Walters TD, Feldman B, Griffiths A. **Canadian Institutes for Health Research Team Grant: Health Challenges in Chronic Inflammation Initiative**. \$2,500,000 CAD. July 2014 - June 2019

National Early Onset Inflammatory Bowel Disease Cohort Study (NEOPICS). Muise AM, Griffiths AM. **Canadian Institutes for Health Research**. \$450,000 CAD January 2012 - December 2015

PALF-II: A Multi-Center Group to Study Acute Liver Failure in Children. Ng VL, Kamath B. **National Institutes of Health**. \$270,852 USD. September 2010– August 2015

POSITIVE study (ancillary study – autoimmunity and allergy in pediatric solid organ transplantation). Mital S, Upton A, Foster B, Avitzur Y. **Canadian National Transplant Research Program (CNTRP)**. \$1,500,000 CAD. April 2013 - March 2018

Predicting Response to Standard Paediatric Colitis Therapy: the PROTECT Study. Hyams J, Denson LA, Kugathasan S, Sylvester F, Gupta N, Walters TD. **National Institutes of Health/ NIDDK U01 Multi-centre Clinical Study**. \$5,752,300 CAD. July 2012 - June 2017

Predicting Response to Standardized Pediatric Colitis Therapy: The PROTECT Study. Hyams J, Griffiths AM. **National Institutes of Health**. \$30,000 USD/yr March 2012- April 2014

Propensity Score-based Methods for CER Using Multilevel Data: What Works Best When. Kim MO, Dubinsky M, Hyams J, Lu M, Macaluso M, Nehus E, Walters TD. **Patient-Centered Outcomes Research Institute (PCORI)**. \$750,000 USD. January 2015 - December 2017

Risk Stratification & Identification of Immunogenetic and Microbial Markers of Complicated Disease Course in Pediatric Crohn's Disease. Kugathasan S, PRO-KIIDS Consortium, Walters TD, Griffiths AM. **Crohn's and Colitis Foundation of America, Special Purpose Grant**. \$3,000,000 USD. July 2013 - June 2016

DIVISION OF GASTROENTEROLOGY/ HEPATOLOGY/ NUTRITION	Subspecialty Residents Dr. Andrea Martinez Dr. Amanda Ricciuto
Division Head Dr. Anne Griffiths	Clinical Fellows Dr. Nicholas Carman Dr. Marta Carneiro de Moura
Full-Time Dr. Yaron Avitzur Dr. Robert Bandsma Dr. Tanja Gonska Dr. Nicola Jones Dr. Binita Kamath Dr. Simon Ling Dr. Margaret Marcon Dr. Marialena Mouzaki Dr. Aleixo Muise Dr. Vicky Ng Dr. Philip Sherman Dr. Thomas Walters	Research Fellows Dr. Yasser Al-Nasser Dr. Suzanna Attia Dr. Andreanne Benidir Dr. Abdul Elkadri Dr. Eberhard Lurz Dr. Cynthia Popalis
Part-Time Dr. Glenn Berall Dr. Carol Durno Dr. Paul Kortan Dr. Gary May Dr. Catharine Walsh	Nurse Practitioners Karen Frost Joley Johnstone Constance O'Connor Silvana Oppedisano
Locum Staff Dr. Peter Church	Ambulatory Nurses Farran Faus Holly Norgrove Vikki Scaini

Role of ATG16L1 in Crohn disease. Jones NL. **Grant in Aid, Crohn's and Colitis Foundation of Canada.** \$375,000 CAD. January 2012 - December 2014

Role of a Novel Stem Cell in Intestinal Injury and Repair in Small Bowel Transplantation. Jones NL, Avitzur Y & Grant D. **Transplant and Regenerative Medicine Centre Catalyst Grant, The Hospital for Sick Children.** \$50,000 CAD. November 2014 – November 2015

Role of PTPsigma and adherens junction proteins in IBD. Muise AM, Rotin D. **Crohn and Colitis Canada.** \$375,000 CAD. July 2014 - June 2017

The experience of caregivers of children with medical complexity receiving blenderized tube feeding: a qualitative study. Soscia J, Orkin J, Adams S, Cohen E, Friedman J, Gallagher K, Marcon MA, Nicholas D, Saunders N. **Complex Care Initiative Grant Competition.** \$17,048 CAD. December 2014 - December 2015

The gut microbiota in pediatric inflammatory bowel disease. Stintzi A, Griffiths AM, Muise AM, Walters TD. **Canadian Institutes for Health Research.** \$720,000 CAD. April 2011 - March 2016

The Hepatitis B Research Network: Protocol 1: Observational Study of Children with Hepatitis B Virus Infection in North America: A Cohort study protocol of the Hepatitis B Research Network (HBRN) & Protocol 2: Entecavir and interferon- α 2a combination therapy for children immune tolerant to chronic hepatitis B infection. Ling SC et al. **National Institutes for Health**. \$1,390,000 USD. June 2010 - May 2015

Therapy Development for Cystic Fibrosis Patients in Qatar. Bear CE, Gonska T, Moraes T, Ratjen F, Melnyk M, Ellis J, Rossant J. **AI Qamri Holding Group/ AI Qamri-SickKids CF Therapy Programme**. \$1.4M USD. January 2014 - February 2019

The role of regulatory T cells and Th2 response in the pathogenesis of allergy and autoimmunity after liver transplantation. Avitzur Y, Grunebaum E. **Donald and Audrey Campbell Chair in Immunology**. \$153,750 CAD. September 2014 - October 2018

Towards improved survival of severely malnourished children: developing improved therapeutic feeds. Berkley J, Bandsma R. **Thrasher Research Fund**. \$384,000 USD. November 2013 - November 2015

IBD Nurse

Krista Uusoue

Home TPN Nurse

Debra Harrison

GI Procedure Nurses

Carol Fitzmaurice

Nicola Morgan

Donna Stevenson

Kelly Wimbush

Liver Transplant Nurse

Practitioners

Maria De Angelis

Krista Murch

Liver Transplant Nurse

Jennifer Stunguris

Dieticians

Andrea Carpenter

Megan Carricato

Kathryn Chambers

Glenda

Courtney-Martin

Ines Martincevic

Laura Vresk

Administrative Staff

Saeedah Ahamad

Chona Callejo

Margaret Johnson

Sherry Joy

Ivette Milanés Abreus

Lilatool Shakur

Suzanne Shek

DIVISION OF HAEMATOLOGY/ONCOLOGY



*Dr. Furqan Shaikh
and Dr. Sumit Gupta*

The Division of Hematology/Oncology provides diagnostic services and specialist care for children up to 18 years of age with cancer and non-malignant blood disorders. The Division is the largest of its kind in Canada and among the largest such programs worldwide, with approximately 350 new cancer cases registered in the pediatric oncology program this past year. The Division is the designated centre for haematopoietic stem cell transplantation for patients up to 18 years of age in Ontario and the Atlantic provinces; the majority of the approximate 90 transplants performed this year were for children with cancer, with others performed for children with benign hematologic disorders, severe immunodeficiency disorders or genetic diseases.

The Division, in collaboration with the Pediatric Oncology Group of Ontario (POGO), supports a network of pediatric oncology satellite centres in the Greater Toronto and surrounding areas, with over 5800 visits to satellite centres this year.

The number of in-patient days for pediatric hematology/oncology/BMT cases this past academic year was approximately 14,500, a decrease from the prior year attributable in large part to efforts focused on reduction in length of stay. The number of ambulatory care visits was slightly up from the prior year at approximately 22,000, with day hospital visits stable at 11,800.

Reflecting the size and diversity of its clinical services, the Division is organized into five sections and three programs: the Leukemia/Lymphoma section (Section Head, Dr Johann Hitzler); the Solid Tumor section (Section Head, Dr Meredith Irwin); the Neuro-oncology (brain tumor) section (Section Head, Dr Eric Bouffet); the Blood and Marrow Transplantation section (Section Head, Dr Maarten Egeler); the Hematology section (Section Head, Dr Yigal Dror); the long-term follow-up (Aftercare) program (Program Head, Dr Paul Nathan); the New Agents and Innovative Therapies program (Program Head, Dr Sylvain Baruchel); and the Cancer Genetics program (Program Head, Dr David Malkin). Dr. Sarah Alexander serves as the program's Clinical Director. The Hematology section has large clinical and research programs in pediatric thrombosis and hemostasis, the pediatric hemoglobinopathies and the inherited and acquired pediatric marrow failure syndromes and myelodysplasias. The Division is an active member of the Children's Oncology Group (COG), the largest pediatric cancer clinical trials group in North America (SickKids Principal Investigator,

Dr Sarah Alexander), and is committed to the improvement in outcomes and quality of life in children with cancer through participation in prospective clinical trials. The Division is a member of the COG Phase I Consortium (Principal Investigator, Dr Sylvain Baruchel), and is an active participant in activities of the Histiocyte Society, New Approaches to Neuroblastoma Therapy (NANT), and the Therapeutic Advances in Childhood Leukemia (TACL) clinical trials consortia. Over 260 clinical trials enrollments occurred this year, an increase of almost 5%, despite somewhat fewer new diagnoses; this discrepancy is likely accounted for by an increasing number of referrals from other centres in Ontario and across Canada for studies available only at SickKids. The Division, in collaboration with the Pediatric Oncology Group of Ontario (POGO), supports a network of pediatric oncology satellite centres in the Greater Toronto and surrounding areas, with over 5800 visits to satellite centres this year. Satellite centres in sickle cell disease are established in Rouge Valley hospital and the William Osler Health Centre. Major achievements in the past year included (1) the successful launch of our MIBG program, with 9 patients treated to date, including referrals from Newfoundland to British Columbia, and (2) a successful transition to full section-based care led by Clinical Director Dr. Sarah Alexander., with inpatient services now arranged in alignment with the each of the five aforementioned sections as a means of further improving the quality and safety of our patient care.

The Division's training program for pediatric hematology/oncology, the largest such program in Canada, underwent successful re-accreditation by the Royal College of Physicians and Surgeons of Canada in 2013. The Division's interim Training Program Director is Dr. Angela Punnett while Dr. Michaela Cada is on maternity leave. The Education Program in the Division includes a large international training program in pediatric hematology/ oncology and offers subspecialty training opportunities in areas such as the pediatric leukemias/lymphomas, neuro-oncology, neuroblastoma, blood and marrow transplantation, bone marrow failure and pediatric thrombosis and hemostasis.

Research in the Division spans basic science to clinical care with a particular focus on translational research. Approximately one-half of the Division's 32 full-time Faculty have appointments as clinician scientists or clinician investigators in the Department of Pediatrics with parallel appointments in the Research Institute. Research in the Division is multidisciplinary, involving health care professionals with expertise in a variety of areas (e.g. nursing, psychology, social work, pharmacy). The Division is committed to facilitating knowledge exchange through international partnerships with a particular focus on countries lacking the health care resources available in Canada. Two such initiatives are currently underway in collaboration with SickKids International: the Global Sickle Cell Disease

Network, under the leadership of Dr. Isaac Odame, and the Caribbean Collaboration in Pediatric Cancer and Blood Disorders, under the leadership of Dr. Victor Blanchette.

Notable research-related events in the past year have included (1) the awarding of Dr. Uri Tabori, a pediatric neuro-oncologist, and his research team an Impact Grant through a CCSRI and BrainCanada partnership; (2) a third year of collaboration between the Garron Family Cancer Centre and the Department of Pathology and Laboratory Medicine to implement clinical-grade molecular oncology diagnostic capabilities in support of an emerging precision medicine program in childhood cancer at SickKids. A growing number of precision medicine trials targeting specific genetic lesions are underway through the New Agents and Investigational Therapies (NAIT) program, led by Dr. Sylvain Baruchel. Some of these trials are leading to dramatic responses in children with refractory tumors. With support provided by Karen Fund, MSW, the Patient Navigator for our NAIT program, patients from across Canada are now coming to SickKids to participate in several first-in-children clinical studies not yet available elsewhere in Canada.

The Administrative team for the Division comprises Dr Jim Whitlock (Division Head), Amrita D. Naipaul (Director, Child Health Services) and Denise Ferreira (Manager, Business Operations).

Honors and Awards

Alexander, S: Winner of Angela Punnett Award, for dedication to the overall wellbeing and professional development of the Haematology Oncology fellows, Division of Haematology Oncology, The Hospital for Sick Children, Toronto, Ontario, Canada. June 2014.

Bouffet, E: Chair, Local Organizing Committee, SIOP 2014 Toronto, ON, Canada. October, 2014

Bouffet, E: Elected 2015 SIOP President-Elect, International Society of Pediatric Oncology, Geneva, Switzerland. March, 2014

Cada, M: Winner of ASH Abstract Achievement Award (Melanie Kalbfleisch – 4th year medical student), American Society of Hematology 56th Annual Meeting, San Francisco, California, USA. December, 2014

Dror, Y: Winner of Dr. Bernard Laski Award, Department of Paediatrics, Hospital for Sick Children, Toronto, Ontario, Canada. November, 2014.

Dror, Y: Winner of ASH Abstract Achievement Award (Ibrahim Ghemlas – Research Fellow), American Society of Haematology 56th Annual Meeting, San Francisco, California, USA. December, 2014.

Grant, R: Winner of Dr. Richard Rowe Award for Clinical Excellence in Pediatric Medical Care, Department of Paediatrics, Hospital for Sick Children, Toronto, Ontario, Canada. June, 2014

Gupta, A: Honoree at Fertile Future “An evening of Hope”, Toronto, Ontario, Canada. October, 2014

Gupta, A: Nominee for Michael Kamin Hart Award for Excellence in AYA Oncology Care, AYA Committee at Princess Margaret Hospital. Toronto, Ontario, Canada. March, 2015

Huang, A: Winner of Bernard and Francine Dorval Prize, Association for Nominee for Canadian Cancer Society 2104 Award for Excellence, Toronto, Ontario, Canada. June, 2014

Malkin, D: Frederick P. Li Visiting Professor, Dana-Farber Cancer Institute, Harvard University, Boston, MA, USA. June, 2014

Malkin, D: George Donnell Visiting Professor, Children’s Hospital of Los Angeles, USC, Los Angeles, CA, USA. November, 2014

Malkin, D: Runner-Up of Faculty of Medicine Graduate Faculty Teaching Awards in the Sustained Excellence in Graduate Teaching & Mentorship from the University of Toronto. Toronto, Ontario, Canada. June, 2014

Punnett, A: Winner of Professional Development Program Award in the category of Field Practicum Preceptor in recognition of outstanding contributions to the Professional Development Program in the Department of Family and Community Medicine. Toronto, Ontario, Canada. April, 2014

Punnett, A: Winner of Best Academic Half Day Award in recognition of outstanding teaching for Paediatric Haematology/Oncology fellows during their formal curriculum. Toronto, Ontario, Canada. June, 2014

Shaikh, F: Winner of The Alvin Zipursky Teaching Award, in recognition of outstanding contribution to medical education and mentorship, Division of Haematology/Oncology, The Hospital for Sick Children, Toronto, Ontario, Canada. June, 2014.

Publications

Abla O, Arceci R. Writing guidelines without a net: ECD. *Blood* 2014; 124(4):472-4.

Abla O, Stimec J, Abdelhaleem M, Howard A. Paediatric acute lymphoblastic leukaemia mimicking Langerhans cell histiocytosis of bone. *British Journal Haematology* 2015; Mar 168(6):770.

Adamski J, Ramaswamy V, Huang A, Bouffet E. Advances in managing medulloblastoma and intracranial primitive neuro-ectodermal tumors. *F1000Prime Report* 2014; Jul 8: 6:56.

Adamski J, Tabori U, Bouffet E. Advances in the management of paediatric high-grade glioma. *Current Oncology Report* 2014 Dec; 16(12):414(1-10).

Adler E, Alexis C, Ali Z, Allen U, Bartels U, Bick C, Bird-Compton J, Bodkyn C, Boyle R, De Young S, Fleming-Carroll B, Gupta S, Ingram-Martin P, Irwin M, Kirby-Allen M, McLean-Salmon S, Mihelcic P, Richards-Dawson MA, Reece-Mills M, Shaikh F, Sinqee-Brown C, Thame M, Weitzman S, Wharfe G, Blanchette V. Bridging the distance in the Caribbean: Telemedicine as a means to build capacity for care in paediatric cancer and blood disorders. *Studies in Health Technologies and Informatics*. 2015: 209:1-8.

Ailon T, Dunham C, Carret AS, Tabori U, Mcneely PD, Zelcer S, Wilson B, Lafay-Cousin L, Johnston D, Eisenstat DD, Silva M, Jabado N, Goddard KJ, Fryer C, Hendson G, Hawkins C, Dunn S, Yip S, Singhal A, Hukin J. The role of resection alone in select children with intracranial ependymoma: the Canadian Pediatric Brain Tumour Consortium experience. *Childs Nervous System* 2015 Jan; 31(1):57-65.

Alderfer MA, Zellely K, Lindell RB, Novokmet A, Phuong M, Garber J, Nathan D, Scollon S, Chun N, Patenaude A, Ford J, Plon SE, Schiffman JD, Diller LR, Savage S, Malkin D, Ford CA, Nichols KE. Parent decision making around genetic testing of children for Li-Fraumeni Syndrome. *Cancer* 2015; Jan 15; 121(2): 286-93.

Alexander, S. Clinically defining and managing high risk pediatric patients with acute lymphoblastic leukemia. *American Society of Hematology Education Program* 2014: 2014(1):181-9.

Alexander S, Kraveka J, Weitzman S, Lowe E, Smith L, Lynch J, Chang M, Kinney M, Perkins S, Laver J, Gross T, Weinstein T. Advanced stage anaplastic large cell lymphoma in children and adolescents: results of ANHLO131, a randomized phase III trial of APO versus a modified regimen with vinblastine: A report from the Children's Oncology Group. *Pediatric Blood and Cancer* 2014; 61(12):2236-42.

Amid A, Odame I. Improving outcomes in children with sickle cell disease: Treatment considerations and strategies. *Pediatric Drugs* 2014 Aug; 16(4):255-66.

Amid A, Haghi-Ashtiani B, Kirby-Allen M, Haghi-Ashtiani MT. Screening for thalassemia carriers in populations with a high rate of iron deficiency: revisiting the applicability of the mentzer index and the effect of iron deficiency on hb A2 levels. *Hemoglobin* 2015; 39(2):141-3.

Angelini P, Baruchel S, Marrano P, Irwin MS, Thorner PS. The neuroblastoma and ganglion components of nodular ganglioneuroblastoma are genetically similar: evidence against separate clonal origins. *Modern Pathology* 2015; 28(2):166-76.

Aplenc R, Zhang MJ, Sung L, Zhu X, Ho VT, Cooke K, Dvorak C, Hale G, Isola LM, Lazarus HM, McCarthy PL, Olsson R, Pulsipher M, Pasquini MC, Bunin N: Effect of body mass in children with hematologic malignancies undergoing allogeneic bone marrow transplantation. *Blood* 2014; 123(22): 3504-11.

Astudillo PP, Chan HSL (CRI), Héon E, Gallie BL. Late-diagnosis retinoblastoma with germline mosaicism in an 8 year old. *Journal of American Association for Pediatric Ophthalmology and Strabismus* 2014; 18(5):500-2.

Avila ML, Duan L, Kim A, Kahr WH, Williams S, Brandao LR. Post-thrombotic Syndrome Following Upper Extremity Deep Vein Thrombosis in Children. *Blood* 2014; 124(7):1166-73.

Avila ML, Lee KJ, Bouskill V, Rand ML, James P, Carcao M. Acquired von Willebrand syndrome in pediatric patients with congenital heart disease: Challenges in the diagnosis and management of this rare condition. *Haemophilia* 2015; Jan; 21(1):e89-92.

Avila ML, Shah PS, Brandão LR. Different unfractionated heparin doses for preventing arterial thrombosis in children undergoing cardiac catheterization. *Cochrane Database of Systematic Reviews* 2014 Mar 4; 3:CD10196 [Epub ahead of print].

Barszczyk M, Buczkowicz P, Castelo-Branco P, Mack SC, Ramaswamy V, Mangerel J, Agnihotri S, Remke M, Golbourn B, Pajovic S, Elizabeth C, Yu M, Luu B, Morrison A, Adamski J, Nethery-Brookx K, Li XN, Van Meter T, Dirks PB, Rutka JT, Taylor MD, Tabori U, Hawkins C. Telomerase inhibition abolishes the tumorigenicity of pediatric ependymoma tumor-initiating cells. *Acta Neuropathologica* 2014; 128(6):863-77.

Baxter NN, Daly C, Gupta S, Pole JD, Sutradhar R, Greenberg ML, Nathan PC: The initiative to maximize progress in adolescent and young adult cancer therapy (IMPACT) cohort study: A population-based cohort of young Canadians with cancer. *BMC Cancer* 2014: 14: pp 805.

Bender M, Giannini S, Grozovsky R, Jonsson T, Christensen H, Pluthero FG, Ko A, Mullally A, Kahr WH, Hoffmeister FM, Falet H. Dynamitin 2-dependent endocytosis is required for normal megakaryocyte development. *Blood* 2015: 125(6):1014-24.

Blanchette V, Key S, Ljung R, Manco-Johnson M, Van Den Berg S, Srivastava A. Definitions in hemophilia: communication from the SSC of the ISTH. *Journal of Thrombosis and Haemostasis* 2014: 12: 1935–9.

Brandão LR, Shah N, Shah PS. Low molecular weight heparin for prevention of central venous catheterization-related thrombosis in children. *Cochrane Database of Systematic Reviews* 2014: Mar 10: 3:CD005982 [Epub ahead of print].

Breakey VR, Ignas DM, Warias AV, White M, Blanchette VS, Stinson JN. A pilot randomized control trial to evaluate the feasibility of an Internet-based self-management and transitional care program for youth with haemophilia. *Haemophilia* 2014: Nov: 20(6):784-93.

Buczkwicz P, Bartels U, Bouffet E, Becher O, Hawkins C. Histopathological spectrum of paediatric diffuse intrinsic pontine glioma: diagnostic and therapeutic implications. *Acta Neuropathologica* 2014: Oct: 128(4): 573-81.

Calkoen FG, Vervat C, van Halteren, Welters MJ, Veltrop-Duits LA, Lankester AC, Egeler RM, Ball LM, van Tol MJ. Mesenchymal stromal cell therapy is associated with increased adenovirus-associated but not cytomegalovirus-associated mortality in children with severe acute graft-versus-host disease. *Stem Cells Translational Medicine* 2014: 3(8): 899-910.

Cappellano AM, Petrilli AS, da Silva NS, Silva FA, Paiva PM, Cavalheiro S, Bouffet E. Single agent vinorelbine in pediatric patients with progressive optic pathway glioma. *Neurooncology* 2014: 121(2):405-12.

Cataudella D, Morley TE, Nesin A, Fernandez CV, Johnston DL, Sung L, Zelcer S. Development of a quality of life instrument for children with advanced cancer. The pediatric advanced care quality of life scale (PAC-QoL). *Pediatric Blood and Cancer* 2014: 61(10): 1840-5.

Chellapandian D, Lehrnbecher T, Phillips B, Fisher B, Zaoutis T, Steinbach W, Beyene J, Sung L. Broncho-alveolar lavage and lung biopsy in patients with cancer and hematopoietic stem cell transplantation recipients: a systematic review and meta-analysis. *Journal of Clinical Oncology* 2015: 33(5): 501-9.

Cheng S, Pole JD, Sung L: Early deaths in pediatric acute leukemia: A population-based study. *Leukemia & Lymphoma* 2014: 55(7): 1518-22.

Clausen N, Petrini P, Claeysens-Donadel, Gouw SC, Liesner R for the PedNet and Research of Determinants of Inhibitor development (RODIN) study group (M. Carcao, member of). Similar bleeding phenotype in young children with haemophilia A or B: a cohort study. *Haemophilia* 2014; 20(6):747-55.

Cooper TM, Alonzo TA, Gerbing RB, Perentesis JP, Whitlock JA, Taub JW, Horton TM, Gamis AS, Meshinchi S, Loken MR, Razzouk BI. AAML0523: A report from the Children's Oncology Group on the efficacy of clofarabine in combination with cytarabine in pediatric patients with recurrent acute myeloid leukemia. *Cancer* 2014; 120(16): pp 2482-9.

de Kock L, Sabbaghian N, Druker H, Weber E, Hamel N, Miller S, Choong CS, Gottardo NG, Kees UR, Rednam SP, van Hest LP, Jongmans MC, Jhangiani S, Lupski JR, Zacharin M, Bouron-Dal Soglio D, Huang A, Priest JR, Perry A, Mueller S, Albrecht S, Malkin D, Grundy RG, Foulkes WD. Germline and somatic DICER1 mutations in pineoblastoma. *Acta Neuropathologica* 2014; 128(4):583-95.

DeBaun MR, Gordon M, McKinstry RC, Noetzel MJ, White DA, Sarnaik SA, Meier ER, Howard TH, Majumdar S, Inusa BPD, Telfer PT, Kirby-Allen M et al. Controlled trial of transfusion for silent cerebral infarcts in sickle cell anemia. *New England Journal of Medicine* 2014; Aug: 371(8):699-710.

Diorio C, Schechter-Finkelstein T, Lee M, O'Sullivan C, Hesser T, Tomlinson D, Piscione J, Armstrong C, Tomlinson G, Sung L. A pilot study to evaluate the feasibility of individualized yoga for inpatient children receiving intensive chemotherapy. *BMC Complementary and Alternative Medicine* 2015; 24(15): 2.

Doria A, Keshava S, Mohanta A, Jarrin J, Babyn P, Lundin B, Blanchette V, Srivastava A, Moineddin R, Kavitha M, Man C, Hilliard P, Poonnoose P, Gibikote S. Diagnostic accuracy of ultrasound for assessment of hemophilic arthropathy. MRI correlation. *American Journal Roentgenology* 2015; Mar: 204(3):W336-47.

Dupuis LL, Robinson PD, Boodhan S, Holdsworth M, Portwine C, Gibson P, Phillips R, Maan C, Stefin N, Sung L. Guideline for the prevention and treatment of anticipatory nausea and vomiting due to chemotherapy in pediatric cancer patients. *Pediatric Blood and Cancer* 2014; 61(8): 1506-12.

Farah RA, Horkos JG, Bustros YD, Farhat HZ, Ablo O. A multicenter experience from Lebanon in childhood and adolescent acute myeloid leukemia; high rate of early death in childhood acute promyelocytic Leukemia. *Mediterranean Journal Hematology Infectious Disease* 2015; Jan 1: 7(1).

Frank J, Thackray J, Nielson D, August A, Schechter T, Alexander S, Sung L, Dupuis LL. Olanzapine for treatment and prevention of acute chemotherapy-induced vomiting in children: A retrospective, multi-center review. *Pediatric Blood and Cancer* 2015; 62(3): 496-501.

Frazier AL, Hale JP, Rodriguez-Galindo C, Dang H, Olson T, Murray M, Amatruda JF, Thornton C, Arul GS, Billmire D, Shaikh F, Pashankar F, Stoneham S, Krailo M, Nicholson JC. Revised Risk Classification for Pediatric Extracranial Germ Cell Tumors Based on 25 Years of Clinical Trial Data from the United Kingdom and United States. *Journal of Clinical Oncology* 2015; Jan: 33(2):195-201.

Gamis AS, Alonzo TA, Meshinchi S, Sung L, Gerbing RB, Raimondi SC, Hirsch BA, Kahwash SB, Heerema-McKenney A, Winter A, Glick K, Davies SM, Byron P, Smith FO, Aplenc R. Gemtuzumab ozogamicin in children and adolescents with de novo acute myeloid leukemia (AML) improves event-free survival by reducing relapse risk – results from the randomized phase III children's oncology group trial, AAML0531. *Journal of Clinical Oncology* 2014; 32(27): 3021-32.

Gassas A, Ashraf K, Zaidman I, Ali M, Krueger J, Doyle J, Schechter T, Leucht S. Hematopoietic stem cell transplantation in infants. *Pediatric Blood and Cancer* 2015; Mar: 62(3):517-21.

Gassas A, Krueger J, Alvi S, Sung L, Hitzler J, Lieberman L. Diagnosis of central nervous system relapse of pediatric acute lymphoblastic leukemia: Impact of routine cytological CSF analysis at the time of intrathecal chemotherapy. *Pediatric Blood and Cancer* 2014; Dec: 61(12):2215-7.

Granek L, Barrera M, Scheinemann K, Bartels U. When a child dies: pediatric oncologists' follow-up practices with families after the death of their child. *Psychooncology* 2015; Feb 23 [Epub ahead of print].

Granek L, Bartels U, Barrera M, Scheinemann K. Challenges faced by pediatric oncology fellows when patients die during their training. *Oncology Practice* 2015; Mar: 11(2):e182-9.

Granek L, Bartels U, Scheinemann K, Labrecque M, Barrera M. Grief reactions and impact of patient death on pediatric oncologists. *Pediatric Blood and Cancer* 2015; Jan: 62(1):134-42.

Gupta S, Rivera-Luna R, Ribeiro R, Howard SC. Pediatric oncology as the next global child health priority: The need for national childhood cancer strategies in low- and middle-income countries. *PLoS Medicine*. 2014. 11:e1001656.

Gupta S, Sutradhar R, Guttman A, Sung L, Pole JD. Socioeconomic status and outcome in pediatric acute lymphoblastic leukemia: A population-based cohort study. *Leukemia Research* 2014; 38(12): 1407-12.

Haeusler GM, Phillips RS, Lehrnbecher T, Thursky KA, Sung L, Ammann RA. Core outcomes and definitions for pediatric fever and neutropenia research: A consensus statement from an international panel. *Pediatric Blood and Cancer* 2015; 62(3): 483-9.

Henrich N, Marra CA, Gastonguay L, Mabbott D, Malkin D, Fryer C, Bouffet E, Taylor MD, Hukin J, Scantlebury N, Lynd L. De-escalation of therapy for pediatric medulloblastoma: tradeoffs between quality of life and survival. *Pediatric Blood and Cancer* 2014: 61(7):1300-4.

Henry M, Sung L. Supportive care in pediatric oncology: oncologic emergencies and management of fever and neutropenia. *Pediatric Clinics of North America* 2015: 62(1): 27-46.

Id Said B, Malkin D. A functional variant in miR-605 is a novel genetic modifier in Li-Fraumeni syndrome. *Cancer Genetics* 2015 Jan-Feb: 208(1-2):47-51.

Irwin MS, Park JR. Neuroblastoma: Paradigm for precision medicine. *Pediatric Clinics of North America (review)* 2015: 62(1):225-56.

Johnston DL, Keene D, Kostova M, Strother D, Lafay-Cousin L, Fryer C, Scheinemann K, Carret AS, Fleming A, Percy V, Afzal S, Wilson B, Bowes L, Zelcer S, Mpofu C, Silva M, Larouche V, Brossard J, Bouffet E. Incidence of medulloblastoma in Canadian children. *Neurooncology* 2014: 120(3):575-9.

Ju YS, Alexandrov L, Gerstung M, Martincorena I, Nik-Zainal S, Ramakrishna M, Davies H, Papaemmanuil E, Gundem G, Shlien A, Bolli N, Behjati S, Tarpey P, Nangalia J, Massie C, Butler A, Teague J, Vassiliou G, Green A, Du M-Q, Unnikrishnan A, Pimanda J, The BT, Munshi N, Greaves M, Vyas P, El-Naggar A, Santarius T, Collins V, Grundy R, Taylor J, Hayes D, Malkin D, Foster C, Warren A, Whitaker H, Brewer D, Eeles R, Cooper C, Neal D, Visakorpi T, Isaacs W, Bova G, Flanagan A, Futreal P, Lynch A, Chinnery P, McDermott U, Stratton M, Campbell P. Origins and functional consequences of

somatic mitochondrial DNA mutations. *eLife* 2014: Oct 1: 3. doi:10.7554/eLife.02935.

Kilday JP, Branson H, Rockel C, Laughlin S, Mabbott D, Bouffet E, Bartels U. Tumor volumetric measurements in surgically inaccessible pediatric low-grade glioma. *Pediatric Hematology Oncology* 2015: 37(1):e31-6.

Kilday JP, Laughlin S, Urbach S, Bouffet E, Bartels U. Diabetes insipidus in pediatric germinomas of the suprasellar region: characteristic features and significance of the pituitary bright spot. *Neurooncology* 2015 Jan: 121(1):167-75.

King AA, Rodeghier MJ, Panepinto JA, Strouse JJ, Casella JF, Quinn CT, Dowling M, Sarnaik SA, Thompson AA, Woods GM, Minniti CP, Redding-Lallinger RC, Kirby-Allen M et al. Silent cerebral infarction, income and grade retention among students with sickle cell. *American Journal Hematology* 2014: Oct: 89(10): E188-92.

Klassen AF, Rosenberg-Yunger ZR, D'Agostino NM, Cano SJ, Barr R, Syed I, Granek L, Greenberg ML, Dix D, Nathan PC. The development of scales to measure childhood cancer survivors' readiness for transition to long-term follow-up care as adults. *Health Expectations* 2014: Jul 22. doi: 10. 1111/hex. 12241 [Epub ahead of print].

Kumar R, Chan AKC, Dawson JE, Forman-Kay JD, Kahr WHA, Williams S. Clinical presentation and molecular basis of congenital antithrombin deficiency in children: A cohort study. *British Journal of Haematology* 2014: Jul: 166(1):130-9.

Landolt-Marticorena C, Kahr WH. Inherited macrothrombocytopenias on the rise. *Blood* 2014; 124(16):2473-5.

Lehrnbecher T, Sung L. Anti-infective prophylaxis in patients with acute myeloid leukemia. *Expert Review of Hematology* 2014; 7(6): 819-30.

Malkin D. Surveillance for children at risk for cancer: are we ready? *Pediatric Blood and Cancer* 2014; 61(8):1337-8.

Mangerel J, Price A, Castelo-Branco P, Brzezinski J, Buczkowicz P, Rakopoulos P, Merino D, Baskin B, Wasserman J, Mistry M, Barszczyk M, Picard D, Mack S, Remke M, Starkman H, Elizabeth C, Zhang C, Alon N, Lees J, Andrulis IL, Wunder JS, Jabado N, Johnston DL, Rutka JT, Dirks PB, Bouffet E, Taylor MD, Huang A, Malkin D, Hawkins C, Tabori U. Alternative lengthening of telomeres is enriched in, and impacts survival of TP53 mutant pediatric malignant brain tumors. *Acta Neuropathology* 2014; Dec: 128(6):853-62.

Marra CA, Henrich N, Gastonguay L, Mabbott D, Malkin D, Fryer C, Bouffet E, Taylor M, Hukin J, Scantlebury N, Lynd L. De-escalation of therapy for pediatric medulloblastoma: Trade-offs between quality of life and survival. *Pediatric Blood and Cancer* 2014; Jul: 61(7):1300-4.

Merino DM, Shlien A, Villani A, Pienkowska M, Mack S, Ramaswamy V, Shih D, Tatevossian R, Novokmet A, Choufani S, Rina Dvir R, Ben-Arush M, Harris BT, Hwang EI, Lulla R, Pfister SM, Achatz MI, Jabado N, Finlay JL, Weksberg R, Hawkins C, Taylor MD, Tabori U, Ellison DW, Gilbertson RJ, Malkin D. Molecular characterization of choroid plexus tumors reveals novel clinically relevant subgroups. *Clinical Cancer Research* 2015; 21(1):184-92.

Mertens AC, Liu W, Ness KK, McDonald A, Hudson MM, Wasilewski-Masker K, Bhatia S, Nathan PC, Leonard M, Srivastava K, Robison LL, Green DM. Factors associated with recruiting adult survivors of childhood cancer into clinic-based research. *Pediatric Blood and Cancer* 2014; 61(10): pp 1846-51.

Miller TP, Troxel AB, Li Y, Huang YS, Alonzo TA, Gerbing RB, Hall M, Torp K, Fisher BT, Bagatell R, Seif AE, Sung L, Gamis A, Rubin D, Luger S, Aplenc R. Comparison of administrative/billing data to expected protocol-mandated chemotherapy exposure in children with acute myeloid leukemia: A report from the Children's Oncology Group. *Pediatric Blood and Cancer* 2015; 62(7): 1184-9.

Minoia F, Davi S, Horne A, Lehmborg K, Weitzman S, et al; Pediatric Rheumatology International Trials Organization; Childhood Arthritis and Rheumatology Research Alliance; Pediatric Rheumatology Collaborative Study Group; Histiocyte Society. Clinical features, treatment, and outcome of macrophage activation syndrome complicating systemic juvenile idiopathic arthritis: a multinational, multicenter study of 362 patients, *Arthritis and Rheumatology* 2014; 66(11):3160-9.

Mistry M, Zhukova N, Merico D, Rakopoulos P, Krishnatry R, Shago M, Stavropoulos J, Alon N, Pole JD, Ray PN, Navickiene V, Mangerel J, Remke M, Buczkowicz P, Ramaswamy V, Guerreiro Stucklin A, Li M, Young EJ, Zhang C, Castelo-Branco P, Bakry D, Laughlin S, Shlien A, Chan J, Ligon KL, Rutka JT, Dirks PB, Taylor MD, Greenberg M, Malkin D, Huang A, Bouffet E, Hawkins CE, Tabori U. BRAF mutation and CDKN2A deletion define a clinically distinct subgroup of childhood secondary high-grade glioma. *Clinical Oncology* 2015; Mar 20: 33(9):1015-22.

Mueller EL, Sabbatini A, Gebremariam A, Mody R, Sung L, Macy ML. Why pediatric patients with cancer visit the emergency department: United States, 2006-2010. *Pediatric Blood and Cancer* 2015; 62(3): 490-5.

Neuman G, Boodhan S, Wurman I, Koren G, Bitnun A, Kirby-Allen M, Ito S. Ceftriaxone-induced immune hemolytic anemia. *Annals Pharmacotherapy* 2014; Dec: 48(12):1594-604.

Nijdam A, Altisent C, Carcao MD, Cid AR, Claeysens-Donadel S, Kurnik K, Ljung R, Nolan B, Petrini P, Platokouki H, Rafowicz A, Thomas AE and Fischer K on behalf of the PedNet and CANAL study groups. Bleeding before prophylaxis: paradigm shift in initiating early prophylaxis in 20 years of clinical practice. *Haematologica* 2015; Mar: 100(3):e84-6.

Oberoi S, Zamperlini-Netto G, Beyene J, Treister N, Sung L. Effect of prophylactic low level laser therapy on oral mucositis: a systematic review and meta-analysis. *PLoS One* 2014; 9(9): 1-10.

Odame I. Perspective: we need a global solution. *Nature* 2014; Nov 13: 515(7526):S10. doi: 10.1038/515S10a.

Perreault S, Ramaswamy V, Achrol AS, Chao K, Liu TT, Shih D, Remke M, Schubert S, Bouffet E, Fisher PG, Partap S, Vogel H, Taylor MD, Cho YJ, Yeom KW. MRI surrogates for molecular subgroups of medulloblastoma. *American Journal Neuroradiology* 2014; Jul: 35(7):1263-9.

Podkowa M, Irwin MS. Spy'ing on neuroblastoma differentiation. *Oncotarget (commentary)* 2014; Aug: 5(15): 5848-9.

Rajpurkar M, Sharathkumar A, Williams S, Lau K, Ling SC, Chan AK. Recommendations for the assessment of non-extremity venous thromboembolism outcomes: communication from the SSC of the ISTH. *Journal Thrombosis Haemostasis* 2015 Mar: 13(3):477-80.

Ramaswamy V, Remke M, Adamski J, Bartels U, Tabori U, Wang X, Huang A, Hawkins C, Mabbott D, Laperriere N, Taylor MD, Bouffet E. Medulloblastoma subgroup-specific outcomes in irradiated children: who are the true high-risk patients? *Neuro Oncology* 2015: Jan 20: pii: nou357 [Epub ahead of print].

Rice HE, Englum BR, Rothman J, Leonard S, Reiter A, Thornburg C, Brindle M, Wright N, Heeney MM, Smithers C, Brown RL, Kalfa T, Langer JC, Cada M, Oldham KT, Scott JP, St Peter S, Sharma M, Davidoff AM, Nottage K, Bernabe K, Wilson DB, Dutta S, Glader B, Crary SE, Dassinger MS, Dunbar L, Islam S, Kumar M, Rescorla F, Bruch S, Campbell A, Austin M, Sidonio R, Blakely ML. The splenectomy in congenital hemolytic anemia (SICHA) consortium. Clinical outcomes of splenectomy in children: Report of the splenectomy in congenital hemolytic anemia registry. *American Journal of Hematology* 2015: Mar: 90(3):187-92.

Roberts KG, Li Y, Payne-Turner D, Harvey RC, Yang YL, Pei D, McCastlain K, Ding L, Lu C, Song G, Ma J, Becksfort J, Rusch M, Chen SC, Easton J, Cheng J, Boggs K, Santiago-Morales N, Iacobucci I, Fulton RS, Wen J, Valentine M, Cheng C, Paugh SW, Devidas M, Chen IM, Reshmi S, Smith A, Hedlund E, Gupta P, Nagahawatte P, Wu G, Chen X, Yergeau D, Vadodaria B, Mulder H, Winick NJ, Larsen EC, Carroll WL, Heerema NA, Carroll AJ, Grayson G, Tasian SK, Moore AS, Keller F, Frei-Jones M, Whitlock JA, Raetz EA, White DL, Hughes TP, Guidry Auvil JM, Smith MA, Marcucci G, Bloomfield CD, Mrózek K, Kohlschmidt J, Stock W, Kornblau SM, Konopleva M, Paietta E, Pui CH, Jeha S, Relling MV, Evans WE, Gerhard DS, Gastier-Foster JM, Mardis E, Wilson RK, Loh ML, Downing JR, Hunger SP, Willman CL, Zhang J, Mullighan CG. Targetable kinase-activating

lesions in Ph-like acute lymphoblastic leukemia. *New England Journal of Medicine* 2014: 371(11): pp 1005-15.

Salavati B, Seeman MV, Agha M, Atenafu E, Chung J, Nathan PC, Barrera M. Which siblings of children with cancer benefit most from support groups? *Children's Health Care* 2014: 43 (3): pp 221-3.

Salzer W, Jones T, Devidas M, Dreyer Z, Gore L, Winick N, Sung L, Raetz E, Loh M, Wang C, De Lorenzo P, Valsecchi M, Pieters R, Carroll W, Hunger S, Hilden J, Brown P. Decreased induction morbidity and mortality following modification to induction therapy in infants with acute lymphoblastic leukemia enrolled on AALLO631: a report from the Children's Oncology Group. *Pediatric Blood and Cancer* 2015: 62(3): 414-8.

Samuel N, Villani A, Fernandez CV, Malkin D. Management of familial cancer: Sequencing, surveillance and society. *Nature Reviews Clinical Oncology* 2014: 11(12):723-31.

Schechter T, Gassas A, Chen H, Pollard J, Meshinchi S, Zaidman I, Hitzler J, Abdelhaleem M, Ho R, Domm J, Woolfrey A, Frangoul H. The outcome of allogeneic hematopoietic cell transplantation for children with FLT3/ITD-Positive acute myelogenous leukemia. *Biology of Blood and Marrow Transplantation* 2015: Jan: 21(1):172-5.

Schechter T, Grant R. The complexity of consenting to clinical research in Phase I pediatric cancer studies. *Pediatric Drugs* 2015: Feb: 17(1):77-81.

Schepers SA, Engelen VE, Haverman L, Caron HN, Hoogerbrugge PM, Kaspers GJ, Egeler RM, Grootenhuis, MA. Patient reported outcomes in pediatric oncology practice: Suggestions for future usage by parents and pediatric oncologists. *Pediatric Blood and Cancer* 2014: 61(9): 1707-10.

Schneider C, Ramaswamy V, Kulkarni AV, Rutka JT, Remke M, Tabori U, Hawkins C, Bouffet E, Taylor MD. Clinical implications of medulloblastoma subgroups: incidence of CSF diversion surgery. *Journal Neurosurgery Pediatrics* 2015: Mar: 15(3):236-42.

Shi D, Smith M, Campbell R, Zimmerman P, Franks Z, Kramer B, Machlus K, Ling J, Kamba P, Schwertz H, Rowley J, Miles R, Liu Z-J, Sola-Visner M, Italiano JE, Christensen H, Kahr WH, Li DY, Weyrich AS. Proteasome function is required for platelet production. *Clinical Investigation* 2014: 124(9):3757-66.

Shlien A, Campbell BB, de Borja R, Alexandrov LB, Merico D, Wedge D, Van Loo P, Tarpey PS, Coupland P, Behjati S, Pollett A, Lipman T, Heidari A, Deshmukh S, Avitzur N, Meier B, Gerstung M, Hong Y, Merino DM, Ramakrishna M, Remke M, Arnold R, Panigrahi GB, Thakkar NP, Hodel KP, Henninger EE, Göksenin AY, Bakry D, Charames GS, Druker H, Lerner-Ellis J, Mistry M, Dvir R, Grant R, Elhasid R, Farah R, Taylor GP, Nathan PC, Alexander S, Ben-Shachar S, Ling SC, Gallinger S, Constantini S, Dirks P, Huang A, Scherer SW, Grundy RG, Durno C, Aronson M, Gartner A, Meyn MS, Taylor MD, Pursell ZF, Pearson CE, Malkin D, Futreal PA, Stratton MR, Bouffet E, Hawkins C, Campbell PJ, Tabori U. Combined constitutional and somatic ablation of replication error repair results in massive mutation load and rapid cancer initiation. *Nature Genetics* 2015: Feb 2 doi: 10.1038/ng.3202 [Epub ahead of print].

Sin-Chan P and Huang A. DNA methyl transferases as therapeutic targets in childhood brain tumours. Invited Review. *Expert Opinion on Therapeutic Targets* 2014: Aug 21: 1-5.

Stefan Essig, Qiaozhi Li, Yan Chen, Johann Hitzler, Wendy Leisenring, Mark Greenberg, Charles Sklar, Melissa M Hudson, Gregory T Armstrong, Kevin R Krull, Joseph P Neglia, Kevin C Oeffinger, Leslie L Robison, Claudia E Kuehni, Yutaka Yasui, and Paul C Nathan. Estimating the risk for late effects of therapy in children newly diagnosed with standard risk acute lymphoblastic leukemia using an historical cohort: A report from the Childhood Cancer Survivor Study. *Lancet Oncology* 2014: Jul: 15(8):841-51.

Stinson J, Gupta A, Dupuis F, Dick B, Laverdière C, LeMay S, Sung L, Dettmer E, Gomer S, Lober J, Chan CY. Usability testing of an online self-management program for adolescents with cancer. *Journal of Pediatric Oncology Nursing* 2015: 32(2): 70-82.

Thompson P, Wheeler HE, Delaney SM, Lorier R, Broeckel U, Devidas M, Reaman GH, Scorsone K, Sung L, Dolan ME, Berg SL. Pharmacokinetics and pharmacogenomics of daunorubicin in children: a report from the Children's Oncology Group. *Cancer Chemotherapy and Pharmacology* 2014: 74(4): 831-8.

Tomlinson D, Diorio C, Beyene J, Sung L. The effect of exercise on cancer-related fatigue: A meta-analysis. *American Journal of Physical Medicine and Rehabilitation* 2014: 93(8): 675-86.

Torrezan GT, Ferreira EN, Nakahata AM, Barros BD, Castro MT, Correa BR, Krepischi AC, Olivieri EH, Cunha IW, Tabori U, Grundy PE, Costa CM, de Camargo B, Galante PA, Carraro DM. Recurrent somatic mutation in DROSHA induces microRNA profile changes in Wilms tumour. *Nature Communications* 2014: Jun: 9:5:4039.

Tran TH, Lee M, Alexander S, Gibson P, Bartels U, Johnson DL, Portwine C, Silva M, Pole JD, Sung L. Lack of treatment-related mortality definitions in studies of children, adolescents and young adults with lymphomas, solid tumors and brain tumors: a systematic review. *BMC Cancer* 2014: 14(10): 1-5.

Tran TH, Yanofsky R, Johnston DL, Dix D, Gillmeister B, Ethier MC, Portwine C, Price V, Mitchell D, Cellot S, Lewis V, Zelcer S, Silva M, Michon B, Bowes L, Stobart K, Brossard J, Beyene J, Sung L. Second bacteremia during antibiotic treatment in children with acute myeloid leukemia: a report from the Canadian Infections in AML Research Group. *Journal of the Pediatric Infectious Diseases Society* 2014: 3(3): 228-33.

van den Akker M, Silverman E, Abdelhaleem M, Kirby-Allen M. Aplastic anemia associated with systemic lupus erythematosus in children – case report and review of the literature. *Clinical Case Reports* 2014: Dec: 2(6):319-22.

van den Akker M, Dror Y, Odame I. Transient erythroblastopenia of childhood is an underdiagnosed and self-limiting disease. *Acta Paediatrica* 2014: Jul: 103(7):e288-94.

Vanner RJ, Remke M, Gallo M, Selvadurai HJ, Coutinho F, Lee L, Kushida M, Head R, Morrissy S, Zhu X, Aviv T, Voisin V, Clarke ID, Li Y, Mungall AJ, Moore RA, Ma Y, Jones SJ, Marra MA, Malkin D, Northcott PA, Kool M, Pfister SM, Bader G, Hochedlinger K, Korshunov A, Taylor MD, Dirks PB. Quiescent Sox2 (+) cells drive hierarchal growth in sonic hedgehog subgroup medulloblastoma. *Cancer Cell* 2014: 26(1):33-47.

Vézina C, Carcao M, Infante-Rivard C, Lillicrap D, Stain AM, Paradis E, Teitel J, Rivard GE. On the behalf of the Association of Hemophilia Clinic Directors of Canada and of the Canadian Association of Nurses in Hemophilia Care. Incidence and risk factors for inhibitor development in previously untreated severe haemophilia: A patients born between 2005-2010. *Hemophilia* 2014: Nov: 20(6):771-6.

Wang X, Dubuc AM, Ramaswamy V, Mack S, Gendoo DM, Remke M, Wu X, Garzia L, Luu B, Cavalli F, Peacock J, López B, Skowron P, Zagzag D, Lyden D, Hoffman C, Cho YJ, Eberhart C, MacDonald T, Li XN, Van Meter T, Northcott PA, Haibe-Kains B, Hawkins C, Rutka JT, Bouffet E, Pfister SM, Korshunov A, Taylor MD. Medulloblastoma subgroups remain stable across primary and metastatic compartments. *Acta Neuropathology* 2015: Mar: 129(3):449-57.

Warrington NM, Sun T, Luo J, McKinstry RC, Parkin PC, Ganzhorn S, Spoljaric D, Albers AC, Merkelson A, Stewart DR, Stevenson DA, Viskochil D, Druley TE, Forsys JT, Reilly KM, Fisher MJ, Tabori U, Allen JC, Schiffman J, Gutmann DH, Rubin JB. The cyclic AMP pathway is a sex-specific modifier of glioma risk in type 1 neurofibromatosis patients. *Cancer Research* 2015: Jan 1: 75(1):16-21.

Wasserman JD, Novokmet A, Eichler-Jonsson C, Ribeiro RC, Rodriguez-Galindo C, Zambetti GP, Malkin D. Prevalence and functional consequence of TP53 mutations in pediatric adrenocortical carcinoma. *Clinical Oncology* 2015: Feb 20: 33(6):602-9.

Wentlandt K, Krzyzanowska MK, Swami N, Rodin G, Le LW, Sung L, Zimmermann C. Referral practices of pediatric oncologists to specialized palliative care. *Supportive Care in Cancer* 2014: 22(9): 2315-22.

Williams DA, Bennett C, Bertuch A, Bessler M, Coates T, Corey S, Dror Y, Huang J, Lipton J, Olson TS, Reiss UM, Rogers ZR, Sieff C, Vlachos A, Walkovich K, Wang W, Shimamura A. Diagnosis and treatment of pediatric acquired aplastic anemia (AAA): An initial survey of the North American Pediatric Aplastic Anemia Consortium (NAPAAC). *Pediatric Blood and Cancer* 2014: 61(5): pp 869-74.

Wu R, Zhang J, Sun J, Zhou M, Wu JS, Li N, Li X, Luke KH, Poon MC, Blanchette VS, Young NL. Validation of the Chinese version of the Canadian Haemophilia Outcomes-Kids' Life Assessment Tool (the CHO-KLAT). *Haemophilia* 2014: Nov: 20(6):794-9.

Xu H, Robinson GW, Huang J, Lim JY, Zhang H, Bass JK, Broniscer A, Chintagumpala M, Bartels U, Gururangan S, Hassall T, Fisher M, Cohn R, Yamashita T, Teitz T, Zuo J, Onar-Thomas A, Gajjar A, Stewart CF, Yang JJ. Corrigendum: Common variants in ACYP2 influence susceptibility to cisplatin-induced hearing loss. *Nature Genetics* 2015: Mar 27: 47(4):423.

Zhukova N, Ramaswamy V, Remke M, Martin DC, Castelo-Branco P, Zhang CH, Fraser M, Tse K, Poon R, Shih D, Baskin B, Ray PN, Bouffet E, Dirks P, von Bueren AO, Pfaff E, Korshunov A, Jones D, Northcott PA, Kool M, Pugh TJ, Pomeroy SL, Cho Y, Pietsch T, Gessi M, Rutkowski S, Bognár L, Cho B, Eberhart CG, Conter C, Fouladi M, French PJ, Grajkowska WA, Gupta N, Hauser P, Jabado N, Vasiljevic A, Jung S, Kim S, Klekner A, Kumabe T, Lach B, Leonard JR, Liao LM, Massimi L, Pollack IF, Ra Y, Rubin JB, Van Meir EG, Wang K, Weiss WA, Zitterbart K, Bristow RG, Alman B, Hawkins CE, Malkin D, Clifford SC, Pfister SM, Taylor MD, Tabori U. WNT activation by lithium abrogates TP53 mutation associated radiation resistance in medulloblastoma. *Acta Neuropathologica Communications* 2014: Dec 24: 2(1):3 [Epub ahead of print].

Book Chapters

Bouffet E, Adamski J, Bartels U: Intracavitary Therapy: Intracavitary Chemotherapy in Craniopharyngiomas *Comprehensive Diagnosis, Treatment and Outcome* (Evans JJ, Kenning TJ, eds). Elsevier, Oxford 2014 pp405-416

Bouskill V, Oliver KJ, Williams S. *SickKids Handbook of Dental Management in Children with Bleeding Disorders*. 2014

Chan TS, Wang K, Spence T, Taylor MD, Huang A. Medulloblastoma and PNET. In *Pediatric Neuro-Oncology*. (Bouffet E, Scheinemann K, ed.) Springer. Published 2014

Lafay-Cousin L, Strother D.R, Chan J.A, Huang A, Torchia J. Atypical Teratoid Rhabdoid Tumors. In: Pediatric Neuro-Oncology (Schienemann K and Bouffet E, eds). Springer, New York, NY 2015: pp 163-171.

Mack SC, Ramaswamy V, Wang X, Remke M, Sin-Chan P, Chan T, Bertrand KC, Merino D, Zayne K, Huang A, Taylor MD. Basic Science of Pediatric Brain Tumours, In Pediatric Neuro-Oncology. (Bouffet E, Scheinemann K, ed.) Springer. Published 2014

Stinson J, Gupta A, Dupuis F, Dick B, Laverdière C, LeMay S, Sung L, Dettmer E, Gomer S, Lober J, Chan CY. Usability testing of an online self-management program for adolescents with cancer. *J Pediatr Oncol Nurs.* 2015 Mar 1;32(2):70-82

Verna Y, Natesirinilkul R, Brandao LR. Disordered hemostasis in renal disease in: Pediatric Kidney Disease (Geary D, Schaefer F, eds) Springer Science, New York, USA, 2014.

Williams S, Yang ML, Pulmonary Embolism. In: Pediatric Thrombotic Disorders. Editor(s): Manco-Johnson MJ, Goldenberg NA, Cambridge University Press, Cambridge, UK 2014

Grants and Funding

A feasibility trial of individualized homeopathic treatment of fatigue in children receiving chemotherapy. Sung L, Brule D. **Lotte and John Hecht Foundation.** \$69,530 CAD. May 31-2011–Dec 30-2016.

A Multi-Center, Phase III, non-controlled, open-label trial to evaluate the pharmacokinetics, safety, and efficacy of BAY 94 9027 for Prophylaxis and Treatment of Bleeding in Previously Treated Children (age < 12 years) with Severe Hemophilia A, (Study 15912). Brandao L, Blanchette V, Carcao M, Kahr W. **Bayer HealthCare Pharmaceuticals (Canada).** \$33,728 CAD. Sep 25-2013–Mar 24-2016.

A phase I and enrichment study of low-dose metronomic topotecan and pazopanib in pediatric patients with recurrent or refractory solid tumors including CNS tumors. Baruchel S, Manji A. **C17 Research Network.** \$149,066 CAD. Jul 31-2013–Jul 30-2015.

A phase II, open-labeled, multi-center, randomized controlled trial of vinblastine +/- bevacizumab for the treatment of chemotherapy-naïve children with unresectable or progressive low grade glioma. Bouffet E, Hwang E, Hargrave D, Kilday JP. **F. Hoffman-La Roche Ltd.** \$100,000 CAD. Feb 10-2014–Dec 9-2015.

A randomized control trial to evaluate the efficacy of a social skills intervention for childhood survivors. Barerra M, Sung L, Bartels U, Janzen L, Atenafu A, Cataudella D, Zelcer S, Downie A, Johnston D, Brandon S, Schulte F, Strother D, Briere M, Chung J, Hukin J, McConnell D. **Canadian Cancer Society.** \$566,969 CAD. Jun 30-2011–Jun 29-2015.

A toolkit to minimize pain in infants. Odame I, Stevens B. Grand Challenge Canada. \$270,000 CAD. Sep 29-2013–Sep 28-2015.

Biomarkers for pediatric glioblastoma through genomics and epigenomics. Jabado N, Majewski J, Pastinen T, Rak J, Kislinger T, Bouffet E, Bourque G, Fernandez C, Lachaine J, Bartlett-Esquillant G, Montpetit A, Zadeh G, Huang A. **Genome Canada**. \$98,391 CAD. Mar 31-2013–Mar 30-2017.

Clinical and biological implications of monoallelic gene expression in pediatric malignant brain tumors. Tabori U, Taylor M. **Canadian Institute of Health Research**. \$573,543 CAD. Sep 30-2012–Sep 29-2016.

Combined telomerase inhibition and drug screen as novel therapies for tumor initiating cells in pediatric nervous system tumors. Tabori U. **Canadian Institute of Health Research**. \$300,000 CAD. Jun 30-2010–Jun 29-2015.

Creating and validating child adverse event reporting in oncology trials. Reeve BB, Hinds PS, Freyer D, Joffe S, Sung L, Baker J, Basch E, Dewalt D, Gold S, Reuland D, Irwin D, Qaqish B, Jacobs SS, Wang J, Docherty S, Adamson P, Withycombe J. **National Institutes of Health**. \$49,448 CAD. May 31-2013–Mar 30-2015.

Deciphering the pathobiology of Shwachman Diamond syndrome hematopoietic failure using human induced pluripotent stem cells. Dror Y, Keller G, Rommens J. **Canadian Institute for Health Research**. \$430,237 CAD. Sep 30-2013–Sep 29-2016.

Defining treatment-related mortality in pediatric cancer. Sung L, Pole JD, Johnston D, Gibson P, Portwine C, Silva M. **Pediatric Oncology Group of Ontario**. \$99,380 CAD. May 31-2013–May 30-2015.

Development and testing of a multidimensional electronic pain diary for youths with cancer. Stinson J, Dupuis L, Sung L. **C17 Research Network**. \$199,929 CAD. Jan 31-2011- Dec 30-2014.

Development and validation of a pediatric cancer-specific symptom assessment screening tool. Sung L, Spiegler B, Dupuis L, Regier D. **Canadian Cancer Society**. \$906,597 CAD. Jan 31-2014 – Jan 30-2019.

DNA copy number variation in Li-Fraumeni Syndrome. Malkin D. **Canadian Institutes for Health Research**. \$1,075,723 CAD. Sep 30-2013–Sep 29-2018.

Does baseline coagulation profile and exercise induced change in hemostatic profile explain phenotypic variability between hemophilia A and hemophilia B patients: a comparative cohort study". Carcao M. **Pfizer Canada Inc**. \$119,500 CAD. Jan 14-2013–Dec 12-2015.

Elucidating the genomic complexities of choroid plexus tumor development to improve diagnosis, prognosis and treatment of young brain tumor patients. Merino D, Malkin D. **Canadian Institutes for Health Research**. \$150,000 CAD. Apr 30-2012–Apr 29-2015.

Examining the relationship between white matter integrity and the speed of neuronal processing in children with brain tumours. Mabbott D, Tabori U, Bouffet E. **Canadian Institute of Health Research**. \$640,915 CAD. Sep 30-2012 – Sep 29-2017.

Exercise intervention in children treated with radiation for brain tumors. Mabbott DJ, Timmons B, Bartels U, Bouffet E, Laughlin S, Piscione J, Scantlebury N, Scheinemann K. **Canadian Cancer Society**. \$200,000 CAD. Jul 31-2012 – Jul 30-2015.

Genetic predictors of acute myeloid leukemia treatment response. Alpeng R, Sung L, Zaoutis T, Chen J, Alonzo T, Lehrnbecher T. **National Cancer Institute**. \$119,908 CAD. Mar 8-2010 – Dec 30-2014.

Incorporation of rFVIII into platelets as a potential therapy in patients with inhibitory antibodies to factor VIII. Kahr WHA. **Canadian Hemophilia Society**. \$149,969 CAD. Mar 31-2013–Mar 30-2015.

Inherited bone marrow failure syndromes: from gene discoveries to pathobiology. Dror Y, Scherer S, Berman J, Cada M, Virtanen S, Gordon Keller, 16 Canadian Inherited Marrow Failure Registry site co-investigators. **Canadian Institute for Health Research**. \$760,000 CAD. Dec 31-2012–Mar 30-2018.

Modifying the biological late effects of paediatric and adolescent cancer treatments: Prevention and mitigation. Nathan P. **Ontario Institute for Cancer Research**. \$500,000 CAD. Mar 31-2012-Mar 30-2017.

Molecular determinants of Li-Fraumeni Syndrome-associated cancers. Malkin D. **Canadian Institutes for Health Research**. \$748,696 CAD. Sep 30-2010–Sep 29-2015.

Molecular insights into gray platelet syndrome. Kahr WHA. **Canadian Institutes of Health Research Canada**. \$821,637 CAD. Dec 31-2011–Mar 30-2017.

Multi-center single arm phase II study of myeloablative allogeneic stem cell transplantation for non-remission acute myeloblastic leukemia (AML) using clofarabine and busulfan x 4 (CloBu4) regimen. Schechter-Finkelstein T. **University of Michigan**. \$43,350 USD. Jan 31-2012-Jan 30-2016.

Multi-center studies to improve diagnosis and treatment of pediatric candidiasis. Sung L. **Duke University**. \$20,000 USD. Dec 31-2012-Dec 30-2017.

Novel applications for THOR methylation: Development of a clinical tool for patient management and noninvasive detection of cancer in body fluids. Tabori U. **MaRS Innovation**. \$75,000 CAD. Jan 1-2013-Dec 30-2014.

Novel approaches to the prediction, diagnosis and treatment of cardiac late effects in survivors of childhood cancer. Nathan P, Mertens L, Mital S, Kantor P, Greenberg M, Dillenburg R, Liu P, McManus B, Sandor G, Phillips M, Dube M-P, Mandel K, Scherer S, Hodgson D, Manlhiot C, Rosenberg H, Zelcer S, Lougheed J. **Canadian Institutes for Health Research**. \$2,182,749 CAD. Sep 30-2011-Sep 29-2016.

PainSquad+: A Smartphone app to support real-time pain management for adolescents with cancer. Stinson J, Maloney AM, Jibb L, Nathan PC, Stevens B, Cafazzo J, Seta E, Johnston D. **Alex's Lemonade Stand**. \$49,956.50 USD. Jan 1-2014–Dec 31-2014.

Patterns and predictors of health care utilization by adult survivors of childhood cancer: A Pediatric Oncology Group of Ontario and Institute for Clinical Evaluative Sciences population database linkage study. Nathan P. **Pediatric Oncology Group of Ontario**. \$108,092 CAD. Feb 28-2010–Jun 29-2016.

Pediatric brain tumour repository and database for brain tumours. Tabori U, Rutka J. **b.r.a.i.n child**. \$22,000 CAD. Mar 31-2013-Jun 29-2015.

Physical activity to modify sequelae and QOL in childhood ALL: A nursing trial. Cox C, Nathan PC, Bhatia S, Wasilewski K, Welk G, Ness K, Srivastava DK, Robison L, Howard S, Kaste S. **National Institutes of Health/National Cancer Institute**. \$697,153 USD. Nov 30-2009-Feb 27-2015.

Placebo controlled double blind crossover trial of metformin for brain repair in children with brain tumours. Mabbott D, Moxon-Emre I, Riggs L, Bouffet E, Miller F. **Stem Cell Network**. \$150,000 CAD. Mar 31-2013-Mar 30-2015.

Predicting the risk of infection in children receiving chemotherapy for acute myeloid leukemia. Sung L, Beyene J, Allen U. **Canadian Cancer Society**. \$817,963 CAD. Jun 30-2008–Jun 29-2015.

Prediction and prevention of glioma recurrence by targeting telomere dependent self-renewal capacity of tumor initiating cells. Hawkins C, Tabori U. **Canadian Institutes of Health Research**. \$757,479 CAD. Mar 31-2011–Mar 30-2016.

Prognosticating factors in pediatric low grade gliomas: A retrospective analysis. Tabori U. **Dana Farber Cancer Institute**. \$25,000 USD. Oct 31-2011-Oct 30-2016.

Program Research Activity Request. Dirks P, Taylor MD, Alman B, Guidos C, Kaplan D, Hitzler J, Danska J. **Ontario Institute for Cancer Research (Ontario Cancer Research Network)**. \$5,281,225 CAD. Mar 31-2008–Mar 30-2015.

Studies of alpha granule formation in human megakaryocytes and platelets. Kahr WHA. **Canadian Institutes of Health Research**. \$689,721 CAD. Sep 30-2010-Sep 29-2015.

Targeting hypoxia to overcome drug resistance, combining TH-302 and standard chemotherapy in rhabdomyosarcoma and neuroblastoma murine models. **Baruchel S. Merck**. \$70,000 CAD. Jan 7-2014–Jan 6-2015.

Targeting metastatic neuroblastoma. Irwin MS, Kaplan DR. **Canadian Institutes of Health Research**. \$771,485 CAD. Mar 31-2014–Mar 30-2019.

Targeting thrombospondin-1 in medulloblastoma. Huang A, Zadeh G. **Canadian Institute of Health Research**. \$762,872 CAD. Dec 31-2011–Mar 30-2017.

**DIVISION OF
HAEMATOLOGY/
ONCOLOGY**

Division Head

Dr. James Whitlock

Full-Time

Dr. Oussama Abl

Dr. Sarah Alexander

Dr. Muhammad Ali

Dr. Ute Bartels

Dr. Sylvain Baruchel

Dr. Eric Bouffet

Dr. Leonardo Brandão

Dr. Michaela Cada

Dr. Manuel Carcao

Dr. Helen Chan

Dr. Yigal Dror

Dr. Maarten Egeler

Dr. Adam Gassas

Dr. Ron Grant

Dr. Abha Gupta

Dr. Sumit Gupta

Dr. Johann Hitzler

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Dr. Tal Schechter-

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Dr. Uri Tabori

Dr. Suzan Williams

Part-Time

Dr. Victor Blanchette

Dr. Mark Greenberg

Dr. David Hodgson

Dr. Normand

Laperriere

Dr. Aubrey Maze

Dr. Sheila Weitzman

**Research Fellows &
Associates**

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Dr. Laura Avila

Dr. Rae Braeger

Dr. Avi Denburg

Dr. Hisaki Fujii

Dr. Moira Garraus

Dr. Joerg Kruger

Dr. Amy Lee-Chong

Dr. Stephan Leucht

Dr. Meera Rayar

Dr. Laura Rodriguez

Dr. Thai Hoa Tran

Dr. Anita Villani

Dr. Nicolas Waespe

Dr. Marta Wilejto

Dr. Nataliya Zhukova

Clinical Fellows

Dr. Lesleigh Abbott

Dr. Natasha Alexander

Dr. Ehssan Al-Faraj

Dr. Abdulqader

Al-Hebshi

Dr. Salah Ali

Dr. Sami Althubaiti

Dr. Julie Bennett

Dr. Tahani Bin Ali

TCD with Transfusions Changing to Hydroxyurea (TWITCH): A Phase III randomized clinical trial to compare standard therapy (erythrocyte transfusions) with alternative therapy (hydroxyurea) for the maintenance of lowered TCD velocities in pediatric subjects with sickle cell anemia and abnormal pre-treatment TCD velocities. Kirby M, Williams S, Odame I.

National Heart, Lung, and Blood Institute. \$202,443 USD. May 14-2013-Jul 30-2015.

Teens taking charge: A pilot randomized controlled trial of a self-management and transitional care program for youth with cancer. Stinson J, Breakey V, Gupta A, Dick B, Dupis F, Johnston D, Laverdiere C, Le May S, Lee Chong A, Portwine C, Victor J. **Canadian Institutes of Health Research.** \$240,019 CAD. Mar 31-2014–Mar 30-2016.

The PainSquad+ real-time pain management system for adolescents with cancer: A feasibility, quality and cost study. Stinson J, Maloney AM, Jibb L, Nathan PC, Stevens B, Cafazzo J, Seta E, Johnston D. **Canadian Institute of Health Research.** \$92,228 CAD. Feb 28-2014–Feb 27-2015.

Toxicity monitoring on phase III clinical trials with administrative data. Aplenc R, Fisher B, Adamson P, Alonzo TA, Keren R, Sung L, Vujkovic M, Gerbing R, Hall M, Bertoch D. **National Institutes of Health**. \$99,081 USD. Aug 2-2012–May 30-2015.

Utilization of global systems and informatics approach to define the role of ncRNAs in determining molecular phenotypes of embryonal brain tumours. Huang A, Bader. **Brain Canada**. \$43,458 CAD. Jan 31-2013 – Jan 30-2016.

Validation of the Children’s International Mucositis Evaluation Scale (ChIMES). Sung L, Beyene J, Feldman B, Tomlinson D. **Canadian Institutes of Health Research**. \$313,518 CAD. Dec 31-2009–Mar 30-2015.

White matter integrity and neurocognition in sickle cell patients. Odame I. **Canadian Hematology Society**. \$10,000 CAD. May 7-2013-May 6-2015.

Dr. Jack Brzezinski	Dr. Alvaro Lassaletta
Clinical Fellows cont’d	Dr. Veronica Leoni
Dr. Deepak Chellapandian	Dr. Daniel Morgenstern
Dr. Sylvia Cheng	Dr. Rungrote Natesirinilkul
Dr. Sarah Curry	Dr. Sapna Oberoi
Dr. Adriana Fonseca	Dr. Katherine Patrick
Dr. Eric Fu	Dr. Mohammed Ramzan
Dr. Ibrahim Ghemlas	Dr. Mattia Rizzi
Dr. Ana Guerreiro Stucklin	Dr. John Roy
Dr. Fyeza Hasan	Administrative Staff
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Dr. Sharon McLean	Charmaine Borja
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Dr. Jennifer Seelisch	Sandra Carbone-Walker
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Dr. Eman Taryam	Michelle Gouveia
Dr. Gabriele Zamperlini	Connie Grillo
Dr. Antonella Zanette	Tiffany Jiminez
	Natasha Lalji
	Emma Li
Subspecialty Fellows	Catherine Lim Shue
Dr. Jennifer Adamski	Fatemeh
Dr. Amal Al Sabahi	Montazemouod
Dr. Ali Amid	Eleanor Paulino
Dr. Francesco Ceppi	Irine Polyzogopoulos
Dr. Mohammed Essa	Samantha Ramlackhan
Dr. Samantha Gouw	Marta Vila
Dr. Stephanie Heidemann	Arlene Zaldivar
Dr. Rahul Krishnatry	Irene Zuniga
Dr. Denis Ku	

DIVISION OF IMMUNOLOGY & ALLERGY

The Division of Immunology and Allergy, under the leadership of Dr. Eyal Grunebaum, continues to advance the diagnosis, management and understanding of primary immunodeficiency (PID) and complex allergic diseases.



*Dr. Vy Kim and
Brenda Reid*

The PID program at Sickkids is the largest of its kind in Canada, providing medical services to increasing number of patients who are referred by national and international health care providers.

The PID program at Sickkids is the largest of its kind in Canada, providing medical services to increasing number of patients who are referred by national and international health care providers. To further improve management of patients with PID, the IDEA (Immune Deficient Early and Advanced Diagnosis) clinic was recently launched, which enables extensive and dedicated time and attention to patients and families. The IDEA clinic supplements other specialized PID clinics available at Sickkids, including a clinic for children and adults with PID who received hematopoietic stem cell transplantations and gene therapy, and a clinic focusing on intravenous immunoglobulin replacement. Over 200 PID patients who require immunoglobulin replacement are managed through this Hypo-gammaglobulinemia Program. Recently, an option for home subcutaneous immunoglobulin infusions was added, providing greater flexibility for patients and their families. In addition, several studies assessing the safety and efficacy of new brands of immunoglobulins have recently been launched through our internationally acclaimed Hypo-gammaglobulinemia Program. The IDEA clinic has also been instrumental in providing care for infants suspected and diagnosed with severe PID through the newly implemented Ontario Newborn screening program for severe immunodeficiency.

The Allergy Program at Sickkids focuses on the diagnosis and management of children with complex atopic diseases. These conditions include allergy to multiple or “difficult to treat” foods, drugs, biological agents and latex, as

well as urticaria/angioedema, asthma and anaphylaxis. Patients with complex allergic diseases are seen at clinics in the hospital as well as in community clinics of affiliated members of the Division including Drs. Asper, Feanny, Hummel, Kim and Lavi. The close interaction with the community continues to be one of the strengths of the Allergy program. The Division also offers inpatient consultation for many allergic conditions, such as adverse reactions to drugs, biological agents, anesthetics and chemotherapy. This service is particularly important for children suffering from cancer or receiving blood and organ transplantations. Other patients experiencing adverse drug reactions are managed through the DART (Drug, Adverse Reaction and Toxicology) out-patient consultation clinic. Uniquely, the DART clinic provides targeted diagnostic and management strategies for adverse reactions to medications while collecting important data about patients and medications population.

Food allergy, an epidemic that is affecting an increasing number of children in Canada and worldwide, is a major focus of the Division. Dr. Grunebaum, with the aid of the dedicated team of allergists in the division, established the Sickkids Food Allergy and Anaphylaxis Program (FAAP). The FAAP was recognized as an important priority by Sickkids CEO and Board of Trustees, SickKids Foundation, the Department of Pediatrics and the Research Institute and is supported by generous gifts by Amy Kaiser, Ken Rotman and other donors. This year, the program also received endorsement and financial support from the “Breakfast of

Champions” event organized by the Young Professional for Sickkids. The FAAP has set an ambitious goal of finding a cure for food allergy and anaphylaxis within 10 years. To accomplish this task, Dr. Peter Vadas, a distinguished clinician and scientist in allergy and anaphylaxis from St. Michael’s Hospital in Toronto, was also recruited to the Program. The Program also emphasizes community education and outreach, resulting in many lectures and talks given at various schools and forums by Drs. Atkinson and Asper-Triassi, and interviews at various local and national media platforms by Dr. Atkinson and Grunebaum. Additionally, Dr. Kim, with the help of Mrs. Anna Kasprzak, RN, also enhanced and expanded the educational resources available for families through Sickkids website “About Kids Health”.

The Pediatric Clinical Immunology and Allergy Training program, under the leadership of Dr. Grunebaum received full approval during the recent Royal College of Physicians and Surgeon of Canada review, thereby continuing the tradition set previously by Dr. Chaim M. Roifman of a flawless record. The training program also benefited tremendously from the contributions of Dr. Vy Kim who is completing her “Stepping Stones” educational program. Dr. Roifman continues to direct the Clinical Fellowship Program, attracting outstanding candidates every year from Canada and across the world. International trainees have the opportunity to participate in a flexible program which can be predominantly research oriented.

Dr. Roifman continues to contribute his extensive experience and knowledge to the development of the clinical, educational and research of the Division, while serving as the Chair and Scientific Director of Immunodeficiency Canada as well as the editor of the LymphoSign

Journal. This year Dr. Roifman described a novel type of combined immunodeficiency caused by mutations in the Rel-B gene and defined the function of this gene in humans. Dr. Roifman also expanded collaborations with Dr. Ehl in Freiburg, Dr. Walters in Harvard and Dr. Casanova in Paris/New York.

In addition to heading the Division of Immunology and Allergy, directing the University of Toronto Pediatric Immunology and Allergy training program and leading the Food Allergy and Anaphylaxis Program, Dr. Grunebaum continues to expand his research into primary immune deficiency and allergy. Using induced pleuri-potent stem cells from patients as well as relevant animal models, Dr. Grunebaum’s team has made significant advances in the understanding and management of inherited purine defects. With the support of the recently awarded Campbell Chair for Immunological Research, Dr. Grunebaum’s lab members developed a rapid assay to determine the function of Treg, which are cells critical for immune homeostasis. Additionally, members of his lab identified the presence of food antigens hidden in other common foods and are assessing the role of platelet activating factor (PAF) as well as the enzymes that break down or are affected by PAF in various allergic conditions.

Dr. Adelle Atkinson is in her 10th year as the Director of Post Graduate Medical Education in the Department of Paediatrics. She continues to excel as an outstanding educator, and the training program continues to attract the brightest stars. In recognition of her achievements, Dr. Atkinson was nominated for the PAIRO Residency Program Excellence Award once again. The PAIRO Award recognizes Residency Program Directors who consistently

provide an exceptionally positive and rewarding experience for the residents, while producing physicians who are expertly trained to deal with the challenges of their upcoming career. Dr. Atkinson was also the recipient of the Harry Bain award for excellence in Clinical teaching at the Hospital for Sick Children. Dr. Atkinson continues to give invited presentations at international conferences in the area of postgraduate medical education and faculty development including topics such as residency selection, professionalism, clinical teaching and feedback. In the last two years, Dr. Atkinson has also led a Department of Pediatrics initiative to attract and retain pediatric trainees who will be our future clinician scientists. Dr. Atkinson completed an interim role as Associate Dean of Admissions and Financial Aid at the end of 2014. Dr. Atkinson also has several national and international leadership roles at the Royal College of Physicians and Surgeons of Canada. She is currently a Co-Chair of the International Conference on Residency Education, Co-Chair of the International Resident Leadership Summit and Vice-Chair of the Specialty Committee for Paediatrics. In 2014 she was asked to serve on the Education Committee for the Royal College, a role given to her based on her educational experience. Dr. Atkinson also sits on the Paediatrics Examination Board and the OSCE examination committee. At the University of Toronto, Dr. Atkinson chairs a number of educational committees including the POWER Steering Committee. In terms of education and outreach/public health in the clinical realm, Dr. Atkinson is regularly invited to provide continuing education in Paediatric Allergic Diseases, and has a special interest in the Prevention of Atopy, a topic about which she

has spoken at national conferences. She provides education to patients and their families, and has done media outreach locally and nationally to raise awareness about allergic diseases in children.

Dr. Julia Upton was appointed this year to a permanent position of an Academic Clinician in the Division. Dr. Upton is actively involved in research in food allergies and immunodeficiencies. Her study on the evaluation of testing with baked milk to predict the safe ingestion of baked milk in unbaked milk allergic children is nearing completion. Dr. Upton continues to underline the wide range of presentation of immune deficiencies by reviewing those which can present with high IgG and contributed to the clinical research of the division. Her role as Royal college examiner and teacher to the medical students, residents and fellows is ongoing.

Brenda Reid, Clinical Nurse Specialist, has been instrumental in providing leadership to nurses across the country in the management of PID. Brenda leads a national network of nurses developing PID nursing protocols in conjunction with Immunodeficiency Canada. She continues to provide leadership to Newborn Screening Ontario on developing education materials and protocols for babies suspected or identified with severe immune deficiency by newborn screening.

Mrs. Barbara Zimnowodzki was appointed as Manager, Business Operation for the Division of Immunology and Allergy, while Mrs. Sandra Mendonca was appointed as Administrative Lead for the Division.

Honors and Awards

Atkinson, A: Winner of The Harry Bain award in 2014 for excellence in Clinical teaching at the Hospital for Sick Children, Toronto.

Publications

M. Cada, I. Lara-Corrales, Y. Dror, S. Feanny, V. Kim, E. Grunebaum. Monocytosis in a patient with novel GATA2 mutation. *LymphoSign Journal*, December 2014, 10. 14785/lpsn-2014-0022

Broides A, Mohammed R, Reid B, Roifman CM, Grunebaum E: Gastrointestinal abnormalities among patients with chronic granulomatous disease. *Clinical & Cellular Immunology* 2014: 5: pp 1-6

Dhanju R, Min W, Ackerley C, Cimpean L, Palaniyar N, Roifman CM, Grunebaum E: Pulmonary alveolar proteinosis in adenosine deaminase-deficient mice. *Journal of Allergy and Clinical Immunology* 2014: 133(5): pp 1467-71

Faitelson Y, Grunebaum E. Hemophagocytic lymphohistiocytosis and primary immune deficiency disorders. *Clin Immunol.* 2014 Nov;155(1):118-125. doi: 10. 1016/j. clim. 2014. 9. 8. Epub 2014 Sep 18. PubMed PMID: 25241079

Fuchs S, Rensing-Ehl A, Erlacher M, Vraetz T, Hartjes L, Janda A, Rizzi M, Lorenz MR, Gilmour K, de Saint-Basile G, Roifman CM, Cheuk S, Gennery A, Thrasher AJ, Fuchs I, Schwarz K, Speckmann C, Ehl S: Patients with T+/low NK + IL-2 receptor gamma chain deficiency have differentially-impaired cytokine signaling resulting in severe combined immunodeficiency. *European Journal of Immunology* 2014: 44:9100: pp 3219-40

Kim VHD, Brager R, Upton J, Ngan B, Newell A, Roifman M, Muise AM, Benseler SM, Grunebaum E, Roifman CM: Hematopoietic stem cell transplantation completely reversed colitis but not arthritis in IL-10R alpha deficiency. *LymphoSign Journal* 2014: 1(2): pp 77-86

L. Murguia-Favela, Vy Kim, J. Upton, P. Thorner, B. Reid, A. Atkinson, E. Grunebaum. IPEX syndrome caused by a novel mutation in FOXP3 gene can be cured by bone marrow transplantation from an unrelated donor after myeloablative conditioning. *LymphoSign Journal*, October 2014, 10. 14785/lpsn-2014-0016

Modell V, Knaus M, Modell F, Roifman C, Orange J, Notarangelo LD: Global overview of primary immunodeficiencies: a report from Jeffrey Modell Centers worldwide focused on diagnosis, treatment and discovery. *Immunologic Research* 2014: 60(1): pp 132-44

Murguia-Favela L, Kim V, Upton J, Thorner P, Atkinson A, Reid B, Grunebaum E. IPEX syndrome caused by a novel mutation in FOXP3 gene can be cured by bone marrow transplantation from an unrelated donor after myeloablative conditioning. *LymphoSign Journal* 28 October 2014, 10. 14785/lpsn-2014-0016

Ngan B, Merico D, Marcus N, Kim VHD, Upton J, Bates A, Herbrick J, Nalpathamkalam T, Thiruvahindrapuram B, Cox P, Roifman CM. 2014. Mutations in tetratricopeptide repeat domain 7A (TTC7A) are associated with combined immunodeficiency with dendriform lung ossification but no intestinal atresia. *LymphoSign Journal*, 2014, 1(2): 77-86, 10. 14785/lpsn-2014-0018

Upton J, Vadas P. Potential Therapeutic Strategies for Severe Anaphylaxis Targeting Platelet-Activating Factor and PAF Acetylhydrolase. *Current Treatment Options in Allergy*. 2014. 1:232-246. DOI: 10. 1007/s40521-014-0020-2

Upton J. Immunodeficiencies With Hypergammaglobulinemia: A Review. *LymphoSign Journal* 17 December 2014, 10. 14785/lpsn-2014-0019

Book Chapters

Ochs H, Roifman CM: Immunodeficiency Diseases: A Molecular and Genetic Approach, 3rd Edition. (Ochs HD, Evard Smith, CI, Puck JM, eds). Oxford University Press, New York 2014: pp 134, 188

Grants & Funding

Carrier-Mediated Delivery of Therapeutic Proteins into the Brain. Grunebaum, Eyal. **Brain Canada**. \$1,425,000 CAD. September 30, 2013 – September 29, 2016

Carrier-Mediated Delivery of Therapeutic Proteins into the Brain. Grunebaum, Eyal. **Retrophin Inc**. \$750,000 CAD. October 30, 2013 – September 29, 2016

DIVISION OF IMMUNOLOGY & ALLERGY	Research Associate Nigel Sharfe, PhD
Division Head Dr. Eyal Grunebaum	Medical Lab Technologist Harjit Dadi, PhD Vikita Rana
Full-Time Dr. Adelle Atkinson Dr. Chaim M. Roifman Dr. Julia Upton	Clinical Fellows Dr. Yoram Faitelson Dr. Adi Ovadia
Clinical Assistant Dr. Vy Kim	Subspecialty Residents Dr. Mohammad Al Salamah
Part-Time Dr. Maria Asper-Triassi Dr. Stephen Feanny Dr. David Hummel Dr. Sasson Lavi	Dr. Allison Kwan Dr. Luis Murguia Administrative Staff Joanne Bresciani Jessy DeBraganza*
Research Technologists Lorand Cimpeon Ariana Karanxha Weixian Min Boris Perelman	Megan Dunbar* Sandra Mendonca Canadian Centre of PID and JMF Centres Manager Linda Pires

DIVISION OF INFECTIOUS DISEASES

2014/2015. The Division of Infectious Diseases continues to be a leader in the academic practice of Infectious Diseases nationally and internationally. The Division has active inpatient as well as ambulatory consultant services that include teams that focus on general infectious diseases and infectious diseases in immunocompromised infants, children and youth. We are one of a handful of centres internationally with a consult service that specifically focusses on the immunocompromised host. We are a resource for issues that relate to infectious disease outbreaks, including new and emerging infections.



*Left to right, back row:
Dr. Arnaud L'Huillier
Dr. Shaun Morris*

*Front row:
Dr. Nancy Nashid
Debra Louch
Wayne Moore*

Working closely with the Department of Pharmacy and champions in the Critical Care Units, SickKids now has one of the leading pediatric stewardship programmes in Canada and one of the leading programmes in North America.

To this end, the Division of Infectious Diseases was actively involved in a leadership capacity in EBOLA preparedness at the institutional and provincial levels. The occurrence of the enterovirus D68 outbreak was also unexpected and the Division was very active in patient management as well as knowledge translation to the public at large.

The Division has led the way in the establishment of an antimicrobial stewardship programme (ASP) at SickKids. Working closely with the Department of Pharmacy and champions in the Critical Care Units, SickKids now has one of the leading pediatric stewardship programmes in Canada and one of the leading programmes in North America. The Program is now working with collaborators from other Canadian centres to develop a National Paediatric ASP Network.

Division members have leading roles in national and international epidemiological, clinical, research advisory and related committees or groups (e.g., the Infectious Diseases Society of America, the Canadian Paediatric Society, and the American Society for Transplantation, the International Pediatric Transplant Association, the Canadian Pediatric AIDS Research Group and the SickKids Caribbean Cancer Initiative).

Our research initiatives include HIV-related studies that focus on the goal to achieve a functional cure for pediatric HIV. We conduct research on new antiretrovirals, vaccinology and research into the mechanisms of host susceptibility to

viral infections and related conditions. These conditions include EBV-related post-transplant lymphoproliferative disorder (PTLD), influenza illness, infections in patients with cystic fibrosis, and encephalitis. Multicentered trials relating to the diagnosis and prevention of infections in transplant patients are ongoing.

The Division was actively involved in the organization and staffing of a travel medicine clinic at SickKids. The SickKids Family Travel Clinic provides one-on-one travel health advice, consultation and immunizations for adults and children, including young children with existing medical conditions that require a highly specialized approach to the prevention and management of travel-related infections.

Our training programme continues to attract top-quality trainees from Canada and internationally. Representatives from our Division continue to play a key role in activities of the Royal College of Physicians and Surgeons of Canada, and in many areas of undergraduate, graduate, post-graduate and continuing medical education activities. Faculty members continue to hold editorships, visiting professorships and related academic honours nationally and internationally.

Honors and Awards

Morris, S: Winner of Canadian Child Health Clinician Scientist Program Career Development Award, Canadian Child Health Clinician Scientist Program, Toronto, Ontario, Canada. June 2014

Wadhwa, A: Winner of Department of Paediatrics Subspecialty Teaching Award, The Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada. June 2014

Publications

Adler E, Alexis C, Ali Z, Allen U, et al. Bridging the distance in the Caribbean: Telemedicine as a means to build capacity for care in paediatric cancers and blood disorders. *Global Telehealth* 2015: doi: 10.3233/978-1-51499-5-5-0-1

Al Fawaz, T, Ng V, Richardson S, Barton M, Allen U. Clinical consequences of human herpesvirus-6 DNAemia in peripheral blood in paediatric liver transplant recipients. *Pediatr Transplant*. 2014;18:47-51. SRI. Contribution 40%

Allen UD, MacDonald NE; Canadian Paediatric Society, Infectious Diseases and Immunization Committee. Sexually transmitted infections in adolescents: Maximizing opportunities for optimal care. *Paediatr Child Health*. 2014 Oct;19(8):429-39

Allen UD, Robinson JL; Canadian Paediatric Society, Infectious Diseases and Immunization Committee. Prevention and management of neonatal herpes simplex virus infections. *Paediatr Child Health*. 2014;19(4):201-12

Allen UD; Canadian Paediatric Society, Infectious Diseases and Immunization Committee. Clostridium difficile in paediatric populations. *Paediatr Child Health*. 2014;19(1):43-54

Asner SA, Science ME, Tran D, Smieja M, Merglen A, Mertz D. Clinical disease severity of respiratory viral co-infection versus single viral infection: a systematic review and meta-analysis. *PLoS One*. 2014 Jun

Azzopardi C*, Wade M, Salter R, MacDougall G, Shouldice M, Read S, Bitnun A. Medical non-adherence in pediatric HIV: Psychosocial risks and intersection with the child protection system for medical neglect. *Child Abuse & Neglect* 2014;38(11):1766-77 (DOI: 10.1016/j.chiabu.2014.8.013)

Bai AD, Showler A, Burry L, Steinberg M, Ricciuto DR, Fernandes T, Chiu A, Raybardhan S, Science M, Fernando E, Tomlinson G, Bell CM, Morris AM. Comparative effectiveness of cefazolin versus cloxacillin as definitive antibiotic therapy for MSSA bacteraemia: results from a large multicentre cohort study. *J Antimicrob Chemother*. 2015 Jan 21. (PMID: 25614044)

Bitnun A, Brophy J, Samson L, Alimienti A, Kakkar F, Lammare V, Moore D, Karatzios C, Seigel S, Sauve L, Vaudry, W, Yudin M, Money D for the Canadian Paediatric and Perinatal AIDS research Group & the Infectious Diseases Committee of the Society of Obstetrics and Gynecology of Canada. Prevention of vertical HIV transmission and management of the HIV-exposed infant in Canada in 2014. *Canadian Journal of Infectious Diseases & Medical Microbiology* 2014: 25(2): pp 75-77

Bitnun A, Richardson SE. Childhood encephalitis in Canada in 2015. *Canadian Journal of Infectious Diseases & Medical Microbiology* 2015;26(2):69-72

Bridge M*, MacGregor D, Richardson S, Mahant S, Tran D, Bitnun A: Central nervous system (CNS) complications of varicella zoster virus infection: a retrospective 10 year review. *Journal of Pediatrics* 2014;165:779-785

Ceftriaxone-Induced Immune Haemolytic Anemia: Systematic Review and Proposed Screening Strategy. Neuman G*, Boodhan S, Wurman I, Koren G, Bitnun A, Kirby-Allen M, Ito S. *Ann Pharmacotherapy* 2014;48(12):1594-1604

Chmiel JF, Aksamit TR, Chotirmall SH, Dasenbrook EC, Elborn JS, LiPuma JL, Ranganathan SC, Waters VJ, Ratjen FA. Antibiotic Management of Difficult Lung Infections in Cystic Fibrosis Part I: The Lung Microbiome, Methicillin-Resistant Staphylococcus aureus, Gram-Negative Bacteria, and Treating Multiple Infections. *Ann Am Thorac Soc.* 2014;11(7):1120-9

Chmiel JF, Aksamit TR, Chotirmall SH, Dasenbrook EC, Elborn JS, LiPuma JL, Ranganathan SC, Waters VJ, Ratjen FA. Antibiotic Management of Difficult Lung Infections in Cystic Fibrosis Part II: Nontuberculous Mycobacteria, Anaerobic Bacteria, and Fungi. *Ann Am Thorac Soc.* 2014;11(8):1298-306

Danziger-Isakov L, Evans HM, Green M, McCulloch M, Michaels MG, Posfay-Barbe KM, Verma A, Allen U; ID CARE Committee from IPTA. Capacity building in pediatric transplant infectious diseases: an international perspective. *Pediatr Transplant* 2014;18(8):790-3. Contribution 15%

Evans AB, Kulik D, Banerji A, Boggild A, Kain KC, Abdelhaleem M, Morris SK. Imported pediatric malaria at the Hospital for Sick Children, Toronto, Canada: a 16 year review. *BMC Pediatrics* 2014;14:251. doi: 10.1186/1471-2431-14-251

George, C, Makoroka, L, Husbands, W, Adam, BD, Remis, R, Rourke, S, Read, S Sexual health determinants in black men-who-have-sex-with-men living in Toronto, Canada. *Ethnicity and Inequalities in Health and Social Care*, 2013; 6 (4)151 – 162. DOI: 10. 1108/EIHSC-10-2013-0034

George, C, Makoroka, L, Rourke, SB, Adam, BD, Remis, RS, Husbands, W, Read, SE. HIV Testing by Black MSM in Toronto: Identifying Targets to Improve Testing. *SAGE Open* 2014; 4(2) DOI: 10. 1177/2158244014529776

Hildebrand K, Atkinson A, Kitai I. Rifampin hypersensitivity in a two-year old child with successful rapid oral desensitization. *Pediatr Infect Dis J.* 2014 Jul;33(7):787 (SRI)

Kitai I, Morris SK. Encounters with an old foe: Childhood tuberculosis in Canada. *Paediatric Child Health* 2014;19(2); 89-90

Kordy F, Richardson SE, Stephens D, Lam R, Jamieson F, Kitai I. Utility of Gastric Aspirates for Diagnosing Tuberculosis in Children in a Low Prevalence Area: Predictors of Positive Cultures and Significance of Non-Tuberculous Mycobacteria. *Pediatr Infect Dis J.* 2014 Aug 6. [Epub ahead of print] (SRI)

Kordy, FM, Schwartz, KL, Keystone, JS and Read, SE: A rare cause of neonatal fever. *Paediatrics and Child Health: 2014; 19(2) SRI*

Kuster SP, Rudnick W, Shigayeva A et al. Toronto Invasive Bacterial Diseases Network Investigators, (Kitai I) Previous Antibiotic Exposure and Antimicrobial Resistance in Invasive Pneumococcal Disease: Results from Prospective Surveillance *Clin Infect Dis.* 2014 Jun 27. pii: ciu497. [Epub ahead of print]

Lu D*, Liu J, Samson L, Bitnun A, Brophy J, Leonard L, Remis RS: Factors responsible for mother-to-child HIV transmission in Ontario, Canada, 1996 - 2008. *Canadian Journal of Public Health* 2014; 105(1):e15-20

Luong ML, Chaparro C, Stephenson A, Rotstein C, Singer LG, Waters V, Azad S, Keshavjee S, Tullis E, Husain S. Pre-transplant *Aspergillus* colonization of cystic fibrosis patients and the incidence of post lung transplant invasive aspergillosis. *Transplantation*. 2014;97(3):351-7

Mertz D, Kim TH, Johnstone J, Lam PP, Science M, Kuster SP, Fadel S, Tran D, Fernandex E, Bhatnagar, Loeb M Populations at risk for severe or complicated avian influenza H5N1: a systematic review and meta-analysis *PLoS One*. 2014 Mar 6. (PMID: 24603885)

Morris SK, Demers AM, Lam R, Pell LG, Giroux R, Kitai I. Epidemiology and clinical management of tuberculosis in children in Canada. *Health Paediatr Child Health*. 2015 20: 83-88

Odame J, Robinson J, Khodai N, Yeung S, Mazzulli T, Stephens D, Allen UD. Correlates of Illness Severity in Infectious Mononucleosis. *Can J Infect Dis Med Microbiol* 2014;25(5): 277-80. SRI

Patra J, Bhatia M, Suraweera W, Morris SK, Patra C, Gupta PC, Jha P. Exposure to second-hand smoke and the risk of tuberculosis in children and adults: a systematic review and meta-analysis of 18 observational studies. *PLoS Medicine* 2015; 12(6): e1001835. doi:10.1371/journal.pmed.1001835

Ratjen A, Yau Y, Wettlaufer J, Matukas L, Zlosnik JEA, Speert DP, John J. LiPuma, Tullis E, Waters V. In vitro efficacy of high dose tobramycin against *Burkholderia cepacia* complex and *Stenotrophomonas maltophilia* isolates from cystic fibrosis patients. *Antimicrob Agents Chemother* 2015 Jan;59(1):711-3. SRA

Rose W, Kitai I, Kakkar F, Read SE, Behr MA, Bitnun A: Quantiferon Gold-in-Tube Assay for TB screening in HIV children: influence of quantitative values. *BMC Infectious Diseases* 2014;14:516

Rose W, Read S, Bitnun A, Rea E, Stephens D, *Pongsamart W, Kitai I. Relating tuberculosis (TB) contact characteristics to QuantiFERON-TB-Gold and tuberculin skin test results in the Toronto pediatric TB clinic. *J Ped Infect Dis* (2014)doi: 10. 1093/jpids/piu024 (published ahead of print)

Rose, W, Kitai, I, Kakkar, F, Read, SE, Bitnun, A. Quantiferon gold-in-tube assay for TB screening in HIV infected children: Influence of quantitative values. *BMC Infect Dis*. 2014 14:516. DOI: 10.1186/1471-2334-14-516

Rose, W, Read, SE, Bitnun, A, Rea, E, Stephens, D, Pongsamart, W and Kitai, I: Relating tuberculosis (TB) contact characteristics to QuantiFERON-TB-Gold and tuberculin skin test results in the Toronto pediatric TB clinic. *J Ped Infect Dis* 2014 DOI:10.1093/jpids/piu024)

Schuh S, Freedman S, Coates A, Allen U, Parkin PC, Stephens D, Ungar W, DaSilva Z, Willan AR. Effect of oximetry on hospitalization in bronchiolitis: a randomized clinical trial. *JAMA*. 2014;312(7):712-8. doi: 10.1001/jama.2014.8637. Contribution 10%

Science M, Bitnun A, Mclsaac W. Identifying and treating group A streptococcal pharyngitis in children. *CMAJ*. 2015 Jan 6;187(1):13. Epub 2014 Dec 15. (PMID: 25512654)

Science M, MacGregor D, Tran D, Lee S, Tellier R, Bitnun A. Central Nervous System Complications of Varicella-Zoster Virus. *J Pediatr*. 2014 Jul 22. (PMID 25063723)

Science, Bitnun A, Mclsaac W. Identifying and treating group A streptococcal pharyngitis in children. *CMAJ* 2015;187(1):13 (DOI: 10.1503/cmaj.141532 Epub 2014 Dec 15)

Schwartz K*, Richardson S, Ward K, Donaldson C, Macgregor D, Banwell B, Mahant S, Bitnun A: Delayed primary HHV-7 infection and neurologic disease. *Pediatrics* 2014;6:e1541-1547

Tu HA, Deeks S, Morris SK, Strifler L, Crowcroft N, Jamieson F, Kwong J, Coyte P, Krahn M, Sander B. Economic evaluation of meningococcal serogroup B (MenB) childhood vaccination in Ontario, Canada. *Vaccine* 2014; 32(42): 5436-46. doi: 10.1016/j.vaccine.2014.07.096

Turab A, Pell LG, Bassani DG, Soofi S, Ariff S, Bhutta Z, Morris SK. The community-based delivery of an innovative neonatal kit to save newborn lives in rural Pakistan: design of a cluster randomized trial. *BMC Pregnancy and Childbirth* 2014; 14:315. doi: 10.1186/1471-2393-14-315

Verguet S, Johri M, Morris SK, Gavreau C, Jha P, Jit M. Controlling measles using supplemental immunization activities: a mathematical model to inform optimal policy. *Vaccine* 2014; pii: S0264-410X(14)01607-7. doi: 10.1016/j.vaccine.2014.11.050

Waters V, Ratjen F. Antibiotic treatment for nontuberculous mycobacteria lung infection in people with cystic fibrosis. *Cochrane Database Syst Rev*. 2014 Dec 3;12:CD010004

Waters V, Ratjen F. Inhaled liposomal amikacin. *Expert Rev Respir Med*. 2014;8(4):401-9

Waters V, Ratjen F. Is there a role for antimicrobial stewardship in cystic fibrosis? *Ann Am Thorac Soc*. 2014;11(7):1116-9

Waters V, Smyth A. Cystic fibrosis microbiology: advances in antimicrobial therapy. *J Cystic Fibrosis*. 2015 Feb 28. [Epub ahead of print]. PA

Waters V. How can understanding the phenotype of *P. aeruginosa* lead to more successful eradication strategies in cystic fibrosis? *Clin Infect Dis*. 2014;59(5):632-4. PA

Yau Y, Ratjen F, Tullis E, Wilcox P, Freitag A, Chilvers M, Grasemann H, Zlosnik J, Speert D, Corey M, Stanojevic S, Matukas L, Leahy TR, Shih S, Waters V. Randomized controlled trial of biofilm antimicrobial susceptibility testing in pulmonary exacerbations in cystic fibrosis patients with chronic *Pseudomonas aeruginosa* infection. *J Cyst Fibros*. 2015 Mar;14(2):262-6. SRA

Zokova M*, Pong S, Trope A, Atenafu EG, Papaioannou V, Bitnun A, Richardson S, Schwartz S, Cox P, Parshuram C, Seto W: Dose derivation of once-daily dosing (ODD) guidelines for gentamicin in critically ill paediatric patients. *Therapeutic Drug Monitoring* 2014;36:288-294

Book Chapters

Asner S, Science M, Tran D, Smieja M, Merglen A, Mertz D: A Clinical Disease Severity of Respiratory Viral Co-infection versus Single Viral Infection: A Systematic Review and Meta-Analysis. PLOS ONE 2014: 9(6):e9939

Asner S*, Rose W*, Petrich A, Richardson S, Tran D: Is virus coinfection a predictor of severity in children with viral respiratory infections? *Clinical Microbiology and Infectious Diseases* 2014 Oct 29. pii: S1198-743X(14)00062-7. doi: 10.1016/j.cmi.2014.08.024. [Epub ahead of print] SRI

Bettinger JA, Halperin SA, Vaudry W, Law BJ, Scheifele DW, and the Canadian IMPACT members: The Canadian Immunization Program ACTive (IMPACT): Active surveillance for vaccine adverse events and vaccine preventable diseases. *Canada Communicable Disease Report CCDR* 2014: 40(S-3) C

Bettinger JA, Scheifele DW, Halperin SA, Vaudry W, Findlow J, Borrow R, Mendini D, Tsang R, and the members of the Canadian Immunization Monitoring Program, Active (IMPACT): Diversity of Canadian meningococcal serogroup B isolates and estimated coverage by an investigational meningococcal serogroup B vaccine (4CMenB). *Vaccine* 2014: 32: 124-130. C

Bitnun A, Richardson S: Mycoplasma and Ureaplasma infections. In: *Infections of the central nervous system*, 4th edition (Scheld, WM, Whitley RJ, Marra CM, eds). Lippincott Williams & Wilkins, Philadelphia 2014: pp 420-433

Bitnun A, Richardson S: Mycoplasma infections. In: *Central Nervous System Infections in Childhood*, 1st edition (Singhi P, Griffin DE, Newton C, eds). Mac Keith Press, Oxford, UK 2014: pp 278-288

Burton C*, Vaudry W, Moore D, Bettinger JA, Tran D, Halperin SA, Scheifele DW, IMPACT investigators: Burden of Seasonal Influenza in Children With Neurodevelopmental conditions. *The Pediatric Infectious Disease Journal* 2014: 33(7):710-4

Dunning J, Merson L, Rohde GGU, Gao Z, Semple MG, Tran D, Gordon A, Olliaro PL, Khoo SH, Bruzzone R, Horby P, Cobb JP, Longuere KS, Kellam P, Nichol A, Brett S, Everett D, Walsh TS, Hien TT, Yu H, Zambon M, Ruiz-Palacios G, Lang T, Akhvediani T, ISARIC Working Group 3, ISARIC Council, Hayden F, Marshall J, Webb S, Angus DC, Shindo N, van der Werf S, Openshaw PJM, Farrar J, Carson G, Baillie JK: Open source clinical science for emerging infections. *Lancet Infectious Diseases* 2014: 14(1): pp 8-9

Kitai I, Demers AM. Paediatric Tuberculosis. in Menzies D (ed) *Canadian TB Standards*, 7th Edition, Public Health Agency of Canada and Canadian Thoracic Society. 2013 *Canadian Respiratory Journal* July/August 2013, Volume 20

Mertz D, Kim TH, Johnstone J, Lam P, Science M, Kuster SP, Fadel SA, Tran D, Fernandez E, Bathnagar N, Loeb MB: Populations at risk for severe or complicated avian influenza H5N1: a systematic review and meta-analysis. PLOS ONE 2014: 9(3): 4389697

Muthuri SG, Venkatesan S, Myles P, Leonardo-Bee J, Al-Khwaitir TS, Aguiar-Oliveira ML, Tran D, et al. Effectiveness of neuraminidase inhibitors in reducing mortality in patients admitted to hospital with influenza A H1N1pdm09 virus infection: a meta-analysis of individual participant data. *The Lancet Respiratory Medicine* 2014; 2(5): pp 395-404

Sadarangani M, Scheifele DW, Halperin SA, Vaudry W, Le Saux N, Tsang R, Bettinger JA, and the investigators of the Canadian Immunization Monitoring Program, ACTIVE (IMPACT): The Impact of Meningococcal Serogroup C Conjugate Vaccine in Canada Between 2002 and 2012. *Clinical Infectious Diseases* 2014;59 (9):1208-15

Science M, MacGregor D, Richardson S, Mahant S, Tran D, Bitnun A: Central Nervous System complications of varicella-zoster virus: A retrospective 13 year review. *Journal of Pediatrics* 2014; 19(6):310-4 CA

Top KA, Zafack J, De Serres G, Halperin SA, and the Special Immunization Clinic Investigators: Canadian paediatricians' approaches to managing patients with adverse events following immunization: The role for the Special Immunization Clinic network. *Paediatrics & Child Health* 2014; 165(4):779-85

Wadhwa, A., Das, L., & Ratnapalan, S. (2014). Faculty Development Effectiveness: Insights from a Program Evaluation. *Journal of Biomedical Education*, 2014. (First author)

Grants and Funding

An Integrated Toolkit to Save Newborn Lives and Brains in rural Pakistan. Morris S, Bhutta Z. **UBS Optimus Foundation**. \$150,000 CHF. August 31, 2013 – February 27, 2015

An integrated toolkit to save newborn lives and brains. **March of Dimes Foundation (Formerly March of Dimes Birth Defects Foundation) USA**. Morris S. \$150,000.00 US. February 1, 2014 – January 1, 2016

An integrated toolkit to save newborn's brains. Morris S, Bhutta Z. **Grand Challenges Canada**. \$270,000.00 CAD. Oct 14, 2013 – Oct. 13, 2015

An open-label, randomized, adaptive, multicenter, pharmacokinetic/pharmacodynamic, phase 1B study of oseltamivir in the treatment of influenza in immunocompromised children, between 0-18 years of age, with confirmed influenza infection. Allen U, Tran D, Finkelstein T. **Hoffman La Roche**. \$76,372 CAD. April 1, 2013 – March 30, 2016

Assessing the Breadth and Depth of Cystic Fibrosis-associated Polymicrobial Respiratory Tract Infections. Waters V, Tullis E, Hwang D, Cowen L, O'Doherty K, Davidson A, Parkinson J, Maughas H, Yau Y, Guttman D (PI). **Canadian Institutes of Health Research/University of Toronto**. \$193,020 CAD. March 31, 2011- March 30, 2015

Association of biochemical vitamin D status and severity of influenza in children. Tran D. **Canadian Foundation for Dietetic Research**. \$19,942. January 1, 2015 – December 31, 2017

Association of vitamin D status and respiratory tract infections: a systemic review and meta-analysis of observational evidence. Furlong K, Tran D. **The Hospital for Sick Children, Research Institute, Trainee Start Up Fund Program.** \$3,000 CAD. July 1, 2014 – June 30, 2016

Burden of Influenza B Disease in Children in Canada. Tran D. **GlaxoSmithKline, Canada.** \$55,558 CAD. January 1, 2013 – January 1, 2015

Canadian Immunization Research Network (CIRN). Halperin S, Tran D. **Canadian Institutes of Health Research.** \$6,600,000. July 1, 2014 – June 30, 2017

Canadian Immunization Research Network. Halperin S, Allen U. et al. **Canadian Institutes of Health Research.** \$583,497 CAD. May 1, 2014 – April 30, 2017

Canadian National Transplant Research Program: Increasing Donation and Improving Transplantation Outcomes. West L, Hebert J, Mital S, Allen U, Foster B, Project 6 and CNTRP Investigators. **Canadian Institutes for Health Research.** \$14.2 million CAD. May 1, 2013- April 30, 2018.

Canadian Paediatric Surveillance Program: Vaccine hesitancy survey. Tran D. **Public Health Agency of Canada.** \$3,000 CAD. January 1, 2015 – January 1, 2016

Canadian Rotavirus Surveillance through the Immunization Monitoring Program Active (IMPACT): Assessment of Hospitalizations and Emergency Department Visits – the Impact of Publicly Funded Vaccine Programs in Canada. Le Saux N, Halperin S, Scheifele D, Bettinger J, Vaudry W, Tran D. **GlaxoSmithKline Canada.** \$28,920. December 31, 2011- March 30, 2015

Cellular Aging and HIV Comorbidities in Women and Children. Cote H, Bitnun A, Money D, Pick N, Soudeyns H, Brophy J, Janssen P, Kakkar F, Lapointe N, Murray M, Prior J, Silverman M, Singer J, Smith M. **Canadian Institutes for Health Research.** \$2,500,000 CAD. January 1, 2013- January 1, 2018

Immunization Monitoring Program Active (IMPACT). Halperin S, Vaudry W, Tran D. **Public Health Agency of Canada.** \$364,555 CAD. January 1, 2012 – December 31, 2016

Immunogenetic Markers of Extreme Clinical Phenotypes of Post-Transplant Lymphoproliferative Disorder: A Pilot Project. Allen U, Dipchand A, Beyene J, Grunebaum E, Hu Pingzhao, Levings M, Ng V, Preiksaitis J. **Enduring Heart Foundation.** \$35,000 US. January 1, 2015 – April 30, 2016.

Immunoprophylaxis Program: RSV Prophylaxis – Immunocompromised. Allen U. **ABBVIE Corporation.** \$25,000 CAD. November 1, 2014- August 30, 2015

Immunoprophylaxis Program: RSV Prophylaxis –Normal Host. Allen U. **ABBVIE Corporation.** \$163,000 CAD. November 1, 2014- August 30, 2015

Improving the prevention, diagnosis and treatment for post-transplant lymphoproliferative disorders after solid organ transplantation using peripheral blood and tissue biomarkers. Preiksaitis J, Allen U, Lai R, Peters A. **Alberta Innovates Health Solutions**. \$737,363 CAD. April 1, 2013-March 31, 2016

Long-term immunogenicity and clinical efficacy of the quadrivalent HPV vaccine in HIV positive girls and women. Bitnun A, Brophy J, Dobson S, Hankins C, Harris M, Hill J, Kakkar, F, Klein M, Kraiden M, Lapointe N, Loutfy M, Ogilvie G, Raboud J, Samson L, Smaill F, Stuart G, Tan D, Trottier S, Walmsley S, Wobeser W, Yudin Y. **Canadian Institutes of Health Research**. \$1,521,548 CAD. October 1, 2014 – September 30, 2018

Nevirapine Dosing in Neonates for Prophylaxis of Mother-to-Child Transmission (MTCT) of HIV Infection. Bitnun A, Lau E, Colantonio D, Seto W, Read S. **Canadian Foundation for AIDS Research**. \$20,528 CAD. June 30, 2011 – June 29, 2015

Parathyroid-vitamin D axis dysregulation in early-onset infant stunting in resource poor settings. Roth D, Morris S. **Bill and Melinda Gates Foundation**. \$1,999,993 USD. November 1, 2012 – October 31, 2016

Pediatric Consultants Partnership's Grant for Creative Professional Activity. Wadhwa A, Cohen E, Petrich A, Farrell D, Gubbay J, Connolly B, Weinstein M, Dell S, Mahant S. **The Hospital for Sick Children, University of Toronto**. \$10,000 CAD. April 1, 2013-December 31, 2015

Pediatric HIV infection: exploring determinates of a functional cure. Soudenys H, Bitnun A, Brophy J, Hawkes M, Kakkar F, Kaul R, Lapointe N, Lavoie P. **Canadian Institutes of Health Research**. \$1,982,500 CAD. March 1, 2013 – February 28, 2018

PICNIC study of the manifestation and outcomes of RSV among compromised hosts. Allen U, **Investigators Abbott Laboratories Ltd. (Canada)**. \$236,000 CAD. April 1, 2009-May 30, 2015

Pilot study of the in vitro and in vivo efficacy of Tobramycin Inhalation Powder (TIP) in cystic fibrosis patients infected with Burkholderia cepacia complex. **Novartis Pharmaceuticals Canada Inc.** \$65,000 CAD. February 1, 2014 – January 31, 2015

Population-based Core Surveillance of Meningococcal Invasive Infections at Participating Centres Across Canada. Le Saux N, Bettinger J, Halperin S, Tran D. **Canadian Paediatric Society, Sanofi Pasteur Enhanced**. \$25,632. March 31, 2013 – June 29, 2015

Prevalence and determinants of early childhood under vaccination in Toronto primary care practices. Tran D. **The Hospital for Sick Children, Paediatric Consultants Creative Partnership Grant**. \$9,913CAD. April 1, 2014 – March 30, 2015

Primary EBV Infection in the immunosuppressed Setting of Organ Transplantation: Determinants of Virus-Host Interaction. Allen U, Beyenne J, Dipchand A, Grunnebaum E, Hebert D, Husain H, Mazullie T, Ng V, Rread St., Robinson J. **Canadian Institutes for Health Research**. \$509,125. April 1, 2009 – September 30, 2014

DIVISION OF INFECTIOUS DISEASES	Subspecialty Residents
	Dr. Hoaan Le
	Dr. Nancy Nashid
Division Head	Dr. Jacqueline Wong
Dr. Upton Allen	
	Research Fellows
Full-Time	Dr. Sarah Khan
Dr. Ari Bitnun	Dr. Faisal Kordy
Dr. Shaun Morris	Dr. Kevin Schwartz
Dr. Michelle Science	
Dr. Dat Tran	Clinic Staff
Dr. Anu Wadhwa	Ray Lam
Dr. Valerie Waters	Debra Louch
	Georgina MacDougall
Part-Time	
Dr. Ian Kitai	Administrative Staff
Dr. Stan Read	Savannah Clancey
	Jenna Craig
Clinical Fellows	Linda Martin
Dr. Rabee Adwan	Mona Pedlar
Dr. Ajibola Alabi	Deborah Taylor
Dr. Nadia Alattas	
Dr. Hilal Al-Hashami	
Dr. Anila Chacko	

Severe influenza in infants, children and youths: Role of clinical and epidemiologic risk factors. O'Connor D, Moshe I, Tran D, Richardson S, Schuh S. **Canadian Institutes of Health Research**. \$776,835 CAD. December 1, 2011 – March 1, 2016

Short-Chain Fatty acids in Cystic Fibrosis Lung. Grasemann H, Waters V. **Novartis Pharmaceuticals Canada Inc**. \$65,000 CAD. April 1, 2014 - March 30, 2015

Special Immunization clinic network to investigate vaccine safety issues: Optimizing the clinical management of patients with contraindication to vaccination and those with adverse events following immunization (AEFI) as a platform for observational research. De Serres G, Top K, Halperin S, Tran D. **Canadian Institutes of Health Research, PHAC/CIHR Influenza Research Network**. \$24,656. March 31, 2012 – March 30, 2015

Stars in Global Health Round 4 Phase I: A toolkit to save newborn lives. Morris S, Bhutta Z. **Grand Challenges Canada**. \$113,000.00 CAD. March 17, 2013 – June 29, 2015

The CF lung microbiome and persistent vs eradicated *Pseudomonas aeruginosa*. Waters V, Guttman D, Hwang D, Yau Y. **Ontario Lung Association**. \$20,000 CAD. April 1, 2014 - March 30, 2016.

The CF lung microbiome and persistent vs eradicated *Pseudomonas aeruginosa*. Waters V, Guttman D. **Cystic Fibrosis Foundation (US)**. \$86,400 US. April 1, 2014 – March 30, 2016.

The role of clonal *Pseudomonas aeruginosa* in cystic fibrosis patients in Canada. Waters V, Yau Y, Speert D, Guttman D, Shawn A, Stephenson A, Ratjen F, Tullis E, McKinney M, Lavoie A, Wilcox P, Chilvers M, Freitag A, Stanojevic S, Fisman D, Zlosnik J. **Cystic Fibrosis Canada**. \$169,994 CAD. January 31, 2012 - January 30, 2015

Vitamin D and related biomarkers as predictors of severe influenza in children. Tran D. **Canadian Institutes of Health Research**. \$135,210. March 31, 2012 – March 30, 2015

DIVISION OF NEONATOLOGY



*From left to right:
Dr. Martin Skidmore
Dr. Kyong-Soon Lee
Dr. Jennifer Young
Dr. Michael Castaldo*

The Division of Neonatology is currently made up of 30 Faculty across three sites: SickKids, Mount Sinai Hospital and Sunnybrook Health Sciences Centre. The three NICUs that comprise the Division are together the largest and busiest in Canada, with approximately 2,500 admissions annually to a total of 133 beds. Close links also exist with the NICU at St. Michael's Hospital. With 20 trainees from almost every continent, the Division's Fellowship Program remains one of the most sizable and diverse in North America.

Academic activity within the Division continues to thrive, encompassing a diverse range of disciplines, including Cardiovascular Physiology, Lung Biology, Nutrition, Epidemiology and Quality Improvement.

The Division welcomes Dr. Amish Jain who joined as full-time Faculty (Mount Sinai site) in July 2014. We applaud Dr. Patrick McNamara and Dr. Douglas Campbell for their promotions to Full Professor and Associate Professor, respectively. Congratulations also goes to Dr. Martin Skidmore, who received the 2015 CPS Distinguished Neonatologist Award and to Dr. Dany Weisz, who was named Teacher of the Year by our trainees. Among our fellows, Drs. Mariam Ayed and Marlon Timothy were the Trainees of the Year and Dr. Michael Castaldo received the programme's Humanitarian Award.

In February 2015, the Mount Sinai NICU relocated to a new single-room facility that incorporates state-of-the-art technology for communications and electronic charting. Clinical activities within the SickKids NICU have expanded in the past year to include a Transport Staff Neonatologist (TSN) role. The TSN or Admitting Staff Neonatologist now participates in all admission and advice calls. This has enhanced decision-making around the care of critically ill neonates and has been well received by community physicians seeking support in the care of neonates within their own hospitals. The scope of practice of the Acute Care Transport Service (ACTS) will expand from its current mandate of transporting neonates, infants and children up to age 2 years, to include the transport of critically ill children up to age 12 years. A CIHR-funded national registry and database has also been established for neonatal transport, under the leadership of Dr. Kyong Soon-Lee.

Academic activity within the Division continues to thrive, encompassing a diverse range of disciplines, including Cardiovascular Physiology, Lung Biology, Nutrition, Epidemiology and Quality Improvement. Activities are increasingly focused on improvements in clinical practice. A comprehensive quality improvement initiative has evolved from a series of three research projects under the auspices of the Canadian Neonatal Network into a robust, interdisciplinary programme that is fully integrated within the Division's clinical service. At SickKids, the initiative has focused on reducing catheter-related bloodstream infections, ventilator associated pneumonia and unplanned extubations, and on the earlier introduction of maternal colostrum and expressed maternal or donor breast milk to critically ill preterm infants. A Nitric Oxide Stewardship Program has encouraged the appropriate, evidence-informed use of inhaled nitric oxide. The Family Integrated Care Program at Mount Sinai Hospital continues to flourish and is receiving international attention and recognition. Dr. Jennifer Young now leads a project supporting families after discharge from the NICU under the auspices of the "Life with a Baby" organization. The Women's and Babies program at the Sunnybrook Health Sciences Centre is currently developing a Breastfeeding Centre of Excellence to promote best practices through interdisciplinary collaboration, patient-oriented research and education on breastfeeding.

Honors and Awards

McNamara, P: Winner of Pediatric American Society Travel Award for Predictors of Post-Ligation Cardiac Syndrome in Neonates after Introduction of Targeted Milrinone Treatment, Pediatric Academic Societies Annual Meeting, Vancouver, British Columbia, Canada. May, 2014.

Publications

Abrahamsson TR, Rautava S, Moore AM, Neu J, Sherman PM. The time for a confirmative necrotizing enterocolitis probiotics prevention trial in the extremely low birth weight infant in North America is now! *Journal of Pediatrics* 2014; 165 (2): pp 389-394.

Diamond IR, Grant RC, Feldman BM, Pencharz PB, Ling SC, Moore AM, Wales PW. Defining consensus: a systematic review recommends methodologic criteria for reporting of Delphi studies. *Journal of Clinical Epidemiology* 2014; 67 (4): pp 401-409.

Elfvig E, Dinsdale E, Wales PW, Moore AM. Low birth weight, gestational age, need for surgical intervention and gram-negative bacteraemia predict intestinal failure following necrotising enterocolitis. *Acta Paediatrica* 2015: Epub 2015 Mar 12.

Finan E, Sehgal A, McNamara PJ. Targeted neonatal echocardiography in Canada: Need for standardized training and quality assurance. *Journal of Ultrasound in Medicine* 2014; 33 (10): pp 1833-1841.

Gosal K, Dunlop K, Dhaliwal R, Ivanovska J, Kantores C, Desjardins JF, Connelly KA, McNamara PJ, Jain A, Jankov RP. Rho-kinase mediates right ventricular systolic dysfunction in rats with chronic neonatal pulmonary hypertension. *American Journal of Respiratory Cell and Molecular Biology* 2015: 52 (6): pp 717-727: Epub 2014 Oct 22.

Grasemann H, Dhaliwal R, Ivanovska J, Kantores C, McNamara PJ, Scott J, Belik J, Jankov RP. Arginase inhibition prevents bleomycin-induced pulmonary hypertension, vascular remodeling and collagen deposition in neonatal rat lungs. *American Journal of Physiology: Lung Cellular and Molecular Physiology* 2015: 308 (6): pp L503-L510.

Guerin A, Aziz AS, Mutch C, Lewis J, Go CY, Mercimek-Mahmutoglu S. PNPO deficiency treatable cause of epileptic encephalopathy with burst suppression: case report and review of literature. *Journal of Child Neurology* 2014: Epub 2014 October 7.

Gunz AC, Dhanani S, Whyte HE, Menon K, Foster JR, Parker MJ, McNally JD. Identifying significant and relevant events during pediatric transport: A modified Delphi study. *Pediatric Critical Care Medicine* 2014; 15 (7): pp 653-659.

Jain A, Mohamed A, El-Khuffash A, Connelly KA, Dallaire F, Jankov RP, McNamara PJ, Mertens L. A comprehensive echocardiographic protocol for assessing neonatal right ventricular dimensions and function in the transitional period: normative data and z scores. *Journal of the American Society of Echocardiography* 2014; 27 (12): pp 1293-1304.

James AT, Bee C, Corcoran JD, McNamara PJ, Franklin O, El-Khuffash AF. Treatment of premature infants with pulmonary hypertension and right ventricular dysfunction with milrinone: A case series. *Journal of Perinatology* 2015: 35 (4): pp 268-273: Epub 2014 Nov 27.

James AT, Corcoran JD, Jain A, McNamara PJ, Mertens L, Franklin O, El-Khuffash A. Assessment of myocardial performance in preterm infants less than 29 weeks gestation during the transitional period. *Early Human Development* 2014: 90 (12): pp 829-835.

James AT, Corcoran JD, McNamara PJ, Franklin O, El-Khuffash AF. The effect of milrinone on right and left ventricular function when used as a rescue therapy for term infants with pulmonary hypertension. *Cardiology in the Young* 2015: Epub 2015 Jan 20: pp 1-10.

Kalaniti K, Campbell DM. Simulation-based medical education: Time for a pedagogical shift. *Indian Pediatrics* 2015: 52 (1): 41-45.

Kalaniti K. Do paediatric residents have the skills to 'lead' newborn resuscitations? *Acta Paediatrica* 2014: 103 (6): pp 592-593.

Kalaniti K. In situ simulation: Let's work, practice and learn together. *Acta Paediatrica* 2014: 103 (12): 1219-1220.

Keir AK, Hansen AL, Callum J, Jankov RP, Acker JP. Coinfusion of dextrose-containing fluids and red blood cells does not adversely affect in vitro red blood cell quality. *Transfusion* 2014: 54 (8): pp 2068-2076.

Masood A, Yi M, Lau M, Belcastro R, Li J, Kantores C, Pace-Asciak CR, Jankov RP, Tanswell AK. Cyclooxygenase-2 inhibition partially protects against 60% O₂-mediated lung injury in neonatal rats. *Pediatric Pulmonology* 2014: (10): pp 991-1002.

Mukerji A, Singh B, Helou SE, Fusch C, Dunn M, Belik J, Shah V. Use of Noninvasive High-Frequency Ventilation in the Neonatal Intensive Care Unit: A Retrospective Review. *American Journal of Perinatology* 2015: 30 (2): pp 171-176.

Nasui O, Chan M, Nathanael G, Crawley A, Miller E, Belik J, Cheng H-L, Kassner A, Rayner T, Weiss R, Detzler G, Zhong A, Moineddin R, Jong R, Rogers M, Doria A. Physiologic characterization of inflammatory arthritis in a rabbit model with BOLD and DCE MRI at 1.5 Tesla. *European Radiology* 2014: 24 (11): pp 2766-2778.

Noori S, McNamara PJ, MD; Jain A, Lavoie PM, Wickremasinghe A, Merritt TA, Solomon T, Sekar K, Attridge JT, Swanson JR, Gillam-Krakauer M, Reese J, Poindexter BB, Brook M, Auchus RJ, MD; Catecholamine-resistant hypotension and myocardial performance following patent ductus arteriosus ligation. *Journal of Perinatology* 2015: 35 (2): pp 123-127.

Sakhuja P, Whyte HE, Kamath B, Martin N, Chitayat D. Williams syndrome presenting with findings consistent with Alagille syndrome. *Clinical Case Reports* 2015: 3 (1): pp 24-28.

Sehgal A, Mehta S, Evans N, McNamara PJ. Cardiac sonography by the neonatologist: Clinical usefulness and educational perspective. *Journal of Ultrasound in Medicine* 2014; 33 (8): pp 1401-1406.

Weisz D, Jain A, McNamara PJ, El-Khuffash AEK. Non-invasive cardiac output monitoring in preterm infants undergoing patent ductus arteriosus ligation: A comparison with echocardiography. *Neonatology* 2014; 106 (4): pp 330-336.

Welsh C, Jarrin J, Daneman A, Belik J. In Vivo Ultrasound Assessment of Gastric Emptying in Newborn Mice. *Journal of Pediatric Gastroenterology and Nutrition*. *Journal of Pediatric Gastroenterology and Nutrition* 2015; 60 (3): pp 322-326.

Welsh C, Kasirer M, Pan J, Shifrin Y, Belik J. Infantile hypertrophic pyloric stenosis (IHPS): A study of its pathophysiology utilizing the newborn hph-1 mouse model of the disease. *American Journal of Physiology - Gastrointestinal and Liver Physiology* 2014; 307 (12): pp G1198-1206.

Welsh C, Kasirer M, Pan J, Shifrin Y, Belik J. Pantoprazole decreases gastroesophageal muscle tone in newborn rats via rho-kinase inhibition. *American Journal of Physiology - Gastrointestinal and Liver Physiology* 2014; 307: pp G390-G396.

Welsh C, Pan K, Belik J. Caffeine impairs gastrointestinal function in newborn rats. *Pediatric Research* 2015; Epub 2015 Mar 25.

Yoshida S, Rudan I, Lawn JE, Wall S, Souza JP, Martines J, Bahl R, McNamara PJ (collaborator). Newborn health priorities beyond 2015. *Lancet* 2014; 384 (9938): pp e27-29.

Book Chapters

Tanswell AK, Padela S, Jankov RP. Altered growth factor signaling in the pathogenesis of BPD. In: *Bronchopulmonary Dysplasia* (Abman SH, ed). Informa Healthcare, New York USA 2014: pp 188-207.

Grants and Funding

A multi-center, randomized, placebo-controlled, double-blind, two-armed, parallel group study to evaluate efficacy and safety of IV sildenafil in the treatment of neonates with persistent pulmonary hypertension of the newborn (PPHN) or hypoxic respiratory failure and at risk for PPHN, with a long term follow-up investigation of developmental progress 12 and 24 months after completion of study treatment. McNamara PJ, Jankov RP, Giesinger R. **Parexal Funded Multi-Centre Trial.** \$13,056 CAD per patient. August 13-2014-August 12-2019

DIVISION OF NEONATOLOGY	Mount Sinai Hospital
	Dr. Dalal Abdelgadir (Temporary Privileges)
Division Head	Dr. Olufunmi Akindele
Dr. Andrew James (Interim, The Hospital for Sick Children, July 2014 to Present)	Dr. Yenge Diambomba Dr. Emer Finan Dr. Amish Jain Dr. Ann Jefferies Dr. Edmond Kelly Dr. Sandra Leibel (Temporary Privileges)
Dr. Robert Jankov (Interim, University of Toronto, Jan 2014 to Present)	Dr. Adel Mohamed Dr. Karel O'Brien Dr. Martin Offringa
Full-Time	Dr. Prakesh Shah
Dr. Jaques Belik	Dr. Vibhuti Shah
Dr. Kyong-Soon Lee	Dr. Sharon Unger
Dr. Linh Ly	Dr. Jennifer Young
Dr. Patrick McNamara	Dr. Kin Fan Young Tai
Dr. Aideen Moore	
Dr. Christopher Tomlinson	St. Joseph's Hospital
Dr. Hilary Whyte	Dr. Dilip Mehta
	St. Michael's Hospital
Cross-Appointees	Dr. Douglas Campbell
The Hospital for Sick Children	Sunnybrook Health Sciences Centre
Dr. Rosemary Moodie	Dr. Elizabeth Asztalos Dr. Paige Church Dr. Michael Dunn Dr. Eugene Ng Dr. Martin Skidmore Dr. Dany Weisz

Analgesia and sedation in the preterm neonate: Brain development and outcome. Miller S, Grunau R, Taylor M, Whyte HE, Sled JG, Ly L, Brant R, Chau V, Kelly E, Poskitt K, Synnes A, Duerden E, McNamara P, Schroff M, Tam E, Wing Y, Zwicker J. **Canadian Institutes of Health Research**. \$1,104,216 CAD. October 1-2014-September 30-2020

Cognitive outcome in children born very preterm: Longitudinal measures of brain structure & function from birth. Taylor M, Whyte HE, Sled JG, Shroff M, Miller S. **Canadian Institutes of Health Research**. \$821,700 CAD. October 1-2014-September 30-2019

Developmental programming of hypertension. Belik J. **Canadian Institutes of Health Research Open Grants Program**. \$558,396 CAD. July 1-2014-June 30-2018

Improving quality of care during transport of sick neonates: A national collaborative partnership for outcome improvement and system enhancement. Lee K-S, Whyte H, Shah P, Barrington K, Lee S, Mirea L, Redpath S. **Canadian Institute of Health Research Partnerships for Health System Improvement Grant**. \$524,644 CAD. June 1-2013-May 31-2016

Neonatal protein and energy metabolism. Pencharz P, Tomlinson C, Ball RO. **Canadian Institutes of Health Research**. \$739,355 CAD. July 1-2012-June 30-2017

Neurological Outcome of Hypoglycemia in Neonatal Encephalopathy. Yun E, Bryant R, Ly L, Poskitt K, Zwicker J, Chau V, Mamak E, Solimano A, Connolly M, Miller S, Synnes A, Hahn C, Moore AM, Widjaja E. **Canadian Institute of Health Research.** \$703,745 CAD. April 1-2014-Mar 31-2019

Ontario Congenital Anomalies Surveillance Enhancement Initiative. Moore AM, Fell D. **Public Health Agency of Canada.** \$80,000 CAD. April 1-2014-March 31-2018.

Preclinical assessment of Rho-kinase inhibitors for chronic pulmonary hypertension. Jankov RP, McNamara PJ. **Canadian Institutes of Health Research Open Grants Program.** \$655,855 CAD. April 1-2011-March 31-2016

The Artemis Project: Real-time streaming of high volume, high fidelity physiological data for clinical decision support. James AG, McGregor C. **TD Bank Information Technology Group.** \$135,000 CAD. November 1-2014-October 31-2015

Whole exome sequencing in the NICU – Developing a rapid, specific and sensitive pipeline for the diagnosis of genetic disease in the newborn. Cohn R, Bowdin S, Moore AM, Bedford M, Doctor S. **McLaughlin Centre.** \$50,000 CAD. May 1-2014-April 30-2016

Toronto East	Subspecialty Residents
General Hospital	Dr. Hilal Almandhari
Dr. Jelena Popovic	Dr. Amina Benlamri
	Dr. Michael Castaldo
Clinical Fellows	Dr. Kristen Godin
Dr. Amir Adi-Atawna	Dr. Amy Shafey
Dr. Mohamed	Dr. Miroslav Stavel
Shalabi Ahmed	Dr. Karen Thomas
Dr. Ahmad Al-Zoani	Dr. Jonathan Wong
Dr. Eric Ang	
Dr. Mariam Ayed	Research Fellows
Dr. Anil Chacko	Dr. Nadia Bressan
Dr. Amy Chan	Dr. Rishikesan
Dr. Poorva Deshpande	Kamaleswaran
Dr. Mong Tieng Ee	Dr. Deepak Louis
Dr. Omar Elkhateeb	Dr. Fernando Martins
Dr. Amir Elmekki	Dr. Tanvi Naik
Dr. Amr El-Shahed	Dr. Maura Resende
Dr. Frank Fuchs	Dr. Asaph Rolnitsky
Dr. Regan Giesinger	Dr. Jessie Van Dyk
Dr. Abu Mohamed Ismail	
Dr. Hiroko Iwami	Honorary Faculty
Dr. Siyuan Jiang	Dr. Jonathan Hellmann
Dr. Kaarthigeyan Kalaniti	Dr. Max Perlman
Dr. Srinath Krishnappa	Dr. Paul Swyer
Dr. Ranjith Kulappura	
Dr. Johannes Letshwiti	Administrative Staff
Dr. Jillian Lewis	Gabriela Argumedo
Dr. Evonne Low	Clarisse Cacho
Dr. Kiran More	Clara Cheng
Dr. Inez Oliveira	Sonia Dos Santos
Dr. Jyothsna Purna	Katie Fox
Dr. Vivek Shukla	Judy Grundy
Dr. Mudita Tiwari	Allison Piercey
Dr. Qian Yang	Ashley Sintra
Dr. Yue Yao	Nicole Smith
Dr. Jian-Guo Zhou	Diana Soares

DIVISION OF NEPHROLOGY



Dr. Mathieu Lemaire

In 2014-2015, the number of children treated by the Nephrology team, and the complexity of care delivered rose steadily. This was true of both care delivered in the ambulatory setting, and acute care delivered in the in-patient and intensive care settings. The Nephrology educational training programs continued to attract trainees from around the world, offering them unique opportunities to integrate advanced clinical and research training. The period encompassing 2014-2015 helped to solidify the Nephrology division's reputation as one of the leading Nephrology research divisions in the world, due to the high number of successful grant applications from national and international granting agencies, the number of high-impact publications in top scientific journals, and the number of invitations to speak at important conferences.

The period encompassing 2014-2015 helped to solidify the Nephrology division's reputation as one of the leading Nephrology research divisions in the world.

In 2014, two new faculty members joined the Division of Nephrology, bringing with them unique expertise and experience. Dr. Damien Noone, an Academic Clinician, participates in all aspects of care of children with kidney disease, with a special focus on the renal manifestations of systemic vasculitis and immune-mediated disease. Dr. Mathieu Lemaire, a Clinician-Scientist, participates in the care of children with genetic forms of kidney disease, and his research program uses his expertise in cutting-edge genomic research methodologies to elucidate the underlying mechanisms of genetic kidney disease. The recruitment of these two rising stars will allow the Division of Nephrology to develop unique innovations in clinical care and scientific discovery.

Publications

Accompanying editorial: Wasser WG, Krugel-Davila E. Hemostatic Factors, APOL1, and ESRD Risk: Another Piece of the Puzzle? CJASN May 2015 10: (5) 723-725; published ahead of print April 17,2015

Ballios BG, Rosenblum ND. Challenges Facing Physician Scientist Trainees: a Survey of Trainees in Canada's Largest Undergraduate and Postgraduate Programs in a Single Centre. Clin Invest Med 2014; 37 (5): E1-E16. Senior Responsible Author

Blake J, Rosenblum ND. Renal Branching Morphogenesis: Morphogenetic and Molecular Mechanisms. Seminars in Cell and Developmental Biology, 36C:2-12, 2014. Senior Responsible Author

Chaturvedi S, Lipszyc DH, Licht C, Craig JC, Parekh R. Cochrane in context: pharmacological interventions for hypertension in children. Cochrane Review, Evid. Based Child Health, 2014 Sep;9(3):581-3. doi: 10. 1002/ebch. 1975.

Chaturvedi S, Robinson LA: Slit2-Robo Signaling in Inflammation and Kidney Injury. Pediatric Nephrology 2015: 30(4): pp 561-566.

Cornfield DN, Lane R, Rosenblum ND, Hostetter M, Jobe A, Albertine K, Aschner J, Abman SH. Patching the Pipeline: Creation and Retention of the Next Generation of Physician - Scientists for Child Health Research. Journal of Pediatrics, 165:882-884.

Foster BJ, Pai A, Zhao H, Furth S, TAKE-IT Study Group: The TAKE-IT Study: aims, design, and methods. BMC Nephrology 2014: Aug 30;15: 139.

Hothi DK, Stronach L, Harvey EA. Home haemodialysis. Pediatric Nephrology 2013: May; 28(5):721-30.

Jodele S, Fukuda T, Vinks A, Mizuno K, Laskin BL, Goebel J, Dixon BP, Teusink A, Pluthero FG, Lu L, Licht C, Davies SM. Eculizumab therapy in children with severe hematopoietic stem cell transplantation-associated thrombotic microangiopathy. Biol Blood Marrow Transplant. , 2014: 20(4):518-25.

Johnson S, Stojanovic J, Ariceta G, Bitzan M, Besbas N, Frieling M, Karpman D, Landau D, Langman C, Licht C, Pecoraro C, Riedl M, Siomou E, van de Kar N, Vande Walle J, Loirat C, Taylor M. An audit analysis of a guideline for

the investigation and initial therapy of diarrhea negative (atypical) hemolytic uremic syndrome. *Pediatr. Nephrol.* , 2014: Oct;29(10):1967-78.

Jotwani V, Shlipak MG, Scherzer R, Parekh RS , Kao WH, Bennett M, Cohen MH, Nowicki M, Sharma A, Young M, Tien PC, Parikh CR, Estrella MM. APOL1 Genotype and Glomerular and Tubular Kidney Injury in Women With HIV. *Am J Kidney Dis.* 2015 Apr 24. Pii:S0272-6386(15)00510-7. doi:10. 1053/j. akjd. 2015. 2. 329. PMID: 25921719

Keijzer-Veen MG, Hebert D and Parekh RS and the INSIGHT group. Propensity towards the null- use of rituximab in nephrotic syndrome. *Lancet*, Col 385, January 17, 2015

Kim JJ, McCulloch M, Marks SD, Waters A, Noone D. The clinical spectrum of hemolytic uremic syndrome secondary to complement factor H autoantibodies. *Clin. Nephrol.* 2015: 83(1): 49-56

Levin A, Clase CM, Sood MM, Dicks E, Fortin MC, Hartwig S, Holden R, Lafrance JP, Molzahn A, Rosenblum N, Samuel S, Soroka S. Canadian Journal of Kidney Health and Disease: a unique launch of a unique journal. *Canadian Journal of Kidney Health and Disease* 1: 1, 2014

Li W, Hartwig S, Rosenblum ND. Developmental Origins and Functions of Stromal Cells in the Normal and Diseased Mammalian Kidney. *Developmental Dynamics*, 243(7):853-63, 2014

Licht C, Noone D. Treatment of DEAP-HUS— seeking the best strategy (Letter to editors). *Pediatr. Nephrol.* , 2014: May;29(5):941-42.

Minnings, K, Kerns, E, Fiore, M, Parekh, RS, DuBois, J, Isbell, TS, Ferguson, R, Fiore, L, Fiore, M. Chronic kidney disease prevalence in Rivas, Nicaragua: Use of a field devise for creatinine measurement. *Clin Biochem.* 2015. 1. 5. (Epub ahead of print). PMID: 25617662

Noone D, Licht C. Chronic kidney disease: a new look at pathogenetic mechanisms and treatment options. *Pediatr Nephrol.*, 2014: 29(5): 779-92.

Noone D, Teoh CW, Dorman AM, Awan A. Omeprazole Induced Acute Interstitial Nephritis in an Adolescent. *J. Nephrol. Ther.* 2014: 4:159. doi:10.4172/2161-0959.1000159. (Open access)

Noone D, Waters A, Pluthero FG, Geary DF, Kirschfink M, Zipfel PF, Licht C. Successful Treatment of DEAP-HUS with Eculizumab. *Pediatr. Nephrol.* , 2014: May;29(5):841-851

Noone DG, Twilt M, Hayes WN, Thorner PS, Benseler S, Laxer RM, Parekh RS, Hebert D: The new histopathologic classification of ANCA-associated GN and its association with renal outcomes in childhood. *Clinical Journal of the American Society of Nephrology* 2014: Oct 7;9(10): 1684-91. 2014 Aug 21. (Epub ahead of print)

Parekh RS, Meoni LA, Jaar BG, Sozio SM, Shafi T, Tomaselli GF, Lima JA, Tereshchenko LG, Estrella MM and Kao WHL. Rationale and Design for the Predictors of Arrhythmias and Cardiovascular Disease in End Stage Renal Disease (PACE) Study. *BMC Nephrology.* 2015 Apr 24;16(1):63. doi:1186/s 12882-015-0050-4. PMID: 25903746

Riedl M, Fakhouri F, Le Quintrec M, Noone DG, Jungraithmayr TC, Fremeaux-Bacchi V, Licht C. Spectrum of complement-mediated thrombotic microangiopathies: pathogenetic insights identifying novel treatment approaches. *Seminars in thrombosis and hemostasis*, 2014; 40(4): 444-64. (C)

Riedl M, Fakhouri F, Quintrec ML, Noone D, Jungraithmayr TC, Fremeaux-Bacchi V, Licht C. Spectrum of Complement-Mediated Thrombotic Microangiopathies: Pathogenetic Insights Identifying Novel Treatment Approaches. *Semin. Thromb. Hemost.* , 2014 Jun;40(4):444-64

Rudzinski JK, Weber B, Wildgoose P, Lorenzo A, Bagli D, Farhat W, Harvey EA, Salle JL. Does routine ultrasound change management in the follow-up of patients with vesicoureteral reflux? *Canadian Urological Association Journal*, 2013 Jul-Aug;7(7-8): E467-9. DOI: 10. 5489/cuaj. 202. Erratum in: *Canadian Urological Association Journal*, 2013 Jul;7(7):223

Rumman,R, Nickel, C, Matsuda-Abedini, M, Lorenzo, AJ, Langlois,V, Radhakrishnan, R, Amaral,J, Mertens, L, and Parekh, RS. Disease beyond the Arch: A systematic review of middle aortic syndrome in childhood. *American Journal of Hypertension*. AM J Hyperten. 2015 Jan 27. Pii: hpu296. (Epub ahead of print) PMID: 25631383

Selewski DT, Troost JP, Massengill SF, Ghadegesin R, Greenbaum LA, Shatat IF, Cai Y, Kapur G, Hebert D, Somers MJ, Trachtman H, Pais P, Seifert ME, Goebel J, Sethna CB, Mahan JD, Gross HE, Herreshoff E, Liu Y, Song PX, Reeve BB, DeWalt DA, Gipson DS: The impact of disease duration on quality of life in children with nephrotic syndrome: a Midwest Pediatric Nephrology Consortium study. *Pediatric Nephrology* 2015 Mar 18 (Epub ahead of print)

Shafi T, Meyer TW, Hostetter TH, Melamed ML, Parekh RS, Hwang S, Banerjee T, Coresh J and Powe NR. Free Levels of Selected Organic Solutes and Cardiovascular Morbidity and Mortality in Hemodialysis Patients: Results from the Retained Organic Solutes and Clinical Outcomes (ROSCO) Investigators. *PLoS One*. 2015. May 4;10(5):e0126048. doi:10. 1371/ journal. pone. 126048. eCollection 2015. PMID: 25938230

Tin A, Grams ME, Maruthur MN, Astor BC, Couper D, Mosley TM, Fornage M, Parekh RS, Coresh J, Kao W. H. L. Hemostatic Factors, APOL1 Risk Variants, and the Risk of End-Stage Renal Disease in the Atherosclerosis Risk in Communities Study. *Clin J Am Soc Nephrol*. 2015 Apr 17. Pii: CJN. 8340814. (Epub ahead of print). PMID: 25887069

Vali R, Ranson M, Harvey EA, Shammas A. False-positive in 111-DTPA Octreotide Scintigraphy in Bilateral Tibial Insufficiency Fracture. *Paediatric Radiology*, 2015: Jan; 45(1): 129-32.

Wong HS, Jaumouillé V, Heit B, Doodnauth S, Huang YW, Grinstein S, Robinson LA: Confinement of CX3CL1 by the cytoskeleton limits its susceptibility to proteolytic cleavage by ADAM10. *Molecular Biology of the Cell* 2014; 25(24): pp 3884-3899

Grants and Funding

Antibiotic Prophylaxis versus Placebo in Infants Diagnosed with Hydronephrosis Antenatally: A Prospective, randomized Controlled Trial. Rosenblum ND. **Hamilton Health Sciences Corporation**. \$10,726.88 CAD. December 31-2012-December 30-2014

Canadian National Transplant Research Program: Increasing donation and improving transplantation outcomes. West LJ, Mital S, Parekh RS. **Canadian Institutes of Health Research (CIHR)**. \$1,370,000 CAD. January 1-2013–January 1-2018

Chronic Kidney Disease in Children (CKiD). Warady B, Pan C, Wong C, Al-Uzri A, Jenkins R, Goebel J, Mitsnefes M, Grimm P, Alexander S, Rodig N, Harmon S, White C, Fathallah S, Hmiel PS, Dell K, Turman M, Flynn J, Wood E, Blydt-Hansen T, Salusky I, Yadin O, Benador I, Mak R, Seikaly M, Portale A, Morgenstern B, Greenbaum L, Jones D, Atkinson M, Matoo T, Langman C, Kher K, Patel H, Seo-Mayer P, Andreoli S, Mendley S, Gipson D, Ferris M, Samuels J, Samsonov D, Kaskel F, Brophy P, Kupferman J, Saland J, Srivaths P, Lande M, Schwartz G, Norwood V, Weiss L, Neiberger R, Cai Y, Massengill S, Mongia A, John E, Furth S, Parekh RS, Robinson LA, Hidalgo G, Lakkis R. **The Children's Hospital of Philadelphia Research Institute**. \$19,660 CAD. January 1-2012-January 1-2018

CIHR MD/PhD Grant. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$660,000 CAD. January 1-2008-January 1-2014

CIHR MD/PhD Grant. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$660,000 CAD. January 1-2009-January 1-2015

CIHR MD/PhD Grant. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$660,000 CAD. January 1-2010-January 1-2016

CIHR MD/PhD Grant. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$660,000 CAD. January 1-2011-January 1-2017

CIHR MD/PhD Grant. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$660,000 CAD. January 1-2012-January 1-2018

CIHR MD/PhD Grant. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$660,000 CAD. January 1-2013-January 1-2019

CIHR MD/PhD Grant. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$660,000 CAD. January 1-2014-January 1-2020

Control of cerebellum cell specification, migration and organization by SUFU. Rosenblum ND. **Canadian Institutes of Health Research (CIHR)**. \$734,120 CAD. December 31-2010-March 30-2016

Developmental nephrology (Tier I). Rosenblum ND. **Canada Research Chairs(CRC) Tier 2 Renewal**. \$1,340,038 CAD. May 31-2012-May 30-2019

Discovery of Novel Targets and Development of Treatments for Complement-Mediated Disease. Licht C. **2014 Accelerator Grant in Genomic Medicine, McLaughlin Centre, University of Toronto.** \$30,000 CAD. January 1-2014-January 1-2015

Functions of Hedgehog-GLI-dependent signaling in stromal cells during normal and malformed mammalian kidney development. Rosenblum ND. **Canadian Institutes of Health Research (CIHR).** \$890,576 CAD. September 30-2013-September 29-2018

Hereditary Causes of Nephrolithiasis and Kidney Failure. Milliner DS, Harvey EA. **National Institutes of Health (NIH), National Center For Advancing Translational Sciences & National Institute Of Diabetes And Digestive And Kidney Diseases (NIDDK).** \$1,222,963 USD. September 1-2009-June 1-2014

Human heredity and health in Africa (H3Africa): Collaborative centers (U54). Ojo A, Parekh RS. **National Institutes of Health (NIH).** \$5,931,722 USD. January 1-2012-January 1-2017

Long-Term Survival in Childhood Solid Organ Transplants. Parekh RS. **Canadian Institutes of Health Research (CIHR).** \$514,679 CAD. September 30-2014-September 29-2018

Modulation of Vascular Injury by the Motility Regulators, Slit and Roundabout. Robinson LA. **Canadian Institutes of Health Research (CIHR).** \$616,945 CAD. December 31-2011-March 30-2016

Multi-center controlled clinical trials in alport syndrome – A feasibility study. Kashtan CE, Licht C. **National Institutes of Health (NIH) Exploratory/Developmental Research Grant Award.** \$47,898 USD. January 1-2012-December 1-2014

Multi-mode spinning disc confocal platform for live cell imaging. Robinson LA. **Canada Foundation for Innovation (CFI).** \$115,719 CAD. March 31-2011-March 30-2016

Non-invasive monitoring of pediatric kidney allograft injury to improve diagnosis and patient outcome. Blydt-Hansen T, Langlois V, Hamiwka LA, Morgan C, Sharma A, Matsell DG, Lau K, Tsampalierio A, Feber J, Phan V, Gibson I, Ho J, Mital S, Nickerson P, Wishart D. **Canadian Institutes of Health Research (CIHR).** \$951,777 CAD. January 1-2013-January 1-2018

Preventing Chronic Kidney Disease After Acute Kidney Injury. Robinson LA. **Canadian Institutes of Health Research (CIHR).** \$709,455 CAD. October 1-2014-September 30-2019

Primary EBV infection in the immunosuppressed setting of organ transplantation: Determinants of the outcomes of virus-host interaction. Allen UD, Beyene J, Dipchand AI, Grunebaum E, Hébert D, Husain S, Mazzulli T, Ng VL, Read SE, Robinson JL, Tellier R, Weitzman SS. **Canadian Institutes of Health Research (CIHR).** \$509,125 CAD. April 1-2010-October 1-2014

DIVISION OF NEPHROLOGY	Clinical Fellows
Division Head	Dr. Chia Wei Teoh
Dr. Lisa Robinson	Dr. Hassan Faqeehi
	Dr. Mahantesh Patil
	Dr. Murali Bhagavatula
Full-Time	Dr. Rahul Chanchlani
Dr. Christoph Licht	Dr. Sharon Rousso
Dr. Damien Noone	Dr. Shireen Bakhsh
Dr. Diane Hébert	Dr. Thanaporn
Dr. Elizabeth Harvey	Chaiyapak
Dr. Mathieu Lemaire	
Dr. Norman Rosenblum	Adjunct
Dr. Rulan Parekh	Dr. Leo Levin
Dr. Valerie Langlois	
	Administrative Staff
Part-Time	Andrea Verdugo
Dr. Lindsay Teskey	Anna Corpuz
Dr. Mina Matsuda-	Bernard Singh
Abedini	Burnett Wint
Dr. Rachel Pearl	Dana Debernyj
Dr. Seetha	Pradheepa Baskaran
Radhakrishnan	Ram Mohabir

Regulation of Leukocyte-Endothelial Interactions. Robinson LA. **Natural Sciences and Engineering Research Council of Canada (NSERC)**. \$170,000 CAD. March 31-2012-March 30-2017

TAKE IT: Teen Adherence in Kidney Transplant Effectiveness of Intervention Trial. Foster B., Furth S, Hébert D. **National Institutes of Health (NIH)**. \$124,525 USD. August 31-2011-May 30-2015

Teens Taking Charge – Managing my Transplant Online: A Feasibility Study. Korus M, Parekh RS. **Canadian Institutes of Health Research -Catalyst Grant: e-Health Innovations**. \$86,704 CAD. February 28-2014-February 27-2015

The aging kidney in HIV-infection: Biomarkers for early detection of injury. Shlipak MG, Parekh RS. **National Institutes of Health (NIH)/National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)**. \$2,464,480 USD. January 1-2010-January 1-2015

The Role of Slit/Robo Signaling in Renal Inflammation. Robinson LA. **Canada Research Chairs (CRC) Tier 2 Renewal**. \$500,000 CAD. July 1-2009-June 30-2014

DIVISION OF NEUROLOGY



*Dr. Noma Dlamini
Dr. Blathnaid McCoy*

The major foci of the clinical and academic activities of the Division of Neurology are epilepsy, stroke, headache, neurometabolic disease, neuromuscular disease, neurogenetics, sleep disorders, movement disorders, neuroinflammatory diseases, functional neuroimaging, neonatal neurology and neurointensive care.

This past year SickKids patients and staff celebrated Purple Day for Epilepsy awareness with the grand opening of the expanded Epilepsy Monitoring Unit (EMU).

The Division of Neurology has a Royal College accredited training program in Child Neurology as well as postdoctoral training programs in epilepsy, stroke, neonatal neurology, neuromuscular neurology, neurometabolic disease and neuroinflammatory diseases. In addition, there are a number of graduate students and postdoctoral fellows in clinical neurophysiology, neurogenetics, molecular and cellular neurobiology.

This past year SickKids patients and staff celebrated Purple Day for Epilepsy awareness with the grand opening of the expanded Epilepsy Monitoring Unit (EMU). The SickKids EMU expansion from four to seven beds was made possible through funding provided by the provincial government, under a task force co-chaired by the previous Head of the Division of Neurology and Centre for Brain & Mental Health, Dr. O. Carter Snead.

The Division welcomed two new faculty to the Division – Drs. Nomazulu Dlamini and Dr. Blathnaid McCoy, both welcome additions to our stroke and epilepsy services respectively. Both Drs. Dlamini and McCoy are former fellows in the Division and bring innovative clinical and research programs to SickKids.

The highlight of our academic year is the division's annual Prichard Day. In memory of Dr. John Stobo Prichard, former division head, the day highlights our trainees' research endeavours. Dr. Prichard was very involved in education and in his honour, our trainees

present their research work on this day, ending with a keynote lecture by a world-renowned expert. This year we were honoured to host Dr. Fenella Kirkham, Professor of Paediatric Neurology, University College London, Institute of Child Health. We thank the Prichard Family for their continued support of our trainees and this very special day.

The clinical, translational and basic research foci of the Division of Neurology are epilepsy and neurophysiology, stroke, cognitive neuroscience, brain health outcomes and quality of life, myopathies, neuroinflammatory diseases, fatty acid oxidation disorders, molecular and cellular neurobiology, and neonatal neurology.

Honours and Awards

Cortez M: Appointed Senior Member of the Task Force created by the International League Against Epilepsy (ILAE), Standardization of EEG methodology in developing rodents for the study of refractory epilepsies of childhood. Inaugural meeting, Stockholm, Sweden, May 29, 2014.

Lovett M: Received the OPA Award of Merit, Psychology in Education, Ontario Psychological Association, June, 2014.

Lovett M: Awarded the IRA Albert J. Harris Research Award for "Evaluating the efficacy of remediation for struggling readers in high school", International Reading Association, 2014.

Miller S: Received the John Stobo Prichard Award from the The International Child Neurology Association. May, 2014.

Tein I: Appointed President, The International Child Neurology Association, May 2014-May 2018

Weiss S: Received the SickKids, Department of Pediatrics Continuing Education Award. Department of Pediatrics, University of Toronto, Toronto, ON, June, 2014.

Widjaja, E: Received the Excellence in Teaching Award, Department of Medical Imaging Neuroradiology Fellowship Program, University of Toronto, December 2014.

Publications

Akiyama T, Akiyama M, Kobayashi K, Okanishi T, Boelman CG, Nita DA, Ochi A, Go CY, Snead OC 3rd, Rutka JT, Drake JM, Chuang S, Otsubo H. Spatial relationship between fast and slow components of ictal activities and interictal epileptiform discharges in epileptic spasms. *Clinical Neurophysiology* 2014 [Epub ahead of print].

Akman HO, Kakhlon O, Coku J, Peverelli L, Rosenmann H, Rozenstein-Tsalkovich L, Turnbull J, Meiner V, Chama L, Lerer I, Shpitzen S, Leitersdorf E, Paradas C, Wallace M, Schiffman R, DiMauro S, Lossos A, Minassian BA. Deep intronic GBE1 mutation in manifesting heterozygous patients with adult polyglucosan body disease. *Journal of the American Medical Association-Neurology* 2015 April 1: 72(4): pp 441-445.

Albert GW, Ibrahim GM, Otsubo H, Go CY, Snead OC, Drake JM, Rutka JT. Magnetoencephalography-guided resection of epileptogenic foci in children. *Journal of Neurosurgery Pediatrics* 2014;14: pp 532-537.

Algra S, Haas F, Poskitt KJ, Groenendaal F, Schouten AN, Jansen NJ, Azakie A, Gandhi S, Campbell A, Miller SP, McQuillen PS, de Vries LS. Minimizing the risk of pre-operative brain injury in neonates with aortic arch obstruction. *Journal of Pediatrics* 2014: Dec 165(6): pp 1116-1122.

Alshafai L, Ochi A, Go C, McCoy B, Hawkins C, Otsubo H, Snead OC, Rutka J, Widjaja E. Clinical, EEG, MRI, MEG, and surgical outcomes of pediatric epilepsy with astrocytic inclusions versus focal cortical dysplasia. *Epilepsia* 2014: 55(10): 1: pp 568-575.

Balogun JA, Khan OH, Taylor M, Dirks P, Der T, Snead OC III, Weiss S, Ochi A, Drake J, Rutka JT. Pediatric awake craniotomy and intra-operative stimulation mapping. *Journal of Clinical Neuroscience* 2014: 21: pp 1891-1894.

Bell E, Rasmussen LA, Mazer B, Shevell M, Miller SP, Synnes A, Yager JY, Majnemer A, Muhajarine N, Chouinard I, Racine E. Magnetic resonance imaging (MRI) and prognostication in neonatal hypoxic-ischemic injury: A vignette-based study of Canadian specialty physicians. *Journal of Child Neurology* 2015: 30(2): pp 174-181.

Bennett-Back O, Ochi A, Widjaja E, Nambu S, Kamiya A, Go C, Chuang S, Rutka JT, Drake J, Snead OC 3rd, Otsubo H. Magnetoencephalography helps delineate the extent of the epileptogenic zone for surgical planning in children with intractable epilepsy due to porencephalic cyst/encephalomalacia. *Journal of Neurosurgery and Pediatrics* 2014; Sep 14(3): pp 271-278.

Borlot F, Tellez-Zenteno JF, Allen A, Ali A, Snead OC, Andrade DM. Epilepsy transition: Challenges of caring for adults with childhood-onset epilepsy. *Epilepsia* 2014; 55: pp1659-1666.

Brown CJ, Miller SP, Booth BG, Andrews, Chau V, Poskitt KJ, Ghassan H. Structural network analysis of brain development in young preterm neonates. *Neuroimage* 2014; Nov 101: pp 667-680.

Byrne S, McCoy B, Lynch B, Webb D, King MD. Does early treatment improve outcomes in NMDAR encephalitis? *Developmental Medicine & Child Neurology* 2014; Doi:10. 1111/dmcn. 12411 [Epub ahead of print].

Çaliskan D, Olgac, Dundar N, Karahan N, Kürşat Bozkurt K, Turnbull J, Minassian BA. Lafora disease and occipital lobe seizures: Case report. *Turkiye Klinikleri J Pediatr* 2014; 23(1): pp 36-39.

Chau V, McFadden DE, Poskitt KJ, Miller SP. Chorioamnionitis in the pathogenesis of brain injury in preterm infants. *Clinical Perinatology* 2014; 41(1): pp 83-103.

Chen L, Yau I, deVeber G, Dirks P, Armstrong D, Krings T. Evolution of a chronic dissecting aneurysm on magnetic resonance imaging in a pediatric patient. *Journal of Neurosurgery – Pediatrics* 2014 Dec; 5: pp 1-5.

Cheng I, Miller SP, Duerden EG, Sun K, Chau V, Adams E, Poskitt KJ, Branson HM, Basu A. Stochastic process for white matter injury detection in preterm neonates. *Neuroimage Clinical* 2015; Feb 26:7: pp 622-630.

Costello F, Pan YI, Yeh EA, Burton JM, Hodge W, Carter G, Kardon R. The temporal evolution of structural and functional measures after acute optic neuritis. *Journal of Neurology, Neurosurgery & Psychiatry* 2015; Feb 10. [Epub ahead of print]

Crockett CD, Ruggieri A, Gujrati M, Zallek CM, Ramachandran N, Minassian BA, Moore SA. Late adult onset of X-linked myopathy with excessive autophagy (XMEA). *Muscle and Nerve* 2014; Jul 50(1): pp 138-144.

da Costa L, Robertson A, Bethune A, MacDonald MJ, Shek PN, Taylor MJ, Pang EW. Delayed and disorganized brain activation detected with magnetoencephalography after mild traumatic brain injury. *Journal of Neurology, Neurosurgery and Psychiatry*: doi:10. 1136/jnnp-2014-308571. Online first Oct 16, 2014.

Daghistani R, Rutka J, Widjaja E. MRI characteristics of cerebellar tubers and their longitudinal changes in children with tuberous sclerosis complex. *Childs Nervous System* 2015; Jan31(1): pp 109-113.

Donner E, Buchhalter J. Commentary: It's time to talk About SUDEP. *Epilepsia*: 2014 Oct 55(10): pp 1501-1503.

Donner EJ. Sudden unexpected death in epilepsy: Who are the children at risk? *Paediatric Child Health* 2014: Aug;19(7): pp 389.

Dorfer C, Ochi A, Snead OC, Donner E, Holowka S, Widjaja E, Rutka JT. Functional hemispherectomy for catastrophic epilepsy in very young infants: Technical considerations and complication avoidance. *Childs Nervous System* 2015: June. PMID: 26099232, epub before print.

Dowling JJ, Moore SA, Kalimo H, Minassian BA. X-linked myopathy with excessive autophagy: A failure of self-eating. *Acta Neuropathology* 2015: Mar 129(3): pp 383-390.

Dunkley BT, Da Costa L, Bethune A, Jetly R, Pang EW, Taylor MJ, Doesburg SM. Low-frequency connectivity is associated with mild traumatic brain injury. *Neuroimage* 2015: Clinical 7: pp 611-621.

Dunkley BT, Doesburg SM, Sedge PA, Grodecki RJ, Shek PN, Pang EW, Taylor MJ. Resting-state hippocampal connectivity correlates with symptom severity in post-traumatic stress disorder. *Neuroimaging* 2014: Clinical: pp 377-384.

Dunkley BT, Sedge PA, Doesburg SM, Grodecki RJ, Jetly R, Shek PN, Taylor MJ, Pang EW. Theta, mental flexibility, and post-traumatic stress disorder: Connecting in the parietal cortex. *PLoS ONE* 2015: 10(4):e0123541.

Fawkes DB, Malow BA, Weiss SK, Reynolds AM, Loh A, Adkins KW, Wofford DD, Wyatt AD, Goldman SE. Conducting actigraphy research in children with neurodevelopmental disorders - A practical approach. *Behavioral Sleep Medicine* 2014:12: pp 1-16.

Ferlazzo E, Canafoglia L, Michelucci R, Gambardella A, Gennaro E, Pasini E, Riguzzi P, Plasmati R, Volpi L, Labate A, Gasparini S, Villani F, Casazza M, Viri M, Zara F, Minassian BA, Turnbull J, Serratosa JM, Guerrero-López R, Franceschetti S, Aguglia U. Mild Lafora disease: Clinical, neurophysiologic, and genetic findings. *Epilepsia* 2014: Dec 55(12): e129-133.

Fernández I, Shults J, Topjian AA, Williams K, Wusthoff CJ, Abend NS. Development and validation of a seizure prediction model in critically ill children. *Seizure* 2014 Oct: 5(14): pp 264-267.

Fuentes A, Deotto A, Desrocher M, deVeber G, Westmacott R. Determinants of cognitive outcomes of perinatal and childhood stroke: A review. *Child Neuropsychology* 2014: Oct 30: pp 1-38.

Gaspard N, Hirsch LJ, LaRoche SM, Hahn CD, Westover MB (Critical Care EEG Monitoring Research Consortium). Interrater agreement for critical care EEG terminology. *Epilepsia* 2014: Apr: 133(4): e1092-1906.

Gavvala J, Abend N, LaRoche S, Hahn C, Herman ST, Claassen J, Macken M, Schuele S, Gerard E. Critical Care EEG Monitoring Research Consortium. *Epilepsia* 2014: Nov 55(11): pp 1864-1871.

Gruber R, Carrey N, Weiss SK, Frappier JY, Rourke L, Broulette RT, Wise M. Position statement on pediatric sleep for psychiatrists. *Journal of the Canadian Academy of Child and Adolescent Psychiatry* 2014; 23(3): pp 174-195.

Hacohen Y, Dlamini N, Hedderly T, Hughes E, Woods M, Vincent A, Lim M. N-methyl-D-aspartate receptor antibody-associated movement disorder without encephalopathy. *Developmental Medicine and Child Neurology* 2014; Feb 56(2): pp 190-193.

Hamasaki T, Otsubo H, Uchikawa H, Yamada K, Kuratsu JI. Olfactory auras caused by a very focal isolated epileptic network in the amygdala. *Epilepsy & Behavior Case Reports* 2014; 2: pp 142-144.

Heimer G, Sadaka Y, Israelian L, Feiglin A, Ruggieri A, Marshall CR, Scherer SW, Tzadok M, Minassian BA, Zeev B. CAOS-Episodic cerebellar ataxia, areflexia, optic atrophy and sensorineural hearing loss: A third allelic disorder of the ATP1A3 Gene. *Journal of Child Neurology* 2015; Apr 20. Epub ahead of print.

Herman ST, Abend NS, Bleck TP, Chapman KE, Drislane FW, Emerson RG, Gerard EE, Hahn CD, Husain AM, Kaplan PW, LaRoche SM, Nuwer MR, Quigg M, Riviello JJ, Schmitt SE, Simmons LA, Tsuchida TN, Hirsch LJ. Consensus statement on continuous EEG in critically ill adults and children, Part II: Personnel, technical specifications and clinic practice. *Journal of Clinical Neurophysiology*. Epub 2015 Jan 26.

Hochwald O, Jabr M, Osiovich H, Miller SP, McNamara PJ, Lavoie PM. Preferential cephalic redistribution of left ventricular cardiac output during therapeutic hypothermia for perinatal hypoxic-ischemic encephalopathy. *Journal of Pediatrics* 2014; 164(5): pp 999-1004.

Ibrahim GM, Cassel D, Morgan BR, Smith ML, Otsubo H, Ochi A, Taylor MJ, Rutka JT, Snead OC, Doesburg SM. Resilience of developing brain networks to interictal epileptiform discharges is associated with cognitive outcome. *Brain* 2014; 137(Pt 10): pp 2690-2702.

Ibrahim GM, Morgan BR, Lee W, Smith ML, Donner E, Wang F, Beers C, Federico P, Taylor MJ, Doesburg SM, Rutka JT, Snead OC. Impaired development of intrinsic connectivity networks in children with medically intractable focal epilepsy. *Human Brain Mapping* 2014; 35(11): pp 5686-5700.

Ibrahim GM, Morgan BR, Doesburg SM, Taylor MJ, Pang EW, Donner E, Go CY, Rutka JT, Snead III OC. Atypical language laterality is associated with large-scale disruption of network integration in children with medically-intractable localization-related epilepsy. *Cortex* 2015; 65: pp 83-88.

Ibrahim GM, Rutka JT, Snead OC. Epilepsy surgery in childhood: No longer the treatment of last resort. *Canadian Medical Association Journal* 2014; 186: pp 973-974.

Lah S, Smith ML. Verbal memory and literacy outcomes one year after paediatric temporal lobectomy: A retrospective cohort study. *Epilepsy & Behavior* 2015; 44: pp 225–233.

Leung R, Pang EW, Cassel D, Brian JA, Smith ML, Taylor MJ. Early neural activation during facial affect processing in adolescents with Autism Spectrum Disorder. *NeuroImage: Clinical* 2014; 7: pp 203-212.

Limotai C, Go C, Baba S, Ochi A, Rutka JT, Snead OC, Otsubo H. Steal phenomenon in Sturge-Weber syndrome (SWS) imitating ictal EEG change in the contralateral hemisphere. *Journal of Neurosurgery Pediatrics* 2015; 8: pp 1-5.

Longoni G, Banwell B, Filippi M, Yeh EA. Rituximab as a first-line preventive treatment in pediatric NMOSDs: Preliminary results in 5 children. *Neurology Neuroimmunology Neuroinflammation* 2014; Dec 1(4): e46.

Mercimek-Mahmutoglu S, Patel J, Cordeiro D, Hewson S, M.Sc, Callen D, Donner E, Hahn C, Kannu P, Kobayashi J, Minassian B, Moharir M, Siriwardena K, Weiss S, Weksberg R, Snead C. Diagnostic yield of genetic testing in epileptic encephalopathy in childhood. *Epilepsia* 2015; 56(5): pp 707-716.

Mercimek-Mahmutoglu S, Sidky S, Hyland K, Patel J, Donner EJ, Logan W, Mendoza-Londono R, Moharir M, Raiman J, Schulze A, Siriwardena K, Yoon G, Kyriakopoulou L. Prevalence of inherited neurotransmitter disorders in patients with movement disorders and epilepsy: A retrospective cohort study. *Orphanet Journal of Rare Diseases* 2015 Feb 8;10(1): pp 12.

Minassian BA, Kalimo H. Autophagy in neuropathology. *Acta Neuropathology* 2015; Mar 129(3): pp 333-335.

Mohammadi M, Okanishi T, Okanari K, Baba S, Sumiyoshi H, Sakuma S, Ochi A, Widjaja E, Go CY, Snead OC, Otsubo H. Asymmetrical generalized paroxysmal fast activities in children with intractable localization-related epilepsy. *Brain Development* 2014 [Epub ahead of print].

Ngoma MS, Hunter JA, Harper JA, Church PT, Mumba S, Chandwe M, Côté HCF, Albert AYK, Smith ML, Selemani C, Bandenduck L, Ndlovu U, Khan S, Roa L, Silverman MS. No evidence of neurodevelopmental delay in HIV-negative infants exposed to cART in utero and during extended breastfeeding. *AIDS* 2014; 28 (Suppl 3): S323–S330.

O’Flanagan D, Barret AS, Foley M, Cotter S, Bonner C, Crowe C, Lynch B, Sweeney B, McCoy B, Purcell E. Investigation of an association between onset of narcolepsy and vaccination with pandemic influenza vaccine in Ireland. *Euro Surveillance* 2014; 19(17): pii:20798.

Oh A, Duerden EG, Pang EW. The role of the insula in speech and language. *Brain and Language* 2014; 135: pp 96-103.

Okanishi T, Akiyama T, Tanaka S, Mayo E, Mitsutake A, Boelman C, Go C, Snead OC 3rd, Drake J, Rutka J, Ochi A, Otsubo H. Interictal high frequency oscillations correlating with seizure outcome in patients with widespread epileptic networks in tuberous sclerosis complex. *Epilepsia* 2014; 55: pp 1602-1610.

Pang EW, Chu BHW, Otsubo H. Occipital lobe lesions result in a displacement of MEG visual evoked field dipoles. *Journal of Clinical Neurophysiology* 2014; 31(5): pp 456-461.

Pang EW, Sedge P, Grodecki R, Robertson A, MacDonald MJ, Jetly R, Shek PN, Taylor MJ. Color or shape: Examination of neural processes underlying mental flexibility in posttraumatic stress disorder. *Translational Psychiatry* 2014; 4: e421.

Pauka K, Khattab M, Kerr EN, Smith ML. Academic achievement one year after resective epilepsy surgery in children. *Epilepsy & Behavior* 2015; 47: pp 1-5.

Payne ET, Hahn CD. Continuous electroencephalography for seizures and status epilepticus. *Current Opinion in Pediatrics* 2014; Dec 26 (6): pp 675-681.

Payne ET, Hahn CD. Reply: The circular dilemma of seizure-induced brain injury. *Brain* 2014; Jul 3. pii: awu186. [Epub ahead of print]

Plumb P, Seiber E, Dowling M, Lee JE, Bernard TJ, deVeber G, Ichord R, Bastian R, Lo WD. Out of pocket costs for pediatric stroke care. *Pediatric Neurology* 2015; Jan 52(1): pp 73-76.

Puka K, Smith ML. Predictors of long-term quality of life after pediatric epilepsy surgery. *Epilepsia* 2015; 56(6): pp 873-881.

Rafay M, Armstrong D, Dirks P, MacGregor DL, deVeber G. Patterns of cerebral ischemia in children with moyamoya. *Pediatric Neurology* 2015; Jan 52(1): pp 65-72.

Ruggieri A, Ramachandran N, Wang P, Haan E, Kneebone C, Manavis J, Morandi L, Moroni I, Blumbergs P, Mora M, Minassian BA. Non-coding VMA21 deletions cause X-linked myopathy with excessive autophagy. *Neuromuscular Disorders* 2015; Mar 25(3): pp 207-211.

Sadaka Y, Sadeh A, Bradbury L, Massicotte C, Zak M, Go C, Shorer Z, Weiss SK. Validation of actigraphy with continuous video-electroencephalography in children with epilepsy. *Sleep Medicine* 2014; pii: pp S1389-9457.

Sakuma S, Tokuhara D, Otsubo H, Yamano T, Shintaku H. Interictal high frequency oscillations correlating with seizure outcome in patients with widespread epileptic networks in tuberous sclerosis complex. *Japan Clinical Medicine* 2014 Aug 13(5): pp 25-32.

Sankhala RS, Koksal AC, Ho L, Nitschke F, Minassian BA, Cingolani G. Dimeric quaternary structure of human laforin. *Journal of Biological Chemistry* 2015; Feb 20: 290(8): pp 4552-4559.

Saraste A, Koskenvuo JW, Ramachandran N, Munteanu I, Kalimo S, Minassian BA. No cardiomyopathy in X-linked myopathy with excessive autophagy. *Neuromuscular Disorders* 2015 Mar. Epub ahead of print.

Sato Y, Doesburg SM, Wong SM, Boelman C, Ochi A, Otsubo H. Preictal surrender of post-spike slow waves to spike-related high-frequency oscillations (80-200 Hz) is associated with seizure initiation. *Epilepsia* 2014; 55: pp 1399-1405.

Schwartz K, Richardson S, Ward K, Donaldson C, MacGregor DL, Banwell B, Mahant S, Bitnun A. Delayed primary HHV-7 infection and serious neurological disease; serologic and molecular investigations are imperative for diagnosis. *Pediatrics* 2014 Jun 133(6): e1541-1547.

Science M, Bitnun A, Mahant S, Richardson S, Tran D, MacGregor DL. Central nervous system complications of varicella-zoster virus. *Journal of Pediatrics* 2014; Oct 165(4): pp 779-785.

Sham L, Yeh EA, Magalhaes S, Parra E, Gozdzik A, Banwell B, Hanwell H. Evaluation of fall sun exposure score in predicting vitamin D status in young Canadian adults, and the influence of ancestry. *Journal of Photochemistry and Photobiology: Biology* 2015; Apr 145: pp 25-29.

Shiraishi H, Haginoya K, Nakagawa E, Saitoh S, Kaneko Y, Nakasato N, Chan D, Otsubo H. Magnetoencephalography localizing spike sources of atypical benign partial epilepsy. *Brain and Development* 2014; 36: pp 21-27.

Sinclair A, Fox C, Ichord R, Almond C, Bernard T, Beslow LA, Chan AK, Cheung M, deVeber G, Dowling M, Friedman N, Giglia TM, Guilliams K, Humpl T. Stroke in children with cardiac disease: Report from the International Pediatric Stroke Study. *Pediatric Neurology* 2015; Jan 52(1): pp 5-15.

Sultan S, Schupf N, Dowling M, deVeber G, Kirton A, Elkind MS (IPSS Investigators). Predictors of cholesterol and lipoprotein(a) testing in children with arterial ischemic stroke. *Journal of Stroke Cerebrovascular Disease* 2014; Oct 23(9): pp 2405-2413.

Tavares T, Puka K, Smith ML. Emotional functioning: Long-term outcomes after pediatric epilepsy surgery. *Epilepsia* 2015; 56(5): pp 745-753.

Tein I. Impact of fatty acid oxidation disorders in child neurology. From Reye syndrome to Pandora's box. *Developmental Medicine and Child Neurology* 2015; 57: pp 304-306.

Tein I. Vitamin and cofactor responsive encephalopathies and seizures. *Journal of the International Child Neurology Association* 2015: open access e-journal, pp 1-10.

Todd RM, Taylor MJ, Robertson A, Cassel DB, Doesburg SM, Lee DH, Shek PN, Pang EW. Temporal-spatial neural activation patterns linked to perceptual encoding of emotional salience. *PLoS ONE* 2014; 9(4): e93753.

Todorovski Z, Asrar S, Liu J, Saw NM, Joshi K, Cortez MA, Snead OC 3rd, Xie W, Jia Z. LIMK1 regulates long-term memory and synaptic plasticity via the transcriptional factor CREB. *Molecular Cell Biology* 2015; 15: pp 1316-1328.

Vaags AK, Bowdin S, Smith ML, Gilbert-Dussardier B, Brocke-Holmefjord KS, Sinopoli K, Gilles C, Haaland TB, Vincent-Delorme C, Lagrue E, Harbuz R, Walker S, Marshall CR, Houge G, Kalscheuer VM, Scherer SW, Minassian BA. Absent CNKSR2 causes seizures and intellectual, attention, and language deficits. *Annals of Neurology* 2014; 76(5): pp 758-764.

Vara AS, Pang EW, Vidal J, Anagnostou E, Taylor MJ. Neural mechanisms of inhibitory control mature in adolescence. *Developmental Cognitive Neuroscience* 2014; 10: pp 129-139.

Vogan V, Morgan BR, Lee W, Smith ML, Taylor M. The neural correlates of working memory in children and adolescents with ASD and the effects of cognitive load. *Journal of Neurodevelopmental Disorders* 2014; 6: pp 19.

Westall CA, Wright T, Cortese F, Kumarapah A, Snead OC, Buncic JR. Vigabatrin retinal toxicity in children with infantile spasms. An observational study. *Neurology* 2014; 83: pp 2262-2268.

Whitney R, Moharir M, Allen A, Cortez MA. Paroxysmal alpha activity in Rett syndrome: A case report. *Pediatric Neurology* 2014; 51: pp 421-425.

Widjaja E, Go C, McCoy B, Snead OC. Neurodevelopmental outcome of infantile spasms: A systematic review and meta-analysis. *Epilepsy Research* 2015; 109: pp 155-162.

Widjaja E, Mojdeh ZM, Raybaud C, Snead OC, Doesberg S, Smith ML. Disrupted global and regional structural networks in children with localization-related epilepsy. *American Journal of Neuroradiology* 2015; March 5: doi: 10.3174/ajnr.A4265.

Widjaja E, Mojdeh ZM, Raybaud C, Snead OC, Smith ML. Volumetric changes in hippocampal subregions and their relation to memory in pediatric non-lesional localization-related epilepsy. *Epilepsia* 2014; 55(4): pp 519-527.

Wilson, SJ, Baxendale S, Barr W, Hamed S, Langfitt J, Samson S, Watanabe M, Baker GA, Helmstaedter C, Hermann BP, Smith ML. Indications and expectations for neuropsychological assessment in routine epilepsy care: Report of the ILAE Neuropsychology Task Force, Diagnostic Methods Commission, 2013-2017. *Epilepsia* 2015; 56(5): pp 674-681.

Wintermark M, Hills NK, deVeber GA, Barkovich AJ, Elkind MS, Sear K, Zhu G, Leiva-Salinas C, Hou Q, Dowling MM, Bernard TJ, Friedman NR, Ichord RN, Fullerton HJ (VIPS Investigators). Arteriopathy diagnosis in childhood arterial ischemic stroke: Results of the Vascular Effects of Infection in Pediatric Stroke Study. *Stroke* 2014; Dec 45(12): pp 3597-3605.

Xavier F, Komvilaisak P, Williams S, Kulkarni AV, deVeber G, Moharir MD. Anticoagulant therapy in head injury-associated cerebral sinovenous thrombosis in children. *Pediatric Blood Cancer* 2014; Nov 61(11): pp 2037-2042.

Yeh EA, Marrie RA, Reginald YA, Buncic JR, Noguera AE, O'Mahony J, Mah JK, Banwell B, Costello F (Canadian Pediatric Demyelinating Disease Network). Functional-structural correlations in the afferent visual pathway in pediatric demyelination. *Neurology* 2014; 83(23): pp 2147-2152.

Yu VY, De Nil L, Pang EW. Effects of age, sex and syllable structure on voice onset time: Evidence from children's voiceless aspirated stops. *Language and Speech* 2015; 58(2): pp 152-167.

Yu VY, MacDonald MJ, Oh A, Hua GN, De Nil LF, Pang EW. Age-related sex differences in language lateralization: A magnetoencephalography study in children. *Developmental Psychology* 2014; 50(9): pp 2276-2284.

Book Chapters

Corkum P, Davidson F, Tan-MacNeill K, Weiss SK. Sleep in children with neurodevelopmental disorders: A focus on insomnia in children with ADHD and ASD. In: *Behavioral Aspects of Sleep Problems in Childhood and Adolescence* (Owens JA, ed), Sleep Medicine Clinics: Elsevier Publishing, New York, NY. 2014: pp149-168.

Go CY, Snead OC. Epilepsy in girls and female adolescents. In: *Women with Epilepsy* (Bui E, Klein A, eds). Cambridge University Press, Cambridge UK 2014: pp 92-100.

Iida K, Hashizume A, Otsubo H. MEG and magnetic source imaging in MRI-negative focal epilepsy. In: *MRI-Negative Epilepsy* (So EL, Ryvlin P, eds). Cambridge University Press: 2015.

Minassian BA. The progressive myoclonus epilepsies. In: *Progress in Brain Research* 2014: Volume 213: pp 113-122.

Moharir M, deVeber G. Cerebral sinovenous thrombosis in infants and children. In: *Medlink Neurology* (Gilman S, ed). San Diego: Medlink Corporation. Available at Annual Update 2014.

Grants and Funding

A pilot dose finding study of pioglitazone in children with ASD. Anagnostou E, Brian J.

Physicians Services Incorporated Foundation. \$127,700 CAD. Aug 2012-Jul 2014

A study to assess the safety, tolerability and pharmacokinetics of multiple doses of ISIS 396443 delivered intrathecally to patients with infantile onset spinal muscular atrophy (SMA). Vajsar J. **ISIS Pharmaceuticals.** \$49,826 USD. Jul 2013-Jul 2015

An international multi-centre joint initiative to plan and design a randomized controlled trial (RCT) of anti-coagulation therapy in neonatal cerebral sinovenous thrombosis (NCSVT). Moharir M, deVeber G, de Vries L, Brandao L, Branson H, Chan A, de Haan T, Jain A, Jordan L, Kirkham F, McNamara P, Pontigon AM, Ramenghi L, Steinlin M, Shroff M, Van Ommen H, Volmer B.

International Pediatric Research Foundation. \$25,000 USD. Sep 2013–Sep 2014

Analyzing the transition of pediatric epilepsy patients to adult epilepsy patients. Epilepsy Transitional Program: Results of a 6-year experience and needs assessment. Andrade D. **University of Toronto, Faculty of Medicine.** New Initiative Program. \$30,000 CAD. Jul 2013-Jul 2014

Autism spectrum disorders: Genomes to outcomes. Anagnostou E, Scherer S, Szatmari P. **Genome Canada/Canadian Institute of Health Research/Ontario Ministry of Economic Developmental and Innovation.** \$10,000,000 CAD. Apr 2013-Mar 2017

Autism Treatment Network Registry. Loh A, Roberts W, Anagnostou E, Marcon M, Weiss SK, Brian J, Feigenbaum A, Schulze A, Logan W, Chitayat D, Weksberg R, Green P, Mitchell S, Berall G, Bradley E, Freeman N, Stinson J, Ornstein M, Atkinson A, Goldfarb C, Flanagan J, Superina D, Jimenez E, Jones Stokreef N, Orsino A, Isaacs B, Handley-Derry M. **Autism Speaks USA.** \$1,000,000 USD. Sep 2011-Aug 2014

Bench2Bedside clinical trial of NAC for RYR1-related myopathies. Mueller K, Dowling JJ. **National Institute of Health.** \$55,000 CAD. Apr 2014-Jun 2015

Better nights/better days: Improving psychosocial health outcomes in children with behavioural insomnia. Corkum PV, Andreou P, Gruber R, Rusak B, Weiss SK, Barwick M, Hall W, Stremler R, Witmans M, Chambers C, McGrath P, Wade T, Godbout R, Reid G, Watters C. **Canadian Institutes of Health Research.** \$2,000,000 CAD. Sep 2010-Oct 2015

Biomarkers in sudden unexpected death in epilepsy. Donner E. **Ontario Brain Institute** \$250,000 CAD. Jun 2013-Jul 2018

Canadian MS Monitoring System: Pilot. Yeh A. **Public Health Agency of Canada/Canadian Institute for Health Information.** \$40,000 CAD. 2014-2015

Carrier mediated delivery of therapeutic proteins into the brain. Minassian BA, Melnyk R. **The W. Garfield Weston Foundation – Brain Canada Multi-Investigator Research Initiative (MIRI).** \$1,500,000 CAD. 2013-2016

CCDC78 and the pathogenesis of centronuclear myopathy. Dowling JJ. **National Institutes of Arthritis and Musculoskeletal Diseases (NIAMS), NIH.** \$150,000 USD. 2012-2015

Cellular aging and HIV comorbidities in women and children. Smith ML, Cote H. **Canadian Institutes for Health Research.** \$2,500,000 CAD. 2013-2017

Center for the Study of Adult Literacy: Developing instructional approaches suited to the cognitive and motivational needs of struggling adult readers. Greenberg D, Lovett MW, Graesser A, Frijters JC, Branum-Martin L. **Funded as the first National Research and Development Center on Cognition and Adult Literacy, Institute of Education Sciences (US Department of Education).** \$10,000,000 USD. Jan 2012–Aug 2017

Cerebral palsy: Causes to prevention imaging substudy. Miller S, Fehlings D, Andersen J, Yager, JY, Fehlings M, Majnemer A, Dube MP, Scherer S, Joseph KS, Goez H, Kolb B, van der Kooy D, Nagy A, Spratt K, Stainsz G, Velumian A, Wintermark P. **NeuroDevNet – Networks of Centres of Excellence**. \$100,000 CAD. May 2010-Apr 2015

Characterization of postictal generalized EEG suppression in children. Otsubo H, Okanari K. **Ontario Brain Institute, EPLink**. \$50,000 CAD. 2014-2015

Childhood cerebral palsy integrated discovery network (CP-NET). Shroff M, deVeber G. **Ontario Brain Institute**. \$7,500,000 CAD. Aug 2013–Jul 2018

Childhood Cerebral Palsy Integrated Discovery Network “CP-NET”. CP-NET Executive: Fehlings D, deVeber G, Fehlings M, Menon R, Rosenbaum P, Scherer S. CP-NET Research Team: Ansari D, Biddiss E, Campbell C, Carter M, Chau T, Chen R, Cheyne D, Ferro M, Frid P, Gorter JW, Graham N, Hall G, Henkelman M, Kawamura A, Kingsnorth S, McCormick A, Mesterman R, Miller S, Morshead C, Palisano R, Paterson A, Pelland L, Raybaud C, Samdup D, Scott S, Segalowitz S, Shroff M, Strothers S, Taylor M, van der Kooy D, Wintle R, Wright V. **Ontario Brain Institute**. \$5,000,000 CAD. Jun 2013-May 2018

Cholesterol and omega-3 fatty acid levels on brain development and neurodevelopmental outcome after prematurity. Tam EWY, Ferriero DM, Grunau RE, Innis SM. **The Gerber Foundation**. \$131,009 CAD. Jul 2012-Jun 2015

Clinical genetic testing for autosomal recessive hereditary spastic paraplegia. Ray PN, Yoon G, Baskin B. **NIH Office of Rare Diseases Research Collaboration Education and Test Translation Program**. \$197,000 USD. 2010–2015

Co-clinical trials in mice and humans in autism. Anagnostou E, Lerch J. **Azrieli Foundation - Brain Canada**. \$2,500,000 CAD. Apr 2014-Mar 2019

Cognition and pediatric epilepsy. Smith ML. **Ontario Brain Institute Sub project in EPLINK/ Integrated Discovery System for Epilepsy (New Approaches to Intractable Seizures)**. \$250,000 CAD. 2013-2018

Cognitive outcome in children born very preterm: Longitudinal measures of brain structure and function from birth. Smith ML, Taylor MJ. **Canadian Institutes for Health Research**. \$821,700 CAD. 2014-2019

Collaborative Assessment of Pediatric Transverse Myelitis: Understand, Reveal, Educate (CAPTURE) Study. Assessment of prevention, diagnosis, and treatment options. Yeh EA, Greenberg B, Banwell B, Krishnan C, Pardo C, Becker D, Boyce D, Waldman A. **Patient Centred Outcomes Research Institute**. \$1,500,000 USD. 2013-2016

Combining MEG and MRI to improve localization of epileptic brain activity. Cheyne D, Widjaja J. **EpLink/Ontario Brain Institute**. \$250,000 CAD. Mar 2014-Feb 2019

Combining MEG and MRI to improve localization of epileptic brain activity. Cheyne D, Lerch J, Otsubo H, Widjaja E, Wennberg R. **Ontario Brain Institute**. \$250,000 CAD. 2013–2018

Creatine supplementation in childhood myositis. Feldman B, Tein I, Schulze A, Wells G, Stephens S. **The Myositis Association**. \$100,000 CAD. Mar 2013-Feb 2015

Critical Care EEG Monitoring Consortium – Research Infrastructure Award. Hahn CD, Abend NS, Hirsch L, Husain AM, LaRoche SM, Lee JW. **American Epilepsy Society and Epilepsy Foundation**. \$50,000 CAD. Jan 2014–Dec 2014

Developing instructional approaches suited to the cognitive and motivational needs of struggling adult readers. Greenberg D, Lovett MW, Graesser A, Frijters JC, Branum-Martin L. **Center for the Study of Adult Literacy: Funded as the first National Research and Development Center on Cognition and Adult Literacy, Institute of Education Sciences (US Department of Education)**. \$10,000,000 USD. 2012-2017

Development, implementation and dissemination of a standardized approach to the care of paediatric multiple sclerosis: A national consensus guideline of management strategies including treatment of acute relapses, immunomodulation, and escalation therapy to increase patient safety and prevent early-onset neurological disability. Pohl D, Venkateswaran S, Banwell B, Yeh EA. **Canadian Institutes for Health Research**. \$300,000 CAD. Apr 2012–Mar 2015

Do recurrent seizures injure the developing brain? Widjaja E. **EpLink/Ontario Brain Institute**. \$250,000 CAD. Mar 2014-Feb 2019

DTI, MRSI, and volumetry of cerebellar injury in preterm neonates. Tam EWY, Ferriero DM, Xu D, Berman JI, Vigneron DB, Barkovich AJ, Miller SP. **National Institute of Health**. \$1,990,000 CAD. Dec 2009-Nov 2014

Early childhood behavior: Relations to early brain structure/function and maternal mood. Oberlander T, Brant RF, Chau V, Grunau RE, Lim K, Miller SP, Misri S, Rurak DW, Wiebe SA. **Canadian Institutes of Health Research**. \$1,139,616 CAD. Sep 2012–Aug 2017

Early detection and neurodevelopment outcome in late onset IUGR. Seed M, Kingdom J, Miller S, Blaser S, Jaeggi E, Macgowan C, Manlhiot C, McCrindle B, Keating S. **SickKids Foundation/CIHR New Investigator**. \$298,390 CAD. Oct 2013- Sep 2016

Emerging team to identify and characterize novel and existing Hereditary Spastic Paraplegia (HSP) disease genes. Rouleau GA, Bolduc FV, Boycott KM, Drapeau P, Dupré N, Parboosingh J, Parker A, Ray PN, Suchowersky O, Vande Velde C, Yoon G. **Canadian Institutes of Health Research**. \$499,744 CAD. 2012-2017

End MS RRTC, Ontario-Manitoba. Yeh EA, Harauz, G, Gaffhir, O. **MS Society of Canada**. \$300,000 CAD. Apr 2012-Apr 2015

Environmental enrichment and infantile spasms: Morphological studies. Snead OC. **Ontario Brain Institute**. \$90,000 CAD. Jan 2013–Dec 2018

EpLink: Phase II of The Epilepsy Discovery Project Genetic Database. Minassian BA. **The Ontario Brain Institute.** \$500,000 CAD. 2014-2019

Ergometric training in mitochondrial myopathies. Tein I. **Knights of Columbus Fund for Mitochondrial Disorders.** \$100,000 CAD. 2012–2014

Exploring stochasticity in the spatio-temporal patterns of coordinated brain activity. Perez-Velazquez JL. **NSERC Discovery Grant.** \$155,000 CAD. 2012-2017

First Ontario EEG screening for children with risk factors for Infantile Spasms: Significance of phase synchrony in hypersarrhythmia. Cortez MA, Nenadovic V, Bamaga A, Go C, Sharma R, Weiss S, Donner E, Tam E, Miller S, Snead OC III. **Eplink/Ontario Brain Institute.** \$50,000 CAD. Jul 2013-Jul 2018

Gene discovery for malignant hyperthermia susceptibility. Dowling JJ. **McLaughlin Centre Accelerator Grant, University of Toronto.** \$75,000 CAD. May 2014-Apr 2015

Genes, reading and dyslexia. Gruen, J. Subcontracted sites: Lovett M, Wolf M, Pennington B, Willcutt E, Boada R. **Manton Foundation to Yale University.** \$5,000,000 USD. Dec 2009– Nov 2014

Genetics of reading disabilities. Barr CL, Kerr EN, Knight J, Lovett MW. **Canadian Institutes for Health Research.** \$1,293,293 CAD. Apr 2014–Mar 2019

GLU-T1 deficiency and response to Ketogenic diet. Matmutoglu S, Kobayashi J, Donner EJ. **Canadian Institutes of Health Research.** \$45,000 CAD. 2012–2014

Health-related quality of life in children with new-onset epilepsy: A long-term follow-up. Smith ML, Speechley K, Camfield M, Ferro S, Levin S, Wiebe S, Zho G. **Canadian Institutes for Health Research.** \$561,784 CAD. 2011-2015

Identification of carnitine-responsive cardiomyopathy and myopathy in adult patients with dilated and hypertrophic cardiomyopathy and limb girdle weakness. Faghfoury H, Tein I. **Physicians' Services Incorporated Foundation of Ontario.** \$115,616 CAD. Nov 2013-Oct 2015

Identifying the genes and underlying causes for intractable epilepsies by next generation sequencing. Minassian BA, Mahmutoglu S. **McLaughlin Centre Accelerator Grants in Genomic Medicine.** \$75,000 CAD. 2013-2014

Identification of genes involved in epilepsy and epilepsy pharmacoresistance. Minassian B, Mahmutoglu S. **McLaughlin Centre - Accelerator Grants in Genomic Medicine.** \$75,000 CAD. 2014

Impact of pediatric epilepsy surgery on health-related quality of life. Widjaja E. **Canadian Institutes for Health Research.** \$697,292 CAD. Apr 2014–Mar 2019

Improving working memory intervention in children with epilepsy: Treatment, transfer, and brain effects. Kerr E, Widjaja E. **Eplink/Ontario Brain Institute.** \$250,000 CAD. Mar 2014-Feb 2019

Intranasal oxytocin for social cognition/function in adults with autism. Anagnostou E, Woodbury-Smith M, Szatmari P, Brian J. **Canadian Institutes of Health Research.** \$1,073,417 CAD. Jan 2012–Jan 2016

Iron treatment of sleep disorders in children with Autism Spectrum Disorder. Reynolds A, Malow B, Weiss SK, Green P, Halbower A, Connolly H, Hyman S. **Autism Speaks.** \$82,000 CAD. Nov 2013–June 2014

Magnetoencephalography (MEG) measures of sensorimotor plasticity in hemiplegic CP during constraint induced movement therapy (CIMT). Cheyne D, Fehlings D. **Ontario Brain Institute.** \$190,000 CAD. 2013–2015

Measuring the stimulated brain: Determining the specificity of high definition electrical brain stimulation using simultaneous MEG. Cheyne D, Master S. **Hospital for Sick Children, Centre for Brain and Mental Health, Small Grants Program.** \$43,440 CAD. 2013–2014.

Microbiome in inflammatory disorders. Gommeran J, Yeh EA. **Connaught Grant - University of Toronto.** \$100,000 CAD. 2012–2013

MRI assessment of the impact of fetal brain oxygenation on brain development in congenital heart disease. Miller S, Macgowan C, McCrindle B, Yoo SJ, Jaeggi E, Blaser S, Kingdom J. **Pediatric Heart Network (National Institutes of Health) Scholar Awards Funding For Mentored Research.** \$75,000 CAD. Oct 2013–Sep 2014

Muscle-eye-brain diseases. Vajsar J. **HSC Foundation.** \$37,000 CAD. Jan 2006–Dec 2014

Music therapy to enhance sleep in sick infants in NICU. Ochi A, Tam E. **Centre for Brain & Mental Health, SickKids.** \$50,000 CAD. 2013–2015

Neonatal intensive care and brain development of the preterm neonate. Miller SP, Grunau R, Taylor MJ, Synnes A, Ly L, Poskitt K, Brant R, Sled JG, Whyte HE. **Canadian Institutes of Health Research.** \$1,104,216 CAD. 2014–2020

Neural correlates of movement disorders resulting from childhood stroke. Cheyne D, deVeber G, Domi T. **Canadian Institutes for Health Research.** \$324,854 CAD. 2014–2017

Neurocognitive bases of treatment resistance in developmental dyslexia. Morris RD, Pugh KR, Lovett MW, Seidenberg MS, Frijters JC, Sevcik RA, Zevin J, Landi N, Mencl E. **National Institutes of Child Health and Human Development.** \$3,112,500 USD. 2013–2018

Neuroimaging of controlled and automatic processes in human motor control. Cheyne D. **NSERC Discovery Grant.** \$180,335 CAD. 2009–2014

Neuroimmunological etiologies of ROHHAD. Yeh A, Hamilton J, Narang I, Dalmau J. **Rare Diseases Foundation.** \$3500 CAD. 2014–2014

Neurocognitive bases of treatment resistance in developmental dyslexia. Morris RD, Pugh KR, Lovett MW, Seidenberg MS, Frijters JC, Sevcik RA, Zevin J, Landi N, Mencl E. **National Institutes of Child Health and Human Development.** \$3,112,500 USD. Jan 2013–Jun 2018

Neurological outcome of hypoglycemia in neonatal encephalopathy. Tam E, Brant RF, Chau V, Connolly M, Hahn CD, Ly Linh G, Mamak E, Miller SP, Moore AM, Poskitt KJ, Solimano AJ, Synnes R, Widjaja E, Zwicker JG, Roland E. **Canadian Institutes of Health Research** \$703,747 CAD. Apr 2014–Mar 2019

Objective and subjective assessment of sleep in adolescents after mild traumatic brain injury compared to non-injured controls: A pilot study. Hung R, Keightley M, Reed N, Weiss SK, Rumney P, Thomas S, Taha T. **Bloorview Research Institute Catalyst Grant**. \$11,466 CAD. Dec 2013-Dec 2014

Obtaining the genome sequence of 320 enrolled in EpLink studies. Andrade D, Poulter M. **Obi-EpLink**. \$100,000 CAD. Jul 2013-Jun 2017

Ontario EEG screening for children with risk factors for infantile spasms. Cortez M, Nenadovic V. **EpLink-Ontario Brain Institute**. \$250,000 CAD. Mar 2013–Mar 2018

Optimizing mothers' milk for preterm infants. O'Connor DL, Unger S, Doesburg SM, Fusch C, Hamilton JK, Innis SM, Kiss AJ, Miller SP, Pencharz PB, Rovet JF, Shah P, Stintzi A, Tam, EWY, Taylor MJ, Tomlinson C, Zlotnik Shaul R. **Canadian Institutes Health Research**. \$1,999,675 CAD. Jun 2013-May 2018

Neurological outcome of hypoglycemia in neonatal encephalopathy. Tam EY, Hahn CD, Chau V, Miller SP. **Canadian Institutes of Health Research**. \$703,747 CAD. Apr 2014-Mar 2019

Non-invasive treatment of paediatric neurological disorders. Drake J, Hoadie M, Tam E, deVeber G, Donner E, Waspe A, Pichardo S, Looi T. **Brain Canada Multi-Investigator Research Initiative**. \$1,500,000 CAD. Jul 2013-Jun 2016

Nonconvulsive seizures among critically ill children. Hahn CD, Hutchison JS, Snead OC, Parshuram CS, Otsubo H. **Canadian Institutes of Health Research & SickKids Foundation**. \$431,694 CAD. Oct 2009-Jul 2014

Personalized medicine for the treatment of epilepsy. Minassian BA, Cossette P, Michaud J. **Genome Canada**. \$11,000,000 CAD. 2013–2017

Physical activity in pediatric MS: Barriers and facilitators. Yeh EA. **National MS Society**. \$40,000 USD. 2014-2015

Post-marketing retrospective and observational study: Utilization and effectiveness analysis of Gamunex in Guillain-Barré Syndrome (GBS). Vajsar J. **Grifols Inc**. \$11,000 CAD. Mar 2014-Mar 2015

Prevalence of mucopolysaccharidosis in individuals undergoing nerve conduction study for carpal tunnel syndrome. Mahmutoglu S, Vasjar J. **Genzyme**. \$25,000 CAD. 2014-2015

Province of Ontario Neurodevelopmental Disorders Network (POND). Anagnostou E, Arnold P, Szatmari P, Schachar R, Scherer, S. **Ontario Brain Institute**. \$8,750,000 CAD. Jul 2013-Jun 2018

Randomized trial of Ophtho-Sim. Yeh A. **SickKids Innovation Funds**. \$8500 CAD. 2014-2015

DIVISION OF NEUROLOGY	Part-Time
	Dr. Danielle Andrade
	Dr. Jonathan Gladstone
Division Head	Dr. Hans Katzberg
Dr. Steven Miller	Dr. Wayne Langburt
	Dr. Christine Lay
Full-Time	Dr. William Logan
Dr. Rand Askalan	Dr. Gilbert Miller
Dr. Vann Chau	Dr. Peter Rumney
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Dr. Nomazulu Dlamini	
Dr. Elizabeth Donner	Cross-Appointees
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Dr. Mahendranath Moharir	Dr. Grace Yoon
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	Dr. Hiroshi Otsubo
	Dr. Elizabeth Pang
	Dr. Mary Lou Smith
	Dr. Margot Taylor
	Dr. Jose Luis Perez Velazquez
	Dr. Robyn Westmacott

Reviewing the multifaceted aspects of transitioning from a pediatric epilepsy clinic to an adult epilepsy clinic. Andrade D, Snead C, Miller S, Borlot F. **Ontario Brain Institute.** \$30,000 CAD. Jul 2013-Jun 2014

Stress and neurodevelopment in children born preterm. Grunau R, Miller S, Synnes A, Brant R, Weinberg J, Whitfield M. **Canadian Institutes of Health Research.** \$155,339 CAD. Jan 2008–Dec 2013

Stroke Imaging Laboratory for Children (SILC). deVeber G. **Heart and Stroke Foundation and SickKids Foundation.** \$2.2 million. Sep 2013-Apr 2019

Think fast! The role of automaticity in the cognitive control of action. Cheyne D. **NSERC Operating Grant.** \$145,000 CAD. 2014–2020

Trajectories of brain development and neurocognitive outcomes in children born premature. Miller S, Grunau R, Bjornson B, Brant R, Poskitt K, Synnes A, Weinberg J. **Canadian Institutes of Health Research.** \$1,171,869 CAD. Apr 2011–Mar 2016

Treating insomnia in children with cerebral palsy: A pilot prospective case series study to determine the impact of a standardized parent sleep education program and feasibility of sleep actigraphy in this population. Green P, Petta C, Milo-Manson G, Weiss S, Constantin E, Gresley-Jones T. **Bloorview Research Institute Catalyst Grant.** \$12,000 CAD. Apr 2014– Mar 2015

Treatment adherence in pediatric multiple sclerosis. Yeh EA, Schwartz C, Weinstock-Guttman B, Ness J, Patterson M, Rodriguez M, Waubant E. **National MS Society.** \$525,000 USD. Oct 2012-Oct 2015

Treatment of overweight induced by antipsychotic medication in young people with ASD. Anagnostou E, Veenstra-VanderWeele J, Handen J, Butler E, Aman M. **Health Resources and Services Administration (USA)**. \$1,418,395 USD. 2013-2016

Typical and atypical development of frontal lobe systems and the maturation of social cognitive function. Taylor MJ, Pang EW, Doesburg S, Anagnostou E. **Canadian Institutes of Health Research**. \$766,896 CAD. Jan 2012-Dec 2017

Using MR-guided focused ultrasound (MRgFUS). Cortez M, Nenadovic V, Go C, Sharma R, Weiss S, Donner E, Tam E, Miller S, Snead C. **EpLink Ontario Brain Institute Epilepsy Project**. First Ontario EEG Screening for Children with Risk Factors for Infantile Spasms. \$250,000 CAD. Jul 2013-Jun 2018

Validation of monitoring changes in brain synchrony to anticipate seizures and implement feedback stimulation to stop seizure occurrence. Perez-Velazquez JL. **Ontario Brain Institute**. \$250,000 CAD. 2013-2018

Vitamin D clinical trial. Yeh, EA, Banwell B, Makhani N, Veith R, Marrie, RA. **Dairy Farmers of Canada**. \$80,000 CAD. Jan 2012 to Apr 2015

White matter integrity and neurocognition in sickle cell patients. Odame I, Widjaja E. **RK Smiley Grant, Canadian Hematology Society**. \$10,000 CAD. Jul 2013-Jun 2014

Honourary Staff

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Dr. Flavio Coceani
Dr. Katarina Haka-Ikse
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Dr. Ahmed Bamaga
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Dr. Liza Kouzimitcheva
Dr. Carolyn Lai
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Dr. Hebah Qashqari
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Dr. Ishita Siddiq
Dr. Siri Sonty

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Research Fellows

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Dr. Giulia Longoni
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Dr. Dua'a Ba-Armah
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DIVISION OF PAEDIATRIC MEDICINE

The Division of Paediatric Medicine continues to play an integral role in the Department of Paediatrics, with respect to clinical care, quality improvement, education and research. The Division's diverse and active Sections include: General Paediatric Hospital Medicine (Inpatient Ambulatory, Complex Care), Paediatric Advanced Care Team (palliative care), Child Maltreatment Paediatrics (SCAN), Paediatric Dermatology and Community Paediatrics. Representatives from each of these sections play active roles within the hospital, and also hold key leadership roles in national and international professional organizations.



*Back row left to right:
Alexandra Pennal,
Michael Bishara*

*Middle Row left to right:
Dr. Elena Pope
Nhung Ho, Jackie Su,
Dr. Irene Lara-Corrales*

*Bottom Row left to right:
Rebecca Levy,
Michelle Lee*

Paediatric Dermatology remains the busiest ambulatory clinical service in the Department. The Dermatology Section continues to provide outstanding clinical care for children with rare dermatologic conditions and those requiring interdisciplinary approaches.

Dr. Carolyn Beck continues to provide exceptional leadership for the busy inpatient hospital medicine section. The inpatient physician staffing model has been consolidated to form a stable, dedicated group of hospitalists who are either full time division members, or attend here at least half-time (with the remainder of their clinical work as pediatric hospitalists in one of the GTA hospitals). The inpatient general pediatric units have continued to experience sustained high patient volumes and high acuity and complexity, requiring increased attention to optimizing systems and processes, while maintaining a focus on quality and safety. Carolyn Beck, Sarah Schwartz and Trey Coffey have been at the helm of new initiatives in this area, in partnership with Kate Langrish, Nadia Tavernes and their outstanding management team. Efforts are underway to more clearly define and plan for the highest acuity “intermediate care” group of general pediatric inpatients. The Streamlined Care Unit (SCU) continues to offer efficiencies through cohorting of patients with predictable clinical trajectories. This year has seen expansion of the Alternative Care Environment (ACE) model, focused on optimizing inpatient bed utilization and length of stay. The expansion consists of an ACE clinic model, which offers the ability to provide semi-urgent, coordinated, multidisciplinary patient assessments in the outpatient setting for patients who do not require overnight nursing care. Continuity has emerged as a key theme in quality of care and a nursing case manager model for long stay patients is being developed and piloted. The Division’s work on I-PASS, led

by Trey Coffey and Zia Bismilla, and part of a national research collaborative, has continued to support enhanced patient care through attention to handoff/transfers of clinical care not only within the Division, but also more widely throughout the Department.

In other areas of the Division, Dr. Catherine Birken was recognized this year with a Departmental award for outstanding clinical contribution, for her innovative work in the STOMP early years program, addressing the growing problem of obesity in young children. Dr. Eyal Cohen was recognized for his outstanding contributions to the care of children with complex medical conditions with a Junior Faculty Clinical Excellence Award. The complex care program and its satellites continue to grow. The Paediatric Advanced Care Team, led by Adam Rapoport, has experienced tremendous growth, with a notable increase in clinical activity, a sought-after elective experience, provincial committee development and an emerging fellowship training program. Academic productivity in PACT has dramatically increased. Dr. Lee Ford-Jones was honoured by the Canadian Paediatric Society in recognition of her outstanding advocacy for the health and welfare of children, with the prestigious Victor Marchessault Advocacy Award.

Education remains a key area of activity in Paediatric Medicine, with a significant proportion of core training for University of Toronto undergraduate students and pediatric residents provided by Divisional faculty, including the

active Community Section. Under the newly-appointed Michael Weinstein, Divisional Director of Education as of February 2014, active efforts are underway to optimize continuity of care and bedside teaching for medical students and residents on the inpatient units, adjusting to changes in trainee work hours, family-centered rounds and efficiency mandates. Division faculty members have participated in two faculty development sessions particularly targeted in this area and are implementing a new approach to focused clinical skills teaching on the inpatient units. Division members continue to be recognized for their outstanding contributions to education through teaching awards (see below) Innovative curriculum development is actively underway in Paediatric Dermatology, PACT and Child Maltreatment. Physicians in Paediatric Medicine continue to play key leadership roles in undergraduate and postgraduate education within the Department, University and Learning Institute, and participate actively in Royal College committees and examination boards. A Divisional focus on education scholarship continues with Zia Bismilla as the lead

The Division continues to offer a large, diverse and active fellowship program, with a total of 34 fellows in the 2014/15 academic year, hailing from Canada, the US, Europe, the Middle East, UK and Mexico. Sarah Schwartz continues as the Fellowship Director for the Division, and track directors are in place for each of the specific fellowship programs within the Division. Clinical fellows in general paediatric hospital medicine play an active role on the 7B inpatient unit, and admitting services, and provide high quality trainee on call coverage for general pediatrics. The academic general paediatric fellowship continues to thrive, with fellows developing skills in clinical epidemiology,

health services research, medical education, global health and public health. Active fellowship programs which are unique in Canada continue in Paediatric Dermatology, Child Maltreatment Paediatrics and Community Paediatrics, with a new fellowship launched in Paediatric Palliative Care in 2014.

The Paediatric Medicine Research Program has continued its exponential growth and success. With areas of focus in patient-based outcomes research, health services research, global health research and a well-established innovative primary care research network (TARGET Kids), Division members have been exceptionally productive this year. Sustained success in grant support for research endeavours is evident, with Divisional faculty holding a total of more than 40 million dollars of grant funding, and numerous peer-reviewed publications. Dr. Astrid Guttmann continues to play a leadership role in child health services research and health policy, with a tremendously productive research program and has been appointed to the position of Chief Science Officer at the Institute for Clinical Evaluative Sciences (ICES). In recognition of his successful program of research, Jonathon Maguire was selected for Young Investigator Awards by the Canadian Paediatric Society and CIHR.

Paediatric Dermatology remains the busiest ambulatory clinical service in the Department. The Dermatology Section continues to provide outstanding clinical care for children with rare dermatologic conditions and those requiring interdisciplinary approaches. Headed by Elena Pope, the section provides leadership nationally and internationally in the field, is tremendously active in education at all levels, and offers a unique and popular fellowship training program which is building clinical and academic

capacity. This year, Dr. Pope cochaired the World Congress of Paediatric Dermatology in Madrid, Spain. Academic activity within the Section has led to success in grant funding and numerous publications which are improving the course of clinical care for children with rare skin conditions.

The SCAN Program continues to grow under the co-leadership of Tanya Smith, nurse practitioner and Emma Cory. Clinical activity continues both on site at the hospital, and at the downtown Child and Youth Advocacy Centre, a model partnership between medical, mental health, child protection and police services. An active fellowship program is in place, training paediatricians who will build capacity in Canada and internationally. Certification in Child Maltreatment Paediatrics by the Royal College is now finalized and the Toronto fellowship program will apply for accreditation this upcoming year. A successful annual National Symposium on Advanced Practices in Child Maltreatment Paediatrics was held in Montreal this year, cochaired by Michelle Shouldice and will return to Toronto in the fall of 2015. An interprofessional clinical research program in child maltreatment continues to develop, with increasing poster presentations and publications arising from the team.

This outstanding group of clinicians, educators and researchers has had a tremendously successful year and remains dedicated to working together to improve the health and welfare of children through general pediatric clinical care, a commitment to education, and scholarship. Important collaborations with the Division's downtown partner St. Michael's hospital, Toronto area regional hospitals, community pediatricians, primary health

care providers, and research networks are essential to the Division and continue to grow. Congratulations on an excellent year!

Honors and Awards

Bernhard, N: Winner of the RHA Haslam Preclerkship Teaching Award, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Bernstein, S: Canadian Association for Medical Education Certificate of Merit Award 2015

Bernstein, S: Winner of the POWER Award for excellence in post-graduate teaching, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Birken, C: Winner of the POWER Award for excellence in post-graduate teaching, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Birken, C: Winner of the award for Outstanding Clinical Contribution (with Jill Hamilton/STOMP), Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Cohen, E: Winner of the Junior Faculty Award for Clinical Excellence in Paediatric Medical Care, Department of Paediatrics, The Hospital for Sick Children, Toronto, Ontario, June 2014

Ford-Jones, L: Canadian Pediatric Society Victor Marchessault Advocacy Award, Canadian Pediatric Society, Canadian Pediatric Society Conference, Montreal, Quebec, June 2014

Goldbach, M: Continuing Medical Education Award runner up

Guttman, A: Appointed as Chief Science Officer at ICES

Han, R: Postgraduate Community Paediatric Teaching Award runner up

Kanani, R: Winner of the Lionel Weinstein Clerkship Teaching Award, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Lau, E: Winner of the POWER Award for excellence in post-graduate teaching, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Maguire, J: Prestigious Early Research Award, from the Ontario Ministry of Research and Innovation

Mozes, Y: Winner of the Marvin Gerstein Award, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Mozes, Y: Faculty of Medicine, Integrated Medical Education Teaching Award nominee

Nelson, K: Winner of Clinician Scientist Training Program (\$40,000 per year for 2 years), Research Training Centre, Hospital for Sick Children, Toronto, Ontario, Canada, July, 2014.

Nelson, K: Winner of Travel Award (\$1000), Institute of Human Development, Child and Youth Health, CIHR (Canadian Institutes of Health Research), Ottawa, Ontario, Canada, November, 2014.

Nelson, K: Winner of SGS Conference Grant (\$750), School of Graduate Studies, University of Toronto, Toronto, Ontario, Canada.

PACT team: Promising project for pediatric healthcare professionals, the people's choice award (voted best app by all conference attendees), and the Mobile Med award, HackingHealth Kids , The Hospital for Sick Children, Toronto, Ontario, May 2014

Parkin, P: Winner of the POWER Award for excellence in post-graduate teaching, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Porepa, J: Faculty of Medicine, Integrated Medical Education Teaching Award nominee

Saunders, N: Thomas and Edna Naylor Award 2015 For a graduate student (MSc or PhD) in the Institute of Health, Policy, Management and Evaluation, University of Toronto who completes the best paper based on their thesis in the field of health services research.

Saunders, N: Claire Bombardier Award 2015 For the most promising student in the Clinical Epidemiology and Health Care Research at the Institute of Health Policy, Management and Evaluation

Talarico, S: Winner of the POWER Award for excellence in post-graduate teaching, Department of Paediatrics, University of Toronto, Toronto, Ontario, June 2014

Talarico, S: Winner of the Helen Baty Award for Excellence and Achievement in Faculty Development for INTAPT

van den Heuvel, M: Restracom Funding Award Recipient; December 2014

Weinstein, M: Marvin Gerstein award for teaching; June 2015

Publications

Amin R, Vresk L, Cohen E: Nutritional and metabolic assessment for children receiving long-term ventilation at home: A call to action for clinicians? doi:10. 1016/j.peds. 2014. 10. 71. Epub 2014 November 5. No abstract available. *J Pediatr* [PMID:25620508] 2015: 166(2): pp 228-9

Beaune L, Leavens A, Muskat B, Ford-Jones L, Rapoport A, Zlotnik Shaul R, Morinis J, Chapman LA. Poverty and pediatric palliative care: what can we do? *Journal of Social Work in End-of-Life & Palliative Care*. PMID:24835385. May 16, 2014;10:2, 170-85. (<http://dx.doi.org/10.1080/15524256.2014.906375>).

Beck CE, Boydell KM, Stasiulis E, Blanchette VS, Llewellyn-Thomas H, Birken CS, Breakey VR, Parkin PC: Shared decision making in the management of children with newly diagnosed immune thrombocytopenia. *Journal of Pediatric Hematology/Oncology* 2014: 36 (7): pp 559-65.

Benchimol EI, Guttman A, Mack DR, Nguyen GC, Marshall JK, Gregor JC, Wong J, Forster AJ, Manuel DG. Validation of international algorithms to identify adults with inflammatory bowel disease in health administrative data. *Journal of Clinical Epidemiology* 2014; 67(8): 887-896.

Benchimol EI, Manuel DG, Guttman A, Nguyen GC, Mojaverian N, Quach P, Mack DR. Changing Age Demographics of Inflammatory Bowel Disease in Ontario, Canada: A Population-based Cohort Study of Epidemiology Trends. *Inflamm Bowel Dis*. 2014 Aug 26. [Epub ahead of print]

Bernhard, N. MacAlpine, K., Moinedden, R. and Connolly, B. Variations in blood glucose levels following gastrostomy tube insertion on a paediatric population. *Pediatric Radiology*. 2014 July;44(7):863-70.

Berry JG, Hall M, Neff J, Goodman DM, Cohen E, Agrawal R, Kuo DZ, Feudtner C: Children with medical complexity and Medicaid: Spending and cost savings. *Health Affairs* [PMID:25489039] 2014: 33(12): pp 2199-2206

Birken C, Hamilton J: Obesity in a young child. *Canadian Medical Association Journal* 2014 Apr 1;186(6):443-4

Carlsley S, Borkhoff C, Maguire J, Birken CS, Khovratovich M, McCrindle B, Macarthur C, Parkin PC, on behalf of the TARGet Kids! Collaboration: Cohort Profile: The Applied Research Group for Kids (TARGet Kids!). *International Journal of Clinical Epidemiology*. PMID:24982016, 2014 Jun 30 [Epub ahead of print]

Chacko A, Mahant S, Petrich A, Wadhwa A. Aches and pains with a shocking rash. *Can J Dis Med Microbiol*. 2014 Nov/Dec; 25(6): 323-5.

Cohen E, Patel H: Responding to the rising number of children living with complex chronic conditions. doi: 10. 1503/cmaj. 141036. Epub 2014 Oct 14. *Canadian Medical Association Journal* [PMID: 25316900] 2014: 186(16): pp 1199-200.

Cohen E: Glucocorticoids for bronchiolitis-should they be used?: reducing waste in child health one intervention at a time. doi: 10. 1002/ebch. 1973. Evidence Based Child Health [PMID: 25236304] 2014: 9(3): pp 496-7

Corbo M, Weinstein MG. Camptodactyly and knuckle pads co-existing in an adolescent male: Connection or coincidence?" *Pediatric Dermatology*. Dec 2014

Danial C, Adeduntan R, Gorell E, Lucky A, Paller A, Bruckner A, Pope E, Morel K, Levy M, Li S, Gilmore E, Lane A. An Evaluation of Treatments for Pruritus in Epidermolysis Bullosa. *Pediatric Dermatology*. Dec 2014. (epub ahead of print)

Danial C, Adeduntan R, Gorell ES, Lucky AW, Paller AS, Bruckner A, Pope E, Morel KD, Levy ML, Li S, Gilmore ES, Lane AT. Prevalence and Characterization of Pruritus in Epidermolysis Bullosa. *Pediatric Dermatology*. 2014 Sep 18. (epub ahead of print)

Daniel A Gorman, MD1; David M Gardner, PharmD, MSc2; Andrea L Murphy, PharmD3; Mark Feldman, MD4; Stacey A B'elanger, MD, PhD5; Margaret M Steele, MD6; Khrista Boylan, MD, PhD7; Kate Cochrane-Brink, MD, DPhil8; Roxanne Goldade, MD9; Paul R Soper, MD10; Judy Ustina, MD11; Tamara Pringsheim, MD, MSc12: Canadian Guidelines on Pharmacotherapy for Disruptive and Aggressive Behaviour in Children and Adolescents With Attention-Deficit Hyperactivity Disorder, Oppositional Defiant Disorder, or Conduct Disorder. *Canadian Journal of Psychiatry* 2015: 60(2): pp 62-76.

Darling E, Ramsay T, Sprague A, Walker MC, Guttman A. Universal Bilirubin Screening and Healthcare Utilization. *Pediatrics* 2014 Sep 22. [Epub ahead of print].

Darmawikarta D, Chen Y, Carsley S, Birken CS, Parkin PC, Schroth RJ, Maguire JL, and the TARGet Kids collaboration: Factors associated with dental care utilization in early childhood. *Pediatrics*. 2014 Jun;133(6):e1594-600

Del Pozzo-Magana B, Lara- Corrales I (2014), Topical Timolol for pyogenic granuloma in a child: A case report and literature review. *Adv Pediatr Res* 1:5 Dec. doi: 10. 12715/apr. 2014. 1. 5

Eckhardt C, Gernand A, Roth D, Bodnar L. Maternal vitamin D status and infant anthropometry in a U.S. multicenter cohort study. *Annals of Human Biology*. 2014 Sep 30:1-8.

Erdle SC, Birken CS, Parkin PC, Urquia ML, Maguire JL: Poor agreement between family-level and neighborhood-level income measures among urban families with children. *J Clin Epidemiol*. 2014 Jul;67(7):838-40

Fayed N, Kraus de Camargo OK, Elahi I, Dubey A, Fernandes RM, Houtrow A, Cohen E: Patient-important activity and participation outcomes in clinical trials involving children with chronic conditions. *Quality of Life Research* [PMID:24026628] 2014: 23(3): pp 751-7.

Fazalullasha F, Taras J, Morinis J, Levin L, Karmali K, Neilson B, Muskat B, Bloch G, Chan K, MacDonald M, Makin S, Ford-Jones L. From Office Tools to Community Supports: The Need for Infrastructure to Address the Social Determinants of Health in Paediatric Practice. *Paediatrics & Child Health*. PMID:24855416. April 2014;19(4):195-199

Garvey N, Stukel T, Guan J, Lu Y, Bwititi P, Guttman A. The association of asthma education centre characteristics on hospitalizations and emergency department visits in Ontario: a population-based study. 2014 Oct 24. BMC Health Serv Res. 2014 Nov 13;14(1):561. [Epub ahead of print]

Gorter JW, Stewart D, Cohen E, Hlyva O, Morrison A, Galuppi B, Nguyen T, Amaria K, Punthakee Z, TRACE Study group: Are two youth-focused interventions sufficient to empower youth with chronic health conditions in their transition to adult healthcare: a mixed-methods longitudinal prospective cohort study. BMJ Open 2015;5:e007553. Doi:10.1136/bmjopen-2014-007553

Grace J. Lee BSc, Catherine S. Birken MD MSc, Patricia C. Parkin MD, Gerald Lebovic PhD, Yang Chen MA MSc, Mary R. Labbe PhD, Jonathon L. Maguire MD MSc; for the TARGet Kids! Collaboration*: Consumption of noncow's milk beverages and serum vitamin D levels in early childhood. Canadian Medical Association Journal 2014; 186(17): pp 1287-93.

Gupta S, Gibson P, Pole J, Sutradhar R, Sung L, Guttman A Predictors of Diagnostic Interval and Associations with Outcome in Acute Lymphoblastic Leukemia. Pediatr Blood Cancer. 2015 Jan 13 [Epub ahead of print].

Harrington J, Perumal N, Mahmud AA, Baqui A, Roth DE. Vitamin D and fetal-neonatal calcium homeostasis: findings from a randomized controlled trial of high-dose antenatal vitamin D supplementation. Pediatric Research 2014 Sep;76(3):302-9. doi: 10.1038/pr.2014.83

Heale L, Zahanova S, Bismilla Z: Pott puffy tumour in a 5 year old. CMAJ-14-0202 June 2014.

Hester G, Nelson K, Mahant S, Eresuma E, Keren R, Srivastava R. Methodological quality of national guidelines for pediatric inpatient conditions. J Hosp Med. 2014;9(6):384–390.

Hoffman AS, Matlow A, Schroff M, Cohen E: Factors impacting same-day cancellation of outpatient pediatric magnetic resonance imaging under anesthesia. Pediatric Radiology [PMID:25056229] 2014.

Human A*, Eltobgy K*, Beck CE: Clinician's Corner: An eight month old boy with failure to thrive. Paediatric Child Health 2014: 19 (9): pp 463-65.

Kazem S, van der Meijden E, Wang RC, Rosenberg AS, Pope E, Benoit T, Fleckman P, Feltkamp MCW. Polyomavirus-associated trichodysplasia spinulosa involves hyperproliferation, pRB phosphorylation and upregulation of p16 and p21. PLOS One. 2014 Oct 7;9(10):e108947.

Khoury M, Bokhani A, Ismail B, Principi T, Bismilla Z: What is a Resident Assessing Parental Knowledge and Preferences Regarding Residents in the Pediatric Emergency Department. Abstract #754386. Pediatric Academic Societies meeting, Vancouver BC: May 2014.

Kim Zhou^{1,2}, MD, Laura Sauve^{3,4} MD, MPH, Susan E. Richardson^{2,5} MD, E. Lee Ford-Jones^{2,6} MD, Shaun K. Morris^{2,7} MD, MPH. Enteric Fever in a multicultural Canadian tertiary care pediatric setting: A 29 year review. Submitted PIDJ or J PID Society. August 2014

Kim WB, Alavi A, Walsh S, Pope E. Epidermolysis Bullosa Pruriginosa: case series and review of the literature. *International Journal of Extremity Wounds*. Feb 2015

Kim WB, Alavi A, Walsh S, Pope E. Epidermolysis Bullosa Pruriginosa: A Systemic Review Exploring Genotype-Phenotype Correlation. *American Journal of Clinical Dermatology*. Jan 2015

Kuo DZ, Goudie A, Cohen E, Houtrow A, Agrawal R, Carle AC, Wells N: Inequities in health care needs for children with medical complexity. *Health Affairs [PMID:25489038]* 2014; 33(12): pp 2190-98

L Crow, A Wingert, I Lara-Corrales: Letter to the editor RE: L Are salicylic formulations, liquid nitrogen or duct tape more effective than placebo for the treatment of warts in paediatric patients who present to ambulatory clinics? *Pediatrics & Child Health*. 2014 Oct; 19(8):428.

Langley A, Pope E. Propranolol and Central Nervous System Function: Relevance to Patients with Infantile Hemangiomas. August 2014.

Laws PM, Shear NH, Pope E: Childhood Mycosis Fungoides: experience of 28 patients and response to phototherapy. *Pediatric Dermatology*. 2014 Jul/Aug. 31(4): 459-464. PMID 24916067.

Léauté-Labrèze C, Hoeger P, Mazereeuw J, Guibaud J, Baselga E, Verkauskas G, Phillips R, Caceres H, Lopez Guttierrez JC, Ballona R, Friedlander S, Powel J, Perek D, Metz B, Barbarot S, Lorette G, Szalai Z, Krol A, Hadj-Rabia S, Foelster-Holst R, Febrer I, Su J, Buckova H, Torrelo A, Cambazard F, Grantzow R, Wargon O, Wyrzykowski D, Roessler J, Bernabeu-Wittel J, Valencia A, Przewratil P, Glick S, Pope E, Birchall

N, Lane A, Mancini T, Vabres P, Souteyrand P, Frieden I, Berul C, Mehta C, Boralevi F, Morgan CC, Heritier S, Delarue A, Voisard J-J. The efficacy and safety of oral propranolol in infantile hemangioma: A randomized, placebo-controlled, Phase II/III adaptive trial. *New England Journal of Medicine*. Nov 2014.

Lee GJ, Birken CS, Parkin PC, Lebovic G, Chen Y, L'Abbé MR, Maguire, JL. Consumption of non-cow's milk beverages and serum vitamin D levels in early childhood. *Canadian Medical Association Journal*. 2014 Nov 18;186(17):1287-93

LeGrow K, Hodnett E, Stremmer R, Cohen E, Victor CJ: Psychometric testing of the family satisfaction with decision making subscale (FS-ICU/DM) in an acute care pediatric hospital setting. *European Journal for Person Centered Healthcare* 2014: 2(3).

LeGrow K, Hodnett E, Stremmer R, Cohen E: Evaluating the feasibility of a parent-briefing intervention in a pediatric acute care setting. *Journal for specialists in pediatric nursing [PMID:24612588]* 2014: 19(3): pp 219-28.

Legrow K, Hodnett E, Stremmer R, McKeever P, Cohen E: Bourdieu at the bedside: briefing parents in a pediatric hospital. *Nurs Inquiry [PMID:24467272]* 2014

Levy R, Dubrowski A, Amin H, Bismilla Z: Procedural skills in paediatric residency: Re-evaluating the competencies. *Paediatric and Child Health* April 2014: 19(4) pp:180-184

Luca P, Dettmer E, Khoury M, Grewal P, Manlhiot C, McCrindle B, Birken C, Hamilton J: Adolescents with Severe Obesity: Outcomes of Participation in an Intensive Obesity Management Programme. *Pediatric Obesity*. 2014 Sept 18 [Epub ahead of print]

MacDougall D, Crowe L, Pereira JA, Kwong JC, Quach S, Wormsbecker AE, Ramsay H, Salvadori MI, Russell ML, for the Public Health Agency of Canada/Canadian Institutes of Health Research Influenza Research Network (PCIRN) Program Delivery and Evaluation Group. Parental Perceptions of School-based Influenza Immunization in Ontario, Canada: a qualitative study. *BMJ Open* 2014 June 5;4(6):e005189.

Macpherson A, Fridman L, Scolnik M, Corallo A, Guttman A. A population-based study of paediatric emergency department and office visits for concussions from 2003 to 2010. *Paediatr Child Health*. 2014 Dec;19(10):543-6.

Madigan S, Wade M, Plamondon A, Vaillancourt K, Jenkins J, Shouldice M, Benoit D. Course of depression and anxiety symptoms during the transition to parenthood for female adolescents with histories of victimization. *Child Abuse and Neglect* July 2014; 38 (7): pp 1160-1170.

Madigan S, Wade M, Tarabulsy G, Jenkins J, Shouldice M. Association between maltreatment history and adolescent pregnancy: A meta-analysis. *Journal of Adolescent Health*. 2014; 55:151-159

Maguire JL, Birken C, Thorpe KE, Sochett ED, Parkin PC: Parathyroid Hormone as a Functional Indicator of Vitamin D Sufficiency in Children. *JAMA Pediatrics*. 2014 Apr; 168(4): 383-5

Mahant S, Keren R, Localio R, Luan X, Song L, Shah SS, Tieder JS, Wilson KM, Elden L, Srivastava R; for the Pediatric Research in Inpatient Settings (PRIS) Network. Dexamethasone and risk of bleeding in children undergoing tonsillectomy. *Otolaryng Head Neck Surg*. 2014 May;150(5):872-9.

McMullen JA, Mahant S, DeGroot J, Stephens D, Parkin PC. Predictors of long length of stay in infants hospitalized with urinary tract infection. *Hospital Pediatrics*. 2014 Sept 1; 4(5): 291-7

Merglen A, Mahant S. Bronchiolitis: the challenging of delivering high value care through restraint. *Journal of Pediatrics*. 2014; 165(4):655-657.

Mistry N, Hudak A. Combined and alternating acetaminophen and ibuprofen therapy for febrile children. *Paediatr Child Health*. 2014; 19 (10): pp 531-2.

Mittal V, Hall M, Morse R, Wilson KM, Mussman G, Hain P, Montalbano A, Parikh K, Mahant S, Shah SS. Impact of inpatient bronchiolitis clinical practice guideline implementation on testing and treatment. *Journal of Pediatrics*. 2014 Sept; 165(3):570-576.

Mohammed J, Balma-Mena A, Chakkittakandiyil A, Mantea F, Pope E. Infrared Thermography to Assess Proliferation and Involution of Infantile Hemangiomas: a prospective cohort study. *JAMA Dermatology*. 2014 Sep 1;150(9):964-9.

Moore Hepburn C, Cohen E, Bhawra J, Weiser N, Hayeems RZ, Guttman A. Health System Strategies Supporting Transition to Adult Care. *Arch Dis Child*. 2015 Feb 16. pii: archdischild-2014-307320. doi: 10.1136/archdischild-2014-307320. [Epub ahead of print]

Moore Hepburn C, Daneman D: Child Well-Being in Canada: How can we improve on “average”? Canadian Medical Association Journal (CMAJ) 2015 Mar 17;187(5):311-2.

Nag S, Weinstein M, Greenberg S. 14-year-old boy with painful nail changes. Pediatrics in Review. June 2014

Nelson KE, Mahant S. Shared Decision-Making About Assistive Technology for the Child with Severe Neurologic Impairment. Pediatr Clin North Am. 2014:1–12.

Nieuwlaat R, Wilczynski N, Navarro T, Hobson N, Jeffery R, Keenanasseril A, Agoritsas T, Mistry N, Iorio A, Jack S, Sivaramalingam B, Iserman E, Mustafa RA, Jedraszewski D, Cotoi C, Haynes RB. Interventions for enhancing medication adherence. Cochrane Database of Systematic Reviews 2014, Issue 11. Art. No. : CD000011. DOI: 10. 1002/14651858. CD000011. pub4.

O’Toole J, West DC, Starmer AJ, Yu CE, Calaman S, Rosenbluth G, Hepps J et al for the I-PASS Study Education Executive Committee. Placing Faculty Development Front and Center in a Multisite Educational Initiative: Lessons From the I-PASS Handoff Study. Academic Pediatrics 2014 May-June; 14(3):221-224.

O’Toole JK, Bismilla Z, Everhart JL. The I-PASS Handoff Program: A Standardized Approach to Transitions of Care That Improves Patient Safety. Academic Internal Medicine Insight, 13:1, 2015

O’Toole J, Calaman S, Everhart J, Bismilla Z, Good B, Guiot A, Johnstone N, Nilforoshan V, Noble E, Rosenbluth G, Schwartz S, Solan L, Tse L, West D, Weiser J, Landrigan C, Sectish T, Srivastava R, Starmer A, Spector N. I-PASS Handoff Curriculum: Medical Student Workshop. MedEdPORTAL; 2014. Available from:www. mededportal. org/publication/9854

Omand J, Carsley S, Darling PB, Parkin PC, Birken CS, Urquia ML, Khovratovich M, Maguire J, on behalf of the TARGet Kids! collaborative: Evaluating the accuracy of a geographic closed-ended approach to ethnicity measurement, a practical alternative. Annals of Epidemiology. 2014 Apr: 24(4) 246-53

Omand JA, Darling PB, Parkin PC, Birken CS, Khovratovich M, Thorpe KE, Carsley S, Degroot J, Maguire JL; on behalf of the TARGet Kids! Collaboration: Non-Western immigrant children have lower 25-hydroxyvitamin D than children from Western families. Public Health Nutr. 2014 Jul; 17(7):1668

Ornand J, Carsley S. Darling PB, Parkin PC, Birken CS, Urquia ML, Khovratovich M, Maguire J, on behalf of the TARGet Kids! Collaborative: Evaluating the accuracy of a geographic closed-ended approach to ethnicity measurement, a practical alternative. Annals of Epidemiology. PMID:24529516. 2014 Apr: 24(4) 246-53

Peter D Wong MBBS PhD FRCPC1,2, Malini G Dave MD FAAP FRCPC3,4, Trisha Tulloch MD FAAP FRCPC5,6, Mark L Feldman MD FRCPC7,8,9, Elizabeth L Ford-Jones MD FRCPC10, Patricia C Parkin MD FRCPC11,12, Adrianna Tetley13, Rosemary G Moodie MBBS MBA MPA FRCPC14: Community health centres: Potential opportunities for community paediatrics. From interprofessional clinical care to board governance. *Paediatrics and Child Health* 2015; 20(1): pp 12-14.

Pope E, Laxer R: Diagnosis and Management of Morphea and Lichen Sclerosus and Atrophicus in Children. *The Pediatric Clinics of North America*. 2014 Apr; 61(2):309-319. PMID: 24636648.

Posso de los Rios C, Pope E: New Insights into Pustular Dermatoses in Pediatric Patients. *Journal of American Academy of Dermatology*. 2014 Apr; 70(4):767-773. PMID: 24388422.

Posso-De Los Rios C, Pope E, Lara-Corrales I. A Systematic Review of Systemic Medications for Pustular Psoriasis in Pediatrics. *Pediatric Dermatology*. *Pediatric Dermatology*. 2014 Jul-Aug; 31(4):430-9. PMID: 24890463.

Posso-De Los Rios CJ, Lara-Corrales I, Ho N. Dermatofibrosarcoma protuberans: a report of 17 cases. *Journal of Cutaneous Medicine and Surgery*. 2014 May - Jun; 18 (3) :180-5. PMID: 24518361. PMID: 24800706.

Posso-De Los Rios CJ, Pope E, Lara-Corrales I. A Systematic Review of Systemic Medications for Pustular Psoriasis in Pediatrics. *Pediatric Dermatology* 2014; 31 (4): pp 430-439.

Radhakrishnan DK, Dell SD, Guttman A, Shariff SZ, Liu K, To T. Trends in the age of diagnosis of childhood asthma. *Journal of Allergy and Clinical Immunology* 2014 Jun 27.

Rapoport A, Weingarten K. Improving quality of life in hospitalized children. *Pediatr Clin North Am*. 2014 Aug;61(4):749-60

Raqib R, Ly A, Akhtar E, Mily A, Perumal N, Al-Mahmud A, Agerberth B, Baqui AH, Roth DE. Prenatal vitamin D3 supplementation suppresses LL-37 peptide expression in ex vivo activated neonatal macrophages but not their killing capacity. *British Journal of Nutrition* 2014 2014;112(6):908-15. doi:10.1017/S0007114514001512

Ray JG, Redelmeier DA, Urquia ML, Guttman A, McDonald SD, Vermeulen MJ. Risk of Cerebral Palsy among the Offspring of Immigrants *PLOS ONE* Published online 2014 Jul 14;9(7):e102275.

Roth DE, Pezzack B, Al Mahmud A, Abrams SA, Islam M, Aimone Phillips A, Baxter JB, Dimitris MC, Hawthorne KM, Ahmed T, Zlotkin SH. Bioavailability of enteric coated microencapsulated calcium during pregnancy: a randomized crossover trial in Bangladesh. *American Journal of Clinical Nutrition* 2014 Dec;100(6):1587-95..

Sadarangani M, Scheifele DW, Halperin SA, Vaudry W, Le Saux N, Tsang R, Bettinger JA; for the investigators of the Canadian Immunization Monitoring Program, ACTive (IMPACT). Outcomes of Invasive Meningococcal Disease in Adults and Children in Canada Between 2002 and 2011: A Prospective Cohort Study. *Clin Infect Dis*. 2015 Jan 20. pii: civ028. [Epub ahead of print]

Sadarangani M1, Scheifele DW2, Halperin SA3, Vaudry W4, Le Saux N5, Tsang R6, Bettinger JA2; investigators of the Canadian Immunization Monitoring Program, ACTive (IMPACT). members of the Canadian Immunization Monitoring Program, Active (IMPACT) Collaborators (16) Morris R, Halperin S, Déry P, Moore D, Lebel M, Saux NL, Tran D, Ford-Jones L, Embree J, Tsang R, Tan B, Vaudry W, Jadavji T, Scheifele D, Sauv   L, Bettinger J The impact of the meningococcal serogroup C conjugate vaccine in Canada between 2002 and 2012. *Clin Infect Dis*. 2014 Nov;59(9):1208-15. doi: 10. 1093/cid/ciu597. Epub 2014 Jul 28

Saunders NR, Friedman JN. Lactose avoidance for young children with acute diarrhea. *Paediatrics & Child Health*. 2014; 19(10): 529-530

Savlov D, Beck C, DeGroot J, Odame I, Friedman JN: Predictors of bacteremia among children with sickle cell disease presenting with fever. *Journal of Pediatric Hematology and Oncology* July 2014 (36)5: 384-388.

Schwartz KL, Richardson SE, Ward KN, Donaldson C, MacGregor D, Banwell B, Mahant S, Bitnun A. Delayed primary HHV-7 infection and serious neurologic disease in children. *Journal of Pediatrics*. 2014 Jun;133(6):e1541-7.

Science M, MacGregor D, Richardson S, Mahant S, Tran D, Birnum A. Central nervous system complications of varicella-zoster virus infections: A retrospective 13 year review. *Journal of Pediatrics*. 2014 Oct;165(4):779-785.

Sibbald C, Ho TCN, Pope E, Weinstein M: Retrospective Review of Relapse after Systemic Cyclosporine in Children with Atopic Dermatitis. *Pediatric Dermatology*. Jul 24 (epub ahead of print).

S Talarico, M Zubairi, T Barozzino, D Daneman, A Punnet, T Martimianakis: Fostering Transformative Learning in a Social Pediatrics Research Summer Studentship Through Empowerment and Assessment. (Poster presentation at the Canadian Pediatric Society Conference, Montreal, QC, June 2014)

S Talarico, S Lee, H Batty: Portfolio Assessment: Using Rubrics to Increase Reliability and Decrease Anxiety for Trainees and Faculty. (Workshop presentation at the Ottawa Conference, Ottawa, ON, April 2014)

Starmer AJ, O'Toole JK, Rosenbluth G, Calaman S, Balmer D, West DC, Bale JF, Yu CE, Noble EL, Tse LL, Srivastava R, Landrigan CP, Sectish TC, Spector ND; and members of the I-PASS Education Executive Committee. Development, Implementation, and Dissemination of the I-PASS Handoff Curriculum: A Multi-Site Educational Intervention to Improve Patient Handoffs. *Academic Medicine* 2014 June: 89 (6): pp 876-884.

Starmer AJ, Spector ND, Srivastava R, West DC, Rosenbluth G, Allen AD, Noble EL, Tse LL, Dalal AK, Keohane CA, Lipsitz SR, Rothschild JM, Wien MF, Yoon CS, Zigmont KR, O'Toole JK, Wilson KM, Bismilla Z, Coffey M, Mahant S, Blankenburg RL, Destino LA, Everhart JL, Patel SJ, Bale JF, Spackman JB, Stevenson AT, Calaman S, Cole FS, Hepps JH, Lopreiato JO, Yu CE, Sectish TC, Landrigan CP, and the I-PASS Study Group: Changes in Medical Errors after Implementation of a Handoff Program [PMID:25372088]. *New England Journal of Medicine* 2014: 371(19): pp 1803-12.

Thompson G, Madigan S, Wentzel K, Dineley B, Lorber S, Shouldice M. Demographic characteristics and Needs of the Canadian Urban Adolescent Mother and her Child. *Paediatrics & Child Health*. 2015; 20(2):72-76

Turner SD, Gomes T, Camacho X, Yao Z, Guttman A, Mamdani MM, Juurlink DN, Dhalla IA. Neonatal opioid withdrawal and antenatal opioid prescribing. *CMAJ Open*. 2015 Jan 13;3(1):E55-61. eCollection 2015 Jan-Mar.

Vaillancourt S, Guttman A, Li Q, Chan IM, Vermeulen MJ, Schull MJ. Repeated Emergency Department Visits Among Children Admitted With Meningitis or Septicemia: A Population-Based Study. *AnnEmergMed*. Nov 18, 2014 [Epub ahead of print]

van den Heuvel M, Au H, Levin L, Bernstein S, Ford Jones E, Martimianakis MA: "Evaluation of a social pediatrics elective - Transforming student's perspective through reflection". *Clinical Pediatrics* June 2014; 53(6) pp 545-551.

van den Heuvel M, Au H, Levin L, Bernstein S, Ford-Jones E, Athina (Tina) M: Evaluation of a Social Pediatrics Elective: Transforming Students' Perspective Through Reflection. *CLIN PEDIATR*, June 2014; 53(6):545-551. DOI: 10.1177/0009922814526974. <http://cpj.sagepub.com/content/early/2014/03/24/0009922814526974>. Toronto, ON.

Vermeulen MJ, Stukel TA, Guttman A, Rowe BH, Zwarenstein M, Golden B, Nigam A, Anderson G, Bell RS, Schull MJ; ED Investigator Team. Evaluation of an Emergency Department Lean Process Improvement Program to Reduce Length of Stay. *Ann Emerg Med*. 2014 Jul 3. [Epub ahead of print]

Warrington NM, Sun T, Luo J, McKinstry RC, Parkin PC, Ganzhorn S, Spoljaric D, Albers A, Merkelson A, Stewart D, Stevenson D, Viskochil D, Druley T, Forsys J, Reilley K, Fisher M, Tabori U, Allen J, Schiffman J, Gutmann D, Rubin J. The cyclic AMP pathway is a sex-specific modifier of glioma risk in Neurofibromatosis type 1. *Cancer Res*. 2015 Jan 1;75(1):16-21

Book Chapters

Apkon M, Friedman JN: Planning for effective hospital discharge. *JAMA Pediatrics* 2014 (invited editorial)

Chui Y, Vora SS, Laxer RM, Pope E. Connective Tissue Disease. In: *Severe Skin Diseases in Children, Beyond Topical Therapy* (edited by Dr. Wynn L. Tom): pp 1-122 (Chapt 6). Springer-Verlag Berlin Heidelberg 2014 (Springer Science & Business Media). 2014. Library of Congress Control #2013954925, ISBN 978-3-642-39531-4

Del Pozzo-Magana B, Lara-Corrales I. "Histiocytosis" In: *Pediatric skin of Color* (pp 205-221). Editor: Silverberg N, Duran-Mckinter C and Tay YK. Springer, January 2015.

Guttman A, Cairney J, MacCon, K, Kumar M. Update of Ontario's Enhanced 18-Month Well Baby Visit Program. Report to MOHLTC and MCYS. 2014

Guttman A, Saunders N, Yates E. Prevalence of Chronic Conditions in School Age Children. ICES AHRQ Report to MOHLTC to inform legislation for emergency care in schools in Ontario. October 2014.

Huber J, So S, Jegathesan T, Davis S, Goodman M, Young E, Mistry N, Campbell D, Bonifacio HJ, Mihailidis A. A Smartphone Application Designed for Teaching Emergency Safety Skills to Children. International Meeting for Autism Research. Proceedings of 2nd Conference on Mobile and Information Technologies in Medicine. November 20-21 2014. Prague, Czech Republic

Lara-Corrales I, Bruckner AL, Salas-Alanis J, Mellerio J, Palisson F, Murrell DF: Monitoring to Prevent Complications: Anemia, Infections, Osteopenia, Failure to Thrive, Renal Disease, Squamous Cell Carcinoma, Cardiomyopathy In: Blistering Disorders Textbook. (pp 667-685) Editor: Murrell DF. Springer Science & Business Media. January 2015

Majmudar V, Lara-Corrales I, Pope E. Bullous Dermatoses and Basement membrane Zone Diseases. In: Therapy in Pediatric Dermatology – Update in Management of Pediatric Skin Diseases. Springer Publishing, USA. May 2014. C

MHASEF Research Team (Cairney J, Gandhi S, Guttman A, Iron K, Khan S, Kurdyak P, Lam K, Yang J). The Mental Health of Children and Youth in Ontario: A Baseline Scorecard. Technical Appendix. Toronto, ON: Institute for Clinical Evaluative Sciences; March 2015

Newman C, Rapoport A, Sangha G. Chapter 19: Ethical conflicts that may arise when caring for dying children. Paediatric patient and family-centred care: Ethical and legal issues. (Zlotnik Shaul, Randi ed.). 2014

S Talarico and K Locke. Portfolio Component of the ASCM 2 Handbook for Undergraduate Medical Students and Faculty. University of Toronto, August 2014.

Weinstein M: Atopic dermatitis. In: Therapeutic Choices, 7th Edition (Gray J, ed). Chapt 89, pp 1097-1107. Canadian Pharmacists Association, Ottawa 2014.

Grants and Funding

Abdominal visceral fat measured in early pregnancy and the risk of gestational diabetes mellitus. Ray JG, Berger H, Maguire J, Retnakaran RR. **CIHR Operating Grant**. \$142,088 CAD. April 1-2013 – September 30-2015

Asthma, Vitamin D Levels and Health Care Utilization in Young Children. Parkin P, Maguire J, To T, Birken C. **Lung Association/Ontario Thoracic Society**. \$49,193 CAD. July 1-2013 - June 30-2014

Applied Chairs in Reproductive, Child and Youth Services and Policy Research: Evidence-Informed Health Services Delivery for Canadian Children and Youth. Guttman A. **Canadian Institutes of Health Research (CIHR)**. \$925,000 CAD. November 30-2012 – November 29-2017

BMN004: A Phase 3, Randomized, Double-Blind, Placebo-Controlled, Multinational Clinical Study to evaluate the Efficiency and Safety of 2.0mg/kg/week and 2.0 mg/kg/every other week BMN 110 in Patients with Mucopolysaccharidosis IVA (Morquio A Syndrome. Chris Hendriczs C, Raiman J, Weinstein M, Faghfoury H, Al-Hertani W. **Biomarin Pharmaceutical**. \$56,690 CAD per patient. June 1-2012 - June 30-2015

Bringing I-PASS to the Bedside: A Communication Bundle to Improve Patient Safety and Experience. Landrigan C, Bismilla Z (Co-Investigator), Coffey T (Site Lead), and co-investigators from each site. **Patient Centered Outcomes Research Institute (PCORI)**. \$1,500,000 USD. December 1-2013 - January 1-2017

Cardiac Antibodies as a Mechanism for Right Ventricular Hypertrophy in EB. Sajic D, Pope E, Lara-Corrales I, Hamilton R. **Canadian Dermatology Foundation**. \$5,000 CAD. September 1-2013 - August 31-2014

CIHR Team in traffic and road injury prevention program for Canadian children. Snowdon AW, Howard AW, Altenhof WJ, Kobti A, Gilliland JA, Ahmed SE, Angell GB, Bruce B, Bussiere D, Georgie VE, Hussine A, Kent RD, Leitch KK, Thrasher C, Worster AS, Birken CS, McClafferty K, Shkrum M. **Canadian Institutes of Health Research (CIHR)**. \$1,744,000. December 1-2010 - November 30-2015

Closing the Gap: A Handoff Curriculum for Medical Students. Schwartz S, Bismilla Z. **Paediatric Consultants**. \$5,000 CAD. March 31-2014 – March 30, 2015

Democratizing Communication in Health Care: Development and Usability Testing of an Online Communication Tool for Collaborative Care in Complex Patients. Husain AF, Cohen E (Co-PIs), Cafazzo J, Russell C, Eaton, Goldman R, Jamieson T, Rapoport A, Stinson J. **Canadian Institutes of Health Research (CIHR)**. \$200,000 CAD. April 1-2012 – March 1-2015

Determinants of late preterm birth. Maguire JL, Sgro MS, Campbell DM, Shah PS, Smith GN, Lee SK, Walker M, Mamdani MM. **Physicians Services Incorporated Foundation – Health Services Research Grant**. \$77,500 CAD. April 1-2013 – March 31-2015

Development of a care pathway for children with typical, newly diagnosed ITP at The Hospital for Sick Children. Beck CE, Carcao M, Porter S, Cada M, Blanchette V, Parkin PC: **SickKids Innovation Fund**. \$9,500 CAD. January 1-2014 – December 31-2014

DO IT Trial: Vitamin D Outcomes And Interventions In Toddlers. Maguire JL, Birken CS, Hoch J, Loeb M, Mamdani M, Mazzulli T, Parkin P, Thorpe K, Vieth R. **Canadian Institutes of Health Research (CIHR)**. \$429,479. July 1-2011-June 20-2014

DO IT! Trial Extension: Vitamin D Outcomes And Interventions In Toddlers: A TARGET Kids! Randomized Controlled Trial. Maguire JL, Birken CS, Hoch J, Loeb M, Mamdani M, Mazzulli T, Parkin P, Thorpe K, Vieth R. **Thrasher Research Foundation**. \$448,884. March 1-2012 - February 28-2015

Do vitamin D fortified cheese and yogurt products support vitamin D status and functional outcomes in young children. Weiler H, Rauch F, Maguire J. **Dairy Farmers of Canada**. \$33,287 CAD. September 1-2013 - June 30-2014

Emerging team in rare diseases: achieving the 'triple aim' for inborn errors of metabolism. Potter EK, Chakraborty PK, Coyle DA, Kronick JB, Wilson K, Dodds L, Feigenbaum A, Fell DB, Geraghty MT, Grosse S, Guttman A, Little J, Mhanni A, Miller FA, Mitchell JJ, Nakhla M, Siriwardena K, Speechley KN, Vallance HD,

Wilson BJ. **Canadian Institutes of Health Research, Team Grant.** \$298,098/year CAD. April 1-2012 – March 31-2017

Enhancing the Quality of Palliative and End-of-Life Care for Children with Cancer. Widger K, Rapoport A. **University of Toronto.** \$45,200 CAD. March 31-2014 – March 30-2015

Ensuring effective newborn screening: The case of cystic fibrosis. Miller F, Guttman A. **Canadian Institutes of Health Research, Operating Grant.** \$771,524 CAD. July 1-2010 – June 30-2014

Epidermolysis Bullosa Clinical Characterization and Outcome Database. Pope E. **Epidermolysis Bullosa Medical Research Foundation.** \$5,831 CAD. February 21-2012 – February 20-2017

Evaluating Collaborative Care for Postpartum Depression in Pediatric Primary Care Settings (EPDS Trial). Dennis CL, Birken C, Grigoriadis S, Hoch J, Isaranuwachai W, Letouneau N, Maguire J, Parkin P, Thorpe K, Vigod S. **Canadian Institutes of Health Research (CIHR).** \$981,384 CAD. February 1-2014 - January 31-2019

Evaluation of Phase 2 of Ontario's Mental Health and Addiction Strategy and Building a Cross-Sectoral Data System. Kurdyak P, Guttman A. **Ontario Ministry of Health and Long-term Care.** \$10,000,000 CAD. July 1-2014 – June 30-2019

Exome sequencing a family With Gene-negative Epidermolysis Bullosa Superficialis/Icthyosis Bullosa of Siemens. Pope E, Lara-Corrales I, Hamilton R. **Rare Disease Foundation.** \$3,500 CAD. September 4-2013 - September 2-2014

Exploring Continuity, integration, context and curriculum during Longitudinal Integrated Clerkship (LIC) Training. Weyman K, Kulasegaram M, Graves L, Bernstein S, Hawa R, Schreiber M, Martimianakis T, Woods N, Nyhof-Young J, Wright S, Pittini R, Zirkle M. **Education Development Fund** \$9,537 CAD. March 1-2014 – February 28-2015

Exploring continuity, integration, context and curriculum during Longitudinal Integrated Clerkship (LIc) Training. Investigators: Weyman K, Mylopoulos M, Kulasegaram K, Bernstein S, Graves L, Hawa R, Nyhof-Young J, Woods N, Zirkle M, Pittini R, Wright S, Martimianakis T. **Education Development Fund, Faculty of Medicine, University of Toronto.** \$19,075 CAD. January 1-2014 – December 31-2014

Fit For School, Fit For Life: Child Health and School Readiness. Birken CS, Janus M, Maguire J, Parkin P, Randall-Simpson J, Tremblay M, Lebovic G, Mamdani M. **Canadian Institutes of Health Research (CIHR).** \$1,649,946 CAD. February 1-2014 - January 31-2018

Fit for School, Fit for Life – Child Health and School Readiness. Birken CS, Magdalena J, Duku EK, Lebovic G, Maguire JL, Mamdani M, Parkin PC, Randall-Simpson JA, Tremblay MS. **CIHR Operating Grant.** \$1,256,576 CAD. April 1-2014 – March 31-2019

Gastric flora in gastrostomy fed children with neurologic impairment on acid suppression medication. Rapoport A, Mahant S, Avitzur Y, Cohen E, Richardson S. **Paediatric Consultants.** \$10,000 CAD. October 31-2011 – November 29-2015

Health system performance research network.
Guttman A. **University of Toronto** \$207,177.56
CAD. March 31-2013 – March 30-2015

HOLD IT: Health Outcomes of Low vitamin D
In Toddlers: A TARGet Kids! longitudinal cohort
study. Maguire JL, Birken CS, Jiang D, Mamdani
M, McCrindle B, O'Connor DL, Parkin PC,
Vieth R; and Collaborators, Feldman M, Ipp M,
Jacobson S, Peer M, Taylor C, Chisamore B, Lau
E, Do A, Neelands P, Perlmutter M, Saunderson
J, Vaughan J. **Canadian Institutes of Health
Research (CIHR)**. \$563,183 CAD. July 1-2010 -
June 30-2014

How have we changed? Pediatric Palliative Care
in Canada, 2002 – 2012. Widger K, Davies
D, Gregoire M, Harlos M, Liben S, Robertson
M, Rapoport A, Siden H, Vadeboncoeur C.
**Connaught New Researcher Award, University
of Toronto**. \$10,000 CAD. January 1-2013 –
December 31-2014

Improving resident handoff in teaching hospitals:
Understanding implementation and effectiveness
of a handoff bundle. Coffey M, Starmer A,
Mahant S, Matlow A, Bismilla Z, Landrigan C.
Physician Services Incorporated. \$154,820
CAD. October 1-2011 - September 30-2015

Inflammatory Bowel Disease in Immigrants
to Canada and their Children: Epidemiology
and Access to Specialist Care Children's
Hospital Academic Medical Organization and
Ontario Ministry of Health and Long-Term Care
Academic Health Sciences Centres. Benchimol
E, Guttman A. **AFP Innovation Fund**. \$57,485
CAD. January 1-2012 – December 31-2014

Initiative to Maximize Progress in AYA Cancer
Therapy (IMPACT). Baxter N, Nathan P, Pole J,
Gupta S, Sutradhar R, Rapoport A, Greenberg
M, Gupta A, Sawka A, Barr R, Sussman J,
Wasserman J. **Canadian Institutes of Health
Research (CIHR) Operating Grant Competition**.
\$913,872.00 CAD. January 1-2014 –
December 31-2019

Intraleural DNase and Tissue Plasminogen
Activator in Pediatric Empyema (STPA trial). Ratjen
F, Cohen E, Mahant S, Connolly B. **Canadian
Institutes of Health Research (CIHR)**. \$315,121
CAD. September 30-2012 – September 20-2015

Intraleural DNase and Tissue Plasminogen
Activator in Pediatric Empyema (DTPA Trial).
Cohen E. \$50,215 CAD. December 31-2012 –
September 29-2015

Intraleural DNase and Tissue Plasminogen
Activator in Pediatric Empyema (DTPA Trial).
Cohen, E., Ratjen, F., Connolly, B. **Physicians'
Services Incorporated Foundation (PSI)**.
\$91,000 CAD. December 20-2012 –
December 19-2014

Intraleural DNase and Tissue Plasminogen
Activator in Pediatric Empyema (DTPA Trial).
Cohen E. \$49,714 CAD. December 31-2012 –
September 29-2015

Intravenous fluid-related symptomatic acute
hyponatremia in Canadian children. Beck CE,
Bohn D, Choong K, Hartfield D, Holland J,
Lacroix J, Puligandla P, Friedman J. **Quality
and Risk Management, The Hospital for Sick
Children**. \$10,000 CAD. September 1-2012 –
March 31, 2015

DIVISION OF PAEDIATRIC MEDICINE	Part-Time
	Dr. Hosanna Au
	Dr. Beth Gamulka
Division Head	Dr. Saul Greenberg
Dr. Michelle Shouldice (Feb 1, 2014 – present)	Dr. Ronik Kanani
	Dr. Jonathon Maguire
	Dr. Michael Peer
	Dr. Deena Savlov
General Paediatric Hospital Medicine and Complex Care	Dr. Shawna Silver
	Dr. Anne Wormsbecker
Full-Time	Paediatric Consultation Clinic
Dr. Carolyn Beck – Section Head	Full-Time
Dr. Stacey Bernstein	Dr. Emma Cory
Dr. Catherine Birken	Dr. Patricia Parkin
Dr. Zia Bismilla	Dr. Sarah Schwartz – Section Head
Dr. Trey Coffey	Dr. Michelle Shouldice
Dr. Eyal Cohen	Dr. Susanna Talarico
Dr. Jeremy Friedman	Dr. Michael Weinstein
Dr. Astrid Guttman	
Dr. Sanjay Mahant	Part-Time
Dr. Niraj Mistry	Dr. Nirit Bernhard
Dr. Charlotte Moore Hepburn	Dr. Mark Feldman – Head, Section of Community Paediatrics
Dr. Julia Orkin	Dr. Moshe Ipp
Dr. Patricia Parkin	Dr. Sheila Jacobson
Dr. Daniel Roth	Dr. Michael Sgro
Dr. Sarah Schwartz	
Dr. Susanna Talarico	
Dr. Michael Weinstein	

Molecular diagnostics to improve the care of children with complicated pneumonia. Wadhwa A, Weinstein M. **Pediatric Consultants Partnership. The Hospital for Sick Children.** \$10,000 CAD. January 1-2013 – December 31-2014

Norman Saunders Complex Care Initiative: Developing and evaluating a support network for families caring for medically complex children. Muskat B, Adams S, Cohen E. **SickKids Division of Paediatric Medicine.** \$24,549.50 CAD. November 9-2011 – Mar 30-2016

Norman Saunders Complex care Initiative - The natural history of swallowing dysfunction in infants with dysphagia. Mahant S, Sherna M. **SickKids Division of Paediatric Medicine.** \$10,634.72 CAD. April 30-2011-June 29-2016

Norman Saunders Complex care Initiative - The MASC (Medical and Social Complexity) Screening tool, Derivation Study Phase 1 - Tool Construction and testing. Maguire J. **SickKids Division of Paediatric Medicine.** \$42,982.50 CAD. October 31, 2010 – December 30, 2014

Optimizing Early Child Development in the Primary Care Practice Setting: Pragmatic Randomized Trial of Iron Treatment for Young Children with Non-anemic Deficiency. MacCarthur C, Parking P, Maguire J, Birken C, Zlotkin S, Mamak E. **Canadian Institutes of Health Research (CIHR).** \$541,567 CAD. September 30-2011 – September 30-2016

Optimizing Early Child Development in the Primary Care Practice Setting: Pragmatic Randomized Trial of Iron Treatment for Young Children with Non-anemic Deficiency. Parking P, Maguire. **Canadian Institutes of Health Research (CIHR).** \$114,114 CAD. September 30-2011 – September 29-2016

Parathyroid-vitamin D axis dysregulation in early-onset infant stunting in resource-poor settings. Roth D, Zlotkin S, Willan A, Weksburg R, Adeli K, Morris S, Mahmud A, Ahmed T, Baqui A, Shah R. **The Bill & Melinda Gates Foundation.** \$2,342,887 USD. November 1-2012 – October 30-2016

Patient Disclosure of Adverse Events in Paediatrics. Synthesis of Literature and Research Priorities. Koller D, Espin S, Friedman JN, Coffey M, Rummens A. **Institute of Human Development, Child and Youth Health.** \$25,000 CAD. October 1-2013 - October 30-2014

Patient Disclosure of Adverse Events in Paediatrics: Synthesis of Literature and Research Priorities. Koller D, Espin S, Friedman J, Coffey M, Rummens A. **Canadian Institute of Health and Research, Planning Grant, Institute of Human Development, Child and Youth Health,** \$25,000CAD. October 15-2013 - October 15-2014

PePA: A new tool for measuring length and height in pediatrics. Mousaki M, Roth DE, Zlotkin S. **The Hospital for Sick Children Innovation Fund.** \$9,981 CAD. November 1-2013 – November 1-2014

Pilot randomized control trial of an online communication tool for collaborative care in complex patients. Husain A, Stinson J, Rapoport A, Cohen E, Jamieson T, Cafazzo J, Grunfield E, Bezjak A, Goldman R, Sawka C, Guerriere D: **MSH-UHN AMO Innovation Fund. Innovation Fund.** \$199,974 CAD. January 1-2013 – December 31-2015

**Child Maltreatment/
SCAN
Full-Time**

Dr. Emma Cory –
co-Section Head
with Tanya Smith,
CNS-NP
Dr. Sarah Schwartz
Dr. Michelle Shouldice

Part-Time

Dr. Paul Kadar

**Paediatric Dermatology
Full-Time**

Dr. Irene Lara-Corrales
Dr. Elena Pope –
Section Head

Part-Time

Dr. Saul Greenberg
Dr. Nhung Ho
Dr. Marissa Joseph
Dr. Perla Lansang
Dr. Miriam Weinstein

**Paediatric Advanced
Care Team
(palliative care)**

Full-Time

Dr. Adam Rapoport -
Section Head

Part-Time

Dr. Christine Newman
Dr. Kevin Weingarten
Dr. Kate Nelson

Scientific Staff

Dr. Diego Bassani
Dr. Cory Borkhoff
Dr. Colin Macarthur

Community Paediatrics

Dr. Uzma Ahmed
Dr. Ibrahim Al-Hashmi
Dr. Murrog Aldabbagh

Dr. Tara Allen

Dr. Anwar Asady

Dr. Celia (Taha)
Atkinson

Dr. Sanja Avdic

Dr. Peter Azzopardi

Dr. Ranjit Baboolal

Dr. Helen Bai

Dr. Steven Baker

Dr. Anna Banerji

Dr. Tony Barozzino

Dr. Ann Bayliss

Dr. Alan Berzen

Dr. Nicholas

Blanchette

Dr. Lionel Boxall

Dr. Salvatore

Cammissuli

Dr. Bert Cellupica

Dr. Sohail Cheema

Dr. Patricia Colangelo

Dr. Andrew Chlebus

Dr. Carlos E. Contreras

Dr. Erin Culbert

Dr. Karoon Danayan

Dr. William Davidson

Dr. Paul Dick

Dr. James Dorey

Community Paediatrics	Dr. Clare Hutchinson
cont'd	Dr. Dayanand Jagdeo
Dr. Suhid (Tony)	Dr. Rhoda Kagan
D'Souza	Dr. Peggy Kirkpatrick
Dr. Anthony Duke	Dr. Dror Koltin
Dr. Carol Durno	Dr. Martin Kosoy
Dr. Prabo Dwight	Dr. Susan Kovacs
Dr. Gian Egger	Dr. Beverley Kupfert
Dr. Robert Farber	Dr. Howard Langer
Dr. Michelle Farine	Dr. Eddy Lau
Dr. Hyder Fazal	Dr. Cinda B. Lee
Dr. Stephen	Dr. Zina Levichek
Richard Feanny	Dr. Maurice Levy
Dr. William Feldman	Dr. Patricia Linders
Dr. Diane Flanders	Dr. Sanjeev Luthra
Dr. Adelaide Fleming	Dr. David Maresky
Dr. Raphael Folman	Dr. Laura McAdam
Dr. John Freedman	Dr. Anilkumar Menon
Dr. Claudio Fregonas	Dr. Saba Merchant
Dr. Gerald Friedman	Dr. Marcellina Mian
Dr. Marvin H. Gans	Dr. Diana Mills-Tetty
Dr. Hartley A. Garfield	Dr. Janette Milne
Dr. Morton Goldbach	Dr. Antonella Morra
Dr. Donna Goldenberg	Dr. Steven Moss
Dr. Leslie Goodis	Dr. Paul Munk
Dr. Stuart Gordner	Dr. Jack Newman
Dr. Michelle Gordon	Dr. Marjan Nezarati
Dr. Denis Gurwitz	Dr. Raymond Ng
Dr. Katarzyna Gwiazda	Dr. Ivan Osswald
Dr. Shujaiddin Hafiz	Dr. Larry Pancer
Dr. Ra Han	Dr. Evangelia
Dr. Mark E.	Papadouris
Handley-Derry	Dr. Marty Perlmutter
Dr. Miriam Hansen	Dr. Constantine Petrou
Dr. Leah Harrington	Dr. John Philpott
Dr. Jane Healey	Dr. Joseph Porepa
Dr. Alan P. Hudak	Dr. Vladimir Pucholt

Preschoolers at Risk - Obesity trajectories & cardioMetaboloc Factors: Toward early identification. Maguire J, Hamilton J, Adeli K, Birken C. **Canadian Institutes of Health Research (CIHR)**. \$655,641 CAD. December 31-2011 – March 30-2016

PRIDE-T: Prevalence and Risk Factors for Iron Deficiency among Toddlers served at Kingston Community Health Centres. Bayoumi I, Patel R, Parkin P, Webb J, Link K, and Lebovic G. **College of Family Physicians of Canada Janus**. \$10,000. July 1-2013 – June 30-2014

Procedural Skills Training in Pediatric Residency. Bismilla Z, Feldman M, Amin H, Dubrowski A. **Paediatric Consultants Education Research Grant**. \$4,085 CAD. May 1-2013 - May 31-2014

PROMOTE: Preschoolers at Risk - Obesity Trajectories & Cardiometabolic Factors: Towards Early Identification. Birken CS, Adeli K, Hamilton J, Hanley A, Maguire J, McCrindle B, Parkin PC; and Collaborators, Feldman M, Ipp M, Jacobson S, Peer M, Taylor C, Chisamore B, Lau E, Do A, Neelands P, Perlmutter M, Saunderson J, Vaughan J. **Canadian Institutes of Health Research (CIHR)**. \$655,641 CAD. March 1-2012 - February 28-2016

Prospective observational study of antibiotic-associated diarrhea in children. Johnson B, Guyatt G, Loeb M, Mahant S, Maguire J, Sadeghirah B, Sherman P, Parkin P. **Bio-K Plus International Inc**. \$33,287 CAD. January 1-2013 - May 31-2015

Reporting of studies Conducted using Observational Routinely-collected Data (RECORD). Benchimol E, Guttman A. **Canadian Institutes of Health Research, Operating Grant**. \$120,000 CAD. July 1-2013 – June 30-2015

Resource Stewardship Workshop: Teaching Internal Medicine and Pediatric Residents to Communicate Effectively with Patients to Avoid Potential Harm from Unnecessary Diagnosis Tests. Mukerji G, Schwartz S, Moore Hepburn C, Atkinson A, Wong BMF, Stroud L, Weinerman A. **University of Toronto Faculty of Medicine, 2014-2015 Educational Development Fund.** \$5,823 CAD. July 1-2014 - June 30-2015

Start-up Operating. Birken C. **SK Research Institute.** \$114,780 CAD. September 1-2012 - August 31-2014

Surgical interventions and outcomes of children with trisomy 13 and 18 in Ontario. Nelson K, Guttman A. **Norman Saunders Complex Care Initiative.** \$20,000 CAD. November 1-2012 – October 31-2014

The Bedside Paediatric Early Warning System: A Cluster Randomized Controlled Trial Of Mortality And Processes Of Care. Parshuram C, Dryden-Palmer K, Farrell C, Gilleland JC, Gottesman RD, Hunt EA, Hutchison JS, Joffe AR, Kotsakis A, Lacroix J, Lobos AT, Nadkarni V, Parkin P, Wensley DF, Willan AR. **Canadian Institutes of Health Research (CIHR).** \$3,266,764 CAD. June 1-2010 - May 31-2014

The impact of skin camouflage on the quality of life of children with skin disease and their parents. Pope E. **Canadian Dermatology Foundation.** \$5000 CAD. December 31-2011 – March 30-2016

The implementation of a Night Float system at a large Canadian Paediatric Training Program: Perceived impact on patient care, education and quality of life. Bismilla Z. **Paediatric Consultants.** \$5,000 CAD. December 31-2013 – December 30-2014

Community Paediatrics cont'd	Adjunct
Dr. Seetha Radhakrishnan	Dr. Caroline Calpin
Dr. Percy Rajchgot	Dr. Avril Castagna
Dr. Harkamal Randhawa	Dr. Luigi Castagna
Dr. Helene Richards	Dr. Chee Chen
Dr. Karen Rosenstein	Dr. Brian Chisamore
Dr. Tania Samanta	Dr. Till Davy
Dr. Gagandeep Saund	Dr. Hilary de Veber
Dr. Janet Saunderson	Dr. Shalini Desai
Dr. Rahul Saxena	Dr. Yenge Diambomba
Dr. Clive J. Schwartz	Dr. Andrew Duic
Dr. Micheal Sgro	Dr. Masoud Grouhi
Dr. Chandrakant Shah	Dr. James Hilton
Dr. Furquan Shaikh	Dr. Rania Hiram-Karasnis
Dr. David H. Shawn	Dr. Vincent Ho
Dr. Angelo Simone	Dr. Anthony Hui
Dr. William Gary Smith	Dr. Carolyn Hunt
Dr. Peter Strachan	Dr. Dirk Huyer
Dr. Diann Superina	Dr. Edward G. Jin
Dr. Robert Sutton	Dr. Ho Yin Lau
Dr. Wanda Szymonowicz	Dr. Michael Lester
Dr. Catherine Taylor	Dr. James MacKinnon
Dr. Lindsay Teskey	Dr. Aubrey Maze
Dr. Maria Triassi-Asper	Dr. Sharon Naymark
Dr. Julia Upton	Dr. Lynne Nield
Dr. Guy Widrich	Dr. Carole O'Beirne
Dr. Peter D. Wong	Dr. Angela Orsino
Dr. Heather Yang	Dr. Michelle Porepa
Dr. Latifa Yeung	Dr. Kushal Raghurib
Dr. Ethel Ying	Dr. Lillian Rojnica
Dr. Mostafa Zaazou	Dr. Nerandra Singh
Dr. Michael Zajdman	Dr. Shirley Sit
	Dr. Jill Solomon
	Dr. Leah Tatum
	Dr. Joseph Telch
	Dr. Hiro Yamishiro

Cross-Appointees

Dr. Glenn Berall
Dr. Bonnie Cameron
Dr. Douglas Campbell
Dr. Gordon Donsky
Dr. Katy Driver
Dr. Leona Fishman
Dr. Janine Flanagan
Dr. Lee Ann Gallant
Dr. Rose Geist
Dr. Sabine George
Dr. William Hanley
Dr. Nicole G. Inch
Dr. Jaya Islur
Dr. Anna Jarvis
Dr. Ian Kitai
Dr. Leo Levin
Dr. Gilbert Miller
Dr. Golda Milo-Manson
Dr. Hadi Mohsenibod
Dr. John D. Murray
Dr. Jay Rosenfield
Dr. Suzanne Schuh
Dr. Jefferey Weisbrot
Dr. Sheldon Wise

Fellows

Academic General
Paediatrics
Dr. Leigh Anne Bakel
Dr. Justine
Cohen-Silver
Dr. Julie Johnstone
Dr. Mikael
Katz-Lavigne
Dr. Arnaud Merglen
Dr. Natasha Saunders
Dr. Mathilda
van den Heuvel
Dr. Joseph Wiley

Child Maltreatment
Paediatrics
Dr. Fadiyah Al-Khattabi
Dr. Laila Nurmohamed
Dr. Karine Pépin
Dr. Marlène Thibault

Community Paediatrics
Dr. Miriam Burns
Dr. Joanna Humphreys
Dr. Rachel Markin
Dr. Melanie Ostreicher
Dr. Leanne Morris
Dr. Julia Sharp

The Influence of Temperament on Outdoor Play in Early Childhood. Sharp J, Birken CS, Maguire J, Parkin PC, Lebovic G, Carsley S, Abdullah K. **Academic Pediatric Association Resident Investigator Award (RIA) Program.** \$5,000 CAD. September 1-2014 - August 31-2015

The Rural/Urban Divide in Inflammatory Bowel Disease: Access, incidence, outcomes and access to care in Canada. Benchimol E, Guttman A. **Janssen Future Leaders in IBD Grant.** \$75,000 CAD. November 1-2012 – October 31-2014

The SMH-Mentored Implementation I-PASS Project. Landrigan C, Starmer A, Coffey T and the I-PASS Study Group: **Agency for Healthcare Research and Quality (AHRQ).** \$1,999,179 2014 - 2017

The TARGET Kids! Research Study. Maguire JL, Birken CS, Parkin PC. **St. Michael's Hospital Foundation.** \$489,650 CAD. February 1-2012 – January 31-2017

The Validation of iscorEB for Patients with Epidermolysis Bullosa. Pope E, Bruckner A. **EB Medical Research Foundation and Jackson Gabriel Silver Foundation.** \$17,136 CAD. January 8-2014 - December 31-2014

Trace Metal Collaborative Study. Parkin, P. **Ontario Agency for Health Protection and Promotion.** \$134,790.02 CAD. March 26-2013 – March 25-2015

Translating Emergency Knowledge for Kids (TREKK). Wittmeier K, Guttmann A. **Networks of Centres of Excellence (NCE) Knowledge Mobilization Initiative.** \$1,599,184 CAD. October 1-2011 – September 30-2015

Understanding the effects of social, behavioural and metabolic factors on early childhood growth trajectories among Aboriginal Canadians. Hanley AJ, Birken CS, Hamilton JK, Harris SB, Maguire JL, Parkin PC, Rae J, Zinman B. **CIHR Operating Grant.** \$208,768 CAD. April 1-2013 – March 31-2018

Understanding the Effects of Social, Behavioural and Metabolic Factors on Early Childhood Growth Trajectories among Aboriginal Canadians. Hanley A, Rae J, Harris S, Zinman B, Hamilton J, Birken C, Parkin P, Maguire J. **Canadian Institutes of Health Research (CIHR).** \$793,317 CAD. April 1-2013 - March 31-2018

Youth with Chronic Conditions Transitioning to Adult Care. Wodchis W, Guttmann A, Cohen E, Moore C: **Health Systems Performance Research Network, Ministry of Health and Long-Term Care.** \$4,645,190 CAD. May 1-2013 - May 31-2016

**Inpatient Hospital
Paediatrics Clinical
Fellows**

Dr. Javier Adrian
Gutierrez
Dr. Sonya Hiremath
Dr. Prita Rughani
Dr. Mahmoud Sakran
Dr. Maher Shalabi

Paediatric Dermatology

Dr. Mohannad Abu Hilal
Dr. Michael Bishara
Dr. Blanca
del Pozzo Magana
Dr. Vallari Majmudar
Dr. Alexandra Pennal
Dr. Shanna Spring

Paediatric

Palliative Care

Dr. Wesam Al Thaqafi

Research Fellows

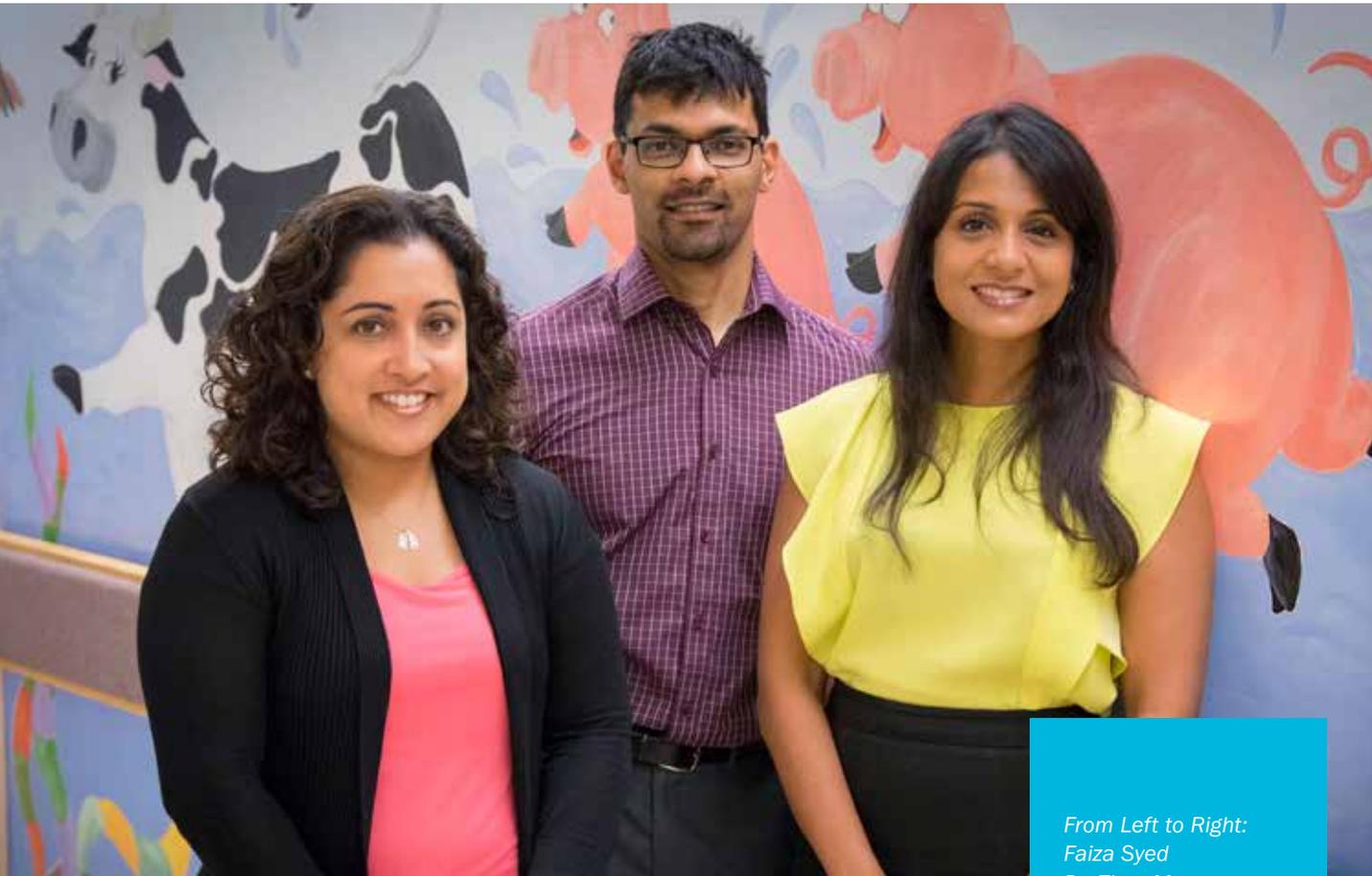
Dr. Kawsari Abdullah
Ms. Krista Keilty
Ms. Karen LeGrow
Dr. Carmen Liy Wong

Administrative Staff

Tiziana Altobelli
Denise Ferreira
Cindy Groff
Heather Haywood
Jasmine Hylton
Shanaz Karim
Jennifer Kingston
Victoria Latimer
Josie Marcantonio
Daffodil Morrison
Ramandeep Sran
Donna Whitely

DIVISION OF RESPIRATORY MEDICINE

The Division of Respiratory Medicine is committed to providing excellence in patient care, education and research and members of the Division are active on all these fronts. Over the past year our division has significantly expanded its Program for Sleep related Respiratory Disorders. Dr. Al-Saleh has started a collaborative program with the craniofacial program which has resulted in a specialized craniofacial sleep clinic in 2014 that follows children with syndromic craniosynostosis longitudinally. Dr. Indra Narang has organized and led a Sleep Symposium at SickKids and has become the Pediatric Lead for a Sleep related Research Network.



*From Left to Right:
Faiza Syed
Dr. Theo Moraes
Dr. Reshma Amin*

Another successful year in Respiratory Medicine in which our patients received comprehensive care from our multi-disciplinary team of physicians, nurse practitioners, nurses, respiratory therapists, nutritionists and social workers. We are committed to providing outstanding patient care, educating young physicians and nurses and conducting meaningful research related to pulmonary diseases to develop new treatments that will further improve the outcomes of our patients.

The home ventilation program continues to expand under the leadership of Dr. Amin and is implementing novel monitoring tool into the clinical care program. Dr. Grasemann, who recently was promoted to Full Professor, has completed a Sabbatical focusing on monitoring tools for childhood asthma and other inflammatory airway diseases. Dr. Neil Sweezey has become the lead of the CREMS student program building on his previous leadership roles in research related educational activities. Dr. Solomon led the fellowship through another successful year.

Dr. Moraes continues research into viral infections such as RSV (his student being awarded the prize for the best oral presentation at the Pediatric Research Day), but also started using airway culture systems to assess response to CFTR modulation in collaboration with Drs. Bear, Gonska as well as Rossant. Dr. Felix Ratjen and his team validated multiple breath washout technology as an early disease marker in CF leading to the development of a core site for multiple breath washout testing in North America which has been developed in close collaboration with Dr. Jane Davies at the Royal Brompton in London, who is leading the core facility for the European Clinical Trial network. Dr. Dell has expanded the clinic for primary ciliary dyskinesia and contributed to a better understanding of the link between genetic mutations and clinic phenotype. Dr. Subbarao is expanding the diagnostic capabilities of our

pulmonary function laboratory to integrate novel research technologies into clinical care in the near future.

Honours and Awards

Ratjen F: Fellowship of the European Respiratory Society. Munich, Germany. September, 2014

Dell S: Runner up, Excellence in Graduate Teaching and Mentorship, Faculty of Medicine Graduate Faculty Teaching Award, University of Toronto, Ontario, Canada. 2014

Publications

Al Rukban M, Al Ghaihab M, Tamimi O, Al-Saleh S. Clinical spectrum of infantile scimitar syndrome: a tertiary center experience. *Annals of Pediatric Cardiology*. Jan-April 2014;7(1):29-33.

Alpern AN, Brumback LC, Ratjen F, Rosenfeld M, Davis SD, Quittner AL. Initial evaluation of the Parent Cystic Fibrosis Questionnaire-Revised (CFQ-R) in infants and young children. *J Cyst Fibros*. 2015 May;14(3):403-11.

Al-Saleh S, Kantor P. F, Chadha N. K, Tirado Y, James A. L. , Narang I. Sleep disordered breathing in children with cardiomyopathy. *Ann Am Thorac Soc*. 2014 Jun;11(5):770-6.

Amin R, Ratjen F. Emerging Drugs for Cystic Fibrosis. *Expert Opinion on Emerging Drugs*. 2014 Mar;19(1):143-55.

Amin R, Sayal A, Syed F, Daniels C, Hoffman A, Moraes T, Cox P. How Long Does It Take to Initiate a Child on Long-term Invasive Ventilation: Results from a Canadian Paediatric Home Ventilation Program? *Can Respir J*. 2015 Mar-Apr;22(2):103-8.

Amin R, Sayal P, Sayal A, Massicote C, Pham R, Al-Saleh S, Drake J, Narang I. The Association between Sleep Disordered Breathing and MRI Findings in a Paediatric Cohort of Chiari 1 Malformations. *Canadian Respiratory Journal*. 2015 Jan-Feb;22(1):31-6.

Amin R, Sayal P, Sayal A, Massicote C, Pham R, Al-Saleh S. The Association between Sleep Disordered Breathing and MRI Findings in a Paediatric Cohort of Chiari 1 Malformation. *Canadian Respiratory*. 2014 Nov 6. pii: 16535. [Epub ahead of print]

Amin R, Sayal P, Syed F, Chaves A, Moraes TJ, MacLusky I. Paediatric Long-term Home Mechanical Ventilation: Twenty years of Follow up from One Canadian Center. *Paediatric Pulmonology*. 2014 Aug; 49 (8):816-24.

Amin R, Vresk L, Cohen E. Nutritional and Metabolic Assessment for children receiving Long-term Ventilation at Home: A Call to Action for Clinicians? *J Pediatr*. 2015 Feb;166(2):228-9.

Amin R, Waters V. Antibiotic treatment for *Stenotrophomonas maltophilia* in people with cystic fibrosis. *Cochrane Database Syst Rev*. 2014 Apr; 4: CD009249.

Azad MB, Konya T, Guttman DS, Field CJ, Sears MR, HayGlass KT, Mandhane PJ, Turvey SE, Subbarao P, Becker AB, Scott JA, Kozyrskyj AL; CHILD Study Investigators (Moraes T, member). Infant gut microbiota and food sensitization: associations in the first year of life. *Clinical and Experimental Allergy*. 2015 Mar;45(3):632-43

Azad MB, Konya T, Guttman DS, Field CJ, Sears MR, HayGlass KT, Mandhane PJ, Turvey SE, Subbarao P, Becker AB, Scott JA, Kozyrskyj AL; CHILD Study Investigators. Infant gut microbiota and food sensitization: associations in the first year of life. *Clinical and Experimental Allergy*. 2015 Mar;45(3):632-43

Benseler A, Stanojevic S, Jensen R, Gustafsson P, Ratjen F. The effect of equipment dead space on multiple breath washout measures. *Respirology*. 2015 Apr;20(3):459-66.

Bola SS, Narang I. An Elusive Cause of Hypoxaemia in a Paediatric Patient. *BMJ Case Rep*. 2014 May 23;2014

Bousquet J, Gern JE, Martinez FD, Anto JM, Johnson CC, Holt PG, Lemanske RF Jr, Le Souef PN, Tepper R, von Mutius ERM, Arshad SH, Bacharier LB, Becker A, Belanger K, Bergstrom A, Bernstein D, Cabana MD, Carroll KN, Castro M, Cooper PJ, Gillman MW, Gold DR, Henderson J, Heinrich J, Hong S-J, Jackson DJ, Keil T, Kozyrskyj AL, Lodrup-Carlson K, Miller RL, Momas I, Morgan WJ, Noel P, Ownby DR, Pinart M, Ryan P, Schwaninger JM, Sears MR, Simpson A, Smit HA, Stern D, Subbarao P, Valenta R, Wang X, Weiss ST, Wood R, Wright AL, Wright RJ, Togias A, Gergen PJ. Birth cohorts in asthma and allergic diseases: Report of a NIAID, NHLBI, MeDALL joint workshop. *J Allergy Clin Immunol*. 2014 Jun;133(6):1535-46.

Bradley JM, Koker P2, Deng Q, Moroni-Zentgraf P, Ratjen F, Geller DE, Elborn JS; Tiotropium Cystic Fibrosis Study Group. Testing two different doses of tiotropium Respimat® in cystic fibrosis: phase 2 randomized trial results. PLoS One. 2014 Sep 4;9(9):e106195.

Brumback L, Baines A, Ratjen F, Davis S, Daniel S, Quittner A, Rosenfeld M. Pulmonary Exacerbations and Parent-Reported Outcomes in Children < Six Years with Cystic Fibrosis. *Pediatr Pulmonol* 2014 Apr 29. doi: 10. 1002/ppul. 23056. [Epub ahead of print]

Carpenter S, Josepovici J, Latino G, Ratjen F. Positional oximetry to screen for pulmonary arteriovenous malformations in HHT. *Thorax*. 2014 Nov;69(11):1045

Cheng K, Mariampillai A, Lee K, Vuong B, Luk T, Ramjist J, Curtis A, Jakubovic H, Kertes P, Letarte M, Faughnan F, Chakinala M, Gossage J, Henderson K, Iyer V, Kasthuri R, Kim H, Krings T, Lawton M, Lin D, Mager J, McWilliams J, McDonald J, Pawlikowska L, Pollak J, Ratjen F, Swanson K, terBrugge K, Vethanayagam D, White A, White R, Wilcox P, Young W, Yang V. Histogram flow mapping with optical coherence tomography for in vivo skin angiography of hereditary hemorrhagic telangiectasia. *J Biomed Opt*. 2014 Aug;19(8):086015.

Chiang J, Raiman J, Cutz E, Solomon M, Dell SD. Tachypnea of infancy as the first sign of Sanfilippo syndrome. *Pediatrics*. 2014 Sep;134(3):e884-8.

Chmiel JF, Aksamit TR, Chotirmall SH, Dasenbrook EC, Elborn JS, LiPuma JJ, Ranganathan SC, Waters VJ, Ratjen F. Antibiotic Management of Lung Infections in Cystic Fibrosis: Part II. Nontuberculous Mycobacteria, Anaerobic Bacteria, and Fungi. *Ann Am Thorac Soc*. 2014 Oct;11(8):1298-306.

Chmiel JF, Aksamit TR, Chotirmall SH, Dasenbrook EC, Elborn JS, LiPuma JJ, Ranganathan SC, Waters VJ, Ratjen F. Antibiotic management of lung infections in cystic fibrosis. I. The microbiome, methicillin-resistant *Staphylococcus aureus*, gram-negative bacteria, and multiple infections. *Ann Am Thorac Soc*. 2014 Sep;11(7):1120-9

Cohen M, Hamilton J, Narang I, Harrington J. Growth Hormone Secretion Decreases with age in pediatric Prader Willi Syndrome. *Clin Endocrinol (Oxf)*. 2015 Aug;83(2):212-5.

Cohen M, Hamilton J, Narang I. Clinically Important Age-Related Differences in Sleep Related Disordered Breathing in Infants and Children with Prader-Willi Syndrome. *PLOS One*. 2014; 9 (6): e101012

Daines C, VanDeVanter D, Khan U, Emerson J, Heltshe S, McNamara S, Anstead M, Langkamp M, Doring G, Ratjen F, Ramsey B, Gibson RL, Morgan W, Rosenfeld M; for the EPIC Investigators. Serology as a diagnostic tool for predicting initial *Pseudomonas aeruginosa* acquisition in children with cystic fibrosis. *J Cyst Fibros*. 2014 Sep;13(5):542-9.

Davis S, Ferkol T, Rosenfeld M, Lee HS, Dell S, Sagel S, Milla C, Zariwala M, Pittman J, Shapiro A, Carson J, Krischer J, Hazucha M, Cooper M, Knowles M, Leigh M. Clinical features of childhood primary ciliary dyskinesia by genotype and ultrastructural phenotype. *Am J Respir Crit Care Med*. 2015 Feb 1;191(3):316-24.

Dell S, Jerret M, Beckerman B, Brook J, Foty R, Gilbert N, Marshall L, Miller J, ToT, Walter S, Stieb D. Presence of Other Allergic Disease Modifies the effect of Early Childhood Traffic-Related Air Pollution Exposure on Asthma. *Environ Int*. 2014 Apr; 65: 83-92.

Dell SD, Bola SS, Foty RG, Marshall LC, Nelligan KA, Coates AL. Provocative dose of methacholine causing a 20% drop in FEV1 should be used to interpret methacholine challenge tests with modern nebulizers. *Ann Am Thorac Soc*. 2015 Mar; 12(3):357-63.

Douda DN, Khan MA, Grasemann H, Palaniyar N. -2015. SK channels and mitochondrial ROS mediate 11NADPH oxidase-independent NETosis induced by calcium influx. *Proc Natl Acad Sci U S A* 112(9):2817-22.

Douda DN, Yip L, Khan MA, Grasemann H, Palaniyar N. Akt is essential to induce NADPH-dependent NETosis and to switch the neutrophil death to apoptosis. *Blood*. 2014;123(4):597-600.

Gassas A, Schechter T, Krueger J, Craig-Barnes H, Sung L, Ali M, Dell S, Egeler RM, Zaidman I, Palaniyar N. Serum Krebs Von Den Lungen-6 as a Biomarker for early detection of bronchiolitis obliterans syndrome in children undergoing Allogeneic Stem Cell Transplantation. *Biol Blood Marrow Transplant*. 2015 Aug;21(8):1524-8

Grasemann H, Dhaliwal R, Ivanovska J, Kantores C, McNamara PJ, Scott JA, Belik J, Jankov RP. Arginase inhibition prevents bleomycin-induced pulmonary hypertension, collagen deposition and vascular remodelling in neonatal rats. *Am J Physiol Lung Cell Mol Physiol*. 2015 Mar 15;308(6):L503-10.

Grasemann H, Jaecklin T, Mehl A, Huang H, Rafii M, Pencharz P, Ratjen F. Multi-tracer stable isotope quantification of arginase and nitric oxide synthase activity in a mouse model of *Pseudomonas* lung infection. *Mediators Inflamm*. 2014;2014:323526

Haliburton B, Mouzaki M, Chiang M, Scaini V, Marcon M, Moraes TJ, Chiu PP (2015). Long-term nutritional morbidity for congenital diaphragmatic hernia survivors: Failure to thrive extends well into childhood and adolescence. *J Pediatr Surg* 50(5): 734-8.

Howrylak JA, Fuhlbrigge AL, Strunk RC, Zeiger RS, Weiss ST, Raby BA; CAMP Research Group. Classification of childhood asthma phenotypes and long-term clinical responses to inhaled anti-inflammatory medications. *J Allergy Clin Immunol*. 2014 May;133(5): 1289-300, 1300. e1-12.

Katz Sheri, Witmans M, Borrowman N, Hoey L, Su S, Reddy D, Narang I. Pediatric Sleep resources in Canada: The Scope of the Problem. *Canadian Journal of Paediatrics and Child Health*. 2014;19(7):367-372

Kerem E, Konstan MW, De Boeck K, Accurso FJ, Sermet-Gaudelus I, Wilschanski M, Elborn JS, Melotti P, Bronsveld I, Fajac I, Malfroot A, Rosenbluth DB, Walker PA, McColley SA, Knoop C, Quattrucci S, Rietschel E, Zeitlin PL, Barth J, Elfring GL, Welch EM, Branstrom A, Spiegel RJ, Peltz SW, Ajayi T, Rowe SM; Cystic Fibrosis Ataluren Study Group. Ataluren for the treatment of nonsense-mutation cystic fibrosis: a randomised, double-blind, placebo-controlled phase 3 trial. *Lancet Respir Med*. 2014 Jul;2(7):539-47.

Kim H, Nelson J, Krings T, terBrugge KG, McCulloch CE, Lawton MT, Young WL, Faughnan ME; Brain Vascular Malformation Consortium HHT Investigator Group; BVMC HHT Investigator Group. Hemorrhage rates from brain arteriovenous malformation in patients with hereditary hemorrhagic telangiectasia. *Stroke*. 2015 May;46(5):1362-4.(Coll)

Kim, R. H. , Hall A, Cutz, E. Knowles, M. R. , Nelligan K, Nykamp K, Zariwala M. A. , Dell S. The Role of Molecular Genetic Analysis in the Diagnosis of Primary Ciliary Dyskinesia. *Ann Am Thorac Soc*. 2014 Mar;11(3):351-9.

Knowles M, Ostrowski L, Leigh M, Sears P, Davis S, Wolf W, Hazucha M, Carson J, Olivier K, Sagel S, Rosenfeld M, Ferkol T, Dell S, Milla C, Randell S, Yin W, Sannuti A, Metjian H, Noone P, Olson C, Patrone M, Dang H, Lee H, Hurd T, Gee H, Otto E, Halbritter J, Kohl S, Kircher M, Krischer J, Bamshad M, Nickerson D, Hildebrandt F, Shendure J, Zariwala M. Mutations in RSPH1 Cause Primary Ciliary Dyskinesia with a Unique Clinical and Ciliary Phenotype. *Am J Respir Crit Care Med*. 2014 Mar 15;189(6):707-17.

Konya T, Koster B, Maughan H, Escobar M, Azad MB, Guttman DS, Sears MR, Becker AB, Brook JR, Takaro TK, Kozyrskyj AL, Scott JA; CHILD Study Investigators. Associations between bacterial communities of house dust and infant gut. *Environ Res*. 2014 May;131:25-30.

Krings T, Kim H, Power S, Nelson J, Faughnan ME, Young WL, Ter Brugge KG; the Brain Vascular Malformation Consortium HHT Investigator Group. Neurovascular Manifestations in Hereditary Hemorrhagic Telangiectasia: Imaging Features and Genotype-Phenotype Correlations. *AJNR Am J Neuroradiol*. 2015 May;36(5):863-70.

Kushwah R, Gagnon S, Swezey NB. T cell unresponsiveness in a pediatric cystic fibrosis patient: a case report. *Allergy Asthma Clin Immunol*. 2014 Jan 17;10(1):2.

Latino GA, Al-Saleh S, Carpenter S, Ratjen F. The Diagnostic Yield of Rescreening for Arteriovenous Malformations in Children with Hereditary Hemorrhagic Telangiectasia. *J Pediatrics*. 2014 Jul. 165(1):197-99.

Marchant D, Bellac C, Moraes TJ, Wadsworth S, Dufour A, Butler GS, Bilawchuk L, Hendry R, Robertson G, Cheung C, Ng J, Ang L, Luo Z, Heilbron K, Norris M, Duan W, Bucyk T, Karpov A, Devel L, Georgiadis D, Dive V, Hegele RG, Luo H, Granville DJ, McManus BM, Overall CM. Transcriptional role of a moonlighting extracellular metalloprotease in antiviral immunity. *Nature Medicine*. 2014 May;20(5):493-502.

Marcus C, Meltzer L, Roberts R, Traylor J, Dix J, D'Ilario J, Asztalos E, Opie G, Doyle L, Biggs S, Nixon G, Narang I, Bhattacharjee P, Davey M, Horne R, Cheshire M, Gibbons J, Costantini L, Bradford R, Schmidt B. Long Term Effects of Caffeine Therapy for Apnea of Prematurity on Sleep at School Age. *AJRCCM*. 2014; 190(7):791-799

Marcus C, Traylor J, Biggs S, Roberts R, Nixon G, Narang I, Bhattacharjee R, Davey M, Horne R, Cheshire M, Gibbons J, Dix J, Asztalos E, Doyle L, Opie G, Costantini L, Bradford R, Schmidt B. Feasibility of Comprehensive, Unattended Ambulatory Polysomnography in School-Aged Children. *JCSM*. 2014;10(8):913-8

Massicotte C, Al-Saleh S, Witmans M, Narang I. The Utility of a Portable Sleep Monitor (Apnealink) to Diagnose Sleep Disordered Breathing in a Paediatric Population. *Can Respir J*. 2014;21(1):31-5

Mathew J, Narang I. Sleeping too Close Together: Obesity and Obstructive Sleep Apnea in Childhood and Adolescence. *Paediatr Respir Rev*. 2014;15(3):211-8

McKone E, Borowitz D, Drevinek P, Griese M, Konstan MW, Wainwright C, Ratjen F, Sermet-Gaudelus I, Plant B, Munck A, Jiang Y, Gilmartin G, Davies JC; on behalf of the VX08-770-105 (PERSIST) Study Group. Long-term safety and efficacy of ivacaftor in patients with cystic fibrosis who have the Gly551Asp-CFTR mutation: a phase3, open-label extension study (PERSIST). *Lancet Respiratory Med*. 2014 Nov;2(11):902-10

Mehl A, Ghorbani P, Douda D, Huang H, Palaniyar N, Ratjen F, Grasemann H. Effect of arginase inhibition on pulmonary L-arginine metabolism in murine *Pseudomonas pneumonia*. *PLoS ONE*. 2014 Mar 3;9(3):e90232.

Moerman JN, Ratjen F, Subbarao P, Sears MR, Anand SS, Stanojevic S. The prevalence of asthma in Canadian children of South Asian Descent. *Pediatric Pulmonology*. 2014 Jan;49(1):43-8.

Mogayzel PJ Jr, Naureckas ET, Robinson KA, Brady C, Guill M, Lahiri T, Lubsch L, Matsui J, Oermann CM, Ratjen F, Rosenfeld M, Simon RH, Hazle L, Sabadosa K, Marshall BC; Cystic Fibrosis Foundation Pulmonary Clinical Practice Guidelines Committee. Cystic Fibrosis Foundation Pulmonary Guideline. Pharmacologic Approaches to Prevention and Eradication of Initial *Pseudomonas aeruginosa* Infection. *Ann Am Thorac Soc*. 2014 Dec;11(10):1640-5.

Moraes TJ, Lefebvre DL, Chooniedass R, Becker AB, Brook JR, Denburg J, HayGlass KT, Hegele RG, Kollmann TR, Macri J, Mandhane PJ, Scott JA, Subbarao P, Takaro TK, Turvey SE, Duncan JD, Sears MR, Befus AD; CHILD Study Investigators. The Canadian healthy infant longitudinal development birth cohort study: biological samples and biobanking. *Paediatr Perinat Epidemiol*. 2015 Jan;29(1):84-92

Moraes TJ. Are we too passive in our attempts to prevent RSV in Northern Canada? Editorial to the Canadian Respiratory Journal. 2014 May-Jun;21(3):163-164

Mullowney T, Kim R, Manson D, Stephens D, Dell SD. Primary Ciliary Dyskinesia and Neonatal Respiratory Distress. *Pediatrics*. 2014 Dec;134(6):1160-6.

Narang I, Kadmon G, Lai D, Dhanju S, Kirby-Allen m, Odame I, Amin R, Lu Z, Al-Saleh S. Higher Nocturnal and Awake Oxygen Saturations in Children with Sickle Cell Disease on Hydroxyurea Therapy. *Ann Am Thorac Soc.* 2015 Jul;12(7):1044-9.

Nevin MA, Daines CL, Redding GJ, Ren CL, Ratjen F, Shah AV, Hiranrattana A, Alexiou S, Bansal M, Pizarro-Gamboa ME, Panitch HB. ATS Core Curriculum 2014: Part IV. Pediatric Pulmonary Medicine. *Ann Am Thorac Soc.* 2014 Dec;11(10):1633-9.

Ooi CY, Castellani C, Keenan K, Avolio J, Volpi S, Boland M, Kovesi T, Bjornson C, Chilvers MA, Morgan L, van Wylick R, Kent S, Price A, Solomon M, Tam K, Taylor L, Malitt KA, Ratjen F, Durie PR, Gonska T. Inconclusive Diagnosis of Cystic Fibrosis After Newborn Screening. *Pediatrics.* 2015 Jun;135(6):e1377-85. (Coll)

Radhakrishnan D, Dell S, Guttmann A, To T. Trends in the age of diagnosis of childhood asthma. *Journal of Allergy and Clinical Immunology.* 2014 Nov; 134(5): 1057-62. e5.

Ratjen F, Anstead M, Lands L, Mayer-Hamblett N, Saiman L. Response to letter. *Pediatrics Pulmonol.* 2015 Jan;50(1):105.

Ratjen F, Bell S, Rowe S, Goss CH, Quittner AL, Bush A. Cystic Fibrosis. *Nature Review Disease Primers.* 2015 May 14. doi:10.1038/nrdp.2015.10

Ratjen F, Koker P, Geller DE, Langellier-Cocteaux B, Le Maulf F, Kattenbeck S, Moroni-Zentgraf P, Elborn JS; Tiotropium Cystic Fibrosis Study Group. Tiotropium Respimat® in cystic fibrosis: Phase 3 and Pooled phase 2/3 randomized trials. *J Cyst Fibros.* 2015 Sep;14(5):608-14.

Ratjen F, Koker P, Geller DE, Langellier-Cocteaux B, Le Maulf F, Kattenbeck S, Moroni-Zentgraf P, Elborn JS; Tiotropium Cystic Fibrosis Study Group. Tiotropium Respimat® in cystic fibrosis: Phase 3 and Pooled phase 2/3 randomized trials. *J Cyst Fibros.* 2015 Mar 25. pii: S1569-1993(15)00059-4. doi: 10.1016/j.jcf.2015.03.004. [Epub ahead of print] (PA)

Rose L, Fowler RA, Goldstein R, Katz S, Leasa D, Pedersen C, McKim D, CANuVENT Group. Patient transitions relevant to individuals requiring ongoing ventilatory assistance: a Delphi study. *Canadian Respiratory Journal.* 2014 Sep-Oct; 21(5):287-92. Impact Factor: 1. 929

Rose L, Fowler RA, Goldstein R, Katz S, Leasa D, Pedersen C, McKim D; CANuVENT Group. Prolonged Mechanical Ventilation in Canadian Intensive Units: a National Survey. *Journal of Critical Care.* 2015 Feb;30(1):25-31.

Rose L, McKim DA, Katz SL, Leasa D, Nonoyama M, Pedersen C, Goldstein RS, Road JD; on behalf of the CANuVENT Group. Home Mechanical Ventilation in Canada: A National Survey. *Respiratory Care.* 2015 Jan 13. pii: respcare. 3609. [Epub ahead of print]

Schneiderman JE, Wilkes DL, Atenafu EG, Nguyen T, Wells GD, Alarie N, Tullis E, Lands LC, Coates AL, Corey M, Ratjen F. Longitudinal relationship between physical activity and lung health in patients with cystic fibrosis. *Eur Respir J.* 2014 Mar;43(3):817-23.

Scott JA, Duongh M, Young AW, Subbarao P, Gauvreau GM, Grasemann H. Asymmetric Dimethylarginine in chronic obstructive pulmonary disease (ADMA in COPD). *International Journal of Molecular Science.* 2014 Apr 10;15(4):6062-71. Impact factor 2. 732

Scott JA, Duongh M, Young AW, Subbarao P, Gauvreau GM, Grasemann H. Asymmetric dimethylarginine in chronic obstructive pulmonary disease (ADMA in COPD). *Int J Mol Sci*. 2014 Apr 10;15(4):6062-71

Scott JA, Gauvreau GM, Grasemann H. Asymmetric dimethylarginine and asthma. *Eur Respir J*. 2014;43:647-648.

Shapiro A, Davis S, Ferkol T, Dell S, Rosenfeld M, Olivier K, Sagel S, Milla C, Zariwala M, Wolf W, Carson J, Hazucha, M, Burns K, Robinson B, Knowles M, Leigh M. Laterality defects other than situs inversus totalis in primary ciliary dyskinesia: insights into situs ambiguus and heterotaxy. *Chest*. 2014 Nov;146(5):1176-86.

Sharma A, Geller DE, Moroni-Zentgraf P, Kattenbeck S, Schmid M, Boland K, Rapp B, Konstan MW, Ratjen F, Elborn JS, Koker P. Pooled analysis of tiotropium Respimat® pharmacokinetics in cystic fibrosis. *Pulm Pharmacol Ther*. 2014 Dec;29(2):217-23 (CA)

Simatovic J, Zhu J, Gao C, Feldman L, Williams D, Gershon A, Loughheed M, Liciskai C, Dell S, To T. Characteristics of individuals admitted to the Intensive Care Unit for Asthma. *J Pulm Respir Med* 5:256. Doi:10. 4172/2161-105X. 1000256.

Simons E, Kwon S, Yang C, Dell S. Prediction of childhood atopy by questionnaire. *Clin Exp Allergy*. 2015 Apr;45(4):835-7.

Simons E, To T, Moineddin R, Stieb D, Dell S. Maternal second-hand smoke exposure in pregnancy is associated with childhood asthma development. *Journal of Allergy and Clinical Immunology In Practice*. 2014 Mar-Apr;2(2):201-207.

Smyth AR, Bell SC, Bojcin S, Bryon M, Duff A, Flume P, Kashirskaya N, Munck A, Ratjen F, Schwarzenberg SJ, Sermet-Gaudelus I, Southern KW, Taccetti G, Ullrich G, Wolfe S. European Cystic Fibrosis Society Standards of Care: Best Practice guidelines. *J Cyst Fibros*. 2014 May;13 Suppl 1:S23-42.

Stanojevic S, Jensen R, Sundaralingam D, Salazar JG, Yammine S, Singer F, Latzin P, Amin R, Subbarao P, Gustafsson P, Ratjen F. Alternative outcomes for the multiple breath washout in children with cystic fibrosis. *J Cyst Fibros*. 2015 Jul;14(4):490-6

Stanojevic S, Shah B, Anand S, Sears MR, Su J, Subbarao P. The burden of asthma amongst the South Asian and Chinese population living in Ontario, Canada. *Canadian Respiratory Journal*. 2014 November/December 21(6):346-350.

Stanojevic S, Waters V, Mathew JL, Taylor L, Ratjen F. Effectiveness of inhaled tobramycin in eradicating *Pseudomonas aeruginosa* in children with cystic fibrosis. *J Cyst Fibros* 2014 Mar; 13(2):172-8.

Sweezey NB, Ratjen F. The cystic fibrosis gender gap: potential roles of estrogen. *Pediatr Pulmonol*. 2014 Apr;49(4):309-17.

Tiddens HAWM, Puderbach M, Venegas JG, Ratjen F, Donaldson SH, Davis SD, Rowe S, Sagel S, Higgins M, Waltz D. Novel outcome measures for clinical trials in cystic fibrosis. *Pediatr Pulmonol*. 2014 Dec 30. doi: 10. 1002/ppul. 23146. [Epub ahead of print]

Tiddens HAWM, Puderbach M, Venegas JG, Ratjen F, Donaldson SH, Davis SD, Rowe S, Sagel S, Higgins M, Waltz D. Novel outcome measures for clinical trials in cystic fibrosis. *Pediatr Pulmonol*. 2014 Dec 30. doi: 10.1002/ppul.23146. [Epub ahead of print]

To T, Simatovic J, Zhu J, Feldman L, Dell SD, Loughheed MD, Liciskai C, Gershon A. Asthma deaths in a large provincial health system. A 10-year population-based study. *Ann Am Thorac Soc*. 2014 Oct;11(8):1210-7.

Ungar W, Hadioonzadeh A, Najafzadeh M, Tsao N, Dell S, Lynd L. Quantifying Preferences for Asthma Control in Parents and Adolescents Using Best-Worst Scaling. *Respiratory Medicine*. *Respir Med*. 2014 Jun;108(6):842-51.

Wainwright CE, Elborn S, Ramsey B, Marigowda G, Huang X, Cipolli M, Colombo C, Davies J, De Boek K, Flume P, Konstan M, McColley S, McCoy K, McKone E, Munck A, Ratjen F, Rowe S, Waltz D, Boyle M, for the TRAFFIC and TRANSPORT study groups. Lumacaftor with Ivacaftor in CF Patients Homozygous for Phe508del-CFTR. *N Engl J Med*. 2015 Jul 16;373(3):220-231

Waters V, Yau Y, Ratjen F, Tullis E, Wilcox P, Freitag A, Chilvers M, Grasemann H, Zlosnik J, Speert D, Corey M, Stanojevic S, Matukas L, Leahy T, Shih S. Randomized controlled trial of biofilm antimicrobial susceptibility testing in pulmonary exacerbations in cystic fibrosis patients with chronic *Pseudomonas aeruginosa* infection. *J Cyst Fibros*. 2015 Mar;14(2):262-6.

Waters VJ, Stanojevic S, Sonneveld N, Klingel M, Grasemann H, Yau YC, Tullis E, Wilcox P, Freitag A, Chilvers M, Ratjen FA. Factors associated with response to treatment of pulmonary exacerbations in cystic fibrosis patients. *J Cyst Fibros*. 2015 Feb 14. pii: S1569-1993(15)00009-0. doi: 10.1016/j.jcf.2015.1.7. [Epub ahead of print]

Watkin L, Jessen B, Wiszniewski W, Vece T, Jan M, Sha Y, Thamsen M, Santos-Cortez R, Forbes L, Law CS, Stray-Petersen A, Cheng MH, Mace EM, Anderson MS, Liu D, Tang LF, Nicholas SK, Nahmod K, Makedonas G, Canter D, Kwok PY, Hicks J, Jones KD, Jhangiani SN, Rosenblum MD, Dell SD, Waterfirdl MR, Papa F, Muzny DM, Zaitlen N, Leal SM, Gonzaga-Jauregui C, Baylor-Hopkins Center for Mendelian Genomics, Boerwinkle E, Eissa NT, Gibbs RA, Lupski JR, Orange JS, Shum AK. COPA mutations impair ER-Golgi transport and cause hereditary autoimmune-mediated lung disease and arthritis. *Nat Genet*. 2015 Jun;47(6):654-60.

Wells GD, Wilkes DL, Schneiderman JE, Thompson S, Coates AL, Ratjen F. Physiological correlates of pulmonary function in children with cystic fibrosis. *Pediatr Pulmonol*. 2014 Sep;49(9):878-84.

Woerner C, Cutz E, Yoo SJ, Grasemann H, Humpl T. Pulmonary veno-occlusive disease in childhood. *Chest*. 2014 Jul;146(1):167-174.

Zhang H, Swezey NB, Kaplan F. LGL1 modulates proliferation, apoptosis and migration of human fetal lung fibroblasts. *American Journal of Physiology Lung Cellular and Molecular Physiology*. 2015 Feb 15;308(4):L391-402. doi: 10.1152/ajplung.119.2014. Epub 2014 Dec 5.

Book Chapters

De Boeck K, Fajac I, Ratjen F. End-points and biomarkers for clinical trials in cystic fibrosis. ERS Monogr 2014; 64: 104-115. (SRA)

Pediatric Lung Transplant Handbook, The Hospital for Sick Children, Toronto Lung Transplant Program. January 2014.(SRA)

Grants and Funding

A pharmacogenetic trial of tacrolimus after pediatric transplantation. Grasemann, H. **Transplant Catalyst Grant.** \$150,000 CAD. 2012-2014.

A Phase 3, Double Blind, Placebo Controlled, Parallel Group Study to Evaluate the Efficacy and Safety of Lumacaftor in Combination With Ivacaftor in Subjects Aged 6 Through 11 Years With Cystic Fibrosis, Homozygous for the F508del CFTR Mutation. Principal Investigator: Ratjen F. Collaborator(s): Solomon M. **Vertex Pharmaceuticals.** \$16,187.00 USD. 2015 – 2017

A Phase 3 Efficacy and Safety Study of PTC124 as an oral treatment for nonsense-mutation-medicated cystic Fibrosis. Principal Investigator: F. Ratjen. Collaborator(s): M. Solomon. **PTC Therapeutics.** \$15,771. USD. 2012-2014

A Phase 3, Open-Label Study to Evaluate the Pharmacokinetics, Safety, and Tolerability of Lumacaftor in Combination with Ivacaftor in Subjects 6 Through 11 Years of Age With Cystic Fibrosis, Homozygous for the F508del-CFTR Mutation. Principal Investigator: M Solomon. Collaborators(s): F Ratjen. **Vertex Pharmaceuticals.** \$14,600.00 USD. 2015 - 2016

A Phase 3, Rollover Study to Evaluate the Safety and Efficacy of Long-term Treatment With Lumacaftor in Combination With Ivacaftor in Subjects Aged 12 Years and Older With Cystic Fibrosis, Homozygous or Heterozygous for the F508del CFTR Mutation. Principal Investigator: F Ratjen. Collaborator(s): M Solomon. **Vertex Pharmaceuticals.** \$88,116 USD. 2015 - 2016

A Phase 3, Randomized, Double Blind, Placebo Controlled, Parallel Group Study to Evaluate the Efficacy and Safety of Lumacaftor Monotherapy and in Combination With Ivacaftor in Subjects Aged 12 Years and Older With Cystic Fibrosis, Homozygous for the F508del CFTR Mutation. Ratjen, F, Solomon, M. **Vertex Pharmaceuticals.** \$104,910 USD. 2013-2014

A Phase 3, Randomized, Double-blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Safety of Lumacaftor Monotherapy and in combination with Ivacaftor in subjects aged 12 years and older with cystic fibrosis, homozygous for the F508del-CFTR mutation. Ratjen, F. **Vertex Pharmaceuticals Inc.** Per patient \$14,426 (Currency?). 2013 – 2014

A Phase 3, Randomized, Double-blind, Placebo-Controlled, Parallel-Group Study to Evaluate the Efficacy and Safety of Lumacaftor Monotherapy and in combination with Ivacaftor in subjects aged 12 years and older with cystic fibrosis, homozygous for the F508del-CFTR mutation. Ratjen, F. **Vertex Pharmaceuticals Inc.** Per patient \$14,426 (Currency?). 2013 – 2014

A Phase 3 Efficacy and Safety Study of Ataluren (PTC124) in Patients with Nonsense Mutation Cystic Fibrosis. Site Principal Investigator: Ratjen F. **PTC Therapeutics, Inc.** \$20,583.00 fixed cost (Currency?), \$10,965.00 per patient. 2014 – 2016

A pilot study testing the effect of ivacaftor on lung function in subjects with cystic fibrosis, residual CFTR function and FEV1 \geq 40% predicted, VX12-770-113. Principal Investigator: Ratjen F. **Vertex Pharmaceuticals**. \$23,886.00 USD. 2014 – 2015

A Randomized Controlled Trial of Inhaled Hypertonic Saline (7%) to evaluate the lung clearance index as a short-term pharmacodynamic biomarker in patients with cystic fibrosis. Ratjen F. **Novartis Pharmaceuticals Inc.** \$158,700 CAD. 2011 – 2015

A Randomized, double-blind, placebo-controlled parallel-group trial to confirm the efficacy after 12 weeks and the safety of tiotropium 5 μ g administered once daily via the Respimat[®] device in patients with cystic fibrosis. Principal Investigator: F. Ratjen. Collaborator(s): M. Solomon. **Boehringer - Ingelheim**. \$45,023.01 CAD. 2011-2015

A Randomised, Multicentre, Double-Blind, Placebo-Controlled, Crossover Trial Determining the Efficacy of Dry Powder Mannitol in Improving Lung Function in Subjects with Cystic Fibrosis Aged Six to Seventeen Years. Principal Investigator: M. Solomon. Collaborator(s): H. Grasemann. **Pharmaxis**. \$51,640 CAD. 2014-2015

A Randomized, Multicenter, double-blind, placebo-controlled, crossover trial determining the efficacy of dry powder Mannitol in improving lung function in subjects with Cystic Fibrosis aged six to seventeen years. Grasemann, H. **Pharmaxis**. \$52,640 CAD. 2014-2015

Arginase inhibition to augment nitric oxide production in cystic fibrosis. Grasemann, H. **Cystic Fibrosis Canada**. \$235,468 CAD. 2013-2016

A Two-Part Multicenter Prospective Longitudinal Study of CFTR-dependent Disease Profiling in Cystic Fibrosis (PROSPECT). Principal Investigator: Sagel S, Co Investigators; F Ratjen, S Rowe, J Clancy, D Borowitz, A Moran, S Donaldson. **Cystic Fibrosis Foundation Therapeutics**. \$177,731USD. 2014- 2019

Bronchopulmonary dysplasia: from neonatal chronic lung disease to early onset adult COPD. Luu, TM, Sherri Katz, S, Moraes, T. **The Canadian Respiratory Research Network**. \$49,808 CAD. 2014 – 2015

Canadian Birth Cohort: Indoor Air and the Development of Asthma and Allergy (CHILD Study). Sears, M, Subbarao, P, Becker, A, Mandhane, P, Turvey, S. **AllerGen Networks of Centres of Excellence (NCE) Inc.** 3239416011. \$4,000,000 CAD. 2012-2019

Cesarean section: impact on infant gut microbiota, childhood obesity and allergic disease. Principal Investigator: Anita Kozyrskyj, Co-Investigator: Subbarao P. **Canadian Institutes of Health Research**. \$100,000 CAD. 2014-2015

Clinical and Economic Burden of Illness Study of Cystic Fibrosis Patients Homozygous for F508del Mutation Site Principal Investigator: Ratjen F. **Vertex Pharmaceuticals**. \$40,000 USD. 2014 – 2015

Development of novel clinical tests to diagnose and monitor asthma in preschool children. Principal Investigator: Subbarao P, Co-applicants: Stanojevic, S, Boutis, K. **Ontario Thoracic Society**. \$92,335 CAD. 2013-2015

Early signs of efficacy study with BAY63-2521 in adult homozygous DF508 Cystic Fibrosis patients. Site Principal Investigator. Ratjen F. **Bayer Pharma**. \$33,766.40 (Currency?). 2014 – 2015

Emerging Team Grant in Cystic Fibrosis Therapy. Ratjen F, Grasemann H, Gonska T, Rotin D, Ellis J, Bear C. **Canadian Institutes of Health Research**. \$2,401,449 CAD. 2009 – 2014

Emerging Team Grant in Cystic Fibrosis. Ratjen F. **Canadian Cystic Fibrosis Foundation (CCFF)**. \$50,0000 Currency?. 2009 – 2014

Enhancing CD8 T Cell Responses to RSV (Respiratory Syncytial Virus). Moraes,T. CIHR/**The Hospital for Sick Children Research Institute**. \$300,000 CAD. 2011 –2015

Evaluation of Satisfaction, Persistence and Response to Inhaled Tobramycin (ESPRIT-CF). Principal Investigator: M. Solomon. **Novartis Pharmaceuticals**. \$19,180., \$400 per patient (Currency?) 2014-2015

Exome Sequencing in Primary Ciliary Dyskinesia. Principal Investigator: Dell S, Hall D, Kim R. **McLaughlin Centre, University of Toronto, Accelerator Grant in Genomic Medicine**. \$30,000 CAD. 2012 - 2014

Genetic Diseases of Mucociliary Clearance Consortium. U54RFA-OD-08-001 – renewal. Nominated PI: Dell S, Knowles M, Leigh M, Davis S. Co- Investigators : Quittner A, Milla C, Attkinson J, Krischer J, Carson J, Fordham L, Zariwala M, Rosenfeld M, Hazucha M, Sagel S, Brody S, Ferkol T. **National Institute of Health** \$6,709,685 CAD. 2009 - 2014

Genetic Disorder of Mucociliary Clearance. Nominated Principal investigator: Knowles, M. Co-Principal Investigators: Davis S, Fordham L, Leigh M, Dell S, Ferkol T, Krischer J, Milla C, Sagel S, Rosenfeld M, McShane P. **National Institute of Health** \$6,249,996. (\$219,540 local budget) USD. 2014 - 2019

Interpleural DNase and tissue plasminogen activator in pediatric empyema (DPTA trial). Cohen, E, Thorpe, K, Ratjen, F, Mahani, M, Mahant, S, MacLusky, I, Hoch, J, Connolly, B. **Canadian Institutes of Health Research**. \$315,121 Currency?. 2012 - 2015

Interpleural DNase and tissue plasminogen activator in pediatric empyema (DPTA trial). Principal Investigator: Cohen E, Co-Investigator: K Thorpe, F Ratjen, M Mahani, S Mahant, I MacLusky, J Hoch, B Connolly. **Physician Services Incorporated**. \$91,000 Currency? 2013 – 2015

Long-Term Survival in Childhood Solid Organ Transplants. Principal Investigator: R. Parekh. Collaborator(s): M. Solomon. **Canadian Institutes of Health Research**. \$514,979 CAD. 2014-2018

Lung Clearance Index (LCI) as a marker of early lung disease in preschool children. Principal Investigator: Ratjen F, Co-Investigators: Subbarao P, Stanojevic S, Pittman J, Retsch-Bogard G, Davis S. **National Heart Lung and Blood Institute**. 1,738,992.71 USD. 2012 – 2016

Lung function in preschool children: Utility of diagnosis of asthma. Principal Investigator. Subbarao P, Co-applicants: Malcolm Sears, Felix Ratjen, Geoffery Maksym, Graham Hall, Stuart Turvey, Mark Chilvers. **Canadian Institutes of Health Research**. \$447,195 CAD. 2014-2019

Molecular diagnostics to improve the care of children with complicated pneumonia. Principal Investigator: Wadhwa A. Co-Investigators: Cohen E, Petrich A, Farrell D, Gubbay J, Connolly B, Weinstein M, Dell S, Mahant S. **Pediatric Consultants Partnership, SickKids Hospital, Toronto**. \$10,000 CAD. 2013 – 2014

Multi-center, randomized, double-blind, placebo-controlled phase 2 study to assess the safety, tolerability and early signs of efficacy of tid orally administered BAY63-2521 in adult $\Delta F508$ homozygous Cystic Fibrosis patients (Study 17020) Principal Investigator: Ratjen F. **Bayer Pharma** \$43,287.00 CAD. 2015 – 2016

Platform for Outcomes Research and Translation in Asthma and allergy (PORTAL). Co-Principal Investigators: Lynd L, Ungar W, Marra CA. Co-investigators: Dell S, Fitzgerald JM, Clarke A, Elliott S. **Allergen**. \$300,000 CAD. 2009 - 2014

Primary human nasal epithelial cell culture in CF to test for responses to CFTR modulators. Moraes, T. **Cystic Fibrosis Canada**. \$15,000 CAD. 2014 – 2015

SHIP (Saline Hypertonic in Preschoolers) Study – Planning Grant. **Cystic Fibrosis Foundation Therapeutics Inc**. Principal Investigator: Rosenfeld M, Co-Investigators: Ratjen F, Davis S. \$205,764 USD. 2013 – 2014

SHIP (Saline Hypertonic in Preschoolers) Study. **Cystic Fibrosis Foundation Therapeutics Inc**. Principal Investigator: Rosenfeld M, Co-Investigators: Ratjen F, Davis S. \$4,455,655 USD. 2014 – 2019

Short-chain fatty acids in the cystic fibrosis lung. Grasemann, H. **SickKids CF Centre Catalyst Research Grant**. \$50,000 CAD. 2014-2015

The effects of mild pulmonary exacerbations on clinical outcomes in cystic fibrosis. Principal Investigator: Ratjen F, Co-Investigator: Waters V. **Vertex Pharmaceuticals**. \$83,300.00 USD. 2015 – 2016

The Canadian Respiratory Research Network: Origin and Progression of Airway Disease (CRRN) Principal Investigator: Aaron S, Co-Investigators: J Martin, D O'Donnell, G Parrage, D Sin, C Carlsten, A Halayko, M Stampfli, M Sadatsafavi, F Ducharme, A Gershon, T To, J Bourbeau, W Tan, S Gupta, LP Boulet. I Graham, F Ratjen. **Canadian Institutes of Health Research**. \$4,350,000 CAD. 2013 – 2018

The predictive validity of the Assessment of the Quality of General Movements for identification of long-term neurodevelopmental outcome in preterm infants. Principal Investigator: Church P. Co-Investigators: Van Dyke J, Shah V, Dell S, To T. **Physician Services Incorporated Foundation** \$37,500 CAD. 2014 - 2015

The role of agmatine in cystic fibrosis lung disease. Grasemann, H. **The Lynne and Arnold Irwin Foundation**. \$50,000 CAD. 2013-2014

Understanding the impact of maternal and infant nutrition on infant/child health. Principal Investigator: Sonia Anand, Co-Investigator: Subbarao P. **Canadian Institutes of Health Research**. \$399,323 CAD. 2013-2018

Assessing Air Travel Safety in Duchenne Muscular Dystrophy: Standard versus Prolonged High Altitude Simulation Tests (HAST). **Muscular Dystrophy Canada**. Reshma A, Varadi R, McAdam L, Goldstein R. \$49,183 CAD. November 2, 2015 – 2016.

Health Service Utilization and Costs in Children Receiving Long-term Home Mechanical Ventilation in Ontario. **Ontario Thoracic Society**. Rose, L, Cohen E, Guttman A, Gershon A, Kiss A, Hoch J, Isaranuwachai W. \$54,924 CAD. 2015 – 2016.

The Diagnostic Accuracy of an Ambulatory Level III Sleep Study for the screening of Sleep Disordered Breathing in Children with Neuromuscular Disease. **Ontario Respiratory Care Society**. Colin Massicotte, Narang I, McAdam L, Al-Saleh S. \$23,047 CAD. 2015 – 2016.

Volume Assured Pressure Support Mode for Non-invasive Ventilation: Can it Improve Overnight adherence in Children with Neuromuscular Disease? **SickKids Hospital. Department of Paediatrics Continuing Professionals Award**. Al-Saleh S, Syed F, Medin D. \$9,970.00 CAD. 2015 – 2016.

Health service utilization for assessment, monitoring and management of respiratory comfort for individuals with Neuromuscular disease. **Muscular Dystrophy Canada**. Rose L, McKim D, Leasa D, Nonoyama M, Tandon A, Katz S, Goldstein R, Gershon A. \$49,691 CAD. 2015 – 2016

Cough augmentation techniques to optimizing weaning success and prevent reintubation for critically ill patients. **Canadian Institutes of Health Research Knowledge Synthesis**. Rose L, McKim D, Adhikari N, Fraser I, Leblanc C, Katz S, O'Connell C, Fergusson D, Leasa D. \$92,219 CAD. 2015 – 2016

The Transition of Teenagers receiving long – term domiciliary mechanical ventilation to adult care: The TTEEN VENT STUDY. **Ontario Respiratory Care Society**. Rose L, Dale C, Varadi R, Goldstein R, Amaria K. \$15,000 CAD. 2014 – 2015

Stacking Exercises Attenuate the Decline in Forced Vital Capacity and Sick Time (STEADFAST). **Jesse's Journey**. Katz S, Barrowman N, Kovesi T, MacLusky I, McKim D, Sumner A, Coyle D, Momoli F, Heletea M, Mah J, Spier S. \$299,996 CAD. 2013 – 2016

Incidence of Altered Craniofacial Morphology and Malocclusion in Children and Youth with Obstructive Sleep Apnea. **SickKids Foundation New Investigator Grant Award**. Nelly H, Fernanda, F. \$280,000 CAD. 2013 – 2016.

Community Development Program: Mobilizing the healthcare community towards an integrated approach to improve patient outcomes with sleep disorders – Canadian Sleep and Circadian Network (CSCN). **Canadian Institute of Health Research – ICHR Community Development Grant**. \$1,992,500 CAD. Award to Narang/ SickKids: \$250,000 CAD. 2015 – 2020

Assessment of Cerebrovascular Abnormalities and their relationship to Neurocognitive Deficits in Obese Children with Obstructive Sleep Apnea. **Heart & Stroke Foundation of Canada Grand-in-Aid.** \$256,118 CAD. 2015 – 2018

Assessment of Cerebrovascular abnormalities and their relationship to neurocognitive deficits in obese children with Obstructive Sleep Apnea. **SickKids Centre for Healthy Active Kids – Eat, Play Think Catalyst Grant.** \$24,833 CAD. 2015 – 2016

A qualitative study to explore the barriers to positive airway pressure (PAP) therapy in children with obstructive sleep apnea. **Paediatric Consultants Partnership’s Grants for Creative Professional Activity, The Hospital for Sick Children, Toronto.** \$9,926 CAD. 2015 – 2016

Incidence of Altered Craniofacial Morphology and Malocclusion in Children and Youth with Obstructive Sleep Apnea. **SickKids Foundation New Investigator Grant Award.** Huynh N, Almeida F, Reshma A. \$280,000 CAD. 2013 – 2016

‘Sleep and Sedation – Translational Science to Public Health’. **University of Toronto. Department of Medicine Integrating Challenge Grant.** Horner R, Bradley T, Chung F, Juurlink D, Mamdani M, Mukherjee S, Narang I, Orser B, Stremler R. \$250,000 CAD. 2013 – 2015

Validation of an Ambulatory Sleep Monitoring Device for Diagnosis of OSA. **The Hospital for Sick Children. Paediatric Consultants Partnership’s Grants for Creative Professional Activity.** Massicotte C, Zweerink A, Bola S. \$9,170.50 CAD. 2012 – 2014

**DIVISION OF
RESPIRATORY
MEDICINE**

Division Head
Dr. Felix Ratjen

Full-Time

Dr. Suhail Al-Saleh
Dr. Reshma Amin
Dr. Sharon Dell
Dr. Hartmut Grasemann
Dr. Theo Moraes
Dr. Indra Narang
Dr. Melinda Solomon
Dr. Padmaja Subbarao
Dr. Neil Sweezey

Part-Time

Dr. Charlotte Miller
Dr. Peter Bikangaga

**Research Fellows
& Associates**

Dr. Maria Ester Pizzaro Gamboa
Dr. Sanja Stanojevic

Clinical Fellows

Dr. Haley Fishman
Dr. Hasan Ghandourah
Dr. Amy Glicksman
Dr. Erin Kwolek
Dr. Anya McLaren
Dr. Kevan Mehta
Dr. Jonathan Rayment

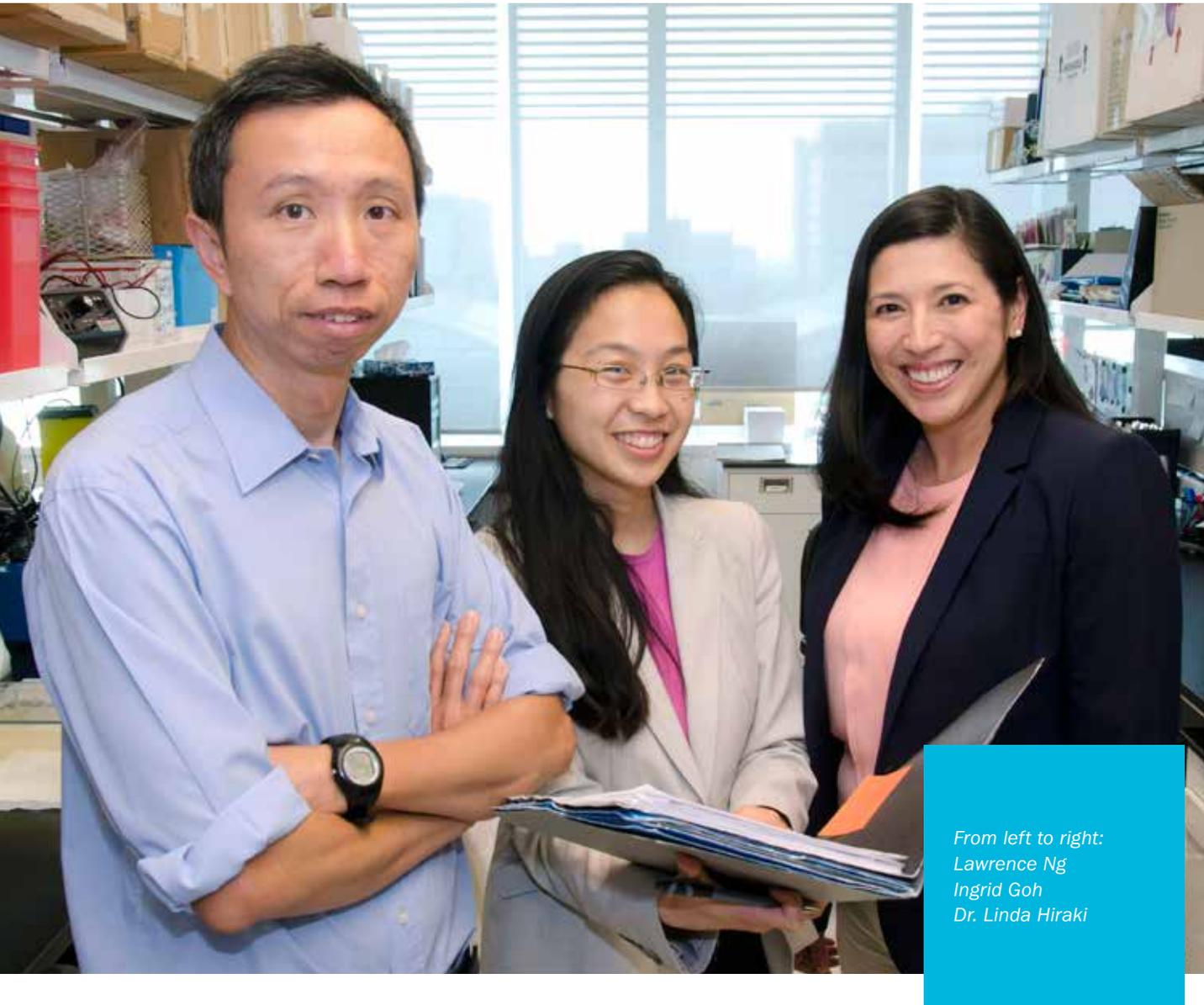
Subspecialty Residents

Dr. Hani Al-Saleh (Asthma and ILD Training)
Dr. Saadoun Bin-Hasan (Sleep Training)
Dr. Christine Racette (Asthma Training)

Administrative Staff

May Brydges
Nisa Chaudhry
Gemma Edwin
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Jessica Pereira
Victoria Snell (Manager)

DIVISION OF RHEUMATOLOGY



*From left to right:
Lawrence Ng
Ingrid Goh
Dr. Linda Hiraki*

The Hospital for Sick Children (SickKids) and the University of Toronto Paediatric Rheumatology program has witnessed an impressive growth since its inception in 1983. It is one of the largest Paediatric Rheumatic Disease Units in North America and one of the world's leading centres for research, patient care and training in paediatric rheumatic diseases.

Our mandate is to provide excellent clinical care, undertake research studies about systemic inflammatory disorders and inflammatory diseases of the bones and joints in childhood, and train physicians to become prominent leaders in the field of Paediatric Rheumatology.

The Division of Rheumatology provides comprehensive care for children with rheumatic diseases. The ambulatory clinics have approximately 5,500 patient visits per year at The Hospital for Sick. In addition to the general rheumatology clinics, there are unique multidisciplinary subspecialty clinics for children with autoinflammatory diseases, dermatomyositis, morphea, systemic juvenile idiopathic arthritis, systemic and neonatal lupus erythematosus, spondylitis, and vasculitis. Many children have benefited from treatments in the medical day care unit, where children receive joint injections, therapeutic infusions or undergo investigations that would normally require in-patient admission.

Our program offers a comprehensive range of services for the evaluation and treatment of children with a vast range of paediatric rheumatic and inflammatory diseases. Rheumatology provides clinical care and undertakes research studies in systemic inflammatory disorders and inflammatory diseases of the bones and joints.

The Division of Rheumatology has one of the largest paediatric rheumatology fellowship training programs in North America and is fully accredited by the Royal College of Physicians and Surgeons of Canada. This academic year, our fellows originated from Canada, India, Qatar and Israel. Our graduates have been successful in obtaining academic placements around the world and trainees have been productive in the research arena.

Research foci include the development of trial designs for the study of rare diseases, outcome, prognosis and treatment studies in juvenile idiopathic arthritis, systemic lupus erythematosus, neonatal lupus, scleroderma, dermatomyositis, vasculitis and central nervous system vasculitis. Basic and translational research focuses on the immunopathogenesis of Kawasaki disease using an animal model, and the use of high throughput methods to characterize the cause and prognosis of childhood arthritis.

Our mandate is to provide excellent clinical care, undertake research studies about systemic inflammatory disorders and inflammatory diseases of the bones and joints in childhood, and train physicians to become prominent leaders in the field of Paediatric Rheumatology.

Honors and Awards

Schneider, R: Winner of the Charles Mickle Fellowship Award, Faculty of Medicine, University of Toronto, Toronto, Ontario, Canada. May 2014.

Schneider, R: Runner-up for the Department of Paediatrics Faculty Mentorship Award, Hospital for Sick Children, Toronto, Ontario, Canada. July 2014.

Silverman, E: Winner of the Excellence in Investigative Mentoring Award, American College of Rheumatology, Boston, Massachusetts, United States of America. November, 2014.

Tse, S: Winner of the Dafna Gladman Award, Ogryzlo Day, University of Toronto, Toronto, Ontario, Canada. June, 2014

Publications

Abrahamyan L, Willan AR, Beyene J, Mclimont M, Blanchette V, Feldman BM, Canadian Hemophilia Primary Prophylaxis (CHPS) Study Group. Using value-of-information methods when the disease is rare and the treatment is expensive--the example of hemophilia A. *Journal of General Internal Medicine*. 2014 Aug; 29 Suppl 3: S767-73.

Adunuri NR, Feldman BM. A critical appraisal of studies measuring Quality of Life in Juvenile Idiopathic Arthritis. *Arthritis Care & Research (Hoboken)*. 2014 Nov; 67(6): 880-4

Batthish M, Tse SM, Feldman BM, Baker GR, Laxer RM. Trying to improve care: the morbidity and mortality conference in a division of rheumatology. *The Journal of Rheumatology*. 2014 Dec; 41(12): 2452-8

Berard R, Tomlinson G, Li X, Oen K, Rosenberg A, Feldman B, Yeung RSM, Bombardier C: Description of active joint count trajectories in juvenile idiopathic arthritis. *Journal of Rheumatology*. 2014 Dec; 41(12): 2466-73

Berard RA, Laxer RM. Early aggressive therapy for patients with juvenile idiopathic arthritis: are we there yet? *The Journal of Rheumatology*. 2014 Dec; 41(12): 2343-6

Berard RA, Laxer RM. Paediatric rheumatology: A disease activity index for juvenile SpA-a welcome addition. *Nature Reviews Rheumatology*. 2014 Nov; 10 (11): 642-4

Berard RA, Tomlinson G, Li X, Oen K, Rosenberg AM, Feldman BM, Yeung RS, Bombardier C: Description of active joint count trajectories in juvenile idiopathic arthritis. *The Journal of Rheumatology*. 2014 Dec; 41(12): 2466-73

Bose B, Silverman ED, Bargman JM. Ten common mistakes in the management of lupus nephritis. *American Journal of Kidney Diseases*. 2014 Apr; 63(4): pp 667-676

Brunner HI, Ruperto N, Zuber Z, Keane C, Harari O, Kenwright A, Lu P, Cuttica R, Keltsev V, Xavier RM, Calvo I, Nikishina I, Rubio-Pérez N, Alexeeva E, Chasnyk V, Horneff G, Opoka-Winiarska V, Quartier P, Silva CA, Silverman ED, Spindler A, Baildam E, Gámir ML, Martin A, Rietschel C, Siri D, Smolewska E, Lovell D, Martini A, De Benedetti F; for the Paediatric Rheumatology International Trials Organisation (PRINTO) and the Pediatric Rheumatology Collaborative Study Group (PRCSG). Efficacy and safety of tocilizumab in patients with polyarticular-course juvenile idiopathic arthritis: results from a phase 3, randomised, double-blind withdrawal trial. *Annals of Rheumatic Diseases* 2015 Jun; 74(6):1110-7

Burnett HF, Ungar WJ, Regier DA, Feldman BM, Miller F: Parents' willingness to pay for biologic treatments in juvenile idiopathic arthritis. *Value Health*. 2014 Dec; 17(8): 830-7

Canna SW, de Jesus AA, Gouni S, Brooks SR, Marrero B, Liu Y, DiMattia MA, Zaal KJ, Sanchez GA, Kim H, Chapelle D, Plass N, Huang Y, Villarino AV, Biancotto A, Fleisher TA, Duncan JA, O'Shea JJ, Benseler S, Grom A, Deng Z, Laxer RM, Goldbach-Mansky R. An activating NLRC4 inflammasome mutation causes autoinflammation with recurrent macrophage activation syndrome. *Nature Genetics*. 2014 Oct: 46(10):1140-6

Chakraborty PK, Schmitz-Abe K, Kennedy EK, Mamady H, Naas T, Durie D, Campagna DR, Lau A, Sendamarai AK, Wiseman DH, May A, Jolles S, Connor P, Powell C, Heeney MM, Giardina PJ, Klaassen RJ, Kannengiesser C, Thuret I, Thompson AA, Marques L, Hughes S, Bonney DK, Bottomley SS, Wynn RF, Laxer RM, Minniti CP, Moppett J, Bordon V, Geraghty M, Joyce PB, Markianos K, Rudner AD, Holcik M, Fleming MD. Mutations in TRNT1, encoding the CCA-adding enzyme, cause congenital sideroblastic anemia with B cell immunodeficiency, periodic fevers and developmental delay (SIFD). *Blood*. 2014 Oct 30: 124(18): 2867-71

Church PC, Turner D, Feldman BM, Walters TD, Greer ML, Amitai MM, Griffiths AM, ImageKids Study Group. Systematic review with meta-analysis: magnetic resonance enterography signs for the detection of inflammation and intestinal damage in Crohn's disease. *Alimentary Pharmacology & Therapeutics*. 2015 Jan: 41(2): 153-66

De Benedetti F, Brunner H, Ruperto N, Schneider R, Xavier R, Allen R, Brown D, Chaitow J, Pardeo M, Espada G, Gerloni V, Myones B, Frane J, Wang J, PhD, Lipman TH, Bharucha KN, Martini A, Lovell D, for the Paediatric Rheumatology International Trials Organisation (PRINTO) and the Pediatric Rheumatology Collaborative Study Group (PRCSG). Catch-up growth during Tocilizumab Therapy for systemic juvenile idiopathic arthritis: results from a phase III trial. *Arthritis and Rheumatism*. 2015 March: 67(3):840-8

Diamond IR, Grant RC, Feldman BM, Pencharz PB, Ling SC, Moore AM, Wales PW. Defining consensus: a systematic review recommends methodologic criteria for reporting of Delphi studies. *Journal of Clinical Epidemiology*. 2014 Apr: 67(4):401-9

Duvvuri B, Duvvuri VR, Wang C, Chen L, Wagar LE, Jamnik V, Wu J, Yeung RSM, Grigull J, Watts TH, Wu GE. The human immune system recognizes neopeptides derived from mitochondrial DNA deletions. *Journal of Immunology* 2014 May: 192(10):4581-91

Eng SW, Duong TT, Rosenberg AM, Morris Q, Yeung RSM, REACCH OUT and BBOP Research Consortia. The Biologic Basis for Clinical Heterogeneity in Childhood Arthritis. *Arthritis and Rheumatology* 2014 Dec: 66(12):3463-75

Feldman BM, Pullaneyagum E. Response to 'limits of agreement between raters are required for use of HJHS 2. 1 in clinical studies'. *Haemophilia*. 2015 Jan: 21(1):e71

Guzman J, Oen K, Huber AM, Boire G, Duffy KW, Berard R, Shiff NJ, Levy DM, Stringer E, Morishita K, Scuccimarri R, Tucker LB, Yeung RSM, Duffy C, ReACCh-Out investigators. The risk and nature of flares in juvenile idiopathic arthritis: results from the reACCh-Out cohort. *Pediatric Rheumatology* 2014; 12(1):1-2

Guzman J, Oen K, Tucker LB, Huber AM, Shiff N, Boire G, Scuccimarri R, Berard R, Tse SM, Morishita K, Stringer E, Johnson N, Levy DM, Duffy KW, Cabral DA, Rosenberg AM, Larche M, Dancey P, Petty RE, Laxer RM, Silverman E, Miettunen P, Chetaille AL, Haddad E, Houghton K, Spiegel L, Turvey SE, Schmeling H, Lang B, Ellsworth J, Ramsey S, Bruns A, Campillo S, Benseler S, Chedeville G, Schneider R, Yeung RSM, Duffy CM for the ReACCh-Out investigators: The Outcomes of Juvenile Idiopathic Arthritis in Children Managed with Contemporary Treatments: Results from the ReACCh-Out cohort. *Annals of Rheumatic Disease*. 2014 May 19 [Epub ahead of print]

Herschman J, Kasenberg T, Levy DM, Ruth N, Taberner C, Kaufman M, Regina A. Development of a smartphone app for adolescents with lupus: a collaborative meeting-based methodology inclusive of a wide range of stakeholders. *Rev Panam Salud Publica*. 2014 May/June; 35(5/6):471-6

Hugle B, Burgos-Vargas R, Inman RD, O'Shea F, Laxer RM, Stimec J, Whitney-Mahoney K, Reaume M, Anderson M, Tse SML. Long-term outcome of anti-tumour necrosis factor alpha blockade in the treatment of juvenile spondyloarthritis. *Clinical and Experimental Rheumatology*. 2014 May-June; 32(3):424-31

Hugle B, Silverman ED, Tyrrell PN, Harvey EA, Hébert D, Benseler SM. Presentation and outcome of paediatric membranous non-proliferative lupus nephritis. *Pediatric Nephrology*. 2015 Jan; 30(1):113-21.

Kelly EN, Sananes R, Chiu-Man C, Silverman ED, Jaeggi E. Prenatal anti-ro antibody exposure, congenital complete atrioventricular heart block, and high-dose steroid therapy: impact on neurocognitive outcome in school-age children. *Arthritis & Rheumatology*. 2014 Aug; 66(8):2290-6

Kimura Y, Morgan Dewitt E, Beukelman T, Nigrovic PA, Onel K, Prahalad S, Schneider R, Stoll ML, members of the Juvenile Idiopathic Arthritis Disease Specific Research Committee of the Childhood Arthritis and Rheumatology Research Alliance: Adding canakinumab to the childhood arthritis and rheumatology research alliance consensus treatment plans for systemic juvenile idiopathic arthritis. *Arthritis and Rheumatology (Hoboken, New Jersey)* 2014 Sept; 66(9):14030-1

Levy D. Trends in medication usage in juvenile idiopathic arthritis: prescribing trends or trends in prescribers? *The Journal of Rheumatology*. 2014 Oct; 41(10):1903-5

Levy DM, Peschken CA, Tucker LB, Chédeville G, Huber AM, Pope JE; Canadian Network for Improved Outcomes in SLE (CaNIOS) 1000 Faces Investigators, Silverman ED. Health related quality of life in childhood-onset systemic lupus erythematosus is associated with ethnicity: Results from a multiethnic multicenter Canadian cohort. *Arthritis & Care Research (Hoboken)*. 2014 Dec; 66(12):1767-74

Lim LS, Lee SJ, Feldman BM, Gladman DD, Pullenayegum E, Uleryk E, Silverman ED. Systematic review of the quality of prognosis studies in systemic lupus erythematosus. *Arthritis Care & Research (Hoboken)*. 2014 Oct: 66(10):1536-41

Luca NJ, Feldman B: Health outcomes of pediatric rheumatic diseases. *Best Practice & Research. Clinical Rheumatology*. 2014 Apr: 28(2):331-50

Mina R, Klein-Gitelman MS, Nelson S, Eberhard BA, Higgins G, Singer NG, Onel K, Tucker L, O'Neil KM, Punaro M, Levy DM, Haines K, Ying J, Brunner HI. Effects of obesity on health-related quality of life in juvenile-onset systemic lupus erythematosus. *Lupus*. 2015 Feb: 24(2):191-7

Mumm S, Huskey M, Duan S, Wenkert D, Madson KL, Gottesman GS, Nenninger AR, Laxer RM, McAlister WH, Whyte MP. Multicentric carpotarsal osteolysis syndrome is caused by only a few domain-specific mutations in MAFB, a negative regulator of RANKL-induced osteoclastogenesis. *American Journal of Medical Genetics Part A*. 2014 Sep: 164A(9):2287-93

Niedra E, Chahal N, Manlhiot C, Yeung RSM, McCrindle B. Atorvastatin Safety in Kawasaki Disease Patients with Coronary Artery Aneurysms. *Pediatric Cardiology*. 2014 Jan: 35(1):89-92

Noone DG, Twilt M, Hayes WN, Thorner PS, Benseler S, Laxer RM, Parekh RS, Hebert D. The New Histopathologic Classification of ANCA-Associated GN and Its Association with Renal Outcomes in Childhood. *Clinical Journal of the American Society of Nephrology*. 2014 Oct 7: 9(10):1684-91

Olfat M, Silverman ED, Levy DM. Rituximab Therapy has a Rapid and Durable Response for Refractory Cytopenia in Childhood-Onset Systemic Lupus Erythematosus. *Lupus*. 2015 Mar [Epub ahead of print]

Ringold S, Weiss PF, Colbert RA, DeWitt EM, Lee T, Onel K, Prahalad S, Schneider R, Sheno S, Vehe RK, Kimura Y; Juvenile Idiopathic Arthritis Research Committee of the Childhood Arthritis and Rheumatology Research Alliance: Childhood Arthritis and Rheumatology Research Alliance consensus treatment plans for the new-onset polyarticular juvenile idiopathic arthritis. *Arthritis Care & Research (Hoboken)*. 2014 July: 66(7): pp 1063-72

Robinson AB, Hoeltzel MF, Wahezi DM, Becker ML, Kessler EA, Schmeling H, Carrasco R, Huber AM, Feldman BM, Reed AM; Juvenile Myositis CARRA Subgroup, for the CARRA Registry Investigators: Clinical Characteristics of Children With Juvenile Dermatomyositis: The Childhood Arthritis and Rheumatology Research Alliance Registry. *Arthritis Care & Research (Hoboken)*. 2014 Mar: 66(3):404-10

Robinson AB, Tangpricha V, Yow E, Gurion R, McComsey GA, Schanberg LE, Ardoin S, Dewitt EM, Rabinovich CE, Ellis J, Mieszkalski K, Wootton J, Chira P, Hsu J, Lee T, Sandborg C, Perea J, Gottlieb B, Irigoyen P, Luftig J, Siddiqi S, Ni Z, Orlando M, Pagano E, Eichenfield A, Imundo L, Levy D, Kahn P, Batres C, Cabral D, Haines KA, Kimura Y, Li SC, Weiss J, Riordan ME, Vaidya B, von Scheven E, Mietus-Snyder M, Silverman ED, Ng L, Bowyer S, Ballinger S, Klausmeier T, Hinchman D, Hudgins A, Punaro M, Henry S, Zhang S, Singer NG, Brooks EB, Miner S, Szabo N, Scalzi L, Sherry D, Dorfeld L, Wilson S, Tress J, McCurdy D, Hernandez T, Vitale J, Klein-Gitelman M, Kress A, Lowe N, Patel F, Wallace C, Hamilton S, Silver R, Caldwell K, Kamen D, Wagner-Weiner L, Pupilava B, Lonchev A, Higgins G, Bacani M, Brunner H, Rutherford C, Meyers-Eaton J, Nelson S, Grom A, Jung L, Conway T, Frank L, Kuss L, Soep J, Senz H, Reed A, Mason T, Jaquith J, Paepke-Tollefsrud DE. Vitamin D deficiency is common and associated with increased C-reactive protein in children and young adults with lupus: an Atherosclerosis Prevention in Pediatric Lupus Erythematosus substudy. *Lupus Science & Medicine*. 2014 Apr 30; 1(1):e000011

Rozenblyum EV, Levy DM, Allen U, Harvey E, Hebert D, Silverman ED. Cytomegalovirus in pediatric systemic lupus erythematosus: Incidence and Clinical Manifestations. *Lupus*. 2014 Sep; 33(9):1467-75

Scuccimarri R, Yeung RSM. Kawasaki Disease: High Index of Suspicion Needed in a Febrile Child. *Paediatrics and Child Health*. 2014 May; 19(5):239-40

Sun J, Hilliard PE, Feldman BM, Zourikian N, Chen L, Blanchette VS, Luke KH, Poon MC. Chinese Hemophilia Joint Health Score 2.1 reliability study. *Haemophilia*. 2014 May; 20(3): 435-40

Tian SY, Feldman BM, Beyene J, Brown PE, Uleryk EM, Silverman ED. Immunosuppressive therapies for the induction treatment of proliferative lupus nephritis: a systematic review and network metaanalysis. *The Journal of Rheumatology*. 2014 Oct; 41(10):1998-2007

Van den Akker M, Silverman ED, Abdelhaleem M, Kirby-Allen M. Aplastic anemia associated with systemic lupus erythematosus in children – case report and review of the literature. *Clinical Case Reports*. 2014 Dec; 2(6):319-22

Woo P, Laxer RM. Advances in paediatric rheumatology and translation of research to targeted therapies. Preface. *Best Practice & Research: Clinical Rheumatology*. 2014 Apr; 28(2):173-4

Book Chapters

Borgia E, Bargman JM, Silverman ED. Pediatric Lupus Nephritis. In: *Manual of Pediatric Rheumatology, 7th Edition*, (Sawhney, Aggarwal, eds). Jaypee 2014.

Kamphuis S, Levy DM. Systemische en neonatale lupus erythematosus. In: *Werkboek Kinderreumatologie*, (Armbrust W, Franssen MJAM, eds). VU University Press 2014.

Pope E, Laxer R. Diagnosis and Management of Morphea and Lichen Sclerosus and Atrophicus in Children. In: *Pediatric Dermatology*, (Shah K, Staton BF, eds). Elsevier 2014: pp. 309-319

Grants & Funding

A 12-week randomized double-blind, placebo-controlled, parallel group, 2-arm study to evaluate the efficacy and safety of tocilizumab in patients with active systemic juvenile idiopathic arthritis (SJIA); with a 92-week single arm open-label extension to examine the long term use of tocilizumab, followed by a 3 year open label continuation of the study to examine the long term use of tocilizumab. Schneider, R., Silverman, E., Benseler, S., Laxer, R. **Hoffmann-La Roche Limited**. \$552,992 CAD. July 8, 2008 – June 30, 2014.

A Double-Blinded, Placebo-Controlled, Multicenter Study of the Efficacy and Safety of the Adalimumab in Pediatric Patients with Enthesitis Related Arthritis. Burgos-Vargas, R., Tse, S.M. **Abbott International**. \$174,792 CAD. December 1, 2010 – November 30, 2015

A Multi-center, Randomized Parallel Group, Placebo-Controlled Double-Blind Trial to Evaluate the Safety, Efficacy, and Pharmacokinetics of Belimumab, a Human Monoclonal Anti-BLyS Antibody, Plus Standard Therapy in Pediatric Patients with Systemic Lupus Erythematosus (SLE). Levy DM. **GlaxoSmithKline**. \$584,240 CAD. March 1, 2013-March 1, 2016

An open dose escalating factor VIII prophylaxis study assessing the safety efficacy and cost-effectiveness in young patients with severe haemophilia A (Canadian haemophilia primary prophylaxis observational extension study and pharmacokinetic substudy). Blanchette, V., Feldman, B. **Bayer Canada**. \$349,418 CAD. January 1, 2013 – December 31, 2015

An Open-Label Extension Study of Canakinumab in Patients with Systemic Juvenile Idiopathic Arthritis (SJIA) and Active Systemic Manifestations. Ruperto, N., Brunner, H., Lovell, D., Martini, A., Schneider, R., Silverman, E., Laxer, R.M. **Novartis Pharmaceuticals Canada Inc**. \$92,695 CAD. November 1, 2013-November 1, 2014

An internet-based psycho-educational program for children with juvenile idiopathic arthritis (JIA) and their parents: A randomized controlled trial. Stinson, J., Benseler, S.M., Feldman, B., Spiegel, L., Tse, S.M., Campillo, S., Duffy, C., Hetherington, R., Huber, A., Luca, L., McGrath, P., Palermo, Tucker, L., Victor, C., Shiff, N., Johnson, N., Dancy, P., Berard, R. **Canadian Institutes of Health Research**. \$614,303 CAD. July 1, 2012 – June 30, 2015

Assessing Substance Use and Concurrent Disorders in Adolescents with Chronic Conditions. Leslie, K., Levy, D.M. **Hospital for Sick Children Paediatrics Consultants Partnerships Grant**. \$5,660 CAD, November 1, 2013-November 1, 2014

Autoantibody conformational epitopes in Lupus and NLE. Hamilton, R., Deber, C., Jaeggi, E., Silverman, E.D., Gramolini, A. **Canadian Institutes of Health Research**. \$926,103 CAD. April 1, 2014 – Ongoing

Better Understanding of Kawasaki Disease. Yeung, R., McCrindle, B., Siminovitch, K. **Canadian Institutes of Health Research**. \$792,717 CAD April 1-2011-March 31-2016

Biologic basis of heterogeneity in juvenile idiopathic arthritis. Yeung, R. **Novartis Pharmaceuticals Canada Inc**. \$150,000 CAD. January 7, 2014 – January 6, 2017

Biomarker discovery and mechanisms of fetal pathology in congenital heart block. Hamilton, R., Jaeggi, E., Standberg, L., Silverman, E.D.

Canadian Institutes for Health Research.

\$1,031,989 CAD. January 1, 2012 – ongoing

Biomarker discovery and targets of pathology in congenital heart block. Hamilton, R., Jaeggi, E., Silverman, E. **March of Dimes.** \$482,163 CAD December 1, 2011 – November 1-2014

Cardiovascular disease in pediatric rheumatic diseases: Predictors of outcomes and progression. Silverman, E.D., Bargman, J., Beyene, J., Bradley, T., Feldman, B., Schneider, R. **Heart and Stroke Foundation of Canada.** \$489,367 CAD. January 1, 2011 – December 31, 2014

Childhood-onset systemic lupus erythematosus (cSLE) in Ontario: Determining prevalence and longterm outcomes. Silverman, E., Levy, D. **Physician's Services Incorporated Foundation.** \$158,500 CAD. August 31, 2011 – February 28, 2015

Chronic Childhood Vasculitis Characterizing the individual rare diseases to improve patient outcomes(Pediatric Vasculitis Initiative or PedVas). Benseler, S., Yeung, R. **University of British Columbia.** \$336,040 CAD. January 31, 2012 – January 30, 2017

CIHR Doctoral Award - Improving design and analysis of longitudinal studies of prognosis in uncommon diseases. Lim, L., Feldman, B. **Canadian Institutes of Health Research.** \$105,000 CAD. April 30, 2012 – April 29, 2015

CIHR team in linking exercise, physical activity and pathophysiology in childhood arthritis (LEAP): A Canadian Collaborative Team. Duffy, C., Benseler, S.M., Laxer, R.M., Schneider, R., Silverman, E., Spiegel, L., Tse, S., Yeung, R., Tucker, L., Baxter-Jones, A., Houghton, K., Macdonald, H., McKay, H., Oen, K., Rosenberg, A., Roth, J., Ward, L., Feldman, D., Guzmán, J., Stringer, E., Boire, G., Cabral, D., Cameron, B., Campillo, S., Chédeville, G., Cheung, A., Dancey, P., Ellsworth, J., Huber, A., Johnson, N., Karunanayake, C., Lang, B., Miettunen, P., Pullenayegum, E., Ramsey, S., Scuccimarri, R., Schmeling, H., Turvey, S., Watanabe Duffy, K. **Canadian Institutes of Health Research.** \$2,500,000 CAD. April 1, 2010 – December 31, 2015

Congenital Heart Block International Research Network. Hamilton, R., Jaeggi, E., Hornberger, L., Silverman, E.D. **Canadian Institutes of Health Research.** \$311,172 CAD. June 1, 2012 – May 1, 2015

Creation of a Mobile Application to Support Self-Management for Adolescents with SLE. **Lupus Foundation of America.** Kaufman, M., Levy, D. \$110,000 USD. June 1, 2012 – ongoing

Design, Development & Usability Evaluation of a Resident's Guide to Pediatric Rheumatology Mobile Application. Laxer, R.M. **Pediatric Consultants Education Innovation and Development Grants Committee.** \$5,000 CAD. May 1, 2013-May 1, 2014

Developing MR imaging guidelines and outcome measures in Juvenile Idiopathic Arthritis: A special interest pediatric research group. Doria, A.S., van Rossum, MAJ., Benseler, B., Miller, E., Rosenberg, A., Roth, J., Stinson, J., Tse, S., Yeung, R. **Canadian Institutes of Health Research**. \$24,954 CAD. January 1, 2013-January 1, 2018

Developing Interdisciplinary Knowledge Exchange Capacity on Imaging Outcome Measures for Assessment of Hemophilic Arthropathy Between China and Canada. Doria, A., Benseler, S.M., Stinson, J., Tse, S., Spiegel, L. **Canadian Institutes of Health Research**. \$450,000 CAD January 1, 2013-January 1, 2018

Effects of Pubertal Hormone Changes on SLE. O'Neal, K., Levy, D.M. **Indiana University**. \$35,000 CAD. October 1, 2012-September 1, 2015

Evaluating a new Pilot Model of Care for Pediatric Rheumatology in Ontario. **Hospital for Sick Children Paediatric Consultants Partnership Grants for Creative Professional Activity**. Levy, D. \$10,000 CAD. Dec 17, 2014 – Dec 16, 2015

Fluid Accumulation in Pediatric Postthrombotic Syndrome. Brandao, L.R., Feldman, B.M., Stinson, J., Kiss, A., Avila, M.L. **The Physicians' Services Incorporated Foundation**. \$52,500 CAD. April 1, 2013 – March 30, 2014

From molecules to disease-Dissecting the mechanisms underlying tissue specific inflammation in Kawasaki Disease. Yeung, R. **Arthritis Research Foundation**. \$83,472.20 CAD. August 31, 2013 – August 30, 2015

iCanCope with Pain: Usability and Feasibility Testing of a Smartphone Application to Manage Pain in Youth with Arthritis. Stinson, J., Laxer, R.M., Feldman, B., Luca, N., Spiegel, L., Laloo, C., Connelly, M., Menna-Dack, D. **The Arthritis Society**. \$327,000 CAD. October 1, 2014 – September 30, 2017

It's not just about getting along: Discourses of Collaboration and Team Learning. Martimianakis T, Mylopoulos M, Schneider, R., Tse, S. **Royal College/AMS CanMEDS Research and Development Grant**. \$23,910 CAD. April 1, 2014 – March 30, 2016

Jointly Managing JIA Online: An Internet-based Psycho-educational Game for children with Juvenile Idiopathic Arthritis (JIA) and their Parents. Stinson, J.N., Berard, R., Feldman, B., Mcgrath, P., Tucker, L., Campillo, S., Huber, A., Shiff, N., Victor, J., Dancey, P., Johnson, N., Spiegel, L., Duffy, C., Luca, N., Tse, S. **Canadian Institutes of Health Research**. \$415,817 CAD. June 1, 2014 – December 31, 2016

Kawasaki Disease: On our way to unraveling the pathogenesis. Yeung, R. **Canadian Institutes of Health Research (CIHR)**. \$798,779 CAD. March 31, 2011 – March 30, 2016

Kawasaki Disease National Surveillance Program. Yeung, R. **Canadian Paediatric Surveillance Program**. \$25,000 CAD. October 1, 2013 – August 31, 2014

Knowledge Synthesis Program. Principal Investigator: Stinson J. Co- Investigator: Benseler, S.M., Feldman, B., Spiegel, L., Tse, S.M., Campillo, S., Duffy, C., Hetherington, R., Huber, A., Luca, L., McGrath, P., Palermo, Tucker, L., Victor, C., Shiff, N., Johnson, N., Dancy, P., Berard, R. Funding. **Canadian Institutes of Health Research.** \$614,303 CAD January 1, 2012-January 1, 2015.

LEAP Biobank Service Agreement (Protocol funded by CIHR titled Linking Exercise, Activity and Pathophysiology in Juvenile Idiopathic Arthritis Study (LEAP Study). Yeung, R. **Children's Hospital of Eastern Canada.** \$89,681 CAD. January 31, 2011 – March 30, 2016

“Moving on”: Perspectives of young people with arthritis, their caregivers, and health care providers on transition. Luca, N., Stinson, J., Spiegel, L., Elliott, A., Johnson, N., Toupin-April, K., Johns, C., Rosettis, A., Mosher, D, Ahola Kohut, S. **Canadian Institute for Outcomes in Rheumatology.** \$76,953 CAD. July 1, 2014 – June 30, 2016

Multicenter Study of the Efficacy and Safety of the Adalimumab in Pediatric Patients with Enthesitis Related Arthritis. Burgos-Vargas, R., Tse, S.M. **Abbott International.** \$174,792 CAD. January 1,2010-January 1, 2015.

Novel MRI Technology as a Biomarker of Early Joint Changes and Responsiveness to Therapy in Juvenile Idiopathic Arthritis. Doria, A., Feldman, B., Rosenberg, A., Schneider, R., Silverman, E., Spiegel, L., Benseler, S., Crawley, A., Laxer, R.,Tse, S., Babyn, P., Mikulis, D., Miller, E., Stinson, J., Yeung, R. **Canadian Institutes of Health Research, The Natural Sciences and Engineering Research Council of Canada.** \$300,000 CAD October 1, 2012-September 1, 2015

NADPH oxidase function in the pathogenesis of pediatric IBD and JIA. Brumell, J., Muise, A., Vallance, B., Benchimol, E., Ellis, J., Parkinson, J., Yeung, R. **Canadian Institutes of Health Research.** \$2,500,000 CAD. July 1, 2014 – June 30, 2019

Periodic Fever Syndrome in Canada: Canadian Pediatric Society Prevalence Study. Dancey, P., Benseler, S., Junker, A., Laxer, R.M., Miettunen, P., Turner, L., Gattorno. M. **Canadian Pediatric Society, Novartis Pharmaceuticals Inc.** \$73,270 CAD. September 1, 2010 – September 1, 2014

Ro52 Antibody Targets with dual roles in Lupus and NLE. Hamilton, R., Silverman, E.D. **Alliance for Lupus Research.** \$586,426 USD. June 1, 2014 – ongoing

Servicing Ontario's Children and Youth with Arthritis. Feldman, B., Levy, D., Laxer, R., Schneider, R., Roth, J., Berard, R., Soon, G., Blanchette, N., Whitney-Mahone, K., Murray, S., O'Brien, C., Graham, N. **The Arthritis Society.** \$54,780 CAD. October 1, 2013 – September 30, 2014

TAS iCanCope – “iCanCope with Pain: Usability and Feasibility Testing of a Smartphone Application to Manage Pain in Youth with Arthritis. Stinson, J., Laxer, R., Feldman, B., Luca, N., Spiegel, L. **The Arthritis Society.** \$327,000 CAD. October 1, 2014 – September 30, 2017

Teens Taking Charge: An Internet-Based Self-Management Program for Adolescents with Arthritis: A Randomized Controlled Trial. Stinson, J., Campillo, S., Dancy, P., Duffy, C., Ellsworth, J., Feldman, B., Fuss, S., Hetherington, R., Huber, A., Johnson, N., McGrath, P., Oen, K., Rosenberg, A., Spiegel, L., Tse, S., Tucker, L., Victor, C. **Canadian Institutes of Health Research**. \$442,140 CAD. October 1, 2011 – September 30, 2014

The Arthritis Society/CAN Graduate Phd Salary Award Competition. Yeung, R. **The Arthritis Society**. \$31,500 CAD. August 31, 2013 – August 30, 2016

The effect of creatine supplementation on muscle function in childhood myositis. Feldman, B.M., Stephens, S., Wells, G.D., Tien, I., Schulze, A., Schneiderman, J. **The Myositis Association**. 100,000 CAD. April 1, 2014 – March 30, 2016

The Hemophilia Joint Health Score v2.1 Validation in Adult Patients Study: (HJHS - VAPS) A multi-centre international study. St-Louis, J., Feldman, B. **International Prophylaxis Study Group**. \$88,735.19 CAD. December 1, 2014 – June 30, 2016

Towards a better understanding of Kawasaki Disease. Yeung, R., McCrindle, B. **Canadian Institutes of Health Research**. \$792,717 CAD. December 31, 2010 – March 30, 2016

Understanding the Biological Basis of Juvenile Spondyloarthritis. Tse, S.M., Yeung, R., Anderson, M. **Spondyloarthritis Research Consortium of Canada**. \$25,000 CAD. July 1, 2014 – June 30, 2015

DIVISION OF RHEUMATOLOGY

Division Head
Dr. Brian Feldman

Full-Time
Dr. Brian Feldman
Dr. Linda Hiraki
Dr. Ronald Laxer
Dr. Shirley Tse
Dr. Rae Yeung

Clinical Associate
Part-Time
Dr. Bonnie Cameron
Dr. Rayfel Schneider
Dr. Earl Silverman
Dr. Lynn Spiegel

Cross-Appointees
Dr. Nicholas Blanchette
Dr. Karoon Danayan
Dr. Hans-Michael Dosch
Dr. Jorge Sanchez-Guerrero
Dr. Clare Hutchinson
Dr. Alisa Rachlis
Dr. Gordon Soon
Dr. Jennifer Stinson

Research Fellows & Associates

Dr. Florence
Dr. Roberto
Dr. Lily Lim,
Dr. Mira van Veenendaal
Audrey Abad
Shazia Ali
Edith Bardi
Saunya Dover
Trang Duong
Ingrid Goh
Lawrence Ng

Reena Kainth
Matina Sayeh
Shehla Sheikh
Kevin Sorokin

Clinical Fellows
Dr. Buthaina Al-Adba
Dr. Maya Gerstein
Dr. Mehul Jariwala

Subspecialty Residents
Dr. Andrea Human
Dr. Evelyn Rozenblyum

Administrative Staff
May Grace Brydges
Krystal Chiu
Denise Ferreira
Michael Figueiredo
Tanya Lorenc
Kamela Ramlackhan
Tania Viseu
Joanna Walsh

GRAND ROUNDS

The Department of Paediatrics Grand Rounds are held weekly and serve as the flagship academic activity for the Department of Paediatrics.

The Grand Rounds Committee for the academic year 2014-2015 was chaired by Ron Laxer and included Eyal Cohen, Elizabeth Donner, Marvin Gans, Rayfel Schneider, Jennifer Smith, Lillian Sung, Neil Sweezey and Kim Zhou

The summer Grand Rounds series, coordinated by the chief residents, allows senior trainees and subspecialty fellows to provide updates within specific specialties and sub-specialties. The sessions entitled “Daneman and Friends” continue to be a highlight of the program. For these Rounds, our Department Chair invites several staff to address a specific theme. As in past years, the Chief Resident’s Rounds, entitled “Cases from the Ward” remain extremely popular where two to three senior paediatric residents present unique cases that they have come across.

Professors’ Rounds are delivered by individuals who have been promoted to full professor in the Department of Paediatrics in the previous year. This past year Professors’ Rounds were given by Prakesh Shah, Lisa Robinson, Steve Schwartz, Meredith Irwin, Yigal Dror, Darcy Fehlings, Seema Mital, Rulan Parekh and Karen Leslie. Named lectureships continue to be an important component of the Grand Rounds program. This past year, Dr. Kenneth Jones from San Diego, “father” of the Fetal Alcohol Syndrome delivered the Harry Bain Lecture. The Robert H. A. Haslam

Lecture was given by Dr. David Naylor, former Dean of the Faculty of Medicine and President of the University of Toronto, and Dr. Stephen Mittleman from the Children’s Hospital of Los Angeles gave the Daniel Burton Leukemia Lecture. Dr. Yigal Dror from the Division of Hematology and Oncology at SickKids, gave the Laski Lecture as his Professorial Grand Rounds. Dr. Susan Bennett from the University of Ottawa presented the Christine Harrison Lecture on Bioethics. Dr. Bruce Cohen from Akron gave the Adam Barsky Lecture and Dr. David Ingram from Indiana gave the Barry Smith Lecture. Dr. Glenn Regehr from the University of British Columbia gave Grand Rounds as part of this year’s Medical Education Day discussing self-assessment. We were also fortunate to be able to host many additional visitors to Grand Rounds (see Schedule)

This past year we began to live-stream the Grand Rounds to members of the Department of Paediatrics. The lectures are archived for two years thus allowing department members who might not be able to attend the “live” sessions to still benefit from the lectures.

Once again, the Department of Paediatrics Grand Rounds Committee acknowledges the tremendous help and support of a number of individuals who do the vast majority of the behind-the-scenes work. In particular we want to thank Amoye Henry for her excellent project coordination support, and Frank Ferrari and Sam Mendolia for their audio-visual expertise.

JULY 2014 – JUNE 2015 SCHEDULE

Date	Speaker(s)	Title
July 9	Drs. Ahmed Bamaga & Maryam Nabavi Trainees, Neurology	Not Just A Headache: Acute Presentation of Demyelinating Syndromes in the ER
July 16	Drs. Liane Mclean, Hasan Merali & Laura Weingarten Trainees, Emergency Medicine	Interesting cases from the ED
July 23	Drs. Sarah Kwon, Tara Mallowney & Saadoun Bin-Hasan Trainees, Respiriology	Not so Sweet Dreams
July 30	Drs. Jack Brzezinski & Dave Lysecki Trainees, Oncology	Taming the Wild Thing: How we got to Know and (often) Cure Leukemia
August 6	Drs. Leigh Anne Bakel & Natasha Saunders Trainees, General Paediatrics	Pediatric Osteomyelitis: Classic Concepts and Current Conundrums
August 13	Drs. Zahra Alebraheem, Mariel Heller & Ashley Vander Morris Trainees, Adolescent Medicine	Pills, Chills and Teen Thrills: Status Updates in Adolescent Health
August 20	Drs. Michael Bishara, Valaari Majmudar & Bianca Del Pozzo-Magana Trainees, Dermatology	Skin: A Window into the Body
August 27	Drs. Andreeanne Benifir & Cynthia Popalis Trainees, GI	From Enterocyte to Hepatocyte: IBD and PSC
September 3	Anne-Marie Guerguerian, MD PhD Critical Care	Extracorporeal Membrane Oxygenation in Children
September 10	Daneman and Friends: Jim Dowling, MD, Neurology Theo Moraes, MD, Respiratory Medicine Aleixo Muise, MD, GI	How Model Systems Contribute to Knowledge/ Care
September 17	Kenneth Lyons Jones, MD Chief of the Division of Dysmorphology/Teratology at the Department of Pediatrics University of California San Diego, California, USA	Harry Bain Lecture: ASD: 40 Years Later
September 24	Bruce H. Cohen, MD FAAN Interim Director – NeuroDevelopmental Science Center Director of Neurology Professor of Pediatrics - Northeast Ohio Medical University Akron Children's Hospital Akron, OH	Adam Barsky Lecture Mitochondrial Medicine: The New Frontier
October 1	Prakesh Shah, MSc, MBBS, MD, DCH, MRCP, FRCPC Professor, Departments of Paediatrics and Institute of HPME Mount Sinai Hospital and University of Toronto CIHR Applied Research Chair in Reproductive and Child Health Services and Policy Research Director, Canadian Neonatal Network	Net Worth of Networks: National and International Experience
October 8	Dan Hyman, MD, Chief Quality and Patient Safety Officer, Children's Hospital Colorado Associate Professor, Pediatrics, University of Colorado School of Medicine	We stand on Guard for hee: Targeting Zero Harm at Children's Colorado
October 15	Christopher Klein, MD Directorate of Children's Hospital and Polyclinic in children Dr. von Hauner Children's Hospital Lindwurmstraße	Children with Rare Diseases of the Immune System: Therapeutic Orphans or Pioneers of Individualized Therapy?
October 22	Wesley Burks, MD Chair, Department of Pediatrics Physician-in-Chief, North Carolina Children's Hospital	Food Allergy: Why are all these Families Going Nuts?

JULY 2014 – JUNE 2015 SCHEDULE (CONT'D)

Date	Speaker(s)	Title
October 29	Peter Rosenbaum, MD, FRCPC Professor of Paediatrics, McMaster University Canada Research Chair in Childhood Disability Co-Founder, CanChild Centre for Childhood Disability Research Editorial Board, Mac Keith Press	Childhood Disability and Chronic Impairment in the 21st Century: Can We Reframe Old Issues with New Concepts? A Call to Action!
November 5	Yigal Dror MD, FRCPC Professor of Paediatrics Division of Hematology/Oncology Head, Hematology Section Director, Marrow Failure and Myelodysplasia Program Senior Scientist, Genetics and Genome Biology Program, Research Institute	Bernard Laski Lecture: Chronic Low Blood Counts in Various Pediatric Clinics Require Attention to Rarely Occurring Bone Marrow Failure Disorders
November 12	Susan Bennett, MB ChB FRCP DTM&H DRCOG DCH Dip Pych Director Child & Youth Protection Program Children's Hospital of Eastern Ontario (CHEO) Professor Pediatrics, University of Ottawa Associate International Institute for Child Rights & Development (IICRD) Councilor International Society for Child Abuse & Neglect (ISPCAN)	Christine Harrison Lecture: Accountability to Children's Health, Wellbeing and Development and the United Nations Convention on the Rights of the Child
November 19	Paul H. Wise, MD, MPH Richard E. Behrman Professor of Child Health and Society Professor of Pediatrics Senior Fellow, Freeman-Spogli Institute for International Studies Stanford University CHP/PCOR	EBOLA: Conflict and the Future of Child Health in Areas of Political Instability
November 26	Andrew James, MD Neonatology, The Hospital for Sick Children and the Department of Paediatrics, University of Toronto Carolyn McGregor, PhD SMIEE Canada Research Chair in Health Informatics and Professor, Faculty of Business & Information Technology, University of Ontario Institute of Technology, Oshawa	The Value Proposition for Big Data Analytics in Health Care
December 3	Drs. Anne Fuller, Sarah Lord and Claudia Garcia-Gelvez	Resident Grand Rounds: Cases from the Ward
December 10	Lisa Robinson, MD, FRCPC Division Head, Nephrology The Hospital for Sick Children Senior Scientist, Cell Biology, RI Professor, Department of Paediatrics Faculty of Medicine, University of Toronto	Acute Kidney Injury: A New Look at an Old Problem"?
December 17	Paediatric Residents	Holiday Skits
January 7	Steve Schwartz, MD FRCPC Professor of Paediatrics Head, Division of Cardiac Critical Care Medicine The Labatt Family Heart Centre Departments of Critical Care Medicine and Paediatrics, University of Toronto Divisions of Cardiac Critical Care Medicine and Cardiology	A Heart Centre Journey to Improve Outcomes in Hypoplastic Left Heart Syndrome
January 14	Meredith Irwin, MD Associate Chair, Paediatrics (Research) Senior Scientist, The Research Institute Hospital for Sick Children Professor of Paediatrics, University of Toronto Canada Research Chair in Cancer Biology	Neuroblastoma: A Tale of Two Tumors
January 21	Janet Rossant, PhD Senior Scientist and Chief of Research Hospital for Sick Children Northbridge Chair in Paediatric Research University Professor Department of Molecular Genetics, University of Toronto Peter Gilgan Centre for Research and Learning	How SickKids Research can Change the Course of Child Health Outcomes

JULY 2014 – JUNE 2015 SCHEDULE (CONT'D)

Date	Speaker(s)	Title
January 28	Darcy Fehlings, MD MSc FRCPC Head, UofT Division of Developmental Paediatrics Bloorview Children's Hospital Foundation Chair in Developmental Paediatrics Senior Scientist, Bloorview Research Institute Physician Director, Child Development Program Holland Bloorview Kids Rehabilitation Hospital Professor of Paediatrics, University of Toronto	New Concepts in the Diagnosis and Treatment of Hemiplegic Cerebral Palsy
February 4	Seema Mital, MD, FACC, FAHA, FRCPC Professor of Paediatrics, Faculty of Medicine, University of Toronto Division of Cardiology, Hospital for Sick Children Genetics & Genome Biology, Peter Gilgan Centre for Research and Learning Heart and Stroke Foundation of Ontario Chair in Cardiovascular Science	Pediatric Biobanking: Lessons in Research Versus Patient Autonomy
February 11	Drs. Andrea Evans, Michael Hill and Rebecca Levy	Resident Grand Rounds: Cases from the Wards
February 18	Rulan S. Parekh MD, MS, FRCPC Professor of Pediatrics and Medicine Staff Nephrologist and Clinician Scientist, The Hospital for Sick Children and University Health Network Program Director of Nephrology and Pediatric Nephrology, University of Toronto	Ethnicity and Risk of Kidney Disease: Mosaic or Melting Pot?
February 25	H. Simon Schaaf, MBChB, MMed Paed. DCM, MD Paed Professor and Senior Specialist, Department of Paediatrics Stellenbosch University Ian Kitai, MB, BCh, FRCPC Associate Professor, Department of Pediatrics, University of Toronto Tuberculosis Specialist, Division of Infectious Diseases, Hospital for Sick Children, Toronto Pediatrician, Ajax and RVHS	New Threats from an Old Foe: The Challenges of Drug Resistant Tuberculosis in Children
March 4	Glenn Regehr, PhD Professor, Department of Surgery Associate Director (Research), Centre for Health Education Scholarship, University of British Columbia	Medical Education Day: Self-Assessment, Self-Direction, Self-Regulation and other Myths
March 11	Drs. Jenny Smith and Kim Zhou	Resident Grand Rounds: Cases from the Wards
March 25	David A. Ingram, MD Hugh McK Landon Professor of Pediatrics and Biochemistry and Molecular Biology Chief Medical Executive of Pediatrics, Indiana University Health Physicians Vice Chair of Clinical Affairs, Department of Pediatrics, Indiana University, School of Medicine	Barry Smith Lecture: From Animal Models to Clinical Trials: Developing Novel Therapies for Patients with Neurofibromatosis Type I
April 1	Ingrid Tein, BSc, MD, FRCPC Associate Professor of Pediatrics, Staff Neurologist, The Hospital for Sick Children, University of Toronto Greg Wilson, MD, FRCPC Pathologist, The Hospital for Sick Children Cynthia Hawkins, MD, PhD Pathologist, The Hospital for Sick Children	Annual Clinicopathological Conference: An Infant with Dysmorphism, Hypospadias, Failure to Thrive, Heart Disease and Suspected Metabolic Disease
April 8	David Naylor, MD Professor of Medicine and President Emeritus, University of Toronto	R. H. A. Haslam Lecture Epistemological Cross-Currents in Modern Medicine
April 15	Ron Keren, MD, MPH Vice President of Quality and Chief Quality Officer The Children's Hospital of Philadelphia	Diagnostic Imaging and Antimicrobial Prophylaxis for Children Diagnosed with a UTI

JULY 2014 – JUNE 2015 SCHEDULE (CONT'D)

Date	Speaker(s)	Title
April 22	Felix Ratjen, MD PhD FRCPC FERS Head, Division of Respiratory Medicine Sellers Chair of Cystic Fibrosis Professor, University of Toronto The Hospital for Sick Children	Healthier Children. Better outcomes: Cystic Fibrosis in the 21st century
April 29	John D. Lantos, MD Professor of Pediatrics, University of Missouri Kansas City School of Medicine Director, Children's Mercy Bioethics Center	Current Controversies in Paediatric Bioethics
May 6	Karen Leslie MD, MEd FRCPC Professor of Paediatrics Division of Adolescent Medicine Hospital for Sick Children Director, Centre for Faculty Development University of Toronto	Thriving in Academic Medicine: The role of Faculty Development
May 13	Matthew L. Warman, MD Investigator, Howard Hughes Medical Institute Professor of Genetics and Orthopaedic Surgery, Harvard Medical School Director, Orthopaedic Research Laboratories, Boston Children's Hospital	Heritable Skeletal Fragility Disorders, New Genes, New Pathways, New Therapies
May 20	Sanjay Mahant, MD MSc FRCPC Division of Paediatric Medicine Hospital for Sick Children Associate Professor, Department of Paediatrics University of Toronto	Excellent Clinicians: Humility over Hubris
May 27	Allison A. Eddy, MD, FRCPC Head, Department of Paediatrics, University of British Columbia Chief of Paediatric Medicine, BC Children's Hospital	Science and Chronic Kidney Disease: Adventures, Discoveries And Life Lessons.
June 3	Tim Keiffer, PhD Professor, Cellular & Physiological Sciences and Surgery University of British Columbia	Cell-Based Insulin Replacement for Diabetes"
June 10	Department of Paediatrics	Awards Day
June 17	Steven Mittelman, MD, PhD Children's Hospital of Los Angeles Department of Endocrinology Assistant Professor of Pediatrics and Physiology & Biophysics	Daniel Burton Lecture: Obesity and Cancer: Lessons from Childhood Leukemia

MEDICAL EDUCATION TRAINING AND SCHOLARSHIP: DEPARTMENT OF PAEDIATRICS, UOFT 2014-2015

The Department of Paediatrics is committed to providing the best possible training to future paediatricians. This report serves to recognize the excellence and dedication of our faculty teachers, educators and education leaders in realizing this goal. It celebrates their achievements and outlines promising new directions for research, innovation, teaching and development in medical education. Our educational story is one of constant renewal and growth. Ongoing work by educators address gaps and maximize on the opportunities for learning offered to students and trainees. Our educational leaders and their committees ensure that our training programs incorporate the most effective clinical practices and that our graduating physicians are competent and committed to clinical excellence.

This year we highlight the innovations in our Continuing Education (CE) portfolio led by Dr. Mark Feldman and coordinated by Ms. Michelle Wan. The importance of keeping current in health professions is undisputed. We have a robust offering of CE initiatives designed to meet the needs of our hospital and community paediatricians, the largest being the Paediatric Update Conference (see CE report for details). Traditional medical conferences with lecture-

based learning are a dominant source of CE for physicians, despite evidence suggesting other modalities may be more effective. Currently best practices in educational theory suggest incorporating assessment and feedback to enhance learning. In 2014, test enhanced learning was also mandated as a CE requirement for RCPSC recertification. Testing after learning is often called test-enhanced learning (TEL) which can lead to overall increases in knowledge retention and transfer. Testing also changes how individuals learn – especially if it is provided prior to learning. Test-potentiated learning (TPL) refers to pre-testing that effectively enhances a subsequent learning opportunity perhaps by identifying knowledge gaps and promoting self-regulation behaviours such as reflection, strategic studying or learning and metacognition. There are very few applications of TEL or TPL in CE contexts.

Our CE program has begun introducing testing and feedback at the Paediatric Update Conference. Consistent with our scholarly approach to program development and educational innovation, Dr. Feldman assembled a research team to study when and how testing and feedback should be delivered in order to maximize the learning opportunities of Paediatric

Update participants. The team was recently awarded a grant from the University of Toronto, Faculty of Medicine Educational Development Fund to: a) compare the knowledge retention among conference participants randomized to complete the test-potentiated learning (TPL) and test-enhanced learning (TEL) package as compared to conference participants randomized to simply attend the conference; and b) assessing the efficiency of the TPL and TEL package by measuring cost, satisfaction, self-reported changes in learning behaviour, and completion rates. They hypothesize that the pre-workshop and post-workshop MCQ testing at the Paediatric Update will efficiently enhance knowledge retention as compared to workshop attendance without testing.

We look forward to the results of their study which promise to take our CE programming to the next level and which will undoubtedly contribute to the education field's understanding of how testing and feedback impacts learning.

Rayfel Schneider,
Professor of Paediatrics
Associate Chair, Medical Education

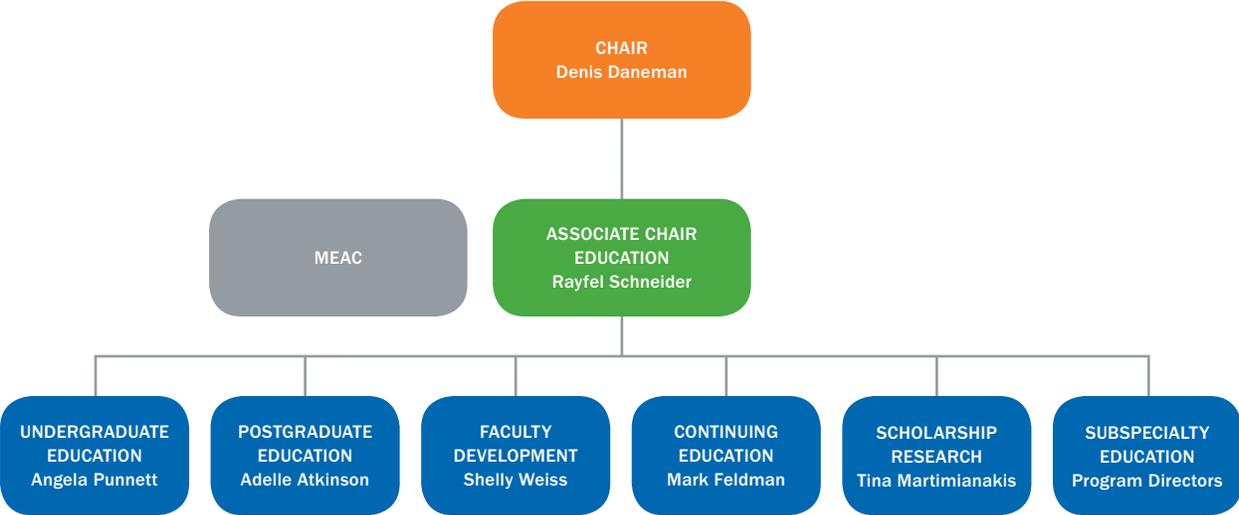
EDUCATION ORGANIZATION

The Medical Education enterprise includes the Undergraduate, Postgraduate and Continuing Education portfolios and the offices of Faculty Development and Medical Education Scholarship. Educational activities in the Department of Paediatrics are led by Dr. Rayfel Schneider, the Associate Chair (Education) and the Medical Education Advisory Committee (MEAC). The MEAC works to enhance excellence in teaching and education and increase the recognition of the educational achievement of trainees and faculty. It also serves to foster

collaborations and networks with other groups interested in education and to provide advice and guidance to the Chair with regard to educational priorities.

The Department supports faculty in a number of ways to enhance their career development as teachers and clinician educators. Details of all the activities of all the education portfolios and the educational accomplishments of faculty and trainees are provided in the body of the report.

Education Organizational Chart
Department of Paediatrics, University of Toronto



Educational Administrative Staff:

Mary Antonopoulos, Undergraduate Education
Joanna Barnes, Undergraduate Education
Margarita Komarova, Undergraduate Education
Susan Jenkins, Administrative Supervisor
Sandra Layno, Postgraduate Education
Josefina Bento, Postgraduate Education
Michelle Wan, Continuing Medical Education
Clare Schlesinger, Faculty Development &
Medical Education Scholarship

Education Scientists:

Tina Martimianakis, PhD,
Department of Paediatrics
Maria Mylopolous, PhD, Learning Institute
Catharine Walsh, MD, FRCPC, PhD,
Learning Institute

Education Evaluator:

Kathryn Parker, PhD, Holland-Bloorview Hospital
and Department of Paediatrics

**Faculty pursuing formal training in education
2014-2015:**

Michaela Cada (Education Scholars Program)
Emma Cory (Education Scholars Program)
Katherine Hick (Education Scholars Program)
Angela Orsino (Education Scholars Program)
Angela Punnett (Masters in Education)
Faisal Kordy (Stepping stones)
Gordon Soon (Stepping stones)
Melanie-Ann Kirby-Allen (Stepping stones)
Jennifer Young (Stepping stones)
Dror Koltin (Stepping stones)
Leanne Shamrakov (Stepping stones)
Sharon Naymark (Stepping stones)
Sherri Baine (Stepping stones)
Jordan Carr (Stepping stones)

**Trainees pursuing formal training
in education 2014-2015:**

Mohammad Zubairi, (Masters in Education)

**Faculty completed formal training
in education 2014-2015:**

Rudaina Banihani (Stepping Stones)
Dror Koltin (Stepping Stones)
Jennifer Young (Stepping Stones)

**Trainees who completed formal training
in education 2014-2015:**

Yousef Etoom (Stepping Stones)
Julie Johnstone (Masters in Education)
Catherine Walsh (PhD in Education)

EDUCATIONAL TRAINING IN THE DEPARTMENT OF PAEDIATRICS

UNDERGRADUATE EDUCATION

Director

Dr. Angela Punnett

Educational Program Coordinators

Mary Antonopoulos

Margarita Komarova (maternity leave coverage March 2014 to March 2015)

Joanna Barnes (returned March 2015)

Members of the Pediatric Undergraduate Education Committee (PUGMEC):

Dr. Hosanna Au, Dr. Nirit Bernhard, Dr. Zia Bismilla, Dr. Mark Feldman, Dr. Emer Finan, Dr. Claudio Fregonas, Dr. Claire Hutchinson, Dr. Sheila Jacobson, Dr. Miriam Kaufman, Dr. Angela Punnett, Dr. Seetha Radhakrishnan, Dr. Shawna Silver, Dr. Susanna Talarico, Dr. Talya Wise, Dr. Jennifer Young, Dr. Angela Orsino (Holland-Bloorview), Dr. Dror Koltin (THP-CVH), Dr. Katarzyna Gwiazda (THP-MH), Dr. Gagandeep Saund (Brampton), Dr. Anna Selliah (WOHC), Dr. Clare Hutchinson (NYGH), Dr. Janet Saunderson (TEGH), Dr. Sohail Cheema (SMH), Dr. Sharon Naymark (SJHC), Dr. Raymond Shu (SGH- Birchmount), Dr. Peter Azzopardi (SGH-General), Dr. Jeff Weisbrot (YCH), Dr. Joseph Porepa (HRRH), Dr. Yehuda Mozes (RVCH), U of T medical students: Shara Nauth & Vanessa Zannella (1T4); Bradley Kaplansky & Leah Smith (1T5), Chief Pediatric Residents: Jennifer Smith & Kim Zhou

Highlights from 2014-2015

SickKids hosted the 4th annual Paediatric Undergraduate Program Directors of Canada (PUPDOC) in the Fall of 2014. The Directors have launched their website and national curriculum with supporting educational materials at www.pupdoc.ca. This is a great resource for educators and students. The Longitudinal Integrated Clerkship (LIc) pilot completed its first year and was a resounding success for all involved. The program is expanding to include students at 3 academies in the next academic year and we would like to extend our thank you to our local and community faculty for supervising students in this new model. Curriculum renewal planning is underway for preclerkship at the University of Toronto with a similarly more integrated learning model and earlier introduction to clinical medicine. Exciting times ahead!

We have a few personnel changes over in the past year. We thank Margarita for assuming the Pre-Clerkship Coordinator role and welcome back Joanna from maternity leave. Paediatricians continue to take on major leadership positions at the University with Hosanna Au as Unit Director for Paediatrics in the new Foundation Curriculum, Susanna Talarico as Associate Course Director of the Portfolio Course, Clare Hutchinson as LIc Director for NYGH, and Seetha Radhakrishnan as Course Co-Director of the Transition to Residency Program (TTR). The

Arts and Science of Clinical Medicine (ASCM2) second year course sadly says goodbye to our long-time Director, Sheila Jacobson. Her dedication to this program has been outstanding and this course continues to be one of the most highly rated clinical courses in preclerkship. We welcome Julie Johnstone as the new Course Director and look forward to working with her as the course evolves within the Foundations curriculum.

Congratulations to the teaching award winners this year with very special mention of Stacey Bernstein, winner of the national CAME award:

Susanna Talarico

R.H.A. Haslam Preclerkship Teaching Award

Shawna Silver

Lionel Weinstein Clerkship Teaching Award

Nick Blanchette

Community Paediatrics Clerkship Teaching Award

Sheila Jacobson

Special Acknowledgement - Excellence in Leadership Award (faculty coordinator for ASCM2 for 18 Years)

Stacey Bernstein

2015 CAME/ACEM Certificate of Merit Award

Julie Johnstone

2015 Robert Maudsley Fellowship for Studies in Medical Education

Eddy Lau

Integrated Medical Education (IME) Excellence in Community-Based Clinical Teaching Award

Yehuda Nofech-Mozes

Special Commendation for the Integrated Medical Education (IME) Excellence in Community-Based Clinical Teaching award

Preclerkship

First year students continue to enjoy the Paediatric Longitudinal Experience (PedLE) and PedLE-R programs wherein students shadow faculty or residents for four half days in the late winter. We had a record of 35 residents participate in the PedLE-R program this year and Danielle Weidman presented our initial evaluation of the program at COMSEP and Research day this past spring. Our office continues to host the summer research and clinical programs - PeRCS (7 students) and SPReSS (8 students). The student presentations at the end of the summer sessions were outstanding. Thank you to participating faculty for providing wonderful mentorship and role modelling. Thank you also to our staff leaders Binita Kamath & Seetha Radhakrishnan (PeRCS) and Susanna Talarico (SPReSS) for coordinating these highly successful research programs.

Second year medical students learn general paediatrics primarily during 3 weeks of their MMMD course at UofT, managed by Hosanna Au. Many faculty and residents contribute to lectures, seminars and PBL during this course and the various subspecialty weeks that follow. The feedback from students has been very appreciative.

Clerkship

The 6-week core clerkship program involves at least 250 teachers across 12 sites and is overseen by a dedicated undergraduate committee. The Mississauga campus graduated its first class with convocation in May and continues to expand local capacity for teaching students. Paediatrics continues to offer a wide and ever increasing selection of highly sought after electives and selectives (TTR placements) with over 600 students participating. With ongoing involvement in iOSCE exam development and administration, the Portfolio course and the LMCC preparation course FUSION, Paediatrics faculty are critical not only to the Paediatrics clerkship program locally but the greater student experience at the University level.

Returning to Convocation Hall is always fun and we enjoy celebrating with the students as they move on to the next part of their careers. Congratulations to the following winners for their Awards in Paediatrics:

Pamela Newman

(Dr. Roy Simpson Scholarship in Paediatrics)

Julia DiLabio

(Dr. Yumin Li Access to Excellence in Paediatrics Award)

Shama Sud

(Dr. Yumin Li Access to Excellence in Paediatrics Research Award)

Esther Rosenthal

(Dr. Carl Witus Prize in Paediatrics)

The final word must go to our teachers - you are the heart of this education program and your commitment to and enthusiasm for education is an inspiration to our students and our community. Thank you for all that you do.

Postgraduate Education

Director

Dr. Adelle Atkinson

Educational Administrative Staff

Sandra Layno

Jennifer Bowden/Melissa Stewart
(Jennifer left in November)

Members of the Postgraduate Education Committee:

Dr. Adelle Atkinson, Dr. Ann Jefferies, Dr. Eudice Goldberg, Dr. Eddy Lau, Dr. Lillian Sung, Dr. Michelle Shouldice, Dr. Melinda Solomon, Dr. Elizabeth Jimenez, Dr. Hilary Whyte, Dr. Jeff Kobayashi, Dr. Melanie Colpitts, Dr. Moshi Ipp, Dr. Clare Hutchinson, Dr. Silvio Gonzalez, Dr. Ra Han, Dr. Shawna Silver, Dr. Erica Burry, Dr. Soumitra Tole, Dr. Jennifer Smith, Dr. Kim Zhou, Dr. Michael Hill, Dr. Andrew Helmers, Dr. Mallory Downie, Dr. Brie Yama, Dr. Carol Lam, Dr. Elizaveta Limenis, Dr. Suparna Sharma, Dr. Katherine Hick, Dr. Susanna Talarico

TOTAL NUMBER OF CORE PAEDIATRIC RESIDENTS 2014-2015

PGY1	PGY2	PGY3	PGY4	TOTAL
24	22	21	9	76

Highlights from 2014-2015

Postgraduate teaching in Paediatrics is decentralized with more than 10 sites involved in delivering our curriculum. The Core Residency Training Program trains individuals from around the world with a variety of backgrounds and training, making the program a rich environment to acquire the knowledge and skills essential to the practice of Paediatrics.

The core program continues to be the largest training program in Canada with unparalleled resources both in depth and breadth of patient problems as well as an outstanding teaching and research faculty. It has full approval as an accredited Royal College training program and attracts the most sought after candidates in the country. Applicant numbers continue to increase yearly (despite no change in medical school graduate numbers), including international medical graduates (Canadians who studied outside North America and new immigrants to Canada). The program is rich with diversity of educational and experiential backgrounds.

The success of the core training program is largely due to faculty engagement in the process and a robust program assessment strategy. A very active Residency Program Committee oversees the administration and running of the training program, and a variety of subcommittees exist to ensure that each part of the program (resident selection, international resident selection, academic curriculum, evaluation, research, mentoring, wellness, advocacy etc.) are delivered in an evidence-informed fashion with scholarship as a natural part of the process.

The curriculum of the program is in constant evolution responding to resident feedback, Ministry of Health priorities, best practices in teaching and assessment and the changing landscape of our community. This year we continue to enjoy a significant amount of Distributed Medical Education which the residents have embraced.

Resident scholarship continues to be of a high standard. All residents are engaged in scholarly activities on topics related to clinical research, education, patient safety, quality assurance and patient advocacy. Our Residency Scholarship Oversight Committee, continues to provide resources and guidance to the residents under the leadership of Dr. Hans Hitzler and Dr. Binita Kamath, and the engagement of multiple faculty across the organization who continue to mentor and supervise resident scholarly projects.

Some of our projects are initiated and led by our trainees and others by our teachers and educators. Some of the scholarly activities explore aspects of our programming and aim to improve our curriculum and teaching. Some exciting initiatives include: looking at how residents think about assessment, and perceptions of wellness and work-life balance.

A primary focus for the program continues to be enhancing the teaching and evaluation of the CanMEDS roles. There is a robust CanMEDS curriculum within the academic ½ day, which covers a wide variety of topics and a CanMEDS OSCE offered each spring with almost 100 trainees taking part. Over the last few years, real time feedback during the OSCE was introduced with tremendous success. The program is

starting to think forward to the new CanMEDS 2015 guidelines as well as Competency Based assessment and the development of milestones and entrusted professional activities. The timeline for the beginning of this transition to Competency By Design (CBD) is the fall of 2016. It is an exciting time in postgraduate medical education as we move towards a new model of ensuring competence, along the continuum through robust observational data and assessment.

Advocacy and social paediatrics continue to be a significant area of focus of the program. There are currently a number of major advocacy projects underway under the leadership of the resident advocacy group. In addition to the Gosford Park Public School, our residents are very involved with the Rosedale Heights Secondary School and Firgrove Primary school

in the Jane and Finch neighbourhood. All of these schools have at risk children and youth, and have found this collaboration beneficial for both the children and their parents. Other advocacy projects include clothing drives, The POP Clinics (a paediatric consultation clinic for uninsured children) and newsletters for inpatients as examples. Residents have been involved at the ground level in implementing these projects in a scholarly way.

The postgraduate program will soon be gearing up for another round of CaRMS resident selection, again expecting an increase in applicants. The MD/PhD program stream through CaRMS strives to attract candidates who are interested in a research career and will involve intensive research support throughout the training program.

SUBSPECIALTY EDUCATION
Chair: Dr. Rayfel Schneider; Educational Administrative Staff: Sue Jenkins

Program	Program Director
Adolescent Medicine*	Katherine Hick ¹
Cardiology*	Jennifer Russell ¹
Clinical Genetics*	Roberto Mendoza ¹ , Melissa Carter ¹
Clinical Pharmacology*	Irena Nulman ¹
Developmental Paediatrics*	Anne Kawamura ¹
Emergency Medicine*	Suzanne Beno ¹ , Tania Principi ¹
Endocrinology*	Diane Wherrett ¹
Gastroenterology/Hepatology/Nutrition*	Simon Ling ¹ , Yaron Avitzur ¹
Haematology/Oncology*	Michaela Cada ¹ , Angela Punnett ¹ , Ahmed Naqvi
Immunology/Allergy*	Eyal Grunebaum ¹
Infectious Diseases*	Anu Wadhwa ¹
Neonatology*	Emer Finan ¹ , Martin Skidmore ¹
Nephrology*	Rulan Parekh ¹
Neurology*	Ann Yeh ¹
Paediatric Medicine	Michelle Shouldice ¹
1. Academic Paediatric Medicine	Michelle Shouldice ¹ , Sarah Schwartz
2. Paediatric Dermatology	Miriam Weinstein, Elena Pope
3. Academic Child Abuse Paediatrics	Michelle Shouldice ¹
4. Community Paediatric	Mark Feldman
5. Paediatric Hospital/Inpatient Medicine	Michael Weinstein
6. Palliative Care	Adam Rapoport
Respiratory Medicine*	Melinda Solomon ¹
Rheumatology*	Shirley Tse ¹

¹ Member of Subspecialty Program Directors Committee

* Royal College Program

TOTAL NUMBER OF POSTGRADUATE TRAINEES

Number of Subspecialty Residents	88
Number of Clinical Fellows	217
Number of Research Fellows	23
Number of Core Paediatric Residents	76
Total	396

There are 16 Royal College accredited programs in the Department of Paediatrics and all have full approval status following the Royal College Accreditation Review at the University of Toronto in 2013. The Program Directors meet on a regular basis to discuss their programs and consider ways to better support fellowship training. There are also clinical fellowships in Academic Paediatric Medicine, Community Paediatrics, Suspected Child Abuse Network (SCAN) and Dermatology. Child Maltreatment has been approved by the Royal College as an Area of Focused Competence (AFC) Program.

This year, our Royal College-accredited programs participated in the national subspecialty paediatrics match, attracting candidates from across the country. In addition, the subspecialty programs continued to attract excellent applicants from around the world. A total of 30 trainees matched to our subspecialty programs, attracting residents from 11 university programs across Canada and two trainees from United States Medical Schools. In addition, 6 positions were allocated to highly competitive international trainees to begin core training in Paediatric subspecialties.

Continuing Education

Director

Dr. Mark Feldman

Educational Administrative Staff

Michelle Wan

Members of Continuing Education Committee

Mark Feldman (Chair), Andreea Dragulescu, Trey Coffey, Bonnie Fleming-Carroll, Eyal Grunebaum, Andrew James, Morton Goldbach, Saul Greenberg, Ian Kitai, Karen Leslie, Golda Milo Manson, Mark Palmert, Angela Punnett, Suzan Schneeweiss, Gordon Soon, Melinda Solomon, Margaret Thompson, Michael Weinstein, Shelly Weiss

Highlights from 2014-2015

The overall goals of the Department of Paediatric's Continuing Education (CE) are to provide high quality continuing education courses and conferences locally, nationally and internationally, utilizing best practice educational strategies and tools. The CE program promotes and recognizes excellence in continuing education and strives to enhance CE programs with the utilization of new technologies. It has developed a collaborative network in CE to promote scholarship in CE and best practice in continuing education. The program researches the effectiveness of our CE strategies and disseminates findings through publication and presentation to enhance CE efforts locally, nationally and internationally. The program has a number of important collaborations in place. First it collaborates with the Royal College of Physicians and Surgeons of Canada to promote meaningful lifelong learning opportunities and strategies for the Maintenance of Certification. It also collaborates with quality Improvement experts to identify and address needed changes in both knowledge and practice and to promote quality improvement in continuing education by providing ongoing feedback and evaluation of programs.

Our Continuing Education Committee (CEC), led by Mark Feldman, is comprised of both academic and community-based health care professionals. The CEC develops and supports a breadth of programming. The committee adjudicates the Department of Paediatrics Continuing Education Award, which was won this past year by an unprecedented FOUR of our outstanding nominees:

Dr. Joey Bonifacio

Winner, Category 'Teaching Excellence at a CE event'

Dr. Jason Fischer

Winner, Category 'CE Course Coordination'

Dr. Melanie Kirby

Winner, Category 'Long-term contribution to CE'

Dr. Sabine George

Winner, 'Long-term Course Planning'

Our flagship departmental CE event, Paediatric Update April 29-May 2, 2015, reached new heights as the already largest paediatric CE event led by a department of paediatrics in Canada with a record attendance of 309 attendees over the 4 days. This year, Sixty four (64) faculty and Sickkids staff participated in the delivery of the program along with 19 guest presenters. The Conference also featured a very successful Bioethics Subspecialty Day chaired by Dr. Jonathan Hellmann, which provided an opportunity to learn practical strategies for addressing ethical challenges in everyday interactions with patients and their families.

Recognizing the importance of assessment and feedback in continuing education, an innovative, electronic, pre & post conference test was first introduced at Paediatric Update 2014. The goal was to introduce self-assessment (pre-test), reflection (pre-conference) and peer assessment with feedback (post test). A minimum number (25) Category 3 credits was a very recent requirement of the RCPSC for our

maintenance of competence. For the first time at a large paediatric conference in Canada, this ‘knowledge assessment’ component qualified for RCPSC category 3 (assessment) MOC credits. This year, we expanded the MOC 3 program to double the number of course offerings from 5 in 2014 to 10 in 2015. Moreover, to the best of our knowledge, for the first time at any large national CE event, within any medical discipline, Test-Enhanced Learning will be critically evaluated in 2016 at Paediatric Update via a randomized controlled trial. This study is supported with a grant from the University of Toronto Education Fund.

Faculty members throughout the Department of Paediatrics have been very active in continuing education activities again this 2014-2015 academic year. City Wide Paediatric rounds, supervised by Dr. Mark Feldman

and organized by Drs. Umberto Cellupica and Michael Peer from the Division of Paediatric Medicine, continued to be a very popular event attracting 120 community-based paediatricians per quarter.

This year, Subspecialty Leaders in CE were identified for each division (see table 1). The CE leads have helped develop and promote continuing education programming that is tailored to the needs of their respective divisions. A ‘true’ needs assessment for Paediatric Update 2015 was generated by these Divisional Leaders, allowing us to develop programming that better meets the needs of paediatricians.

Finally, many more of our divisions have been engaged in a variety of continuing education events (see table 2).

TABLE 1: CE CHAMPIONS

Division	CE Champion
Adolescent Medicine	Dr. Karen Leslie
Allergy/Immunology	Dr. Eyal Grunebaum
Cardiology	Dr. Andreea Dragulescu
Clinical & Metabolic Genetics	Dr. Roberto Mendoza
Clinical Pharmacology	Dr. Margaret Thompson
Developmental Paediatrics	Dr. Golda Milo-Manson
Emergency Medicine	Dr. Suzan Schneeweiss
Endocrinology	Dr. Mark Palmert
Gastroenterology	Dr. Anne Griffiths
Haematology/Oncology	Dr. Angela Punnett
Infectious Diseases	Dr. Ian Kitai
Neonatology	Dr. Andrew James
Nephrology	Dr. Damien Noone
Neurology	Dr. Shelly Weiss
Paediatric Medicine	Dr. Mark Feldman
Respirology	Dr. Melinda Solomon
Rheumatology	Dr. Gordon Soon

TABLE 2: CE OFFERINGS, PAEDIATRICS; JULY 1, 2014- JUNE 30, 2015

Division/Department	Course Directors	CE Offerings, Paediatrics July 1, 2014- June 30, 2015
Department of Paediatrics	Dr. Rayfel Schneider	Annual SickKids Paediatric Research Day May 27, 2015
	Dr. Mark Feldman	2015 SickKids Annual Paediatric Update Conference April 29-May 2, 2015
	Dr. Shelly Weiss	Medical Education Day March 4, 2015
Respiratory Medicine	Dr. Indra Narang	Paediatric Sleep Symposium March 6, 2015
Paediatric Medicine	Drs. Umberto Cellupica, Michael Peer, March Feldman	City Wide Rounds held 4 times annually for community based Paediatricians September 16, 2014 November 18, 2014 January 20, 2015 May 5, 2015
	Dr. Charlotte Moore	Child Health and Social Policy Seminar Series Jan 14, 2015 Feb 18, 2015 March 25, 2015 April 15, 2015 May 6, 2015
	Dr. Irene Lara-Corrales	Autoimmune Polyendocrinopathy Syndrome Type 1 June 5, 2015
Paediatric Emergency Medicine	Dr. Suzan Schneeweiss	11th Annual Paediatric Emergency Medicine Conference October 23-24, 2014
	Dr. Jason Fischer	Paediatric Emergency Ultrasound Course October 22, 2014
	Dr. Suzan Schneeweiss	Paediatric Emergency Procedural Sedation Course July 24, 2014 October 22, 2014 June 1, 2015
	Dr. Olivia Ostrow	Advanced Paediatric Life Support Course February 26, 2015 April 27-29, 2015

TABLE 2: CE OFFERINGS, PAEDIATRICS; JULY 1, 2014- JUNE 30, 2015 (CONT'D)

Division/Department	Course Directors	CE Offerings, Paediatrics July 1, 2014- June 30, 2015
Infectious Diseases	Dr. Valerie Waters	Infectious Disease Clinical & Research Forum A monthly series of clinical research related topics of interest to ID Fellows, Staff and other members of the ID community.
Centre for Brain and Mental Health	Dr. Frida Miller & Dr. Tony Pignatiello	8th Annual Brain & Mental Health Day Neuroscience Research Symposium April 23-24, 2015
	Dr. Elizabeth Donner	Monthly Seminar Series: Cross Talks The Centre for Brain & Mental Health's monthly seminar series, October 30, 2014; Nov 25, 2014; Jan 22, 2015, Feb 24, 2015; March 26, 2015; May 28, 2015
Clinical and Metabolic Genetics	Dr. Ronald Cohn/Adel Gilbert	Conversations with Genetics: Your Day to Day Practice The Centre for Genetic Medicine monthly seminar series. January 28-July 22, 2015
Haematology/Oncology	Dr. Suzan Williams & Dr. Leonardo Brandao	8-Week Lunch & Learn Series "Bleed and Clotting Disorders in Children" July 10, 2014; July 17, 2014; July 24, 2014; July 31, 2014; Aug 2, 2014; Aug 14, 2014; Aug 21 2014, Aug 28, 2014
	Dr. Angela Punnett	Cross Talks Garron Family Cancer Centre October 2, 2014 May 28, 2015 and June 12, 2015
	Dr. Angela Punnett	7th Annual Childhood Cancer Therapy Update (CCTU) January 14, 2015
Gastroenterology	Course Directors: Dr. Alex Muise, Dr. Anne Griffiths & Dr. John Brumell	Very Early Onset IBD Symposium Inflammatory Bowel Disease Centre October 16, 2014
Rheumatology	Course Director: Dr. Brian Feldman	What's on the Treatment Horizon Sept 10, 2014
	Course Director: Dr. Brian Feldman	Single Cell Profiling of Immune Cell Phenotype and Function using Mass Cytometry April 1, 2015

Faculty Development

Director

Dr. Shelly Weiss

Educational Administrative Staff

Clare Schlesinger

Members of the Faculty Development Committee

Dr. Shelly Weiss, Dr. Nirit Bernhard,
Dr. Catherine Birken, Dr. Doug Campbell,
Dr. Anne Dipchand, Dr. Mark Friedberg,
Dr. Tina Martimianakis, Dr. Sanjay Mehta,
Dr. Suzan Schneeweiss, Dr. Rayfel Schneider,
Dr. Dennis Scolnik

Highlights from 2014-2015

On March 4, 2015, the Faculty Development Committee organized an extremely successful Medical Education Day. Glenn Regehr, PhD, Professor in the Department of Surgery and Associate Director (Research), Centre for Health Education Scholarship at the University of British Columbia.

The topic for Grand Rounds was “Self-Assessment, Self-Direction, Self-Regulation and other Myths”.

Following Grand Rounds there was a 90-minute workshop led by Drs. Regehr and Maria Mylopoulos titled “Just what kind of expert are we making here anyway?”. The workshop was attended by 40 participants. The day concluded with a panel of education scholars who presented their research in the area of education over lunch.

The Department of Paediatrics’ mentorship program for junior faculty is ongoing. All faculty, upon their appointment to the Department, are invited to meet with Dr. Weiss, the Director of Faculty Development. In this meeting, many issues regarding orientation, academic career development and mentorship are discussed. At this meeting the junior faculty members are made aware of the resources and programs provided both by the Faculty Development Office as well as the Center for Faculty Development, U. of T. Each junior faculty is also given the opportunity to participate in the formal departmental mentorship program which involves an assigned mentor who is outside of his/her division with a similar job profile.

The Department of Paediatrics Faculty Mentorship Award was introduced in 2013 to recognize a faculty member for his or her outstanding approach to mentoring. Letters of nomination were submitted to the Faculty Development Committee and a subcommittee was appointed to review all candidates and adjudicate. Dr. Rayfel Schneider, Associate Chair of Education in the Department of Paediatrics was the recipient of the 2015 award, which was presented as part of the Department of Paediatrics’ annual awards day in June 2015. Dr. Michelle Shouldice was the first runner-up for the award.

The Faculty Development committee meets 5-6 times per year and coordinates innovative programs. An example is “Diversity Day” planned for September 2015 which will include a grand rounds presentation by Dr. Joan Reede, MD, MS, MPH, MBA, Dean for Diversity and Community Partnership at Harvard Medical School as well as workshops led by invited local speakers regarding topics related to diversity.

Another activity of the FDC is to organize medical education / career development presentations to the paediatric divisions upon request. Topics have included research methodology, mentorship, professionalism, and feedback evaluation. Five divisions have participated in the last year.

Finally, the FDC is participating in a University of Guelph research study regarding faculty wellness. To date, the qualitative study has been completed the data is being analyzed for publication and publishing.

Scholarship/Research

Director

Dr. Tina Martimianakis

Educational Administrative Staff

Clare Schlesinger

Members of the Educational Scholarship Enhancement Committee

Dr. Tina Martimianakis (Chair), Dr. Anu Wadhwa, Dr. Maria Mylopoulos, Dr. Nikki Woods, Dr. Angela Punnett, Dr. Shelly Weiss, Dr. Melinda Solomon. Dr. Catharine Walsh, Clare Schlesinger.

Highlights from 2014-2015

Administration and Coordination

The office of Medical Education Scholarship oversees activities associated with enhancing the capacity of faculty, residents and fellows to engage in educational scholarship broadly defined to include: research in education, program development, educational innovation

and scholarly teaching. It also showcases the Department's education achievement and works to identify opportunities for future growth. In addition, the office oversees the adjudication of educational granting opportunities supported through the Paediatric Consultants Fund.

Funding

Educational research and educational development are supported through two separate grant competitions offered twice a year. The grants provide up to \$5000 to support 1 year projects led by members of the Department (faculty and trainees) that contribute meaningfully to the educational mission of our programs. This past year, 3 applications were successful in the Innovation and Development stream and 2 Research Grants were approved for funding with feedback on submissions following the announcement of the competition results. We also provide support and mentorship on grant development related to the Educational Development Fund, UofT competition. Proposals are submitted to an internal competition for matched funding. The ESEC committee adjudicates the proposals and provides formative feedback to the project team. Selected projects are then recommended for submission to the EDF fund competition with matched funding and a letter of support from the Associate Chair (Education).

Programming

The Office of Medical Education Scholarship continued to deliver its two-part educational series to provide opportunities for dissemination, networking and sharing of ideas on ongoing projects:

Medical Education Scholarship Rounds

“Moving our ideas forward”

The rounds provide a forum for faculty and trainees to share their educational research and scholarship and an opportunity to think about methodological issues. The rounds are intended to have practical application to educational work. Resources are also shared at each session to provide participants with the opportunity for future learning.

Educational Journal Club

“Integrating knowledge into practice”

At each session, participants are exposed to a selection of interesting articles published in the last couple of years on topics such as competency based teaching, assessment and evaluation, the hidden curriculum, professionalism, etc.

This past year, we had many invited speakers from other Departments and Universities, including two international speakers.

MES ROUNDS 2014-2015		
Oct 15	Globalization in medical education	Jannecke Frambach, Maastricht University (Joint with Wilson Centre)
Nov 19	Hidden Curriculum, Humanism, & Professionalism	Justin Lam, University of Toronto
Dec 15	A New Frontier in the clerkship year: The longitudinal integrated clerkship at UofT	Stacey Bernstein, Department of Paediatrics
Jan 21	Simulation-based training: How can we ‘optimally’ challenge our learners	Catherine Walsh, Department of Paediatrics
Feb 18	Education can never be a bad thing...right? Reflections on the effects of policy and training interventions on Malawi’s pediatric health workforce	Rabia Khan & Faizel Haji, Wilson Centre
April 15	Meanings of Fat: Obesity, Epidemics and America’s Children	Elise Paradis (Joint with the Centre for Healthy Active Kids), Wilson Centre
May 20	Global Health Medical Education: Capacity Building or Neocolonialism Revisited?	Julie Johnstone, Department of Paediatrics

EDUCATIONAL JOURNAL CLUB 2014-2015		
Oct 2	Humour, the hidden curriculum, and patient care – at whos expense?	Justin Lam and Tina Martimiankis, Department of Paediatrics
Nov 6	What does it mean to become a good physician?	Solomon Benatar, University of Cape Town
Dec 4	Exploring the concept of preparing students for future learning in medical education	Maria Mylopolous, Learning Institute
Feb 5	Applying Lessons From Cognition Across Medical Education	Mahan Kulasegaram, Wilson Centre
Mar 5	Lessons from critical race methodology	Malika Sharma, Wilson Centre
May 7	Fostering transformative learning in a social paediatric research summer studentship program (SPReSS)	Susanna Talarico, Department of Paediatrics

Publications

Our educational research and scholarship is disseminated regularly in leading clinical and educational journals. This past academic year our faculty and residents authored 32 peer reviewed publications and 2 book chapters.

Peer Reviewed Publications

Al-Azri H, Ratnapalan S. Problem-based learning in continuing medical education: Review of randomized controlled trials. *Can Fam Physician* 2014; 60 (2): pp 157-65.

Al-Qadhi, Constan N, Corrin M, Pirie J. An Innovated Pediatric Chest Tube Insertion Bench Model Simulation, a Usability Study of the Pilot Model. *Simulation in Healthcare* 2014: April 29. SRI

Ballios BG, Rosenblum ND. Challenges Facing Physician Scientist Trainees: a Survey of Trainees in Canada's Largest Undergraduate and Postgraduate Programs in a Single Centre. *Clin Invest Med* 2014; 37 (5): E1-E16.

Chen, L, Sun J, Hilliard P, Zourikian N, Hang M, Blanchette V, Poon MC, Luke KH. "Train-the-Trainer": An effective and successful model to accelerate training and improve physiotherapy services for persons with hemophilia in China. *Haemophilia* 2014: 20(3): pp 441-445.

Cooper MA, Tinmouth J, Yong E, Walsh CM, Carnahan H, Grover SC, Ritvo P. (2014) Surgical residents' perceptions on learning gastrointestinal endoscopy: More hours and more standardization wanted. *Journal of Surgical Education*; 71(6):899-905. doi:10.1016/j.jsurg.2014.05.016.

Garvey N, Stukel T, Guan J, Lu Y, Bwititi P, Guttman A. The association of asthma education centre characteristics on hospitalizations and emergency department visits in Ontario: a population-based study. 2014 Oct 24. *BMC Health Serv Res*. 2014 Nov 13;14(1):561. [Epub ahead of print]

Hodges BD, Martimianakis MA, McNaughton N, Whitehead C (2014) *Medical Education...Meet Michel Foucault*, *Medical Education* 2014: 48 (6):pp 551- 645.

Hubley D, Peacocke S, Maxwell J & Parker, K. Simulation for system change: Holland Bloorview's experience using simulation to enhance the use of technology at the point-of-care. *Healthcare Quarterly*. 2015. In press.

Kempinska AY, Bhanji F, Larouche S, Dubrovsky AS. A Novel Simulation-Based Program for Ultrasound-guided Fracture Reductions: Program Evaluation. *American Journal of Emergency Medicine* 2014 Dec 32(12): 1547-9.

King G, Servais M, Shepherd T, Willoughby C, Bolack L, Moodie S, Baldwin P, Strachan D, Knickle K, Pinto M, Parker, K., McNaughton N, & Savage D. A Listening Skill Educational Intervention for Paediatric Rehabilitation Clinicians. *Developmental Neurorehabilitation* (1751-8423). 2015 Aug 25:1-13.

King G, Sheppard T, Servais M, Willoughby C, Bolack L, Strachan D, Moodie S, Baldwin P, Knickle K, Parker K, Savage D, McNaughton N. Developing authentic clinical simulations for effective listening and communication in pediatric rehabilitation service delivery. *Developmental Neurorehabilitation*. Posted online on December 30, 2014. doi:10.3109/17518423.2014.989461.

Law, M; Eng, L; Fung,; Lindzon, G; McCaffrey, J; Shamji, Al; Tannenbaum, E; Yeung, E; Baker, L; Leslie, K "Negotiating learner-teacher boundaries in medical education" *Medical Teacher* Aug 26 2014:1-2. [Epub ahead of print]

Leslie K. The globalization of training in adolescent health and medicine: one size does not fit all. *Int J Adolesc Med Health*. 2015 Jun 26. [Epub ahead of print]

Levy R, Dubrowski A, Amin H, Bismilla Z: Procedural skills in paediatric residency: Re-evaluating the competencies. *Paediatric and Child Health* April 2014: 19(4) pp:180-184

Malow BA, Adkins KW, Reynolds A, Weiss SK, Loh A, Fawkes D, Katz T, Goldman SE, Madduri N, Hundley R, Clemons T. Parent-Based Sleep Education for Children with Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders* 2014: 44(1): pp 216-28.

Mylopoulos M, Woods NN. Preparing medical students for future learning using basic science instruction. *Medical Education*. 2014: 48(7): pp 667-673.

Nigrovic PA, Muscal E, Riebschleger M, Moorthy LN, Brunner HI, Eberhard BA, Klein-Gitelman M, Prahalad S, Schneider R. AMIGO: A novel approach to the mentorship gap in pediatric rheumatology. *Journal of Pediatrics* 2014 February: 164 (2):226-227.

Onyura, B., Bohnen, J., Wasylenki, D., Jarvis, A., Giblon, B., Hyland, R., Silver, I., Leslie, K. Re-imagining the Self at Late Career Stages: How Identity Threat Influences Academic Physician's Retirement Considerations. *Academic Medicine* (2014); Dec [Epub ahead of print].

Onyura B, Baker L, Cameron B, Friesen F, Leslie K Evidence for Curricular and Instructional Design Approaches in Undergraduate Medical Education: An Umbrella Review *Medical Teacher* (2015); Feb: 1-12. [Epub ahead of print].

O'Toole JK, Bismilla Z, Everhart JL. The I-PASS Handoff Program: A Standardized Approach to Transitions of Care That Improves Patient Safety. *Academic Internal Medicine Insight*, 13:1, 2015

O¹Toole J, Calaman S, Everhart J, Bismilla Z, Good B, Guiot A, Johnstone N, Nilforoshan V, Noble E, Rosenbluth G, Schwartz S, Solan L, Tse L, West D, Weiser J, Landrigan C, Sectish T, Srivastava R, Starmer A, Spector N. I-PASS Handoff Curriculum: Medical Student Workshop. *MedEdPORTAL*; 2014. Available from:www.mededportal.org/publication/9854

O'Toole JK, West DC, Starmer AJ, Yu CE, Calaman S, Rosenbluth G, Hepps JH, Lopreiato JO, Landrigan CP, Sectish TC, Spector ND,; I-PASS Study Education Executive Committee (EEC) (with Bismilla Z, Coffey T. as members of the EEC) Placing Faculty Development Front and Center in a Multisite Educational Initiative: Lessons from the I-PASS Handoff Study. *Acad Pediatr* 2014; 14(3):221-4.

Ramakrishna J, Valani R, Sriharan A, Scolnik D: Design and pilot implementation of an evaluation tool assessing professionalism, communication, and collaboration during a unique global health elective. *Medicine, Conflict and Survival Journal*. 2014; 30 (1): pp 56-65.

Ratnapalan S, Uleryk E. Organizational Learning in Health Care Organizations. *Systems* 2014; 2 (1): pp 24-33.

Sehgal A, Mehta S, Evans N, McNamara PJ. Cardiac sonography by the neonatologist: Clinical usefulness and educational perspective. *Journal of Ultrasound in Medicine* 2014; 33 (8): pp 1401-1406.

Starmer AJ, Spector ND, Srivaastava R, West DC, Rosenbluth G, Allen AD, Bismilla Z et al. Changes in medical errors after implementation of a handoff program. *N Engl J Med* 2014; Nov 6; 37(19): 1803-12

Steadman P, Crudden J, Naranian T, Oliveria JP, Boutis K. The Effectiveness of Student-Volunteers For Research in a Pediatric Emergency Department. *J Emerg Med*. 2014 September 27 [Epub ahead of print]; 2015 Mar; 48 (3): SRA

Sung L, Crowther M, Byrd J, Gitlin S, Basso J, Burns L. Measuring Benefit of Clinical Research Training Programs – the ASH Clinical Research Training Institute Example. *Journal of Cancer Education*. 2014: [Epub].

Van den Heuvel M, Au H, Levin L, Bernstein S, Ford Jones E, Martimianakis MA: “Evaluation of a social pediatrics elective - Transforming student’s perspective through reflection”. *Clinical Pediatrics* June 2014; 53(6) pp 545-551.

Walsh CM, Ling SC, Walters TD, Mamula P, Lightdale JR, Carnahan H. Development of the Gastrointestinal Endoscopy Competency Assessment Tool for Pediatric Colonoscopy (GiECAT KIDS). *Journal of Pediatric Gastroenterology and Nutrition*. 2014; 59(4):480-486.doi:10.1097/MPG.0000000000000358. PA

Walsh CM. Assessment of Competence in Pediatric Gastrointestinal Endoscopy. *Current Gastroenterology Reports* 2014; 16(8):401. doi: 10.1007/s11894-014-0401-5. Review. PA

Walsh CM, Ling SC, Khanna N, Cooper MA, Grover SC, May G, Walters TD, Rabeneck L, Reznick R, Carnahan H. Gastrointestinal Endoscopy Competency Assessment Tool: Development of a procedure-specific assessment tool for colonoscopy. *Gastrointestinal Endoscopy* 2014; 79(5): 798-807.e5. doi: 10.1016/j.gie.2013.10.035. PA

Book Chapters

Varpio L, Martimianakis, M.A. Mylopoulos, M. (2015) The Methodologies and Methods of Qualitative Research: Relationships and Implications. In. *Researching Medical Education*. Eds. S. Durning and J. Cleland. Wiley-Blackwell.

Martimianakis, M.A., McNaughton, N. (2014) Discourse, Governmentality Biopower and the Hidden Curriculum, in Hafferty, F. and O'Donnell, J. (Eds) *The Hidden Curriculum and Health Professions Education, US*: Dartmouth College Press

Educational Funding

In the past academic year, the grant capture of our faculty, residents and fellows included 39 awards totaling \$557,770.33 (multi-year funds have been adjusted to reflect monies allotted for one academic year in the calculation of this total) to pursue research in education.

Paediatric Consultants (PC) Education Research Grants, HSC

In the 2014-2015 academic year 5 Paediatric Consultants Education Grants were awarded to faculty members pursuing research which promises to increase understanding of educational phenomenon and contribute to theory building on such topics as research methods, attitudes and perceptions to teaching, career decision-making and technologically enhanced learning. The projects awarded also hold potential to enhance our local educational practices.

PC: Education Research

Needs Assessment for Global Health Training in Canada – a Quality Improvement Project.

Morris S, Zlotkin S, Martimianakis T, Johnson J.

Paediatric Consultants Educational Research Grant. \$5000. September 2014 – August 2015.

Screening practices and factors influencing Autism Spectrum Disorder screening by community Paediatricians. Smile S, Ip A.

Paediatric Consultants Educational Research Grant. \$5000. September 2014 – August 2015.

PC: Education Innovation & Development

A smartphone application designed for teaching children emergency safety skills. Huber J, Young E, Campbell D, Mihalidis A, Walsh C.

Paediatric Consultants Education Innovation and Development Grant. \$5000. July 2015 – June 2016.

Celiac Disease and gluten-free diet teaching:

Is online education effective? Walsh C,

Marcon M, Vresk L. **Paediatric Consultants**

Education Innovation and Development Grant. \$5000. September 2014 – August 2015.

Paediatric Career Decision- Making: The role of a summer pre-clerkship educational program at Holland Bloorview Kids Rehabilitation Hospital. Orsino A, McAdam L, Schwellnus H.

Paediatric Consultants Education Innovation and Development Grant. \$5000. July 2014 – June 2015.

Education Development Fund, UofT

The EDF is a seed fund of the Faculty of Medicine designed to catalyze initiatives that immediately and directly impact University of Toronto Faculty of Medicine education and teaching programs through innovation and development. Proposals require matched funding that can come from a variety of sources such as grants, clinical departments and other. The EDF is a very competitive fund. This past academic year members of our department worked on 3 EDF funded projects:

Resource Stewardship Workshop: Teaching Internal Medicine and Pediatric Residents to Communicate Effectively with Patients to Avoid Potential Harm from Unnecessary Diagnosis Tests. Mukerji G, Schwartz S, Moore Hepburn C, Atkinson A, Wong BMF, Stroud L, Weinerman A. University of Toronto Faculty of Medicine, **Educational Development Fund, University of Toronto**. \$5,823 CAD. Jul 1-2014 - Jun 30-2015

Exploring continuity, integration, context and curriculum during Longitudinal Integrated Clerkship (LIC) Training. Weyman K, Graves L, Bernstein S, Hawa R, Schreiber M, Woods N, Martimianakis T, Mylopoulos M, Kulasegaram K, Nyhouf-Young J, Wright S, Zirkle M, Pittini R. UofT. **Educational Development Fund, University of Toronto**. \$19,075. 2014-2015

Adapting theatre practice to enhance role-playing and communication skills of Occupational Therapy trainees. Walsh C, Stier J, Nelles LJ, Carnahan H. **Education Development Fund, University of Toronto**. \$7502.00. July 2014-June 2015.

The following two EDF proposals were awarded this past academic year, but they are not incorporated into the total number of grants received and funds applied to research in education in 2014-2015, as they will start in the next academic year:

Test-Enhanced Continuing Education - A Randomized Controlled Trial. Feldman ME, Wan M, Martimianakis T, Kulasegaram M, **Education Development Fund**, U of T \$19,250 2015-2016

Relationships as Learning: Understanding how relationship building facilitates patient-centred learning in longitudinal integrated clerkships. Hutchinson C, Kulasegaram M, Martimianakis MA, Bernstein S, Mylopoulos M, Weyman K, Young L, Pittini R. **Educational Development Fund**, UofT \$19,875 2015-2016

PeRCS: The Pediatric Research and Clinical Summer (PeRCS) Program

Prenatal versus Postnatal Diagnosis of Congenital Heart Defects Requiring Neonatal Intervention: a Population-based Study. Jaeggi E, Glick L. **The Pediatric Research and Clinical Summer (PeRCS) Program**. \$3,300. June – August 2015.

Efficacy and Tolerability of the Ketogenic Diet for Drug Resistant Epilepsy in Children. Donner E, Gupta J. **The Pediatric Research and Clinical Summer (PeRCS) Program**. \$3,300. June – August 2015.

A Smartphone application designed for teaching emergency safety skills to neuro-typically developing children and children with autism spectrum disorders (ASD). Huber J, Ho K. **The Pediatric Research and Clinical Summer (PeRCS) Program**. \$3,300. June – August 2015.

Investigations of Congenital Heart Block or Inherited Arrhythmia Syndromes including Arrhythmogenic Right Ventricular Cardiomyopathy. Hamilton R, Klemensberg J. **The Pediatric Research and Clinical Summer (PeRCS) Program.** \$3,300. June – August 2015.

The effect of morphine on neonatal cerebral electrical activity. James A, Milenkovic J. **The Pediatric Research and Clinical Summer (PeRCS) Program.** \$3,300. June – August 2014.

Unravelling the pathomechanism of atypical hemolytic uremic syndrome. Licht C, Pang G. **The Pediatric Research and Clinical Summer (PeRCS) Program.** \$3,300. June – August 2015.

Genes To Functions: How Does Aberrant Phospholipid Metabolism In The Kidney Cause Hemolytic-Uremic Syndrome? Lemaire M, Shan F. **The Pediatric Research and Clinical Summer (PeRCS) Program.** \$3,300. June – August 2015.

SPReSS: The Social Pediatrics Research Summer Studentship (SPReSS) Program
School Based Health Care: A model for improving wait times to developmental assessments and outcomes for children in inner city schools: a cluster randomized controlled trial and qualitative analysis. Freeman S, Chattergoon N. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

The Pediatric Developmental Passport Program: Improving Developmental Healthcare Delivery. Young E, Dunlap H. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

Childhood tuberculosis. Morris S, Jamal A. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

A Smartphone application designed for teaching emergency safety skills to neuro-typically developing children and children with autism spectrum disorders (ASD). Huber J, Ler S. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

The Young Families Program. Hick K, Pascoal E. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

Social Determinants of Preterm Health. Ly L, Rangarajan S. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

An exploration of health equity and quality of life outcomes of families caring for children with medical complexity. Orkin J, Teicher J. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

Transitions in Eating Disorders: The Perspectives of Parents. Toulany A, Thompson S. **The Social Pediatrics Research Summer Studentship (SPReSS) Program.** \$3,300. June – August 2015.

Other Funding Sources

An important component of our educational research activity involves collaborations that span departments and institutions. Furthermore, our faculty were involved in collaborative research projects that were merited with funding from a variety of sources including the Royal College, CIHR, PSI, Royal College, among others.

Canadian Pediatric Clinician Scientist Program. Jones NL. **BC Research Institute for Children and Women's Health**. \$150,000 CAD. April 1 2012 - March 31 2015

Canadian Pediatric Clinician Scientist Program. Jones NL. **Manitoba Institute of Child Health**. \$50,000 CAD. April 1 2012 - Mar 31 2015

Canadian Pediatric Clinician Scientist Program. Jones NL. **The Hospital for Sick Children Foundation**. \$300,000 CAD. April 1 2012 - Mar 31 2015

CIHR Canadian Child Health Clinician Scientist Training Program. Jones NL, Stevens B, Han VKM, Lee SK, Chemtob S. **Canadian Institutes of Health Research**. \$325,000 CAD. April 1 2012 - Mar 31 2015

Development of a listening skill simulation intervention for pediatric rehabilitation therapists. King G, Servais M, Shepherd T, S Moodie, Parker K, Willoughby C, Bolack L, Baldwin P. **SIM-one Simulation Research and Innovation Grant**. Ontario Simulation Network. \$24,855 CAD. 2013 - 2015

Do progressive levels of simulation fidelity enhance colonoscopic skill acquisition and transfer in novice endoscopic trainees? Walsh C, Samir C, Grover. **Canadian Association of Gastroenterology Education Research Grant**. \$7500.00. July 2014 – June 2015.

Exploring Continuity, integration, context and curriculum during Longitudinal Integrated Improving Stroke Rehabilitation Services Through Evidence-based Practice and Knowledge Translation: Distinguishing Features and Determinants of Expert Stroke Evidence-based Rehabilitation Practice. Thomas, A, Mylopoulos M, Rapport S, McCluskey A, Vachon B, Meno A, Rochette A. **Centre for Interdisciplinary Research in Rehabilitation of Greater Montreal**. \$30 000 CAD. 2014-2015.

Exploring the Interface of Evidence Based Practice and Compassionate Care. Baker L (Co-PI), Ng St (Co-PI), Gold K, Martimianakis MA (S-INV). **Arnold P. Gold Foundation**. \$27,500. 2014-2015.

Integration & Identity: Understanding the Mechanisms that Foster a Holistic Physician in Longitudinal Integrated Clerkships. Bernstein S (Co-PI), Kulasegaram K (Co-PI), Martimianakis T, Mylopoulos M, Hawa R, Hutchinson C, Weyman K, Nyhof-Young J, Graves L, Pittini R. **2015 AMS Phoenix Call to Caring Grants**, Faculty of Medicine, University of Toronto. \$29,500. 2015

“Its not just about getting along”: Discourses of collaboration and team learning. Martimianakis M. A., (PI) Mylopoulos M, Schneider R, Tse S. **Royal College CanMeds Education Grant**. \$23,910. 2014-2016

Learning the Interpretation of Point of Care Emergency Ultrasound Images. Kwan C, Boutis K, Fischer J, Pecaric M, Pusic M. **Academic Pediatric Association**. \$10,000 CAD. Mar 2014 - May 2015

Learning retention and the timing of refresher education after the deliberate practice of radiograph interpretation. Boutis K. **Royal College of Physicians and Surgeons of Canada**. \$13,333. December 2011- December 2014.

Residents' experience with research during their postgraduate training: A qualitative study. Walsh C, Devine L, Stroud L, Stenfors-Hayes T, Cil T, Ginsburg S, McDonald-Blumer H. CanMEDS Research and Development Grant, **Royal College of Physicians and Surgeons of Canada**. \$22,544.00. July 2014 – June 2015.

The interaction of children's education and health policies with the relations of children, parents, educators and health professionals: Implications for health policy, health professions education, and practice. Ng S, Phelan S., Miller F, Leslie K. **Dean's Fund**. \$20,000. 2014-2016

Uncovering and sharing evidence for compassionate care. Baker L (Co-PI), Ng St (Co-PI), Gold K, Martimianakis MA (S-INV). Associated Medical Services. \$10,000. 2014-2015

AWARDS

National

Bernstein, S: Winner of 2015 National CAME/ACEM Certificate of Merit Award

University

Martimianakis, Maria Athina (Tina): **Wilson Centre Mentorship Award** 2013-2014, in recognition of outstanding individual mentorship in the Wilson Centre Fellowship Program.

Lau, E: Winner of the **Integrated Medical Education (IME) Award** for excellence in community-based clinical teaching, Faculty of Medicine, University of Toronto, 2015.

Department of Paediatrics, University of Toronto

Blanchette, N: Winner of the **Undergraduate Community Teaching Award** in recognition of excellence in the teaching of medical students within community-based hospitals and offices, June 2015.

Bonifacio, J: Winner of the **Continuing Medical Education Award** for excellence in teaching in a Department of Paediatrics/University of Toronto Continuing Education sponsored event, June 2015.

Fischer, J: Winner of the **Continuing Medical Education Award** for excellence in course coordination in a Department of Paediatrics/University of Toronto Continuing Education sponsored event,,June 2015.

George, S: Winner of the **Continuing Medical Education Award** for Special Commendation for Program Planning in a Department of Paediatrics/University of Toronto Continuing Education sponsored event, June 2015.

Gordon, M: Winner of the **Postgraduate Community Teaching Award** in recognition of excellence in the teaching of paediatric residents within community-based hospitals and offices, June 2015.

Kempinska, A: Winner of the **Subspecialty Teaching Award** for commitment to excellence in teaching the subspecialty residents and clinical fellows, The Hospital for Sick Children, Toronto, June 2015.

Kirby-Allen, M: Winner of the **Continuing Medical Education Award** for excellence in long-term contribution in a Department of Paediatrics/ University of Toronto Continuing Education sponsored event, June 2015.

Newman, C: Winner of the **PERLs Award (Paediatric Educational Resident Lecture Series Award)** for excellence in teaching at the Paediatric academic sessions, June 2015.

Schneider, R: Winner of the **Faculty Mentorship Award** for outstanding approach to mentoring, June 2015.

Silver, S: Winner of the **Lionel Weinstein Clerkship Teaching Award** for excellence in clerkship teaching, June 2015.

Talarico, A: Winner of the **R.H.A. Haslam Preclerkship Teaching Award** for excellence in preclerkship teaching, June 2015.

Weinstein, M: Winner of the **Harry Bain Award** for excellence in teaching as nominated by core paediatric residents, June 2015.

Weinstein, M: Winner of the **Marvin Gerstein Award** for excellence in teaching as nominated by core paediatric residents, June 2015.

POWER TEACHING AWARDS

For outstanding contributions for Postgraduate Teaching

Dr. Stacey Bernstein
Dr. Joey Bonifacio
Dr. Trey Coffey
Dr. Adam Rapoport
Dr. Lillian Sung

Divisional/Hospital: Residents/Fellows

Christopher Ondaatje Award

To a senior resident for excellence in clinical teaching as nominated by core paediatric residents
Dr. Soumitra Tole (PGY3)
Dr. Jennifer Smith & Kim Zhou (PGY4)

CanMEDS Award – (Core Trainee)

Dr. Shazeen Suleman

Clinical Award – The Saunders Prize

Dr. Erica Burry

Department of Paediatrics Research Day

Core Paediatrics

Winners (tie): Jennifer Tam, Peter Gill

Basic Science – Junior Trainee

Winner: Michael Norris (Respiratory Medicine)

Basic Science – Senior Trainee

Winner: Jack Brzezinski (Haematology/Oncology)

Clinical Science – Junior Trainee

Winner: Sarah Hampson (Endocrinology)

Clinical Science – Senior Trainee

Winner: Amy Shafey (Neonatology)

Leadership in Education Beyond The Department of Paediatrics

Several of our faculty members currently hold key leadership positions in education beyond our department, demonstrating our growing capacity to inform educational practice more broadly.

PAEDIATRICS FACULTY HOLDING LEADERSHIP POSITIONS OUTSIDE THE DEPARTMENT	
Dr. Adelle Atkinson	Acting Associate Dean of Admissions Chair, Power Steering Committee Member, UG Admissions Committee
Dr. Hosanna Au	Paediatrics Lead, PreClerkship Program
Dr. Elly Berger	Co-Director of the Portfolio Course (with Mat Leave coverage by Dr. Susanna Talarico) Medical Director, AboutkidsHealth
Dr. Stacey Bernstein	Associate Interim Academy Director Mississauga Academy of Medicine Deputy Clerkship Director, University of Toronto Clerkship Director, University of Toronto
Dr. Nicola Jones	Principle Investigator and Lead, Canadian Child Health Clinician Scientist Program
Dr. Jonathan Kronick	Chief of Education of the SickKids Learning Institute, Chair of the Education Subcommittee and the Continuing Professional Development Committee of the Canadian Paediatric Society
Dr. Karen Leslie	Director of Centre for Faculty Development, University of Toronto (2009-)
Dr. Tina Martimianakis	Associate Medical Services (AMS) Phoenix Project Management Committee and Toronto Rep AMS Lexicon Working Group (Co-Chair with Rachel Ellaway)
Dr. Jonathan Pirie	Co-Lead for the procedural lab in Learning Institute Simulation Program Chair, Board of Examiners, Faculty of Medicine
Dr. Seetha Radhakrishnan	Director of the Electives Program, University of Toronto
Dr. Norman Rosenblum	Associate Dean, Physician Scientist Training, University of Toronto.
Dr. Jay Rosenfield	Vice Dean of Undergraduate Medical Education at the University of Toronto 2005-) FMEC UGME Steering Committee FMEC PG Steering Committee
Dr. Suzan Schneeweiss	Continuing Professional Educator for the Royal College of Physicians and Surgeons of Canada Academic Director, Continuing Professional Development, Faculty of Medicine, University of Toronto
Dr. Rayfel Schneider	National CaRMS Paediatric Subspecialty Match Steering Committee
Dr. Brian Simmons	Director, Standardized Patient Program, University of Toronto

SPOTLIGHT ON PACT (PAEDIATRIC ADVANCED CARE TEAM)

The last 4 years have been marked by great change and accomplishment for the SickKids palliative care service, and its Medical Director, Adam Rapoport. Now known as the Paediatric Advanced Care Team (PACT), the team has been successfully spreading the message that palliative care seeks to do more than help patients 'die well'; it also seeks to help them 'live well', every day, until the very last moment. As a result of this emphasis, and important new initiatives, PACT has experienced a 138% increase in its annual referral rate since 2010.

One of the more recent important clinical additions to the team is the Pathways Grief Support Program, consisting of our 2 Grief Support Coordinators, Lori Ives-Baine and Caroline Bennett. Pathways offers support to grieving parents and siblings, as well as our own SickKids staff, before and after a child dies. The Program has hosted multiple events, including therapeutic Family Days, coffee hours for bereaved parents to connect, mindfulness sessions for staff and families, and a hospital-wide memorial ceremony that saw nearly 200 families and staff commemorate the lives of



*From left to right:
Gurjit Sangha
Rebecca Williams
Dr. Christine Newman,
Lori Ives-Baine
Dr. Adam Rapoport
Norah Shaughnessy
(currently on mat leave),
Dr. Kate Nelson
Dr. Kevin Weingarten*

our recently deceased patients. Another recent clinical innovation is the PACT Community Outreach Nurse Practitioner (NP) – a pilot project between SickKids, Toronto Central CCAC and Emily’s House Children’s Hospice. Rebecca Williams, the NP filling the role, is working to build confidence and capacity among community healthcare providers caring for our patients at home at the end of life. Becca has been focusing on 3 main areas: (1) ensuring a smooth transition of care from the hospital to the community; (2) providing mentorship to community providers when challenges arise; and (3) helping families transition to Emily’s House.

Educational efforts aimed at integrating and improving palliative care services for children is an important PACT initiative. The past fiscal year saw record numbers of applicants for our 4-day course, offered biannually to clinicians and other staff working with seriously ill children. In addition, 3 PACT physicians received awards for their outstanding teaching during the 2014-2015 academic year – Dr. Kevin Weingarten was given the Academic Half-Day teaching award by the Division of Haematology/Oncology fellows; Dr. Christine Newman received the Award for Teaching Excellence for her sessions as part of the Pediatric Resident Lecture Series; and Dr. Adam Rapoport received a POWER Teacher award for his contributions to Postgraduate teaching.



PACT has also made great strides in the area of research. In the past 3 years, members of PACT have collaborated on more than \$2 million worth of grants. Kim Widger, PACT Nursing Research Associate, and Dr. Adam Rapoport are co-leading a national effort to improve the quality of palliative care across Canada. Dr. Kate Nelson’s systematic review on family experiences with feeding tubes, published in *Pediatrics* earlier this year, has garnered a lot of attention for the new and important perspectives that will assist both clinicians and parents in their decision-making.

The 2014-2015 fiscal year has been a great one for PACT. We’ve worked with more patients and families than ever before to ensure that SickKids doesn’t just add time to a child’s life, but also life to a child’s time.

Number of new referrals during the fiscal year, April 1, 2014 to March 31, 2015:

Referrals to PACT	180
Referrals to Pathways Greif Support Program	71
TOTAL	251

Events held throughout the year:

Bereaved Family Day Event May 10th 2014 – allows bereaved families at SickKids to connect with other families, share in your grief as a family, celebrate the memory of your child, and learn how to support your grieving children (if applicable).

Bereaved Family Remembrance Picnic – August 17, 2014. This will be an informal gathering for families to connect with one another. There will be a resource table and grief support coordinators who will be available to speak families. Free-flow activities for children will be facilitated by volunteers to allow parents to connect with one another.

Hospital-Wide Family Candle Lighting Memorial Service – November 22, 2014 - This formal event is an opportunity for bereaved families to honour the life of their child with other families. Their child's name will be read aloud as part of the service and families will have an opportunity to participate in the rituals associated with the variety of holidays celebrated by families, and create a lasting legacy in memory of their child.

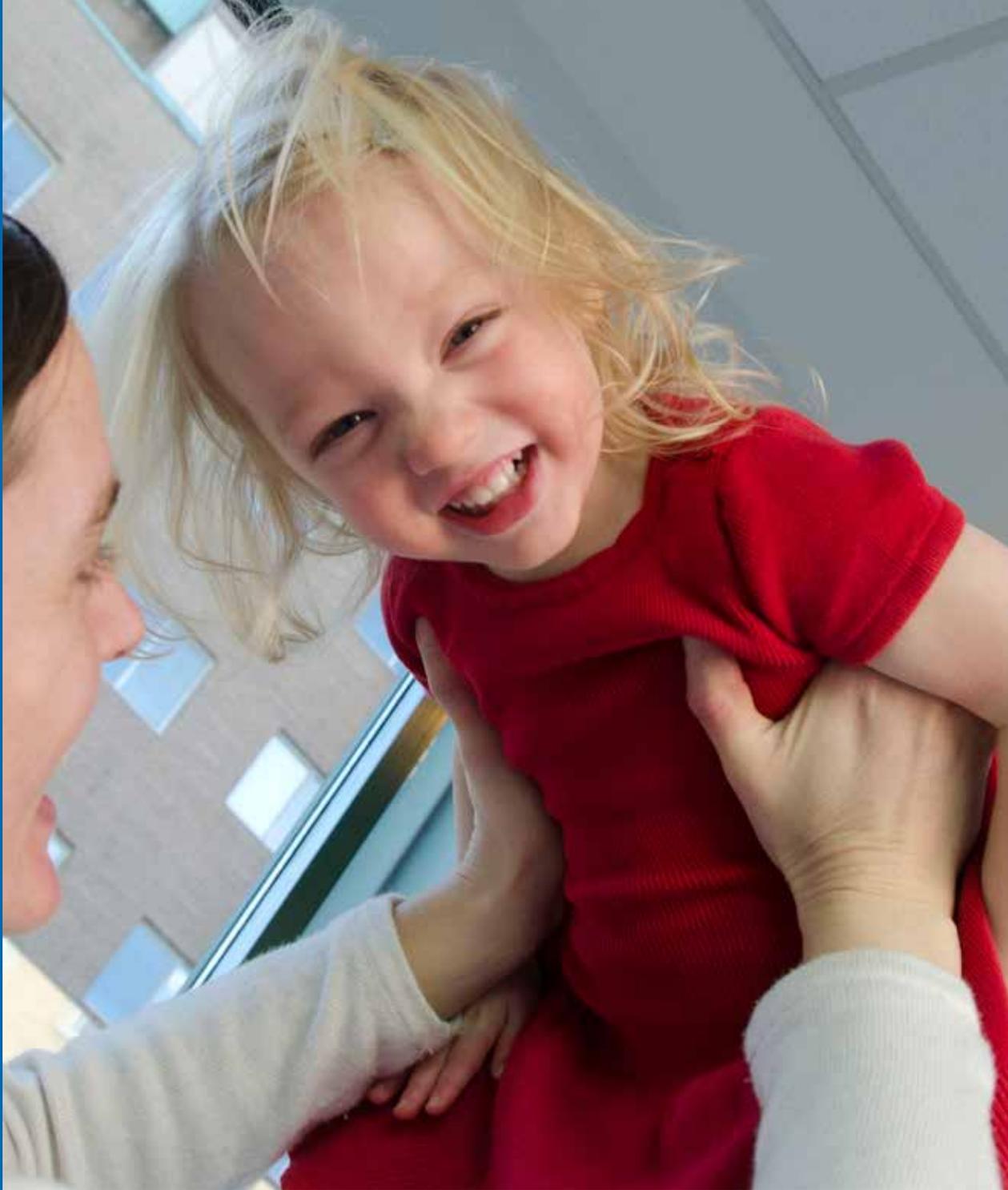
Griever's Tool for Mindfulness (for families) – March 1st, 2015 -Andrew Blake, mindfulness leader, will guide bereaved families in awareness and help parents work with tools to help you in those difficult times. From the lessons in this workshop, parents are learning to be more patient and present with yourself and others, to accept what is with greater ease, and lastly to trust in the tenderness of your compassionate heart.

Coffee Hour – January 20, 2015 – Allows bereaved parents to connect in an informal setting. Occurs bi monthly at various coffee shop locations around the city. Grief Support Coordinators are available and bring along resources for parents

Clinician's Tool for Mindfulness (for staff) – March 1st, 2015 – this session was held for caregivers also run by Andrew Blake (who did the parent one). By the end of this 3 hour session you will learn:

- the benefits & practices of mindfulness that support you in creating inner balance;
- to distinguish between healthy and unhealthy empathy;
- the role of mindfulness & compassion in sustaining your well-being; and how the power of “pausing” and “presence,” effects both you and your patients

Pediatric Hospice Palliative Care Course – This course is a four (4) day workshop designed for all professionals and volunteers who work with dying children and their families in hospitals or in the community. –May 12, 13, 26 & 27, 2014 and September 23, 30, October 7 and 14, 2014



Department of Paediatrics
The Hospital of Sick Children
555 University Avenue, 1436 Black Wing
Toronto ON M5G 1X8

<http://www.sickkids.ca/Paediatrics/>

Phone: 416.813.6120 ex 206120
email: paediatrics.operations@sickkids.ca

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