“The secret of joy in work is contained in one word - excellence. To know how to do something well is to enjoy it.”

Pearl S. Buck
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Chair’s Report

This past year, both individually and collectively, we have reaffirmed the Vision and Mission of the Department of Paediatrics at The Hospital for Sick Children (SickKids) and University of Toronto.


**Our Mission**: To continuously evolve as one of the world’s leading paediatric academic departments through:

- excellence in clinical care
- state-of-the-art education
- cutting edge research

Our Vision and Mission are in harmony with those of SickKids and the University of Toronto and set very lofty academic goals for our faculty.

These goals are further refined in our Strategic Priorities which state that we will:

- Provide leadership in clinical care, education and research to promote child health;
- Develop expertise to ensure collaborative and co-ordinated care for children with complex health care needs;
- Establish sustainable resources to support current and future delivery of excellence in education;
- Develop and sustain a cadre of well-trained clinician researchers; and
- Advocate for principles that the generation of new knowledge and its application are fundamental to excellence in child health care.

Our success as a department is being measured against these priorities. A few examples of each will suffice:

**LEADERSHIP**

There is more than ample evidence of departmental leadership at the local, national and international levels. At the University, recent appointments from our department include, Norman Rosenblum (Nephrology) as Director of Clinician Scientist Training Programs and Karen Leslie (Adolescent Medicine) as Director of the Centre for Faculty Development. At the national level, Phil Sherman (Gastroenterology, Hepatology and Nutrition) has become Director of the Institute of Nutrition, Metabolism and Diabetes at CIHR, while Bob Hilliard (Paediatric Medicine) is resident-Elect of the Canadian Paediatric Society. These contributions have been recognized with prestigious awards, including two from the Paediatric Chairs of Canada to Norman Rosenblum and Sue Tallett (Paediatric Medicine) for their respective roles in program development in research and education, and the Allan Ross Award, the CPS’s most prestigious honour, to Victor Blanchette (Hematology/Oncology) for lifetime achievement.

Forty-one members of the department participated in a highly successful Paediatrician Leadership Course at the university’s Rotman School of Management, and another 12 to 15 will participate in the coming year. That leadership does not require a formal title is evidenced by numerous faculty members whose contributions speak volumes about their innovation and commitment: the rapid evolution of the complex care and complex obesity initiatives (see below) are just two examples.
COMPLEX HEALTH CARE NEEDS

No one would argue that we are seeing children in our institution with increasingly complex health care needs: a small number of children with remarkably complicated medical problems require a large proportion of our resources. Coordination of care has become an essential component as have appropriate studies to help us understand how best to provide care for these children. The Norman Saunders Complex Care Initiative has taken off exponentially under the leadership of Eyal Cohen and Jeremy Friedman (Paediatric Medicine), as has the Complex Obesity Program under the guidance of Jill Hamilton (Endocrinology), Brian McCrindle (Cardiology) and Catherine Birken (Paediatric Medicine). These are but two examples of increasingly collaborative health care programs in our hospital, programs which break down the barriers between divisions and departments in order to address the best interests of their patient populations.

EXCELLENCE IN EDUCATION

There has, once again, been a tremendous amount of activity in the area of educational scholarship. Tina Martimianakis has joined the department as our first education scholar, working very closely with both the hospital’s Learning Institute and the Wilson Centre for Education Research at the University. In 2008-2010, Adelle Atkinson (Postgraduate Medical Education) and Shelly Weiss (Neurology) joined the Education Scholars Program in the Centre for Faculty Development, and Catherine Walsh (Gastroenterology, Hepatology and Nutrition) received the first departmental Research Fellowship award. The opening of the state-of-the-art Simulation Lab is a major step forward in educating trainees at all levels. Finally, the challenge of ongoing excellence in postgraduate and undergraduate education is further improved by the enhancement of distributed medical education throughout the university’s affiliated teaching hospitals. The number of teachers and educators continues to expand. This portfolio is more than just the sum of its part due to the leadership of Rayfel Schneider, Associate Chair, Education.

SUPERB RESEARCH

Despite the financial gloom, our departmental scientists and investigators have continued to be highly productive. Our department produces over 750 manuscripts per year, generates about $40 million in research grants, is involved in innumerable graduate student support programs and serves in different capacities in scientific societies, on review boards, etc.

David Naylor, University of Toronto President, recently measured some research metrics and found our department to be in the very highest rankings of research productivity across North America (in papers and citations in Canadian and all publicly-funded American universities as well as when the privately-funded American universities are factored in). Not a bad record!

INNOVATION

With all the scholarship in the department, it is not surprising that new approaches to patient care, whether those with complex care needs, strokes, epilepsy, congenital heart disease, cancer, etc., are being developed. At a time of fiscal restraint, we cannot overlook the need for better therapies.

Our department now has over 220 full-time members spread across four hospitals, about 180 of us at SickKids, the remainder in Neonatology at Mount Sinai and Sunnybrook, and those in Developmental Paediatrics at Bloordview Kids Rehab. And we cannot forget the hundreds of part-timers who contribute so wonderfully to our education and care efforts. The support we receive from Mary Jo Haddad, SickKids CEO and her team, and Cathy Whiteside, Dean of the Faculty of Medicine and her team, can never be overstated. It is true to say that our collaborative efforts at both the hospital and university are quite superb, perhaps at a level never previously reached.

Our success is about our people, their values and their being valued.

Each of our faculty members, trainees and administrative staff should not forget how much their efforts are appreciated and how much they each contribute to this wonderful family called the Department of Paediatrics.

DENIS DANEMAN, MB, BCh, FRCPc
Chair of Paediatrics, University of Toronto
Paediatrician-in-Chief, The Hospital for Sick Children
R.S. McLaughlin Chair in Paediatrics, at The Hospital for Sick Children
In one of the illustrations that Dr. Eric Bouffet uses when he speaks about the neuro-oncology program at The Hospital for Sick Children, he uses a flower to describe his patients. Each petal of the flower represents a key player, including family, neuro-oncologists, neuro-psychologists, neurosurgeons, nurses, social workers, psychiatrists, neuropathologists, radiation oncologists, neurologists, neuroradiologists, endocrinologists, and physiotherapists, occupational therapists or speech therapists.

That’s how many different caregivers a child with brain cancer needs, and in the paediatric neuro-oncology program at Sickkids, miraculously they all work together.

There is no explanation for what causes brain tumours in children. In five per cent of cases, there appears to be some genetic explanation, says Dr. Bouffet. Will we ever be able to prevent brain tumours, with a vaccine, for example? That’s unlikely, he says. Most of his patients are born with the tumour, and the best we can do is to develop better and more effective treatments and find better ways of transitioning paediatric patients into adult care.

Trained as an intensivist at Hôpital Debrousse in Lyon, Dr. Bouffet was involved in the first paediatric bone marrow transplant unit in France in the early 1980s. While enjoying the technical side of the procedure, he was hoping to work in an area where he could be acquainted with patients over a longer period of time. Neuro-oncology provided this opportunity and, moreover, it was an evolving field.

Wanting to learn more about paediatric cancer care in other places, Dr. Bouffet received a grant and visited a number of centres in Great Britain – on bicycle. A few years later, he joined the Bristol Royal Hospital for Sick Children.

In 2000, the opportunity for innovation and collaboration drew him to SickKids. At the time he was an oncologist at one of the the biggest paediatric neurooncology unit in the UK, the Royal Marsden Hospital. His research both in France and the UK had attracted attention, and SickKids was interested in hiring him.

When the recruiters asked him, “What can we do to have the best neuro-oncology service in the world?” Dr. Bouffet was awed by SickKids’ willingness to accommodate new staff. Although he knew he wouldn’t get everything on his wish list, he knew that he could count on team work in Toronto.

He started immediately on his plans for a comprehensive team that would provide patients with optimum care. The many specialists all had to get used to spending a considerable number of hours in meetings, but it was time well spent because today the neuro-oncology program at SickKids is considered among the leading in the world.

In 2002, Dr. Bouffet started regular teleconferences with colleagues from other centres which led to a consortium of 17 Canadian institutions involved in brain tumour research. He has also built a strong relationship with St. Jude Children’s Research Hospital’s in Memphis, which shares SickKids’ stellar reputation in paediatric neuro-oncology, and he has established collaborations with countries with limited resources, in particular Jordan and Morocco.

SickKids keeps Dr. Bouffet busy. He’s almost surprised when he looks back: “Nine years ago, I would never have thought that I would be where I am today.”
With the steady progress in medicine, new therapies and cures are being discovered, offering people hope where none existed before. At the same time, new challenges have arisen. To understand these problems and find solutions, the Department of Paediatrics welcomes a new generation of physicians, people like Dr. Eyal Cohen who, at 35, is Director of the Complex Care Program at SickKids.

Dr. Cohen and his team are inspired by Dr. Norman Saunders (1946-2007), a well-known and highly respected paediatrician at SickKids whose dream was to improve care for society’s most vulnerable and medically fragile children. An initiative in his name, which was started before he died, is making great strides, thanks in large part to the complex care team.

In a recent presentation, Dr. Cohen shared some statistics that compare survival rates among 1,178 infants of extremely low-birth weight with the rate of neurodevelopmental disability.

In 1982-89, about 50 per cent of infants weighing between 500 and 999 grams at birth died; by the time they were 20 months old, 15 per cent of the surviving infants showed impaired neurodevelopment and 35 per cent were developing normally. From 1990 to 1998, the corresponding rates were 35 per cent, 25 per cent and 40 per cent.

Good news, bad news and good news.

It’s the bad news the complex care team is working on. Their task is not to find a cure for conditions such as Down syndrome, birth asphyxia, or cardio-facio-cutaneous syndrome, made famous by Walker Brown whose journalist father, Ian, has written extensively about the syndrome and its effects on Brown and his family.

Simply put, Dr. Cohen and his colleagues are looking for better ways to provide care for children with multiple, but not necessarily related, diseases.

In 2008, the complex care team embarked on a pilot study at William Osler Health Centre in Brampton and Soldiers Memorial Hospital in Orillia to test a model of care that took a novel approach to the coordination of care. It was a model that aimed to break down the walls between services by creating partnerships of caregivers and building a plan around each child that relieved families of the need to repeatedly explain, fill in forms, carry the patient’s history, and so on. The pilot is showing early evidence that with the right team, the right partners, the right plan, even myriad services can be navigated smoothly and the quality of life for the whole family transformed.

Collaboration and integration are key to the Saunders Initiative and equally important to current health care policy. When the Toronto Central Local Health Integration Network established its “value and affordability task forces,” SickKids contributed to a new model for complex care that was accepted by the CEOs of all major health care organizations in the city. Also, last winter, the Ontario Ministry of Health convened an expert panel on paediatric complex care co-ordination and the government responded with further funding for target populations, starting with children with complex severe obesity.

For more information, look for complex care clinic on www.sickkids.ca or see AboutKidsHealth.ca.
Obesity is a problem that health care workers are watching with increasing concern.

Currently, 25 per cent of children in Ontario are overweight or obese and more and more kids are gaining excess weight. The number of overweight children keeps going up, potentially leading to a rise in illnesses such as Type 2 diabetes, heart disease, stroke, hypertension and cancer.

According to the Ontario Ministry of Health Promotion, obesity cost Ontario $1.6 billion in 2001: $647 million in direct costs and $905 million in indirect costs (or 2.2 per cent of the total cost of health care).

Dr. Jill Hamilton, an endocrinologist at SickKids, has resolved to help children with the most severe cases of obesity. She is not looking for a magic answer to each and every case but her innovative work in one area may lead to progress in others.

After training in paediatrics at SickKids from 1992 to 1996, Dr. Hamilton did a fellowship in endocrinology and saw patients with a variety of illnesses suffer from obesity. She focused on obese children who had been treated for tumours in the hypothalamus and the pituitary gland.

These children visited different specialists for various aspects of their illness – neurosurgeons for the tumour, ophthalmologists for their sight and endocrinologists for pituitary hormones – however, Dr. Hamilton noticed that no one was really addressing their main concern: weight gain.

In 2006, she started an interdisciplinary clinic with a dietician, psychologist, endocrinologist, social worker and psychologists to understand the mechanisms of weight gain and help these children achieve healthier body weights. The clinic sees children who have been treated for craniopharyngioma and other brain tumours. The damage to their hypothalamus during treatment can cause both increased insulin production and incessant hunger. About 50 per cent experience dramatic weight gain in the first six months after surgery.

Dr. Hamilton and her team are exploring a range of solutions from low-carbohydrate diets to medications that lower insulin secretions and laparoscopic banding (lapband) surgery that help children feel full before they eat too much.

Now, with a $2.5 million Research Team Grant in Childhood Obesity from the Canadian Institutes of Health Research, Dr. Brian McCrindle (principal investigator), Dr. Hamilton and Dr. Patricia Parkin (co-principal investigators) and their colleagues are conducting several studies. In one, they are conducting detailed physiologic assessments of children to evaluate mechanisms of weight gain and response to treatments.

In another, they are performing studies in community physicians’ offices to prevent obesity in preschoolers. To learn more about these activities see http://obesityinyouth.org.
Dr. Andrew Redington was recruited by SickKids from Great Ormond Street Hospital in London to become Head of Cardiology in Toronto in 2001.

Working closely with the newly appointed Head of Cardiac Surgery, Dr. Glen Van Arsdell, his first task was to modernize the way child heart disease is managed at SickKids by building a more integrated team of excellence. With a generous donation from the Labatt Family, the cardiac program developed into a full-fledged centre of excellence with six new research fellowships and two new chairs.

An endowment fund was also created and the income from this fund is used as seed funding for research projects, clinical initiatives and projects that benefit the entire Heart Centre, such as the development of the Heart Centre Biobank and a tissue repository. The latter was established under the leadership of Dr. Seema Mital and has already become one of the largest in the world. It will provide for innovative research into the genetic causes of heart disease, responses to disease and possible treatments.

Dr. Redington is convinced that if you invest in infrastructure and people, you get good results. He cites a comparison of the number of publications in the top clinical journals in the past 10 years which shows Children’s Hospital Boston at the top, SickKids as second and Children’s Hospital of Philadelphia third. However, the list doesn’t show that Boston has well over 70 cardiologists and Philadelphia over 60, compared to SickKids’ 18. “Pound for pound ours is the best paediatric heart centre in the world,” Dr. Redington says.

A perfect example of the benefits of investment in infrastructure and people can be seen in the Cardiac Diagnostic and Interventional Unit, one of the largest in North America and one of the most innovative. Dr. Lee Benson, Director of the CDIU, and his colleagues have always been at the forefront of interventional cardiac catheterization which applies catheter-based techniques to address intra and extracardiac lesions, both corrective and palliative. These techniques can be used to stabilize ill newborns so they can have elective surgery when they are older and better prepared to withstand the surgical intervention.

The CDIU is one of a handful of children’s cardiac catheterisation suites to incorporate a state of the art magnetic resonance scanner. Radiologist Dr. Shi Joon Yoo and his team are exploring technologies that use data from medical resonance imaging to make three-dimensional plastic heart models that you can hold in your hand. With such replicas, a surgeon can study the relationships of the vessels and chambers of the heart prior to surgery and make precise plans for the procedure, limiting the time at the operating table and hopefully improving the results.

Dr. Redington also has his own research interests. As principal investigator of a Leducq Foundation funded Transatlantic Network of Research Excellence, he works with Drs. Christopher Caldarone, Gregory Wilson, John Callahan and Michael Tropak and scientists in Denmark and U.K. to study a novel way of protecting the heart called “remote ischemic preconditioning.” This simple method has been shown to reduce heart damage in children and adults undergoing heart surgery and halves the size of heart attacks in adults being transported to hospital for emergency angioplasty.

A patent for preconditioning devices has been filed and if the product is marketed successfully, it will save lives and provide a source of revenue for the research team and for SickKids. “This is what the Heart Centre and SickKids is all about,” says Dr. Redington. “Investment in good ideas and good people, establishment of expert integrated clinical and research teams and rapid translation of those ideas to benefit patients should be the primary aim of everyone that walks through the door in the morning.”
When Dr. Gabrielle deVeber is introduced as a speaker, she is often called “the international expert on childhood stroke.” This is not hyperbole: she is head of the only hospital-based paediatric stroke program in Ontario, while the other three Canadian paediatric stroke programs were started by former trainees of hers.

She enjoys talking about her work because, she says, each time she does, more people learn that children can have strokes and more lives are saved.

A member of the Centre for Brain and Behaviour, Dr. deVeber was named full professor in the Division of Neurology this year and promoted to Senior Scientist in the Research Institute’s Child Health Evaluative Sciences.

Her interest in paediatric strokes started at the McMaster Department of Paediatrics in 1991 when she had three stroke patients in one ward. She tried to learn more about the condition but there was hardly any literature. A year later, with her mentor Dr. Maureen Andrew, she launched a registry for childhood strokes, which included 1,300 children from 15 hospitals across Canada by 2002.

In 2003, she and collaborators from the United States and Great Britain started the first international paediatric stroke inquiry, which has published widely and received a $7.8 million grant from the National Institutes of Health for 2009-2014.

Dr. Moshe Ipp has worked at SickKids for 37 years. His appointment as a full professor in the Department of Paediatrics at the University of Toronto is not only a testament to the quality of his teaching and research but also speaks to the value the department places on community-based paediatrics. His accomplishments in Office-Based Research earned him the Practitioner Research Award of the American Academy of Pediatrics in 1995. In 2000, he was honoured with the SickKids Continuing Medical Education award.

A native of South Africa, Dr. Ipp joined SickKids as a junior resident and did a fellowship in immunology. He was appointed as Assistant Professor in 1978 and Associate Professor 10 years later.

In 1978, he was appointed on staff at SickKids and at the same time opened a community paediatric practice. During the academic year he finds time for teaching, research, and committee work and has published 53 peer-reviewed manuscripts.

There is little evidence of Dr. Ipp running out of breath. Residents’ teaching evaluations are glowing and describe him as “a fabulous role model and mentor; expects more, challenges us to think on our feet; the best ASCM tutor this year; teaching style is upbeat and his passion for medicine is clear.”
Dr. Miriam Kaufman is a teenage doctor par excellence. She works with adolescents around issues of transition, coping, adherence, sexuality and reproduction, substance use and body image. If she has a knack for getting along with teens it may be because she, at their age, was a high school dropout and a full-time participant in the U.S. anti-war movement.

She returned to school and then enrolled at Duke University in North Carolina where she completed a nursing degree. After an M.D. at Queen’s and core residency at McMaster, she did her third year at SickKids in 1982-83 and discovered adolescent medicine. She decided to continue her career in Toronto and became a leading scholar, educator and advocate for teens with a chronic illness or disability.

Promoted to full professor for her creative professional activities, Dr. Kaufman has been instrumental in several new initiatives, including the Good 2 Go Transition Program and the MyHealth Passport introduced two years ago. She hopes to give more attention to the transition experience from paediatric to adult care, which can be a lonely road for patients.
“The eye only sees what the mind is prepared to comprehend.”

Henri Bergson, French Philosopher
**MEDICAL EDUCATION TRAINING AND SCHOLARSHIP IN THE DEPARTMENT OF PAEDIATRICS**

Education is one of the core strengths of the Department of Paediatrics, University of Toronto. Our department offers a rich exposure to paediatric medicine for undergraduate students, residents, and fellows and attracts trainees from around the world. In recognition of the commitment of our teachers and educators, the following section documents their achievements and outlines promising new directions for research, innovation, teaching and application in medical education.

**ORGANIZATION**

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, to increase the recognition of the educational achievements of our faculty within the department and beyond, to facilitate the academic promotion of faculty and the career development of clinical educators and teachers. It also serves to establish mentorship opportunities for faculty members engaged in educational activities, 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.

**MEDICAL EDUCATION ADVISORY COMMITTEE MEMBERSHIP 2008-2009**

Rayfel Schneider (Chair)
Adelle Atkinson
Stacey Bernstein
Robert Hilliard
Ann Jefferies
Karen Leslie
Lorelei Lingard
Tina Martimianakis
Jonathan Pirie
Angela Punnett
Suzan Schneeweiss
Neil Sweezey
Shelly Weiss

**DEPARTMENTAL PROGRAM DIRECTORS**

Dr. Adelle Atkinson, **Director, Postgraduate Education**
Dr. Stacey Bernstein, **Director, Undergraduate Education**
Dr. Suzan Schneeweiss, **Director, Continuing Education**

**EDUCATIONAL ADMINISTRATIVE STAFF**

Mary Antonopoulos, **Undergraduate Education**
Joanna Barnes, **Undergraduate Education**
Susan Jenkins, **Administrator**
Sandra Layno, **Postgraduate Education**
Nicole Winters, **Continuing Education**

**EDUCATION RESEARCHERS**

Lorelei Lingard, PhD, **Education Researcher, Learning Institute**
Tina Martimianakis, PhD(abd), **Education Researcher, Department of Paediatrics**
Maria Mylopoulos, PhD, **Education Researcher, Learning Institute**
Kathryn Parker, PhD, **Education Consultant, Learning Institute**

**FACULTY PURSUING ADDITIONAL EDUCATIONAL SPECIALIZATION IN 2008-2009**

Adelle Atkinson (Education Scholars Program)
Karen Leslie (Masters in Education)
Angela Punnett (Masters in Education)
Melinda Solomon (Masters in Education)
Anu Wadhwa (Masters in Education)
Shelly Weiss (Education Scholars Program)

**TRAINEES PURSING SPECIALIZATION IN EDUCATION RESEARCH IN 2008-2009**

Vicky Breakey (Masters in Education)
Eli Berger (Masters in Education)
Clare Hutchinson (Masters in Education)
Catherine Walsh (PhD in Education)
EDUCATIONAL TRAINING AND LEADERSHIP

A. Undergraduate Education
Under the leadership of Stacey Bernstein, our undergraduate education program is growing and developing new approaches to socializing medical students to paediatric medicine. There are paediatric experiences for students throughout the four years of medical school training. There are currently 224 students in the first year class, with enrolment expected to increase to 259 students beginning 2011. Students are currently placed in three academies with each one associated with Toronto Teaching hospitals: Peters-Boyd (Sunnybrook Health Sciences Centre, Women’s College Hospital and North York General Hospital, Fitzgerald (St. Michael’s Hospital), Wightman Berris (Mount Sinai and University Health Network) and a fourth, the Mississauga Academy will be rolling out their academy in 2011 and will ultimately accommodate 54 students per year.

Traditionally, there has been no formal paediatric curriculum in year one in medical school. Last year, we were very excited to launch the Paediatric Longitudinal Experience (PedLE). This experience was offered to 60 students over three half days. The students were matched with community paediatricians, community hospitals and also 33 of the SickKids faculty. The program focused on three objectives: increase students’ knowledge in the area of paediatrics; make them more comfortable interacting with children; and give them an opportunity to get a sense of what it is like to be a paediatrician. The experience was extremely well received and highly rated by the students. In 2010, we are expanding the experience to four half days in February and April.

In second year, the Art & Science of Clinical Medicine II (ASCMII) course runs over five consecutive Thursday mornings five times per year. Tutors include SickKids faculty and fellows and community paediatricians. Last year, 31 SickKids faculty, 14 clinical fellows and 28 community paediatricians taught ASCMII. In the Foundations of Medical Practice course, we provide structured lectures, seminars and problem-based learning sessions. Our tutors, lecturers, seminar leaders and clinical teachers consistently receive exceptionally high teaching evaluation scores from the students.

The third year clinical clerks are integrated into community hospitals with half of the class spending their full 6-week rotation in 1 of the 12 community hospital sites. The other half spends 3 weeks in community paediatric offices and 3 weeks at SickKids on the General Pediatric wards, in Emergency Medicine or Adolescent Medicine. The students also spend two-four week blocks in the Electives Program, which is extremely popular among our own students but also nationally and internationally.

B. Postgraduate Education
Currently, there are: 75 core paediatric residents, 62 subspecialty residents, 214 clinical fellows and 13 research fellows enrolled in our department. With 364 postgraduate trainees in total, this makes our postgraduate program the largest in Canada. Thanks to our outstanding teaching and research faculty, we have continued to attract outstanding trainees into the program from across the country. We also have the privilege of being a major training centre for International Medical Graduates who come from a wide variety of countries and training programs around the world providing even more richness and depth to our programs. Our postgraduate trainees are integral members of our paediatric clinical teams and contribute greatly to our academic mandate through teaching and research. Our most recent figures (2007-2008) indicate that residents and fellows received 58 research grants and published 126 peer review papers.

Led by Adelle Atkinson, the Core Paediatric Program had another excellent year. Over the years, the residency program has developed a strong sense of advocacy and social responsibility. This year, a group of our PGY-3’s have been instrumental in developing an elective in which paediatric services are offered to a group of uninsured children. Other initiatives in the postgraduate educational program include elective and research opportunities in the areas of social paediatrics, Child Health Policy and Patient Safety. The development of a patient safety curriculum is well underway and will soon also be inserted into the existing teaching program. In addition, an Acute Care and Resuscitation Program has been developed and embedded into the teaching curriculum. This program has been very successful to date and has received excellent feedback from the residents.
From a clinical point of view, the PGY-2 residents have now taken on an integral role in the care of solid organ transplant patients both while rotating on the various services and while on call. This has become an invaluable learning experience.

C. Continuing Education

The goal of continuing education is to promote development and dissemination of continuing education activities locally, nationally and internationally. Our continuing Education Committee (CEC), led by Suzan Schneeweiss, is comprised of both academic and community-based health care professionals. Library services also help to support CE activities. There is strong collaboration with the University of Toronto, Office of Continuing Education and Professional Development and the Centre for Faculty Development. The CEC develops and supports a breadth of programming.

Faculty members of the Department of Paediatrics have been very active in continuing education activities for the 2008-2009 academic year. Dr. Schneeweiss, co-led in the development and dissemination of a four-part Best Practice in Continuing Education series through the Centre for Faculty Development. In addition, Dr. Savithiri Ratnapalan successfully conducted her third annual longitudinal Project Planning and Management Course. City Wide Paediatric Rounds, organized by Drs. Mark Feldman and Michael Peer from the Division of Paediatric Medicine and held four times annually, continues to be a very popular event attracting 110 community-based paediatricians.

The Department of Paediatrics continues to have a strong commitment to excellence in continuing education with ongoing courses, conferences and faculty development activities. The Annual Paediatric Update (course director: Dr. Suzan Schneeweiss) was held April 29-May 2, 2009. This is the largest conference organized by the Department of Paediatrics and it attracts a local, national and international audience with over 260 participants. There is outstanding faculty contribution to this event with 62 members of our faculty presenting at this event. This year, a Neonatal Subspecialty Day under the direction of Dr. Jonathan Hellmann was presented providing a comprehensive look at in care of the newborn in the 21st century.

Many of our divisions have been engaged in a variety of continuing education events.

Division of Cardiology:

Drs. Fraser Golding and Edgar Jaeggi developed a one-day Pediatric Cardiology Update aimed at community based practitioners.

Dr. Fraser Golding developed a Fetal Outreach Meeting on the assessment of the fetal heart during routine ultrasound examination aimed at an interprofessional audience.

Division of Paediatric Medicine:

The Suspected Child Abuse and Neglect Program held its biennial two-day conference on Current Issues in Child Maltreatment (course director: Ms. Meredith Kirkland-Burke). This conference was attended by a wide array of professionals from social workers to legal professionals as well as health care professionals.
Division of Haematology and Oncology:
Drs. Victor Blanchette and Margaret Rand led the division’s third biennial symposium on Paediatric Haemostasis and Thrombosis with state-of-the-art recommendations on the investigation and management of children with bleeding and thrombotic disorders.

Dr. Angela Punnett organized the second annual Paediatric Chemotherapeutics Update.

Division of Clinical and Metabolic Genetics at The Hospital for Sick Children and Mount Sinai Hospital:
The division presented its 17th annual symposium on New Developments in Prenatal Diagnosis and Medical Genetics. This year’s course was directed by Dr. David Chitayat.

Division of Paediatric Emergency Medicine:
Dr. Amina Lalani developed the 5th annual Paediatric Emergency Medicine Conference at the Kingbridge Centre attracting more than 150 participants.

Dr. Sanjay Mehta and Dr. Suzan Schneeweiss offered the Advanced Paediatric Life Support course three times over the course of the year.

Dr. Schneeweiss offered The Paediatric Emergency Procedural Sedation Course four times over the course of the year.

Drs. Amina Lalani, Sanjay Mehta and Angelo Mikrogianakis developed a new innovative Paediatric Emergency Trauma Course held three times in the last academic year.

FACULTY DEVELOPMENT
The Faculty Development Subcommittee of the Medical Education Advisory Committee, led by Karen Leslie, has developed and delivered an annual Medical Education Day designed to promote faculty development in education. This event was originated in 1999 by Dr. Jonathan Hellmann, and over the past 10 years, invited speakers have addressed a range of topics/themes including: simulation-based learning, the role of technology in education, interprofessional education, the role of feedback in learning, team-based communication and mentoring. The objectives for this day are to inform department members about developments in Medical Education and promote scholarship and research in Medical Education.

The 2009 Education Day was a great success. Dr. Ivan Silver, Director of the Centre for Faculty Development, began the day with a grand rounds presentation entitled “Lost in translation? Life-long learning across the continuum”. This promoted a great discussion which continued with the workshop on “Information overload…how to establish your own plan for life long learning” led by Drs. Mark Levine and Karen Leslie. The noon program included presentations from faculty and trainees who have been engaged in educational research. Over 40 faculty, residents and fellows from our department attended this event.

In addition to Medical Education Day, the Faculty Development Committee has provided a number of workshops and sessions to members of the department, including a lunch series of introduction to teaching for junior faculty, course specific faculty development to ASCM 2 teachers, sessions aimed at teachers of continuing education on developing learning objectives, and sessions focused on providing feedback. Faculty development has also been integrated into a number of divisional rounds and meetings on topics such as mentoring skills and introductory skills in teaching.
MEDICAL EDUCATION SCHOLARSHIP
In January 2009, Tina Martimianakis joined our department as an Education Researcher. Her role has been to evolve a research program in the area of faculty relations and organizational practices, as well as to provide leadership in the enhancement of education scholarship. During the past year, Tina has established and chairs the Educational Scholarship Enhancement Committee (ESEC) and together with members of ESEC has worked to capture and document scholarship activity as well as to develop programming to enhance faculty skills in educational research, teaching, innovation and application. In September 2009, Medical Education Scholarship Rounds will be launched. The rounds are accredited and will provide a forum for members of the department to share their scholarly activity, as well as to take part in faculty development sessions designed to build skills in education research methodology.

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. This past year, Dr. Anna Jarvis completed with distinction her second term as Associate Dean, Student Affairs, Faculty of Medicine, University of Toronto. Dr. Jay Rosenfield continues as Vice Dean of Undergraduate Medical Education at the University of Toronto, currently leading a major undergraduate medicine curriculum review. Dr. Susan Tallett was appointed the inaugural Chief of Education of the Sickkids Learning Institute. Through this position, she is building educational synergies across the hospital. Dr. Jonathan Pirie was appointed the co-led for the procedural lab in the Learning Institute’s simulation program. Dr. Karen Leslie completed a very successful term as Associate Director of the Centre for Faculty Development (CFD) and following an international search has been selected to take over as Director of the CFD in the fall of 2009.

HONOURS AND AWARDS

National and International
Au H: Royal College of Physicians and Surgeons of Canada Traineeship Grant for Masters Study in Medical Education, 2009
Atkinson A: PAIRO Residency Program Excellence Award, 2008
Blanchette V: Alan Ross Award, Canadian Pediatric Society, 2009
Jones NL: Canadian Association of Gastroenterology Young Educator Award, 2009
Robinson L: Canadian Institutes of Health Research, Synapse Award (for mentorship), 2008
Tallett S: Paediatric Chairs of Canada: 2009 Paediatric Academic Leadership – Clinical Educator Award
Simmons B: Canadian Association for Medical Education (CAME) – Certificate of Merit Award, 2009
Walsh C: 21st Annual National Pediatric Fellow Research Competition – 2nd Place, 2009
Walsh C: Career Enhancement Program Award, Canadian Child Health Clinician Scientist Program, 2008
Walsh C: Canadian Child Health Clinician Scientist Program Doctoral Award (CIHR), 2009
Walsh C: Royal College of Physicians and Surgeons of Canada Fellowship for Studies in Medical Education, 2008
Walsh C: American Society for Gastrointestinal Endoscopy (ASGE) Quality in Endoscopic Research Award, 2009
Provincial
Schneider R (with Drs. Shupak and Lundon): The Ontario Hospital Association Ted Freedman Award for Innovation in Education for Advanced Clinical Practitioner in Arthritis Care (ACPAC) Program, 2008

University
Bernstein S: W.T. Aikins Award 2008 – University of Toronto Faculty Teaching Award (Small Group) Individual Teaching Performance, 2008

Departmental
Bernstein S: R.H.A. Haslam Preclerkship Teaching Award, Department of Paediatrics Undergraduate Teaching Awards, University of Toronto, 2009
Benseler S: Awarded the Subspecialty Teaching Award for Excellence in Clinical Teaching from the Department of Paediatrics, University of Toronto, The Hospital for Sick Children
Gans M: Undergraduate Community Teaching Award, Department of Paediatrics, University of Toronto, The Hospital for Sick Children, 2009
Jarvis A: PeRLS Award – Lifetime achievement for sustained excellence in Life Support teaching for paediatric residents, June 2009
Kaufman M: Award for Excellence in Long-Term Contribution to Continuing Education, Department of Paediatrics, SickKids and University of Toronto, June 2009
Nofech-Mozes Y: The Lionel Weinstein Clerkship Award, Department of Pediatrics, University of Toronto, The Hospital for Sick Children, 2009
Parkin P: Harry Bain Award for Excellence in Clinical Teaching, Department of Pediatrics, University of Toronto, The Hospital for Sick Children, 2009
Peer M: Marvin Gerstein Postgraduate Teaching Award, Department of Pediatrics, University of Toronto, The Hospital for Sick Children, 2009
Pirie J: James C. Fallis Teaching Award, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, 2009
Walsh C: Department of Pediatrics Research Fellowship Award, The Hospital for Sick Children, 2009

Divisional
Al-Wassia H: Trainee of the Year Award, Neonatal-Perinatal Medicine Fellowship Training Program, University of Toronto, 2009
Anagnostou E: Division of Developmental Paediatrics Faculty Teaching Award, 2009
Brandao L: Alvin Zipursky Teaching Award, Division of Haematology/Oncology, The Hospital for Sick Children, 2009
Hung R: William J. Logan Award for Excellence in Clinical Teaching, Division of Neurology, The Hospital for Sick Children, 2009
Kobayashi J: Division of Developmental Paediatrics Faculty Teaching Award, 2009
Mikrogianakis A: Clinical Teaching Award, “For Excellence in Clinical Teaching”, The Hospital for Sick Children Division of Paediatric Emergency Medicine, 2009
Pirie J: Runner-Up, Clinical Teaching Award, Division of Pediatric Emergency Medicine, The Hospital for Sick Children, 2009
Pirie J: Teaching Excellence for the Paediatric Resident Lecture Series, The Hospital for Sick Children, 2009
Scolnik D: Winner of Clinical Teaching Award - Staff Physician Full-Time, Division of Paediatric Emergency Medicine, 2008
Scolnik D: Winner of James C Fallis Teaching Award for Best PEM (Paediatric Emergency Medicine) Staff Physician Presentation, Division of Paediatric Emergency Medicine, 2008


Tein I: William A. Hawke Award for Excellence in Clinical Teaching, Division of Neurology, The Hospital for Sick Children, 2009

Weinstein Miriam: James C. Fallis Teaching Award, Invited Speaker - Division of Paediatric Emergency Medicine, 2008

Other

Hutchinson C: Received the TAS-UCB postgraduate fellowship for two years to pursue studies in education

Simmons B: The Medical Teacher Poster Prize, Association for Medical Education in Europe (AMEE), Prague, Czech Republic, 2008

Walsh C: Health Professionals Education - Global Best Practices in Simulation Conference - 2nd and 3rd Place for outstanding presentation, 2009

Walsh C: Richard Reznick Award for Outstanding Presentation, Wilson Centre Research Day, Toronto, 2008

Walsh C: OISE Academic Excellence Award, 2008

Walsh C: Edward Christie Stevens Fellowship, Postgraduate Medical Education Awards Competition, 2008

Walsh C: Miriam Neveren Memorial Award, Postgraduate Medical Education Awards, 2008

Walsh C: Chisholm Memorial Fellowship, Postgraduate Medical Education Awards, 2008

EDUCATIONAL FUNDING

In the past academic year, our faculty, residents and fellows also had significant grant capture totaling $1,126,427 (multi-year funds have been adjusted to reflect monies allotted for one academic year in the calculation of this total).

Paediatric Consultants Education Research Grant, SickKids

In the 2008-2009 academic year, seven Paediatric Consultants Education Research 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 learning approaches, mentorship, curriculum development and expertise building. The projects awarded also hold potential to enhance our local educational practices.

Climbing the learning curve: teaching the non-radiologist how to interpret pediatric skull x-rays. Boutis K, Pecaric M ($5,000)

Developing an understanding of mentoring relationships. Leslie K, Schneider R ($5,000)

Comparison of tutor versus multi-media computer disk for teaching the Neonatal Pain, Agitation and Sedation Scale (N-PASS) Lee KS, Gibbins S, Aliwalas L ($5,000)

A comparison of two teaching schedules in physicians acquiring procedural competency. Mehta SV, Al-Qadhi S, Dubrowski A, Carnahan H ($5,000)


Exploring performance improvement in practice. Mylopoulos M ($4,130)

The CanMeds role of collaborator: How well is it taught and evaluation from the perspectives of faculty and residents. Tallett S ($5,000)
Educational Development Fund, UoT

We had a strong submission to the Educational Development Fund this past academic year, which aims at "catalyzing initiatives that immediately and directly impact University of Toronto Faculty of Medicine education and teaching programs through innovation and development". In a highly competitive year, the following project received funding:

Preparing for a career in academic medicine: Understanding the process of peer-group mentoring for postgraduate trainees. Leslie K, Breakey V, Lingard L ($5,280)

Other Funding Sources

An important component of our educational research activity involves collaborations that span departments and institutions. Furthermore, our faculty members were involved in collaborative research projects that were merited with funding from a variety of sources including the Royal College, Canadian Institutes of Health Research and the Ministry of Health and Long-Term Care.

Assessment and evaluation of a pilot interprofessional OSCE (iOSCE). Simmons B, Reeves S, Wagner SJ. Undergraduate Medical Education Curriculum Renewal Fund, University of Toronto ($19,141 2009)


Case mix study. Boutis K, Pecaric M, Andrews M, Pusic M. Royal College of Physicians and Surgeons Medical Education Research Grant ($25,000 2009-2011)


Exploring 4th year nursing students’ perceptions of error and error reporting. Espin S, Lingard L. Ryerson University Research Assistant Workstudy Programme. Summer, Fall 2008. ($3,500)

Exploring adaptive expertise in Inter-professional team practice. Mylopoulos M. SickKids Research Institute New Ideas Grant ($27,612 2008)
Evaluation of case-based Interprofessional Education (IPE) sessions: Development and implementation. Wagner SJ, Reeves S, Simmons B. Undergraduate Medical Education Curriculum Renewal Fund, University of Toronto ($13,951 2009-2010)


Production of innovations in practice: Exploring adaptive expertise in minimally invasive surgery. Mylopoulos M. Dean’s Fund New Staff Grant, University of Toronto, Faculty of Medicine ($9,873 2008)


Utilizing teaching evaluations to promote faculty development in teaching. Leslie K, Lieff S, Pittini R, Reeves S, Schrieber M. Undergraduate Medical Education Curriculum Renewal Fund ($19,630 2009)

PUBLICATIONS

Our faculty, residents and fellows are active researchers in the area of education, with 37 peer reviewed publications on a breadth of topics exploring the institutions we learn in, our approaches to training, the factors that affect learning (cognitive, social and political) and the effects of our teaching. Also evident from our publication archive listed below is the collaborative nature of our educational research activity, which spans divisions, departments, institutions and disciplines.


BOOKS & BOOK CHAPTERS


HIGHLIGHTS OF OTHER FORMS OF EDUCATIONAL SCHOLARSHIP

One of the priorities of the Educational Scholarship Enhancement Committee has been to capture and profile the breadth of educational scholarship activity taking place within our department. Education scholarship can take many forms including the development or dissemination of knowledge related to student learning and teaching, curriculum and program development, assessment and program evaluation, educational policies, and faculty and student relations among other things.

This section highlights forms of educational scholarship and promising new directions in educational innovation, which have not been captured under the sections of awards, grants and publications.

Educational methods and pedagogy

Sanjay Mehta created and co-facilitated several new workshops for the Centre for Faculty Development on “Effective audiovisuals”, “Powerpoint and presentations” and “Ambulatory care teaching”.

Stacey Bernstein developed and delivered workshops on self-assessment and interactive lecturing for the Centre for Faculty Development and the Association of Pediatric Program Directors/Council of Medical Students.

Tina Martimianakis and Lorelei Lingard (course leaders and core faculty) and Maria Mylopoulos (core faculty) contributed in the development and teaching of the 2009 Wilson Centre Atelier – Introduction to qualitative research.

Tina Martimianakis also developed and delivered with colleagues two invited pre-conference workshops for the Association for Medical Education in Europe: “A primer on qualitative methods” (with Brian Hodges, Ayelet Kuper, Nancy McNaughton and Mathieu Albert) and “Conducting discourse analysis for health professions research” (with Nancy McNaughton, Sarah Whyte and Brian Hodges).
**Enhancing educational scholarship through teaching**
Hosanna Au and Stacey Bernstein contributed to the development of the postgraduate core educational online module on “Resident as a scholar: Feedback and evaluation”.

Ann Jefferies, Robert Hilliard and Adelle Atkinson delivered a workshop on “Becoming a successful education scholar” at the Annual Conference of the Royal College of Physicians and Surgeons of Canada.

**Educational assessment and evaluation**
Ann Jefferies and Brian Simmons developed and delivered a number of workshops related to assessment including: “Approaches to assessment and evaluation of inter-professional education” delivered at the Association of Medical Education in Europe.

Ann Jefferies and Brian Simmons also developed the workshop “Assessing multiple physician competencies in a performance format” which was delivered at the Association of Professors of Obstetrics and Gynecology of Canada Annual Meeting.

Kathryn Parker and Sue Tallett at the Learning Institute are evolving an evaluation framework for education and key performance indicators for The Hospital for Sick Children.

Sue Tallett, Bonnie Fleming-Carroll (co-lead) and Vera Gueorgueiva (co-lead) developed evaluation tools for nursing and health care professional students to evaluate their teachers and experiences with the hospital.

Amina Lalani has developed and delivered a workshop for PGME entitled “Evaluation tools – Shifts cards and clinical evaluation exercise” and a Royal College of Physician and Surgeons of Canada basic modular workshop on evaluation.

Savithiri Ratnapalan developed and delivered the first course in CE Planning, Management and Evaluation at University of Toronto, including novel intensive modular teaching. All the students who have taken this course have completed research proposals, two have received external grants and three have received departmental sponsorship to pursue this research.

**Development of educational standards**
Sue Tallett with Kelly McMillan (lead) and Glen Blair (lead) have developed standards for e-learning that will inform e-learning activities within SickKids.

Sue Tallett has also been co-lead of a committee which evolved standards for University of Toronto fellowships and participated in the Toronto Academic Health Sciences Network (TAHSN) task force on teaching capacity for undergraduate and postgraduate medical education.
DIVISION HEAD
Dr. Debra K. Katzman

FULL-TIME
Dr. Eudice Goldberg
Dr. Miriam Kaufman

PART-TIME
Dr. Miriam Rossi
Dr. Rahul Saxena

CLINICAL FELLOWS
Dr. Rosawan Areemit
Dr. Mona Basker
Dr. Abigail Harrison-Kong
Dr. Kazue Ishitsuka

ADMINISTRATIVE STAFF
Sharon Dolphin
Melissa Keown
Burnett Wint
Division of Adolescent Medicine

The Division of Adolescent Medicine provides state-of-the-art, comprehensive specialty care to patients up to 18 years of age, focusing its clinical activities in five programs: Eating Disorders, Transition (Good 2 Go Transition Program), Substance Abuse, Young Families and SickKids Interprofessional Team for Youth (SITY).

EATING DISORDERS PROGRAM
The Eating Disorders Program at SickKids continues to provide a variety of integrated clinical services (inpatient, day treatment, outpatient and consultation) to adolescents and their families. All aspects of the program are interdisciplinary and family-based, allowing for flexibility in the program to best meet the particular needs of each individual adolescent and his/her family. New initiatives have included the integration of multi-family group therapy (MFGT) at SickKids and throughout the province. MFGT was recognized by the 2007 Accreditation team as one of five leading practices in the hospital. In addition, the program is involved in a five-year multi-site randomized controlled trial comparing two types of outpatient family therapy for the treatment of adolescents with anorexia nervosa. The highly successful Ontario Community Outreach Program (a collaborative of SickKids, University Health Network and the MOHLTC) continues to train health care professionals around the province to assess and treat eating disorders, thus allowing more patients to receive care in their own community.

GOOD 2 GO TRANSITION PROGRAM
The Good 2 Go Transition Program continues to prepare all youth with chronic health conditions to leave SickKids by the age of 18 years with the necessary skills and knowledge to advocate for themselves or through others to maintain health promoting behaviours and to utilize adult health care services appropriately and successfully. Due to an increase in volume of clinics requesting assistance in developing transition initiatives, a second Clinical Nurse Specialist was added to the team in 2008. The team also attended, by invitation, the SickKids Health Leader’s Institute in the summer of 2008. The team used this time to create an expansion strategy to ensure that all SickKids patients benefit from the Program.

The team continues to develop and customize new resources, including clinic posters and “The Ready, Set, Good 2 Go Timeline” to encourage patients, families and practitioners to begin preparing for transition to adult care. Other resources include the transition readiness checklists, graduation certificates, transfer letters and MyHealth Passport. For many of these resources, hospital programs work closely with the Good 2 Go team to customize the tools for their specific clinic population. The timeline has been customized for nine hospital programs and the MyHealth Passport for 23 clinics/conditions.

The Good 2 Go Transition Program also works directly with teams throughout the hospital to plan and implement patient/family education days as well as transfer clinics. Direct patient care is provided for the most complex transition cases by the Transitions Treatment Clinic.

The Good 2 Go team also held the first annual EmployABLE event (in collaboration with Ontario’s Mazemaster/Youth abilities) at the hospital in May 2009. This full-day event (funded by the hospital’s Women’s Auxiliary) drew 88 participants. It was designed to support adolescents with chronic health conditions in search of employment and provide them with necessary skills.

The team continues to seek and receive outside funding for specific initiatives including a clinical pathways project, MyHealth Passport and a web-based transition support system. They are also working with staff from the University Health Network to explore a self-management program for youth with chronic health conditions.

Supervision and mentorship are offered to several interdisciplinary trainees in the area of transition. Additional educational efforts include transition education taught by Good 2 Go staff in the hospital’s Nursing Orientation Sessions and in the training for social work interns.
SUBSTANCE ABUSE PROGRAM
The Substance Abuse Program continues to provide both outpatient and day hospital treatment to youth with significant substance abuse issues. A strong interdisciplinary team provides care to these young people addressing the many physical, psychosocial and academic problems that have both contributed to and resulted from their substance use. The program has implemented the use of a validated screening tool for concurrent disorders and, in collaboration with other youth addiction programs in the greater Toronto area and the province, will use this tool to assess treatment needs and evaluate outcomes both within the program and in benchmarking with other programs.

Paul Pereira, the child and youth counsellor for the Day Treatment team, was the recipient of the 2008 Robert Salter Humanitarian Award. His work with young people with significant and complex substance abuse issues has been exemplary and was recognized by the hospital through this award.

The program has continued to provide learning opportunities for a wide range of health professional learners. Educational modules in adolescent substance abuse have been successfully integrated into core teaching for pediatric residents, subspecialty residents and trainees from other health care disciplines. Additionally, the team has contributed significantly in the continuing medical education realm, with talks being given not only in the local community, but at national and international meetings as well. The expertise of the team extends beyond issues of substance use and abuse in the adolescent population. The use of novel and innovative interviewing techniques such as motivational interviewing has also been identified as a strength of the team. This topic has been highlighted at international meetings of physicians wishing to use this technique with their own patient populations. Members of the team have been invited as well to contribute to systematic planning for substance abuse intervention at local and national levels, including, as examples, work being done with the Toronto Drug Strategy and Health Canada.

SICKKIDS INTER-PROFESSIONAL TEAM FOR YOUTH: SITY
The goal of SITY is to provide access to expert adolescent healthcare services for youth including the provision of comprehensive interprofessional health care services to address illness-specific issues of youth with chronic diseases, the identification and reduction of high-risk health behaviours and advocacy efforts for the health care needs of youth. SITY also provides clinical services in collaboration with renal, cardiac and lung transplant programs, the HIV and SLE clinics and through in-patient consultations.

SITY has an established link to the Substance Abuse Program, addressing the complex medical needs of these adolescents. SITY continues to build partnerships with local agencies in an effort to enable youth in the downtown core to access health information and necessary health services otherwise unavailable to them.

The SITY program has an established collaboration with the Toronto Children’s Aid Society for youth in care to access medical and psychosocial services. Increasingly, the SITY team is being consulted regarding youth with clinical conditions that are considered diagnostic dilemmas.
THE YOUNG FAMILIES PROGRAM
The Young Families Program (YFP) focuses on providing health care, advocacy, support and education to high-risk adolescent parents and their children. The YFP collaborates with several agencies including prenatal homes and child protection agencies. In particular, the YFP provides a consultation clinic at The June Callwood Centre for Teenagers and provides educational, supportive and policy recommendations. The YFP, in collaboration with Suspected Child Abuse and Neglect (SCAN) team, has been actively involved in the High Risk Project. The High Risk Project is now moving into a new research phase based on assessment data collected over the past five years. The team is embarking on the intervention phase with an emphasis on maternal and infant mental health and child/parent relationships.

The interprofessional team members continue to provide resources and education to health professionals in a variety of settings through structured clinical experiences, conference presentations and committee participation and affiliation with multiple faculties at the University of Toronto. The Young Families Program is a designated site for the new Social Paediatrics Program, where medical students learn to integrate the principles of the social determinates of health to a vulnerable high-risk population.

OUR TEAM
The Division of Adolescent Medicine at SickKids is the largest division of Adolescent Medicine in Canada, with a diverse interprofessional clinical team and staff. Members of the interprofessional team provide quality care to adolescents and their families in a teen-friendly setting. This integrated approach is essential to promoting comprehensive health care to adolescents and their families.

RESEARCH
Research activities are an integral part of the activities of the faculty and trainees of the division. The division has significantly expanded its research, addressing a multitude of adolescent health issues. Research activities include the medical complications of eating disorders with specific emphasis on osteoporosis and brain structure and function, epidemiology of early-onset eating disorders, evaluation of family-based treatments for adolescents with eating disorders, the evaluation of the use of information technology for health promotion with youth, treatment outcome in adolescent substance use, HIV educational interventions with incarcerated youth, health value in adolescents with chronic illnesses, the assessment and evaluation of high risk parents and their children, the evaluation of transition of care to the adult health care system and faculty development and mentoring.

TEACHING AND EDUCATION
The division provides training opportunities to a diverse group of learners including undergraduate and postgraduate medical trainees from medicine (Paediatrics, Psychiatry and Family Medicine), nursing, psychology, social work, nutrition, art therapy and child youth counsellor training programs.

Members of the division continue to make important educational contributions locally, provincially, nationally and internationally. They hold leadership roles in the SickKids Summer Student Program, the Centre for Faculty Development and in organizing international annual scientific meetings on adolescent health. In addition, members of the division make major contributions to national and international committees and groups including the Canadian Paediatric Society Adolescent Committee and Section, the American Academy of Pediatrics, the Society for Adolescent Medicine, the Canadian Association for Adolescent Health, the Canadian Association for Medical Education and the Academy for Eating Disorders.
In January 2009, The University of Toronto subspecialty training program in Adolescent Medicine was accredited by the Royal College of Physicians and Surgeons of Canada. To date, this program is one of three in adolescent medicine in Canada to be recognized by the College.

**HONOURS AND AWARDS**

Katzman D: Eating Disorder Champion Award, Ontario Community Outreach Program for Eating Disorders

Kaufman M: Award for Excellence in Long-term Contribution to Continuing Education, Department of Paediatrics, SickKids and University of Toronto

Leslie K: Masters in Health Professional Education, Ontario Institute for Studies in Education (OISE), University of Toronto

**PUBLICATIONS**


**BOOKS AND BOOK CHAPTERS**


**FUNDING**


**Psychiatric Endowment Fund at SickKids** ($24,000 2007-2009)

Development of transition pathways. **Manulife Financial** ($25,000 2007-2009)

Development of a specialized transition program for HIV+ patients. **Gilead Foundation** ($24,000 2009)


Effects of anorexia nervosa on peak bone mass. Klibanski A, Katzman DK (Principal Investigator at SickKids site), Misra M, Herzog D, Levitsky L (Primary Applicant to Health Canada for Clinical Trials Application at SickKids site and for project at-large). **National Institutes of Health/National Institute of Diabetes and Digestive and Kidney Diseases** ($3,801,660 2003-2009)


Evaluation of a Faculty Mentoring Program, Department of Paediatrics. Leslie K, Schneider R. **Paediatric Consultants Grant** ($5,000 2008)


Further development of the MyHealth Passport. **John Deere Foundation ($50,000 2008-2013)**

Funding for EmployABLE. **Women’s Auxiliary: The Hospital for Sick Children ($2,095 2009)**


The development and evaluation of an internet site to enhance the transfer and transition from pediatric to adult-focused cardiology care. **Labatt Heart Centre Innovation Fund ($25,000 2009-2011)**

The Hospital for Sick Children Day Hospital Treatment. Katzman DK, Pinhas L (Co-Principal Investigator), and the Eating Disorder Program at The Hospital for Sick Children. **The Ontario Ministry of Health and Long-Term Care ($554,189 2008-2009 and annualized)**

The Ontario Community Outreach Program for Eating Disorders. McVey G, Katzman DK (Co-Investigator), Davis R, Pinhas L, Olmstead M. **The Ontario Ministry of Health and Long-Term Care ($170,000 2008-2009 and annualized)**

Utilizing teaching evaluations to promote faculty development in teaching. Leslie K, Lief S, Pittini R, Reeves S, Schrieber M. **Undergraduate Medical Education (UME) Curriculum Renewal Fund ($19,630 2009)**

Youth with chronic health conditions: Tell us how we can best teach you self-management skills. Kaufman M. **Allied Health Research Grant Application, University Health Network ($1,158 2008)**
DIVISION HEAD
Dr. Andrew Redington

FULL-TIME
Dr. Lee Benson
Dr. Tim Bradley

Dr. Rajiv Chaturvedi
Dr. Anne Dipchand
Dr. Mark Friedberg
Dr. Fraser Golding
Dr. Gil Gross
Dr. Lars Grosse-Wortmann
Dr. Robert Hamilton

Dr. Edgar Jaeggi
Dr. Paul Kantor
Dr. Joel Kirsh
Dr. Kyong Jin Lee
Dr. Brian McCrindle
Dr. Luc Mertens
Dr. Seema Mittal

Dr. Jennifer Russell
Dr. Elizabeth Stephenson

PART-TIME
Dr. Claudia Almeida
Dr. Jack Colman
Dr. Rejane Dillenburg

Dr. Ra Han
Dr. Alexandra Jevremovic
Dr. Anilkumar Menon
Dr. Tapas Mondal
Dr. Norman Musewe
Dr. Lynne Nield
Dr. Erwin Oechslin
Division of Cardiology

DIVISIONAL OVERVIEW
The Division of Cardiology was formally established in the 1940s and is now one of the largest and most successful in the world. Its philosophy has remained unchanged since its inception over 60 years ago: to provide the highest quality care in an evidence-based environment of clinical innovation and scientific discovery. The Division is not only performing at the highest clinical standard, but is now better positioned to drive innovation and scientific discovery than at any other time in its history.

While the division is an integral part of the Department of Paediatrics, it also forms a key part of the Labatt Family Heart Centre, which was officially opened two years ago. Incorporating the Division of Cardiology, the Division of Cardiac Surgery, the Division of Cardiac Critical Care and The Toronto Congenital Cardiac Centre for Adults, the Heart Centre is already one of the best organized and cohesive in the world. However, there is much more investment and development required before it will have reached its goals. Nonetheless, over the past decade, the divisional activities, in close collaboration with surgical and intensive care colleagues and all the other members of the Heart Centre, have contributed to our markedly improved preoperative diagnosis and postoperative outcomes for children undergoing cardiac surgery. In addition, our activities have led the field in development of therapeutic catheter techniques, made important contributions to our understanding of fetal cardiac medicine, established one of the largest paediatric cardiac transplantation centres worldwide and won international recognition for contributions in the field of epidemiology of acquired and congenital heart disease and surgical outcomes. Each of these areas has provided the substrate for the large clinical research output of the division which is underpinned by a world class laboratory science program. One of the recent exciting clinical developments was the commissioning of an integrated suite of catheter laboratories and magnetic resonance scanning facilities. This unique fusion will allow simultaneous multi-mode research, investigation and treatment, setting the scene for MRI-guided interventional procedures and physiologic measurements in children.

The cardiovascular research focus within the research institute has made fundamental contributions to our understanding of the cellular biology and molecular genetics of pulmonary vascular bed, with recent diversification to include the study of the fetal myocyte, detailed study of the intercellular structure of the heart and vessels, electrophysiology of the developing heart and immunology of cardiac transplantation. High quality basic and translational research, with an emphasis on direct clinical applicability, will continue to form the bedrock of our academic program. As an example, the Heart Centre is making a major investment in the development of a biobanking facility in which DNA and tissue samples will be held for future fundamental, translational and clinical research investigations. Aside from this thematic funding, the Heart Centre supports many proposals for clinical innovation and seed-funding for scientific programs via its endowment, with the expectation that patient and family satisfaction will improve and the quality of research and its ability to garner external peer-reviewed funding will be enhanced.

The Royal College accredited Paediatric Cardiology Training Program is the largest in Canada and one of the largest and most sought after in North America. As such, its fellows have populated cardiology groups throughout the world, many going on to become leaders of our specialty.

The single most important development of the last decade, however, has been the establishment of the Labatt Family Heart Centre. Following on from a series of important internal initiatives, the extraordinary generosity of the Labatt family has funded the redevelopment and future activities of the Heart Centre at SickKids.
HONOURS AND AWARDS
Dipchand A: Guyana Award in Category of Academic Excellence, Consul General of Guyana, May 23, 2009

PUBLICATIONS


Mertens L, Friedberg MK: Selecting pacing sites in children with complete heart block: is it time to avoid the right ventricular free wall? European Heart Journal 2009: 30(9): pp 1033-1034.


**BOOKS AND BOOK CHAPTERS**


FUNDING

A 4-week study in children and adolescents with familiar or severe hypercholesterolemia comparing flaxseed therapy to placebo. Wong H, McCrindle BW, Chahal N. Labatt Family Heart Centre Innovations Fund ($13,108 2009-2010)


A randomized, double-blind, multi-center study of antiarrhythmic medications in the treatment of infants with supraventricular tachycardia (SAMIS Trial). Sanatani S, McCrindle, BW, Stephenson E, Potts J, Etheridge S. The Heart and Stroke Foundation of Canada ($444,060 four years to 2010)


Cardiac gene bank. Mital S, Hamilton R, Coles J. Labatt Family Heart Centre Fund ($100,000 2008-2010)


Computational modeling to define regional left ventricular shape and calculate load-corrected indices of myocardial function in children with CHD. Mertens L. Labatt Family Heart Centre Innovation Fund ($37,500 2009-2012)

Contractile adaptations to constrained heart rate conditions. Gross GJ, Redington AN. Canadian Institutes of Health Research ($529,180 2008-2012)

Contractile and electrophysiologic adaptations to constrained heart rate conditions. Gross GJ, Redington AN. Heart and Stroke Foundation of Ontario ($209,097 2006-2008)


Creating a fetal lamb model of hypoplastic left heart syndrome. Chaturvedi R, Jaeggi E. Labatt Family Heart Centre ($21,000 2008-present)
Effects of remote ischemic preconditioning on clinical and genomic responses to open heart surgery in children. McCrindle BW, Redington AN. Heart and Stroke Foundation of Ontario ($570,399 2009-2012)

Exploring the association between circulating endothelial progenitor cells and cardiovascular risk factors in children. Chahal N, McCrindle BW. Labatt Family Heart Centre Innovations Fund ($30,000 2009-2010)

HLA sensitization: Prevalence and impact of alloantibodies in pediatric heart transplant recipients. Dipchand AI, Pollock-Barziv, S; McCrindle BM. Paediatric Consultants Grant ($10,000 2007-2008)

Identifying factors involved in the prenatal diagnosis of congenital heart defects requiring neonatal intervention. Dutil N, Jaeggi E. Labatt Family Heart Centre ($18,600 2008-present)


Intercalated disc protein expression in arrhythmogenic right ventricular cardiomyopathy. Hamilton RM, Chauhan V, Scherer S. Heart and Stroke Foundation of Ontario ($72,100 2008-2010)


Is EFE and dilated cardiomyopathy the result of a fetal autoimmune response? Nield L, Taylor G, McCrindle B, Jaeggi E. Labatt Family Heart Centre Innovation Fund ($18,200 2008-present)

Late functional status in a cohort of survivors with pulmonary atresia intact ventricular septum from the Congenital Heart Surgeons Society Study. McCrindle BW, Caldarone C. The Children's Heart Foundation (US$89,190 2007-2008)

Mechanical study of ventricular-ventricular interaction in Adult patients with Tetralogy of Fallot repair. Kantor PF, Roche SL. Labatt Family Heart Centre Innovation Fund ($35,850 2008-2010)

Molecular expression and physiology in developing atrioventricular nodal cells. Hamilton RM, Gross GJ, Silverman ED. Canadian Institutes of Health Research ($370,500 2006-2009)

Molecular genetic testing in a cohort of paediatric patients with cardiomyopathy. Bowdin S, Kantor PF. Starbucks Research Studentship Award ($4,800 2009)

Myocardial viability in hypoplastic left heart syndrome assessed by PET. Chaturvedi RR. Labatt Family Heart Centre Foundation ($11,000 2008)

Outcome of pediatric patients with cardiomyopathy: A multicentre review of pediatric patients listed for transplant in the Pediatric Heart Transplant Study Group. Dipchand AI, Hsu D, Naftel D. Children's Cardiomyopathy Foundation ($21,321 2007-2008)


Quality of life following paediatric heart transplantation. Anthony SJ, Dipchand AI, Nicholas D, McCrindle BM. **Labatt Family Heart Centre Innovation Fund** ($20,000 2008)


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 Heart, Lung, and Blood Institute/National Institutes of Health** ($2,047,004 2007-2011)


Ventricular function and arterial stiffness in the evaluation of pediatric heart failure. Kantor PF, Bradley TJ, Roche SL, Siorach C. **Paediatric Consultants Grant** ($7,200, 2007-2008)


VEGF signaling in HLHS. Mital S. **Labatt Family Heart Centre Innovations Fund** ($24,000 2007-2008)

Very high resolution vascular imaging in children with normal and abnormal vascular development and maturation. Sarkola T, Jaeggi E, Redington A. (€90,000–€20,000 salary support for Dr. Sarkola to be provided by Societatis Medicorum Fennicae; €50,000 to be provided by Instrumentarium Foundation; and The Finnish Cultural Foundation will provide €20,000 2008-2010)


Ultrasound-guided acute atrial and ventricular pacing of the fetal lamb. Jaeggi E, Chaturvedi R, Ryan G, DeVrijer B. **Labatt Family Heart Centre Innovation Fund** ($24,600 2009)
DIVISION HEAD
Dr. Rosanna Weksberg
(July to December 2008)
Dr. Daune MacGregor
(January to June 2009)

FULL-TIME
Dr. Sarah Bowdin
Dr. David Chitayat
Dr. Annette Feigenbaum
Dr. Roberto Mendoza
Dr. Julian Raiman
Dr. Andreas Schulze
Dr. Grace Yoon

PART-TIME
Dr. Karen Chong
Dr. Joe Clarke
Dr. Leona Fishman

CLINICAL FELLOWS
Dr. Fatma Al-Jasmi
Dr. Fathiya Al-Murshedi
Dr. Christopher Barnett
Dr. Brian Chung

RESIDENTS
Dr. Hanna Faghfoury
Dr. Elaine Goh
Dr. Andrea Guerin
Dr. Shalily Jain
Dr. Joyce So
DIVISIONAL OVERVIEW
The Division of Clinical and Metabolic Genetics provides excellent clinical care and supports a variety of clinical, research, educational and administrative programs.

In December 2008, Dr. Rosanna Weksberg stepped down as Division Head after providing leadership since 1998. Dr. Daune MacGregor, Associate Paediatrician-in-Chief, Department of Paediatrics, has been appointed Interim Division Head while the department actively searches for a replacement. The division also welcomed Dr. Sarah Bowdin, clinical geneticist in July 2008.

An important new initiative is the Ontario Genetics Secretariat (OGS) which was established with the support of the Department of Paediatrics in 2007. The continued support of this initiative by the hospital has been instrumental in its success. The OGS is chaired by Christopher Carew from SickKids and has representation from all the clinical genetics programs and genetic diagnostic laboratories across the Province of Ontario. The mandate of the OGS is to develop a collaborative and integrated approach to negotiations with the Ontario Ministry of Health and Long-Term Care for resourcing genetic services.

In November 2008, the Outpatient Metabolic team was awarded the first annual Interprofessional Practice Award in Paediatric Hospice Palliative Care. The award recognizes a team that embodies the principles of family-centred care and interprofessional practice within their daily care of children and their families.

In April 2009, the division launched “22q Connections – A Community Lecture Series”, generously sponsored by SickKids National Conference Grant for individuals with 22q11 deletion syndrome, their families and caregivers. The PKU program, with the Specialty Food Shop, hosted the first ever joint educational event and cooking demonstration for patients and families with PKU.

Research endeavours in the division are a vital part of our program and currently focus on the translation of new genomic information for patients and their families. There is continuing increase in the use of microarrays for genetic testing. The influx of genomic data for many of our patients has impacted our patterns of practice. There are many new challenges in the interpretation of entirely novel data in the clinical setting.

The Eighth Annual Starbucks Clinical Research Summer Students Competition was awarded to Ms. Lydia Roberts for a study on Pregnancy and Developmental Outcomes, supervised by Dr. Rosanna Weksberg.

The Division of Clinical and Metabolic Genetics has developed and participated in numerous educational activities within the hospital. It has important links to the Research Institute and the Department of Laboratory Medicine. The division directs Fellowship and Residency training programs in Genetic Medicine, as well as the MSc Program in Genetic Counselling.

HONOURS AND AWARDS
Genetic Metabolic Team: The 2008 Interprofessional Practice Award in Paediatric Hospice Palliative Care, The Hospital for Sick Children, Toronto

Chitayat D: Schwartz-Reisman Visiting Sickkids Scholar, 2008

PUBLICATIONS


BOOKS AND BOOK CHAPTERS


**FUNDING**

Adrenoleukodystrophy. Raiman J. Starbucks Summer Studentship Award ($5,000 2009)


Canadian Molecular Cytogenetics Platform. Friedman JM, Chitayat D, Meyn MS. Canadian Institutes of Health Research/Canadian Foundation for Innovation ($4,512,925 2005-2010)

Collaborative graduate training program in molecular medicine. Meyn MS. Canadian Institutes of Health Research ($300,000 2002-2009)


Constitutional epigenetic and genetic errors and the risk of paediatric cancer. Weksberg R. SickKids Foundation New Ideas Grant ($50,000 2009-2010)

DNA damage responses in human hematopoietic stem and progenitor cells – A pilot study. Meyn MS. SickKids Cancer Center New Ideas Grant ($49,600 2009-2010)

Dynamics of human double-strand break repair. Meyn SM. Canadian Institutes of Health Research ($123,000 2004-2008)

Genome-wide DNA methylation profiling in autism. Weksberg R, Roberts W, Scherer S. Canadian Institutes of Health Research ($593,815 2008-2011)

Integrated Research Network in Perinatology (IRNPQ) - Impact of intrauterine exposures on infant health and development. Fraser W, Weksberg R. Canadian Institutes of Health Research/Canadian Foundation for Innovation ($20,000,000 2008-2013) ($100,000/year for Weksberg lab)


Molecular genetic testing in a cohort of paediatric patients with cardiomyopathy. Bowdin S, Kantor P, Etoom Y. Starbucks Summer Studentship Award ($5,000 2009)

Organization for the study of sex-differences - third annual meeting. Weksberg R. Canadian Institutes of Health Research ($15,000 2009)


The SickKids Research Institute (Infrastructure grant). Meyn MS, Rossant J. Canadian Foundation for Innovation ($91,119,176 2008-2013)

Treatment of GAMT (guanidinoacetate methyltransferase) deficiency with high-dose ornithine to reduce the accumulation of the neurotoxin guanidinoacetate by inhibition of the AGAT enzyme (arginine: glycine amidinotransferase). Feigenbaum AS. Heinz/Mead Johnson/Weston Endowment 2009 ($22,285 2008-Present)
The Division of Clinical Pharmacology and Toxicology focuses on a wide range of drug-related issues in pediatrics. The division is one of the largest and most active pediatric pharmacology programs internationally. Our major clinical activities include a consultation service, the Motherisk Program, the Ontario Regional Poison Information Centre (ORPIC) and DART (Drug Allergy, Reactions and Toxicity) clinic in collaboration with the Division of Immunology/Allergy to provide specialized outpatient followup and management for those with various drug/toxin-related problems. The two information centres receive about 35,000 (Motherisk) and 75,000 (ORPIC) inquiries annually, reaching the limit of the response capacity of the systems. The Motherisk Program, directed by Dr. Gideon Koren, continues to generate and disseminate new knowledge in the field of drug safety for the fetus and breastfeeding babies. The ORPIC, led by Dr. Margaret Thompson, has now become a hub for medical toxicology training, attracting many residents and fellows nationally and internationally.

The division is one of the two major training sites of the Royal College-accredited Clinical Pharmacology Residency program of the University of Toronto. Our medical residency training program spearheaded the recent change of the specialty residency training structure to add Emergency Medicine to the existing four entry disciplines, which includes Paediatrics. This change enables us to train residents with emergency medicine background in the clinical toxicology stream in our education program.

Our research programs focus on drug metabolizing enzymes and their regulation, drug transporters, placental and mammary gland drug transport and metabolism and reproductive toxicology and teratology, including fetal alcohol syndrome research. The breadth and depth of these research programs are shown in our publication and funding records. Our division members serve as editors and associate editors of key journals in the discipline, showing strong leadership in the field.

**HONOURS AND AWARDS**

- Koren G: The Canadian Society for Pharmacology and Therapeutics Publication Award, 2008
- Ito S: The Senior Investigator Award (The Canadian Society for Clinical Pharmacology), 2008

**PUBLICATIONS**


Tan KP, Kosuge K, Yang M, Ito S: Retinoids are potent activators of NF-E2-related factor 2 (Nrf2) to induce cytoprotective genes counteracting resultant oxidative cytotoxicity. Free Radical Biology and Medicine 2008: 45: pp 1663-1673.


BOOK CHAPTERS


FUNDING


Determinants of renal handling of drugs during development. Koren G. *Canadian Institutes of Health Research* ($583,800 2003-2008)

Drugs and human milk. Ito S. *Canadian Institutes of Health Research* ($376,323 2007-2010)

Genotype Specific Approaches to Therapy in Childhood (GATC) Canadian Pharmacogenomic Network for Drug Safety (CPNDS). Ito S (Site Director). *Canadian Institutes of Health Research* ($105,000 2008)

Hair analysis for cortisol and testosterone. VanUm S, Koren G. *Physicians’ Services Incorporated* ($130,000 2006-2008)


Novel transcriptional control of human CYP3A. Ito S. *Canadian Institutes of Health Research* ($340,540 2007-2010)


The role of placenta in fetal toxicology. Koren G. *Canadian Institutes of Health Research* ($584,309 2007-2011)
DIVISION HEAD
Dr. Darcy Fehlings

FULL-TIME
Dr. Evdokia Anagnostou
Dr. Douglas Biggar
Dr. Elizabeth Jimenez
Dr. Anne Kawamura
Dr. Alvin Loh
Dr. Laura McAdam
Dr. Golda Milo-Manson
Dr. Angela Orsino
Dr. Wendy Roberts
Dr. Jay Rosenfield
Dr. Peter Rumney

PART-TIME AND/OR COMMUNITY PHYSICIANS:
Dr. Paige Church
Dr. Janine Flanagan
Dr. Cynthia Goldfarb
Dr. Mark Handley-Derry
Dr. Carolyn Hunt
Dr. Nicola Jones-Stirkreef
Dr. Peggy Kirkpatrick
Dr. Donal O’Leary
Dr. Anne Richards
Dr. Clive Schwartz
The Division of Developmental Paediatrics is situated at Bloorview Kids Rehab. The division consists of 11 full-time physicians as well as a strong community section of developmental paediatricians. The main clinical focus of the division is on childhood developmental disorders such as cerebral palsy and autism spectrum disorders. In addition, there is a strong rehabilitation component with the acquired brain injury and neuromuscular programs. This year, the division welcomed Dr. Evdokia Anagnostou, a paediatric neurologist/clinician scientist whose clinical and research expertise focuses on children with autism spectrum disorders.

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. There is also a strong commitment to training paediatric and psychiatry residents and medical students in applied childhood disability.

An exciting event for the division was the creation in 2007 of the Bloorview Children's Hospital Foundation/University of Toronto Endowed Chair in Developmental Paediatrics. Dr. Darcy Fehlings, Division Head, is the inaugural holder of this leadership chair.

The division members actively lead and participate in applied clinical research in childhood disability studies in association with the Bloorview Research Institute led by Dr. Colin Macarthur.

HONOURS AND AWARDS
Anagnostou E: Division of Developmental Paediatrics Faculty Teaching Award, 2009
Goldfarb C: Marjory Morphy Award, North York General Hospital, 2009
McKeever P: Provostial Merit Award, University of Toronto, 2008
Roberts W: Surrey Place Centre, Inspiring Hope Awards & Recognition Event, June Callwood Award Recipient, 2009

PUBLICATIONS
Hodnett E, McKeever P, Stemler R, Weston J: Re-conceptualizing
the hospital labor room: The PLACE (Pregnant and Laboring in
pp 159-166.

Huertas-Ceballos, Logan S, Bennett C, Macarthur C:
Psychosocial interventions for recurrent abdominal pain (RAP)
and irritable bowel syndrome (IBS) in childhood. Cochrane
Database of Systematic Review 2008: CD003014.

Kuban KC, O’Shea M, Allred E, Leviton A, Gilmore H,
DuPlessis A, Krishnamoorthy K, Hahn C, Soul J, O’Connor SE,
Miller K, Church PT, Keller C, Bream R, Adair R, Miller A,
Romano E, Bassan H, Kerkering K, Engelke S, Marshall D,
Milowic K, Werewszczak J, Hubbard C, Washburn L, Dillard R,
Heller C, Burdo-Hartman W, Fehlings DL, Sutton D, Karna P,
Olomo N, Caldarelli L, Oca M, Lohr K, Scheiner A: An algorithm
for diagnosing and classifying cerebral palsy in young children.

Kwaike G, Roberts W, Brian J, Bryson S, Smith IM, Szatmari P,
Zwaigenbaum L: Immunization uptake in siblings of children

Liu XQ, Paterson A, Szatmari P, Roberts W, Autism Genome
Project Consortium: Genome-wide linkage analyses of
quantitative and categorical autism subphenotypes.
Biological Psychiatry 2008: 64(7): pp 561-570.

Murphy A, Milo-Manson G, Best A, Campbell K, Fehlings D:
The impact of modafinil on spasticity reduction and quality
of life in children with cerebral palsy. Developmental Medicine

Noor A, Gianakopoulos PJ, Fernandez B, Marshall C, Scherer SW,
Szatmari P, Roberts SW, Vincent JB: Copy number variation
analysis and sequencing of the X-linked mental retardation
gene TSPAN7/TM4SF2 in patients with Autism Spectrum

Rosenfield J, Towle A: Report on international comparisons –
The Netherlands (Supplemental report of the international
comparisons). The Association of Faculties of Medicine of
Canada 2008: November.

Shildrick M, McKeever P, Abbey S, Poole J, Ross H:
Troubling dimensions of heart transplantation.

Vajsar J, Baskin B, Swoboda K, Biggar WD, Schachter H,
Ray PN: Walker-Warburg syndrome with POMT1 mutations can
be associated with cleft lip and cleft palate. Neuromuscular

Vincent JB, Noor A, Scherer SW, Roberts W, Wagner K, Kroisel PM,
Petek E, Windpassinger C, Gianakopoulos P, Schwarzbraun T,
Petek E, Alfred SE, Stachowiak B: Characterization of a de
novo translocation t (5;18) (q33.1;q12.1) in an autistic boy
identifies a breakpoint close to SH3TCZ, ADRB2, and HTR4
on 5q, and within the desmocollin gene cluster on 18q.
American Journal of Medical Genetics, Part B. Neuropsychiatric
Genetics 2008: December 11 [Epub ahead of print].

Wright JG, Smith PL, Owen JL, Fehlings DL: Assessing
functional outcomes of children with muscular dystrophy
and scoliosis: The muscular dystrophy spine questionnaire.
BOOKS AND BOOK CHAPTERS


FUNDING


Artificial intelligence in rehabilitation engineering. Fernie G, Macarthur C, Santerre P, Dickinson S. Canada Excellence Research Chair Program (CERC) ($10,000,000 2009-2016)


Autism intervention research network on physical health (Toronto site as a collaborating research entity - development of clinical guidelines in ASD). Perrin J, Loh A. Health Resources and Services Administration ($400,882 2008-2010)


Canadian Injury Indicators Development, Phase II. Pike I, Macpherson A, Macarthur C, Warda L, Babul S, Goodman D, Raina P. *Canadian Institutes of Health Research* ($225,000 2008-2011)


Children’s, parent’s and rehabilitation professionals’ beliefs regarding the value of walking: Implications for rehabilitation with children with cerebral palsy. Gibson B, Wright V, Fehlings D, McKeever P, Young N. *Social Sciences and Humanities Research Services* ($35,351 2008-2009)


Genome wide DNA methylation profiling in autism. Weksberg R, Roberts SW, Scherer S. Canadian Institutes of Health Research ($649,518 2008-2011)


Long term follow-up of boys with Duchene muscular dystrophy. Biggar WD. Cooperative International Neuromuscular Research Group ($6,000 2007-2012)


The experience of autism over the course of paediatric development. Nicholas D, Roberts SW, McKeever P. SickKids Foundation ($95,996 2008-2010)


The lived experience of mothers of children with autism. Nicholas D, Roberts SW, McKeever P. Social Sciences and Humanities Research Council ($154,000 2008-2011)

The reliability and validity of the Paediatric Autism Early Diagnosis Tool (PAED) - A pilot project. Roberts SG, Green P, Shouldice M, Wright V. Bloorview Research Institute Seed Grant ($17,400 2006-2008)


Training program in collaborative academic rehabilitation engineering (CARE). Chau T, Macarthur C. National Sciences and Engineering Research Council ($1,600,000 2009-2015)

Validation of accelerometry as a measure of physical activity and inactivity in children with chronic diseases. Feldman B, Stephens S, Biggar WD. Canadian Institutes of Health Research ($60,000 2008-2009)


Western Canada standards of care for Duchene muscular dystrophy. Mah J, Moore M, Biggar WD. Porticus Foundation ($23,125 2008)
DIVISION HEAD
Dr. Mark R. Palmert

FULL-TIME
Dr. Denis Daneman
Dr. Jill Hamilton
Dr. Farid Mahmud

Dr. Kusiel Perlman
Dr. Etienne Sochett
Dr. Diane Wherrett

PART-TIME
Dr. Jacqueline Curtis

GYNAECOLOGY
Dr. Lisa Allen
Dr. Nicolette Caccia
Dr. Sari Kives

Dr. Susan Kirsch
Dr. Stacey Urbach

Dr. Melanie Ornstein
Dr. Rachel Spitzer

FELLOW - GYNAECOLOGY
Dr. Angali Aggarwal

CROSS-APPOINTEES
Dr. Amira Klip
Dr. Joanne Rovet

HONOURARY
Dr. Robert Ehrlich
DIVISIONAL OVERVIEW

Last year was another productive year for the Division of Endocrinology with ongoing development of existing programs and new innovations. Dr. Diane Wherrett took over as Director of our Subspecialty Training Program after a long tenure by Dr. Perlman. This year, we had eight trainees in our subspecialty training program: three Canadian, two Irish, two Israelis and one from Germany.

Our areas of clinical focus continue to be: Diabetes: our comprehensive program provides ongoing care to nearly 1,000 children and teens with diabetes, including a program for comprehensive assessment and treatment for adolescents with chronically poor diabetes control. A new program for youth with Type 2 diabetes is also being developed; General Endocrinology: emphasizing the areas of growth, thyroid disease, intersex conditions, pubertal disorders and reproductive health; Calcium: the Calcium-Bone and Osteoporosis Clinics assess children with abnormal bone health from a wide variety of causes and is now part of a new multidisciplinary Bone Health Centre; and Gynecology section: provides care to pre-teen and adolescent girls across a wide spectrum of disorders.

We continue to further develop our pathways for the care of children with thyroid cancer in collaboration with Oncology, Otolaryngology and Nuclear Medicine to enhance our program designed to provide care to survivors of paediatric cancer who develop endocrine abnormalities. We are also working to further develop our hypothalamic obesity program, with inclusion of a small number of patients with multiple medical problems stemming from being overweight.

Our research efforts have targeted the following areas: prediction and prevention of type 1 diabetes: our group is involved in the multinational TrialNet and TRIGR study groups; implications of insulin resistance and obesity in children and adolescents and the evolution of these abnormalities in young children; study of the factors affecting metabolic control and the early complications of diabetes; psychosocial and psychological outcomes in diabetes and other endocrine disorders; evaluation of disorders of calcium and bone mineral metabolism in paediatrics; and clinical- and laboratory-based investigations of complex genetic traits with an emphasis on identification of genes that regulate the timing of puberty.
PUBLICATIONS


Simic NN, Asztalos EV, Rovet J: 3-month neurocognitive development in preterm infants: Impact of thyroid hormone deficiency and neonatal medical morbidity. Thyroid 2009: 19: pp 395-401.


BOOKS AND BOOK CHAPTERS


FUNDING


Bypassing insulin resistance of muscle cells caused by ceramide, oxidative stress and macrophage-co-culture. Klip A. Canadian Diabetes Association ($300,000 2006-2009)

Brain function in FASD: Neuroanatomy of memory mapping. Rovet J. Canadian Foundation for Fetal Alcohol Research ($64,000 2008-2010)

Comparison of continuous versus cyclical use of a 30-MCG ethinyl estradiol 0.15 mg desogestrel oral contraceptive pill in adolescents. Allen L, Brown C. Akzo Nobel – Organon Canada ($24,500 2006-2011)

Comparison of continuous versus cyclical use of a 30-MCG ethinyl estradiol 0.15 mg desogestrel oral contraceptive pill in adolescents. Allen L, Brown C. Physicians’ Services Incorporated Foundation ($70,500 2006-2011)

Exploring the mechanisms of risk for type 2 diabetes in adolescents. Hamilton J, O’Gorman C. Adrian and Rita Hudson Fund at the Toronto Community Foundation ($38,611 2009-2010)

Gene by environment interactions that modulate pubertal timing. Palmert MR, Grasemann C. The Hospital for Sick Children Research Training Centre ($80,000 2009-2010)

Genetic factors that regulate the onset of puberty. Palmert MR. National Institutes of Health/National Institute of Child Health & Human Development ($1,633,256 2005-2010)

Growth hormone therapy and bone quality in pediatric osteoporosis. Sochett E, Grynpas M. Eli Lilly Canada ($125,000 2006-2009)

Hemodynamic modulation in type 1 diabetes. Miller J, Sochett E, Cherney D. Canadian Institutes of Health Research ($127,603 2007-2012)


Insulin sensitization by muscle contraction pathways: Implications for insulin resistance. Klip A. Canadian Institutes of Health Research/National Natural Science Foundation of China: China-Canada Joint Health Research Initiative ($90,000 2006-2009)

Intracellular compartment plasticity and signal transmission in insulin action. Klip A. Canadian Institutes of Health Research ($759,560 2005-2010)
Mapping brain function in Fetal Alcohol Spectrum Disorders: Neuroanatomy of memory. Rovet, J. *Canadian Institutes of Health Research* ($100,000 2008-2011)

Mobile phone-based self-management system for adolescents with Type 1 diabetes mellitus: A home-based self-care tool that links the client and family with their health care team. Cafazzo J, Palmert MR, Katzman D. *Applied Client-Focused Team (ACT) Grant, St. Elizabeth’s Care to Know Center* ($119,000 2009-2010)


Psychosocial adjustment in genetic males born with ambiguous genitalia. Wherrett DK. *The Hospital for Sick Children Research Institute Seed Grant* ($15,590 2001-2008)


The genetics and neuroendocrinology of short stature (GeNeSIS). Hamilton J. *Lilly International Growth Study* ($58,542 2002-2008)

The GH Monitor Registry. Site PI: Hamilton J. *Serono Canada Incorporated* (Funding is distributed on a per patient basis) ($6,200 2005-2010)


The role of eyes and gaze in normal and abnormal social cognition development. Rovet J. *Canadian Institutes of Health Research* ($100,000 2009-2011)

Treatment Options for Type 2 Diabetes in Adolescents and Youth (TODAY). Palmert MR, Dahms W. *National Institutes of Health/National Institute of Diabetes and Digestive and Kidney Diseases* ($3,240,000 2002-2010)

Type 1 diabetes TrialNet - the impact of GAD on preservation of β-cell function. Wherrett DK. *National Institutes of Health* (US$550,000 2001-2008)

Type 1 diabetes genetics consortium. Wherrett DK. *National Institutes of Health contract with Benaroya Research Institute* (US$15,000 2004-2009)

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<th>DIVISION HEAD</th>
<th>Dr. Anne Griffiths</th>
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<td>FULL-TIME</td>
<td>Dr. Peter Durie</td>
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<td>CLINICAL FELLOWS</td>
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<td>RESEARCH FELLOWS</td>
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<td>Juan Gana</td>
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DIVISIONAL OVERVIEW
The Division of Gastroenterology, Hepatology and Nutrition provides subspecialty clinical care to children and adolescents with gastrointestinal, pancreatic, hepatologic and nutritional disorders, including the care of those who have undergone liver and/or small bowel transplantation. Last year, the faculty included 6 clinician-scientists, 1 clinician-investigator and 3.4 clinician-specialists. Divisional faculty conduct research which spans the spectrum from basic and translational to patient-based in such areas as inflammatory bowel disease, pancreatic diseases, ulcer disease, liver diseases, post-transplantation outcomes, GI microbiology and immunology, nutritional metabolism and nutrient requirements.

The division is responsible for the University of Toronto fellowship training program in paediatric gastroenterology, hepatology and nutrition, which has an international reputation for training academic subspecialists. The program consists of one year of clinical training and two or more research years. The clinical component includes a wide array of experiences including: procedures (endoscopy, manometry and calorimetry); in-patient management of complex patients, including those awaiting and undergoing transplantation; those with inflammatory bowel disease; and ambulatory clinics (including home-TPN, dysphagia, general GI, IBD, hepatology, transplantation and nutrition). Evidence-based educational rounds, research seminars, pathology conferences and journal clubs round out the educational program. Many of our fellows in the research program combine a formal degree-granting program at the University of Toronto (MSc or PhD) within their research fellowship years. The majority of our fellows have gone on to very successful careers in academic paediatric gastroenterology, with many now in leadership positions in paediatric departments or divisions of gastroenterology in Canada and around the world.

This year, divisional members have published over 60 peer-reviewed publications, nine book chapters and have received well over $10 million dollars of grant funding for projects spanning the next five years. Staff and fellows have been honoured with many awards, fellowships and named lectureships.

STAFF
Jones NL: Canadian Association of Gastroenterology Young Educator Award, 2009
Muise A: Canadian Research Award for Specialty Residents, Royal College of Physicians and Surgeon of Canada, 2008
Sherman P: Canadian Association of Gastroenterology Kopelman Memorial Lecture Award, 2009

TRAINNEES
Benchimol E: Canadian Child Health Clinician-Scientist Program Doctoral Award, 2008
Benchimol E: NASPGHAN-CDHNF Fellow to Faculty Transition Award in Inflammatory Bowel Diseases, 2008
Benchimol E: Canadian Child Health Clinician-Scientist Program Doctoral Award, 2008
Benchimol E: Exceptional Trainee Award, Research Institute, The Hospital for Sick Children, Toronto, 2008

NURSE PRACTITIONERS
Maria D’Angelo
Karen Frost

AMBULATORY NURSES
Zenaida Chirre
Debra Harrison

ADMINISTRATIVE STAFF
Chona Callejo
PUBLICATIONS


Hussey S, Travasso LH, Jones NL: Autophagy as an emerging dimension to adaptive and innate immunity. Seminars in Immunology 2009: June 6 [Epub ahead of print].


Turner D, Zlotkin SH, Shah PS, Griffiths AM. Omega 3 fatty acids (fish oil) for maintenance in Crohn’s Disease. Cochrane Database of Systematic Reviews 2009: CD006320.


**BOOKS AND BOOK CHAPTERS**


**FUNDING**


A multi-disciplinary human study on the genetic, environmental and microbial interactions that cause IBD. Croitoru K, Griffiths AM, Ropelski M, Moyeddi P. Crohn's and Colitis Foundation of Canada ($5,600,000 2007-2012)

A prospective study of linear growth in paediatric IBD. Denson LA, Griffiths AM. Crohn's and Colitis Foundation of America ($150,000/year 2007-2010)

Adalimumab in pediatric Crohn’s disease: A multicentre study. Griffiths AM. Abbott Laboratories (per patient remuneration; anticipated $90,000 2007-2009)

Arginine and CF. Grasemann H, Ratjen F, Pencharz P. Canadian Cystic Fibrosis Foundation ($140,000 2007-2010)


Cystic Fibrosis Liver Disease Research Group. Ling SC, Durie P, Navarro O. Cystic Fibrosis Foundation ($333,000 2009-2013)


Development of a new sweat test using sweat potential measurements. Durie PR. Cystic Fibrosis Foundation Therapeutics, Inc. (US$70,818 2008)

Diagnosing cystic fibrosis in neonates and adults: Where do we draw the line? Durie PR, Tullis E, Ratjen F. Canadian Cystic Fibrosis Foundation ($120,000/year 2008-2011)

Epithelial cell signaling responses to attaching-effacing intestinal pathogens. Sherman PM. *Canadian Institutes of Health Research* ($752,500 2008-2013)

Evaluation of CFTR function ex-vivo in sweat glands of perfused skin as a translational tool for future drug trials in CF. Durie PR, Pang C, Bear CE, Gonska T. *SickKids Research Institute, New Ideas Grant* ($50,000 2008-2009)


Genetic predictors of time to recurrence following ileal resection in early onset Crohn disease. McLeod R, Griffiths AM. *Crohn’s and Colitis Foundation of Canada* ($150,000/year 2007-2010)


Induction of autophagy by H. pylori. Jones NL. *Canadian Association of Gastroenterology/Canadian Institute of Health Research/Abbott* ($45,000 2007-2009)

Infliximab in pediatric ulcerative colitis: A multicentre study. Griffiths AM. *Centocor* (per patient remuneration; anticipated $100,000 2007-2009)

Investigation of Helicobacter pylori survival in host cells. Jones NL. *Early Researcher Award, Ontario Ministry of Research and Innovation* ($150,000 2006-2011)

Molecular genetics, SBDS function and deficiency in SDS. Rommens JM, Durie PR. *National Institutes of Health* ($1,250,000 2004-2009)

Molecular phenotypes for cystic fibrosis lung disease. Knowles M, Durie PR. *National Institutes of Health* (US$60,000/Year 1 2008-2012)

Neonatal protein and energy metabolism. Pencharz P. *Canadian Institutes of Health Research* ($136,817 2006-2011)

Non-invasive tests for the diagnosis of esophageal varices. Ling SC. *Canadian Institutes of Health Research Synthesis Grant: Knowledge Translation* ($68,865 2008-2009)


Protocol A463-08 “Evaluation of the pharmacokinetics, safety, tolerability and efficacy of entecavir (ETV) in pediatric subjects with chronic hepatitis B virus (HBV) infection who are HBeAg-positive”. Ling SC. *Bristol-Myers Squibb* ($25,000/patient 2007-2013)
Role of ATG16L1 in Crohn’s disease. Jones NL: *Crohn’s and Colitis Foundation of Canada* ($150,000/year 2008-2011)

Role of autophagy in Helicobacter pylori infection and disease. Jones NL. *Canadian Institute of Health Research* ($103,959/year 2008-2013)

Role of probiotics in the management of experimental inflammatory bowel disease. Sherman PM. *Crohn’s and Colitis Foundation of Canada “Fay Shapiro Cutler Grant-In-Aid of Research* ($375,000 2007-2010)

Salary Award: Tier 1 (renewal). Sherman PM. *Canada Research Chair* ($1,400,000 2008-2015)


Sprinkles project support. Zlotkin S. *HJ Heinz Company Foundation* (US$300,000 2008-2009)


Studies of the proteins involved in Inflammatory Bowel Disease. Muise A. *Canadian Child Health Clinician Scientist Program* ($20,000 2008-2012)


The contribution of genetic modulators of disease severity in cystic fibrosis to other diseases with similarities of clinical phenotype. Durie PR, Zielenski J. *Genome Canada* ($5,787,662 2005-2009)

The gut microbiome in health, development and disease. Jones NL, Tarr P. *National Institute of Health Research, R13 grant* (US$25,000 2008)

The role of adherens junction protein in IBD. Muise A. *Crohn’s and Colitis Foundation of Canada/Canadian Association of Gastroenterology/Canadian Institute of Health Research* ($460,000 2008-2012)

The role of NADPH oxidases in Crohn’s Disease. Muise A, Burmell J. *Canadian Institute of Health Research* ($771,360 2009-2014)

The use of indicator amino acid oxidation to determine amino acid requirement. Pencharz P, Ball R. *Canadian Institutes of Health Research* ($152,967 2005-2010)

Understanding the genes involved in Inflammatory Bowel Disease. Muise A. *Ontario Ministry of Research and Innovation* ($100,000 2009-2014)
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<th>DIVISION HEAD</th>
<th>Dr. Victor Blanchette</th>
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<td>FULL-TIME FACULTY</td>
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<td>Dr. Oussama Abla</td>
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<td>Dr. Ute Bartels</td>
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The Division of Haematology/Oncology provides a diagnostic service and specialist care for children under the age of 18 who have cancer (paediatric oncology), non-malignant blood disorders (paediatric hematology) and hematopoietic stem cell (blood and marrow) transplantation. The division is the largest of its kind in Canada and among the largest worldwide. Approximately 300 new cancer cases are registered in the oncology program each year and SickKids is the designated site for haematopoietic stem cell transplantation for children in the Province of Ontario.

Reflecting the size and diversity of its clinical services, the division is functionally organized into six sections and three programs: the leukemia/lymphoma section (Section Head, Dr. Sheila Weitzman); the neurooncology (brain tumor) section (Section Head, Dr. Eric Bouffet); the solid tumor section (Section Head, Dr. Ron Grant); the blood and marrow transplantation section (Section Head, Dr. John Doyle); the haematology section (Section Head, Dr. Victor Blanchette); the in-patient services section (Section Head, Dr. Sarah Alexander); the long-term followup program (Program Head, Dr. Mark Greenberg); the new agents and experimental therapies program (Program Head, Dr. Sylvain Baruchel); and the cancer genetics program (Program Co-Heads, Dr. David Malkin and Dr. Rosanna Weksberg). The haematology section has large programs in paediatric thrombosis and haemostasis, the paediatric haemoglobinopathies and the paediatric marrow failure syndromes. The division is an active member of the Children's Oncology Group (COG), the largest paediatric clinical trials group in North America (SickKids Principal Investigator, Dr. Ron Grant) and is committed to the improvement in outcomes of children with cancer through participation in ethics approved, prospective clinical trials. The division is a member of the paediatric oncology Phase 1 Consortium of COG (Principal Investigator, Dr. Sylvain Baruchel) and is an active participant in activities of the Société Internationale d'Oncologie Pédiatrique (SIOP), the Histiocyte Society and the Berlin Frankfurt Munster (BFM) paediatric leukemia clinical trials group.

Research in the division spans clinical to basic science with a special focus on translational research. Currently, 14 of the division’s 29 full-time faculty have appointments as clinician-scientists or clinician-investigators in the Department of Paediatrics 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, pharmacy, psychology, social work). 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.

The Comprehensive Cancer Centre at SickKids has completed its second year. Highlights of the year included the coordination of two very successful education events, the Sarcoma Awareness Day and a Paediatric Chemotherapy Update Course plus the initiation of a new grants competition targeted to paediatric oncology. The centre serves as the hub linking clinicians and researchers working in the field of cancer at SickKids with the goal of establishing the hospital as an international leader in the field of paediatric cancer research, education and clinical care. The Executive of the Comprehensive Cancer Centre includes Dr. David Malkin, Dr. David Kaplan, Dr. James Rutka, Judy Van Clieaf and Dr. Victor Blanchette.

The administrative team for the division includes Dr. Victor Blanchette (Division Head), Dr. Sheila Weitzman (Associate Director, Clinical), Judy Van Clieaf (Director, Child Health Services) and Lucy Holford (Administrator, Administrative and Support Services).
HONOURS AND AWARDS
Blanchette V: Alan Ross Award, Canadian Pediatric Society, 2009
Brandao L: Alvin Zipursky Teaching Award, Division of Haematology/Oncology, The Hospital for Sick Children, 2009
Hitzler J: Schwartz-Reisman Visiting SickKids Scholar Award, 2008
Kahr W: Phase II Clinician Scientist Award, Heart and Stroke Foundation of Ontario, 2009
Kirby M: The Claus Wirsig Humanitarian Award, The Hospital for Sick Children, 2009

PUBLICATIONS


Biss TT, Chan AK, Blanchette VS, Iwenofu LN, McLimont M, Carcao MD, for the Association of Hemophilia Clinic Directors of Canada (AHCDC) and the Canadian Association of Nurses in Hemophilia Care (CANHC): Current practice in haemophilia prophylaxis: Results of a Canadian survey. Haemophilia 2008: 14: pp 923-930.


Dr. A. Lee Chong
Dr. M. Liebman
Dr. O. Mosteh
Dr. K. Phruakpet
Dr. M. Rojas
Dr. C. Segheila

Dr. F. Shaikh
Dr. P. Sivapraekasam
Dr. S. Y. Soh
Dr. O. Teuffel
Dr. M. van den Akker
Dr. V. van Eimeren

Dr. K. Weingarten
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Dr. F. Shaikh
Dr. P. Sivapraekasam
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Dr. M. van den Akker
Dr. V. van Eimeren

Dr. K. Weingarten
Dr. B. Williams
Dr. P. Wong
Dr. P. Yensón

Dr. I. Zaidman

ADMINISTRATIVE STAFF
Rhonda Adams
Bibi Ali
Ingrid Argiroopoulos
Barbara Black
Sandra Cartbone-Walker
Connie Grillo

Lucy Holford
Tiffany Jiminez
Shanaz Karim
Philippa McCaffrey
Sylvia Muir
Audrey Soroka
Annabel Sousa


BOOKS AND BOOK CHAPTERS


FUNDING
A group wide phase II study of ET-743 in recurrent pediatric sarcoma. Baruchel S. Children’s Oncology Group ($75,000 2007-2010)

A multi-centre, open-label, single-arm, and multiple dosing trial on efficacy and safety of monthly recombinant factor XIII (rFXIII) in subjects with congenital factor XIII deficiency. Carcao M, Blanchette V. Novo Nordisk ($14,527.80/patient 2009-present)

A Phase I/II study of CP751,851 and IGF IR antibody in refractory/recurrent solid tumors. (Funding amount awarded is per patient). Baruchel S. Pfizer ($22,349 2008-2010)

A Phase I/II study of Temsirolimus in refractory/recurrent solid tumors. (Funding includes an additional $31,800 per patient). Baruchel S. Wyeth CSA ($75,072 2008-2010)

A prospective non-interventional study to describe health-related quality of life of youth and young adults with moderate or severe hemophilia A using recombinant factor VIII (Helixate FS). St. Louis J, Young N, Blanchette V. **CSL Behring** ($296,388 2009-2013)

Characterization of JPO2, a novel c-Myc co-transforming protein. Rodrigues T, Huang A. **Canadian Institutes of Health Research Doctoral Research Awards** ($63,000 2007-2010)

Characterization of novel oncogenic loci in childhood primitive neuroectodermal brain tumors. Huang A, **Canadian Institutes of Health Research** ($450,000 2009-2013)

Biochemical and genetic analyses of JPO2, a novel c-Myc oncogene interacting protein. New investigators equipment grant. Huang A. **National Cancer Institute of Canada** ($29,479 2006-2009)

Biochemical and genetic analyses of JPO2, a novel c-Myc oncogene interacting protein. Huang A. **National Cancer Institute of Canada** ($440,082 2006-2010)

Characterization of novel oncogenic loci in childhood primitive neuroectodermal brain tumors. Huang A. **Canadian Institutes of Health Research** ($450,000 2009-2013)


DNA copy number variation in Li-Fraumeni Syndrome. Malkin D. Canadian Institutes for Health Research ($100,000 2008-2009)


Genetic alterations converge on cell adhesion pathways in childhood sPNET. Huang A. Brain Tumor Society ($200,000 2008-2010)

Genetic causes of neutropenia and susceptibility to leukemia in patients with inherited neutropenia. Dror Y. Neutropenia Association of Canada ($30,000 2008-2009)

Genetic determinants of predisposition to childhood brain tumor initiation and progression. Tabori U, Malkin D. Brain Tumour Research Assistance and Information Network (b.r.a.i.n.child) ($49,500 2008-2010)

Genetic epidemiology of osteosarcoma. Spector L, Malkin D, Ross, J, Sklar C, Nagarajan R. National Institutes of Health ($1,000,000 2006-2011)

Genetic predisposition for bone marrow failure. Dror Y. Donor Directed Funds ($20,000 2008-2010)

Genetic variation and risk of infection in children with primary acute myeloid leukemia. Sung, L. Ministry of Research and Innovation ($100,000 2007-2011)

Identification of genetic pathways that regulate survival and development of cancer and cancer stem cells. Guidos C, Hitzler J. Genome Canada ($330,000 2005-2009)

Identification of leukemogenic genes that convert a normal human hematopoietic cell into a leukemic stem cell. Dick J, Hitzler J. Specialized Center of Research (SCOR)/Leukemia Lymphoma Society Grant ($748,575 2004-2009)


In vivo anti-tumor and anti-metastatic activity of administration of CXCR4 antagonist and anti-CTLA4 in neuroblastoma. Baruchel S. Pfizer Canada Inc. ($52,200 2008-2009)
Mechanism of pre-B cell leukemogenesis. Subversion of developmental and survival programs in leukemogenesis. Guidos C, Hitzler J. Specialized Center of Research (SCOR)/Leukemia Lymphoma Society ($750,000 2004-2009)

Moderate term musculoskeletal outcomes with escalating dose prophylaxis: The Canadian Hemophilia Prophylaxis Follow-Up Study (CHPS-3). Feldman BM, Blanchette VS. Bayer ($742,500 2006-2009)

Modulation of p73 by cyclo-oxygenase inhibitors in neuroblastoma. Irwin MS. National Cancer Institute of Canada/Canadian Cancer Society ($373,829 2008-2011)


Molecular basis of CNS leukemia. Subversion of developmental and survival programs in leukemogenesis. Danska J, Hitzler J. Specialized Center of Research (SCOR)/Leukemia Lymphoma Society ($750,000 2004-2009)

Molecular determinants of tumor formation in Li-Fraumeni Syndrome. Malkin D. National Cancer Institute of Canada ($423,000 2007-2010)


Neuroblastoma stem cell bank and a preclinical research unit in novel therapeutic drug discovery. Baruchel S. Solving Kids Cancer NYC ($400,000 2008-2009)

p53 family in cancer and chemosensitivity. Irwin MS. Premier’s Research Excellence Award ($150,000 2004-2009)

p73 modulatory proteins: Roles in apoptosis and chemosensitivity. Irwin MS. National Cancer Institute of Canada/Canadian Cancer Society ($400,682 2007-2010)


Predicting the risk of infection in children receiving chemotherapy for acute myeloid leukemia. Sung L, Allen U, Beyene J. Canadian Institutes for Health Research ($582,104 2008-2012)


Prevalence and characterization of post-thrombotic syndrome after pediatric cardiac surgery. McRindle BW, Manthiot C, Brandão L, Williams S, Chan AK, Gruenwald CE, Menjak IB. Labatt Family Heart Centre ($39,56; 2009-2010)
Prognostic and therapeutic implications for telomere maintenance and telomerase inhibition in pediatric high grade gliomas. Tabori U. Canadian Institutes for Health Research ($385,811 2008-2011)

Rodin: Research Of Determinants of Inhibitor development among previously untreated patients with haemophilia. Carcao M, Blanchette V. University Medical Center Utrecht (€600/patient 2007-present)

Role of p73 in neuroblastoma and sensitivity to therapy. Irwin MS. Elsie Winifred Crann Memorial Trust Award for Research in Life Sciences, University of Toronto ($35,000 2008-2010)

Role of SATB2-p63 Interaction in HNSCC and chemosensitivity. Irwin MS. Cancer Research Society ($120,000 2008-2010)


Sibling and parent bereavement from childhood cancer. Gerhardt C, Barrera M, Capra M. National Cancer Institute of Canada/The Hospital for Sick Children ($92,000 2005-2010)


Thalassemia Clinical Research Network Registry. Kirby M. National Institutes of Health ($45,696 2005-2010)

The biologic and prognostic role of replicative and oncogene induced senescence in pediatric low grade gliomas. Tabori U. Brain Tumor Society ($220,000 2007-2009)

The estrogen receptor pathway as a therapeutic target in rhabdomyosarcoma. Malkin D. Candlelighters Canada - Sandra Sharpe Rhabdomyosarcoma Fund ($59,484 2008-2009)

The genetic basis of severe sickle cell disease: The never lost international cohort study. Children’s Discovery Institute ($149,968 2008-2012)


The role of SBDS in promoting cell survival. Dror Y. *Canadian Institutes of Health Research* ($250,000 2006-2011)

The roles of the novel p53 family proteins in cancer and chemosensivity. Irwin MS. *Canada Research Chair, Tier II Renewal* (Salary Award) ($500,000 2008-2013)

The role of VPS33B in platelet alpha granule formation. Kahr WHA. *Heart and Stroke Foundation of Ontario* ($210,750 2006-2009)

The role of VPS33B in platelet alpha granule formation. Kahr WHA. *Canadian Institutes of Health Research* ($441,912 2006-2010)

The utility of a pan-fungal PCR assay in detecting fungemia in at-risk patients. Doyle J, Richardson S, Allen U. *Paediatric Consultants Grant* ($9,772 2008-2009)

The Von Willebrand Disease (VWD) international prophylaxis (VIP) study. Carcao M. *CSL Behring* (US$2,500/patient 2009-present)


Treatment choices for children with typical acute immune thrombocytopenic purpura: development of a decision aid. Beck C, Parkin P, Birken C, Blanchette V, Boydell K, Llewellyn-Thomas H. *Dean’s Fund New Staff Grants Program, Faculty of Medicine, University of Toronto* ($10,000 2006-2011)


DIVISION HEAD
Dr. Chaim Roifman

FULL-TIME
Dr. Adelle Atkinson
Dr. Eyal Grunebaum

PART-TIME
Dr. Maria Asper
Dr. Milton Gold
Dr. David Hummel
Dr. Sasson Lavi
Dr. Stephen Feanny

CLINICAL ASSISTANT
Dr. Julia Upton

CLINICAL FELLOWS
Dr. Fotini Kavadas
Dr. Elana Lavine

Dr. Amit Nahum
Dr. Vy Kim
Dr. Nashat Al Sukaiti
Dr. Kyla Hildebrand
Dr. Nufar Marcus
Dr. Melanie Makhija

IMMUNOLOGY NURSE
Brenda Reid

ALLERGY NURSE
Elisabeth White
DIVISIONAL OVERVIEW

The Division of Immunology and Allergy remains at the forefront of innovation in Primary Immune Deficiencies (PID). As the Founder and Director of the Canadian Centre for PID, Jeffrey Modell Centers Network and the Canadian Immunodeficiency Society, Dr. Chaim Roifman’s national programs support research and are facilitating early recognition, diagnosis, research and effective treatment of primary immune deficiencies.

The PID program at SickKids is the largest centre of its kind in Canada and one of the largest in the world. Medical services are provided to over 2,000 outpatients referred from physicians and hospitals nationally. This number has steadily increased by 30 per cent over the last 10 years. With a total of nine clinics per month, evaluation of our complex patients is enhanced by providing extensive time and attention to their conditions.

The Hypogammaglobulinemia Program at SickKids is recognized globally for its innovative approach and long-term followup of over 200 patients. We transformed the therapy of these patients from multiple hospital-based admissions, to visiting the short stay unit and subsequently receiving treatment in their community. The proficiency of our team coupled with convenient care at a medical centre close to home, provides our patients with the personalized treatment they require. To further develop this program, implementation of a home therapy program is underway. Funding by the Canadian Immunodeficiency Society (CI Society) has permitted the completion of a provincial patient survey to assess such a model here in Ontario. The plan is to proceed with a clinical trial.

Innovative protocols pioneered in the late 1980s by Dr. Roifman have positioned the Bone Marrow Transplantation (BMT) program as one of the leading programs worldwide. In 1987, the matched unrelated donor transplant program was established. Today, we demonstrate the impact of our procedures with recent publications in the journals JAMA, BMT and JACI. These papers illustrate an 80 to 100 per cent survival rate for SCID and Omenn syndrome, respectively. In comparison, survival rates using other protocols hover around 50 per cent. This success can be attributed in part to the use of pulse high dose methylprednisolone to control GvHD (JACI 2008:122(6):1215).

As members of the IUIS committee, previously (WHO) for primary immunodeficiency, Dr. Roifman contributes to the creation of worldwide guidelines in PID. He similarly contributed a critical evaluation of various BMT modalities at an NIH consensus meeting in 2008. As a three-time guest editor of Clinics of North America, Dr. Roifman continues to provide leadership in the treatment of immune deficient patients with immunoglobulin therapy.

Constantly improving and expanding the horizons of research remains a focus in our division. Under the guidance of Dr. Roifman, as Director of the Canadian Centre for PID as well as the JMF Research Laboratory, we have discovered Omenn syndrome’s association with a DNA ligase IV mutation (JACI 2008:122:1219), SCID (JACI 2008:122:1082), and ADA (JACI 2008:121:1056). Several other seminal discoveries were made this year. Lyp, an important signaling enzyme which was first cloned and sequenced at Sickkids in Dr. Roifman’s Laboratory, was found in genome-wide studies to be closely associated with autoimmune disorders such as rheumatoid arthritis and type 1 Diabetes. In 2008, Dr. Roifman’s laboratory discovered Lyp’s link to susceptibility to candida infections as well as multiple endocrinopathy (JACI-2008, CMCC). This may provide the basis for future novel treatments for this condition.

The other important contribution was a product of an excellent collaboration with Dr. Notarangelo and his group in Brescia, Italy and at Harvard University in Boston. In this work, they described for the first time the wide range of clinical, laboratory pathological and genetic variability of cartilage hair hypoplasia. This work should aid clinicians in the early detection of this condition which might be critical for their survival (JACI 2008:122:1178).

In the field of T cell signalling, recent work on the Eph family of receptor kinases and their ligands, the ephrins, has demonstrated their role as regulators of T cell activation and migration (Molec Immunol 2008:45:1208). Eph receptor expression has likewise been shown to have an important role in cancer spread and may be critical in T cell lymphomas and leukemias.
Advancement in gene and protein therapy was further expanded by innovations in Dr. Eyal Grunebaum’s laboratory. Dr. Grunebaum’s group has perfected a novel method to efficiently deliver full-length Purine Nucleoside Phosphorylase (PNP) into cells. (J Clin Invest, 2006). To further this endeavour, his laboratory continues to develop safer methods of inserting genes into bone marrow cells. His success is illustrated in the creation of lentivirus gene therapy for purine nucleoside phosphorylase deficiency (J Gene Med, 2008). These will facilitate therapy for diseases such as PNP and Adenosine Deaminase (ADA) deficiency, while improving the substandard outcomes for these patients.

Education remains a major focus for every member of the division. Fully approved by the Royal College of Physician and Surgeons of Canada since 1990, the program provides excellent opportunities for training clinical as well as laboratory immunologists. It prepares both academic and non-academic specialists in immunology/allergy. We continue to attract more than 25 outstanding candidates every year from across the world. To accommodate these additional fellows, the CI Society-Talecris fellowship programs for national and international fellowships, has continued to support our program for over a decade. These trainees have the opportunity to participate in a flexible program which can be predominantly research oriented.

Our commitment to education goes beyond these training programs. As Chair of the Jeffrey Modell Centers Network, Dr. Roifman established The Robert A. Good/Jeffrey Modell Foundation Fellowship in Immunodeficiency and Transplantation. This international program will commence in 2009 and provide matching funds for several immunology fellowship positions each year globally. In addition, the Jeffrey Modell Canadian Immunodeficiency Network implemented the Primary Immunodeficiency Video Conference rounds for 2008. These Royal College accredited quarterly seminars, hosted by SickKids, link immunologists and trainees across Canada to discuss complex cases. Participation is accessible through telehealth video conferencing and through webcasting, with an average of 60 participants and seven national sites in our inaugural year.

Dr. Adelle Atkinson, now also the Director of Post Graduate Education in the Department of Paediatrics, continues to excel as an outstanding educator. In recognition of her achievements, she received the CI Society Physician’s Awareness Award for the fifth consecutive year and was honoured with the PAIRO Residency Program Excellence Award for 2008. Similarly Ms. Brenda Reid was presented with a nursing education grant for the fifth time by the CI Society as a leader in teaching primary immunodeficiency care to nurses globally.

Thanks to the support of The Donald & Audrey Campbell Chair, the Jeffrey Modell Foundation, the CI Society, Canadian Institutes of Health Research, March of Dimes and the Canadian Centre for Primary Immunodeficiency, children with primary immunodeficiency are diagnosed earlier and receive state-of-the-art treatment in a timely fashion.
HONOURS AND AWARDS
Roifman CM: Chair of the Jeffrey Modell Centres Network (39 centres worldwide). 2008 In conjunction with the National Institutes of Health has recently created The Fred Rosen - Jeffrey Modell Research Award. This award will support grants which have been considered in the NIH RO1 competition on immunodeficiency.

Atkinson A: PAIRO Residency Program Excellence Award, 2008

Atkinson A: CI Society Physician’s Awareness Award, 2008

Reid B: Nursing Awareness for PID, Canadian Immunodeficiency Society, 2008

Pires L: Promoted to the position of JMF Centres Manager, 2008

PUBLICATIONS


BOOKS AND BOOK CHAPTERS


BOOKS EDITED

FUNDING
Nursing awareness for primary immune deficiency. Reid B. Canadian Immune Deficiency Society ($6,500 2008)

Correcting purine nucleoside phosphorylase using lenti-virus mediated human PNP gene delivery into hematopoietic stem cells. Grunebaum E. SickKids Foundation/Institute of Human Development, Child and Youth Health, Canadian Institutes of Health Research ($130,000 2006-2008)

Correcting PNP deficiency by intracellular delivery of PNP fused to protein transduction domains. Grunebaum E. US Immunodeficiency Network ($330,000 2006-2008)

Correcting purine nucleoside phosphorylase deficiency by prolonged intracellular enzyme replacement therapy. Grunebaum E. March of Dimes ($390,000 2007-2010)

Primary Immunodeficiency (PID) Registry. Roifman CM. Canadian Blood Services/Bayer Inc. ($194,150 2004-2008)
DIVISION HEAD
Dr. Upton Allen

FULL-TIME
Dr. Sean Ari Bitnun
Dr. Anne Opavsky
Dr. Stanley E. Read
Dr. Dat Tran
Dr. Anupma Wadhwa
Dr. Valerie Waters

PART-TIME
Dr. Ian Kitai
Dr. Anne G. Matlow
Dr. Stanley Read
Dr. Alana Rosenthal

CLINICAL NURSES
Debra Lauch
Georgina MacDougall
Pat Malloy

SOCIAL WORKER
Robyn Salter
DIVISIONAL OVERVIEW

The Division of Infectious Diseases is a leader in clinical, educational and research activities locally, 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 a resource for issues related to infectious disease outbreaks, including new and emerging infections, infection control and specialized areas of HIV, congenital infections, management of infectious complications or organ transplantation and the ever-increasing problem of multi-drug resistant tuberculosis.

Division members have a leading role in national and international epidemiological, clinical, research advisory and related committees (e.g. the Infectious Diseases Society of America, the Canadian Paediatric Society, Health Canada, the American Society for Transplantation, the International Pediatric Transplant Association and the Government of the Bahamas).

Our research initiatives are structured around themes that include host susceptibility and related factors and innovative antimicrobial and associated therapies. Specific research initiatives include multi-centred paediatric HIV studies related to maternal-to-child transmission and studies on new antiretrovirals, vaccine studies and research into the mechanisms of host susceptibility to viral infections.

These infections include viral myocarditis, influenza illness, HIV, EBV-related post-transplant lymphoproliferative disorder (PTLD) and encephalitis. Multi-centred trials related to the diagnosis and prevention of infections in transplant patients are ongoing, as well as participation in national surveillance studies (IMPACT) and national collaborative paediatric studies through the Paediatric Investigators Collaborative Network on Infections in Canada (PICNIC). Our research in infection control includes the clinical and molecular epidemiology of paediatric nosocomial infections.

The division has continued to have a leadership role in structuring the approach to the management of major emerging and resurgent infectious disease threats. In this regard, the division has been very actively involved in influenza pandemic planning efforts at SickKids as well as provincially and nationally. Indeed, the division members had pivotal local, provincial, national and international leadership roles in Spring 2009’s H1N1 pandemic.

In the area of education, 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, postgraduate and continuing medical education activities. Faculty members continue to hold editorships, visiting professorships and related academic honours nationally and internationally.
HONOURS AND AWARDS
Allen U: Appointed to Council, International Pediatric Transplant Association

Allen U: St. Giles Foundation Fellow, Columbia University Seminar on National Health & Science Policy; sponsored by the National Shingles Foundation

PUBLICATIONS


Gubbay JB, Matlow AG: Commentary on 'Interventions for the interruption or reduction of the spread of respiratory viruses'. Evidence Based Child Health 2008: 3: pp 1016–1018.


Waters V, Ratjen F: Combination antimicrobial susceptibility testing for acute exacerbations in chronic infection of Pseudomonas aeruginosa in cystic fibrosis. Cochrane Database of Systematic Reviews 2008: CD00696.
BOOKS AND BOOK CHAPTERS


FUNDING
A multicentre double-blind, randomized, placebo-controlled, dose ranging trial evaluating the safety and efficacy of R1-001 in Respiratory Syncytial Virus Infected Patients at Risk of Severe RSV Disease. Allen U, Doyle J, Dipchand A, Ng V. ADMA Biologics (US$45,000 based on 5 patients enrolled at $9,000 per patient)

A pharmacokinetic/pharmacodynamic and safety evaluation of oseltamivir for the treatment of children less than 24 months of age with confirmed influenza infection (CASG 114). Allen U, Coates A. Division of Microbiology and Infectious Diseases, National Institutes of Health (US$42,500 based on 5 patients enrolled at $8,500 per patient)


Assessment of attitudes and knowledge of housekeeping staff about the role of the environment in health care associated infections (HAIs) and assessment of the effectiveness of their work before and after an educational intervention. Matlow A, Wray R, Richardson S. Virox Technologies Inc. ($112,250 2008)

Caspofungin in solid organ transplant recipients. Allen U. Merck Canada ($21,000 2007-2008)

Defining the role of Stenotrophomonas maltophilia in CF patients. Waters, V. Bickell Foundation ($64,975 2007-2009)

Defining the role of Stenotrophomonas maltophilia in cystic fibrosis patients. Waters V. Canadian Cystic Fibrosis Foundation ($81,290 2009-2011)


Epidemiology of adverse events in children in community hospitals. Matlow A, Baker R, Flintoft V. *Canadian Patient Safety Institute* ($120,000 2009)


Immunization Monitoring Program Active (IMPACT) Program. Scheifele D, Tran D. *Public Health Agency of Canada (PHAC)* ($110,286 2007-2009)


Measuring the quality of hospital care of children and youth in Canada. Guttmann A, Anderson GM, Matlow AG, Parshuram C, To T. *Canadian Institutes for Health Research* ($75,000 over 3 years 2008-2011)/ *Ministry of Health and Long-Term Care* ($300,000 over 3 years 2008-2011)

Mitochondrial DNA damage in infants exposed to HIV antiretroviral drugs in utero. Cote H, Forbes J, Money D, Burdge D, Harrigan R, Bitnun A, Read S. *Canadian Institutes for Health Research* ($279,414 2006-2008)


RSV Infection among transplant recipients and other high-risk compromised hosts. Allen U, Robinson J. Abbott Canada ($236,000 2008-2010)

Randomized double blind controlled trial of the use of a biofilm antimicrobial susceptibility assay to guide antibiotic therapy in chronic Pseudomonas aeruginosa infected cystic fibrosis patients (The Hospital for Sick Children and St. Michael’s Hospital). Waters V. Innovotech Inc./National Research Council Industrial Research Assistance Program ($200,000 2007-2010)


The mechanism and immunological correlates of severe respiratory illness following 2009 H1N1 pandemic influenza virus infection. Sharma S, Tran D. Canadian Institutes of Health Research ($99,919 2008-2009; $300,000 2009-2010)

The utility of pan-fungal PCR in detecting fungemia in at-risk pediatric patients. Doyle J, Richardson S, Allen U. Paediatric Consultants Grant ($9772 2008-2009)

Understanding the HIV-related transitions of families living with HIV. Loutfy M, Browne O, Read S, Bitnun A. Canadian Institutes of Health Research ($110,040 2009-2011)


Divisonal Overview

The Division of Neonatology welcomes Dr. Linh Ly to the faculty at SickKids and Dr. Emer Finan to the Faculty at Mount Sinai Hospital. Dr. Shoo Lee was appointed Head of the Division of Neonatology at the University of Toronto and at SickKids, and the Chief of Paediatrics at Mount Sinai Hospital.

The three level III NICUs at SickKids, Mount Sinai Hospital and at the Women’s College Hospital site continue to suffer from a shortage of sufficient level III NICU beds to adequately meet the maternal and neonatal needs of our catchment area, all of which have resulted in continued regrettable deferrals of patients out of region, province and country. The Ministry of Health and Long-Term Care commissioned a Neonatology Task Force with province-wide representation including representatives from the three Toronto NICUs to address the issue of current level III NICU bed requirements across the province and the predicted increase in requirements over the next 10 to 15 years. This was delivered in 2007. The Ministry of Health and Long-Term Care responded by announcing 28 additional neonatal beds for the province, including three additional NICU beds for Mount Sinai and three for SickKids. All six additional beds have been opened.

Mount Sinai Hospital was awarded the Ontario Human Milk Bank and will be establishing it in partnership with SickKids and Sunnybrook Health Sciences Centre. The Milk Bank will be led by Dr. Sharon Unger. It will be the first in Ontario and one of only two in Canada.

An integrated University of Toronto Neonatal Follow-Up Program was established under the leadership of Dr. Elizabeth Asztalos. The program will integrate the neonatal follow-up programs at the three NICUs (Mount Sinai, SickKids, Sunnybrook). Dr. Edmond Kelly (Mount Sinai), Dr. Linh Ly (SickKids) and Dr. Paige Church (Sunnybrook) were appointed Directors of the Neonatal Follow-Up Clinics at their respective hospitals. A common neonatal followup protocol will be adopted at all follow-up clinics. New clinics will be established at SickKids and Mount Sinai to replace the joint follow-up clinic at SickKids.

The division’s Neonatal-Perinatal Fellowship Training Program continues to train the largest number of subspecialty trainees in neonatology of any centre in Canada under the leadership of the Program Director, Dr. Martin Skidmore. The division also welcomed participants from the HealthyKids International Scholar Program in Neonatal-Perinatal Medicine.

The division established a new Clinician-Scientist Scholar Training Program under the leadership of Dr. Robert Jankov. The program is designed for neonatal fellows who have completed the Royal College required training program in neonatal perinatal medicine and who are interested in pursuing further research training to establish a career in research. The inaugural candidate in the program is Dr. Constance Williams.

The Maternal-Infant Care (MiCare) Research Centre was established at Mount Sinai Hospital. The Centre co-ordinates several national and international research networks and will also provide research support to members of the division, including research nurses and coordinator support, statistical and methodologic consultations, database establishment and maintenance, computer programming and other support.

The division continues to be well supported by major funding agencies for its various foci at the three sites, including lung biology, epidemiology, outcomes-based research and clinical trials.

MOUNT SINAI HOSPITAL
Dr. Olufunmi Akindele
Dr. Yenge Diambomba
Dr. Emer Finan
Dr. Ann Jefferys
Dr. Edmond Kelly
Dr. Karel O’Brien
Dr. Prakash Shah
Dr. Vibhuti Shah
Dr. Maggie Shu
Dr. Sharon Unger
Dr. Kin Fan Young Tai

ST. JOSEPH’S HOSPITAL
Dr. Dilip Mehta

ST. MICHAEL’S HOSPITAL
Dr. Tony Barozzino
Dr. Douglas Campbell
Dr. Michael Sgro

SUNNYBROOK HEALTH SCIENCES CENTRE
FULL-TIME
Dr. Elizabeth Asztalos
Dr. Paige Church
Dr. Michael Dunn

Dr. Robert Jankov
Dr. Andrew Sheenan
Dr. Brian Simmons
Dr. Martin Skidmore
Dr. Adrian Zimo

Dr. Prakash Shah
Dr. Vibhuti Shah
Dr. Maggie Shu
Dr. Sharon Unger
Dr. Kin Fan Young Tai

Dr. Karel O’Brien
Dr. Edmond Kelly
Dr. Yenge Diambomba
Dr. Emer Finan
Dr. Ann Jefferys

Dr. Michael Sgro
Dr. Michael Dunn
**HONOURS AND AWARDS**

Asztalos E: Director, The Centre for Mother, Infant, and Child Research, Sunnybrook Research Institute, Sunnybrook Health Sciences Centre, University of Toronto, July 2008

Asztalos E: Director, Neonatal Follow-Up Program, Division of Neonatology, University of Toronto, February 2009

Church P: Director, Neonatal Follow-Up Program, Sunnybrook Health Sciences Centre, February 2009

Doctor S: University of Toronto Stepping Stones Program Teaching Certificate, 2009

James A: RHA Haslam Pre-Clerkship Teaching Award for Excellence in Pre-Clerkship Teaching 2007-08 [Runner-up], Department of Paediatrics, Faculty of Medicine, University of Toronto, 2009

Kelly E: Director, Neonatal Follow-Up Program, Mount Sinai Hospital, February 2009

Lee S: Women’s Auxiliary Chair in Neonatology, 2009

Lee S: People’s Republic of China State Key Laboratory in Neonatal Perinatal Research, Steering Committee Member, 2009

Ly L: Director, Neonatal Follow-Up Program, The Hospital for Sick Children, February 2009

Moore A: Co-Medical Director, Fetal Alert Network of Ontario, 2008

Moore A: Acting Chief of Newborn and Developmental Paediatrics, Sunnybrook Health Sciences Centre, Toronto, 2009

McNamara P: Award for Research, Department of Paediatrics, University of Toronto, 2009.


Shah P: Director of Clinical Epidemiology Institute, Department of Health Policy, Management and Evaluation, University of Toronto.

Simmons B: The Medical Teacher Poster Prize, Association for Medical Education in Europe (AMEE), Prague, Czech Republic, 2008

Simmons B: Canadian Association for Medical Education (CAME) – Certificate of Merit Award, 2009

Tanswell K: Women’s Auxiliary Chair in Neonatology, 2008

Whyte H: 2008 Richard Rowe Award for Clinical Excellence in Paediatric Medical Care, June 2009

Al-Wassia H: Trainee of the Year Award, Neonatal-Perinatal Medicine Fellowship Training Program, University of Toronto, 2009

Young J: Audrey Tan-Dy Humanitarian Award, Neonatal-Perinatal Medicine Fellowship Training Program, University of Toronto, 2009

**PUBLICATIONS**


**PART-TIME**

Dr. Shaheen Doctor
Dr. Eugene Ng

Clinical Fellows
Dr. Suhair Al-Shanteer
Dr. Samana Ali
Dr. Haydi Alwassia
Dr. Ijaz Aman

Dr. Taiba Bakhair
Dr. Rudaina Banithani
Dr. Nadya Ben Fadel
Dr. Donna Capili
Dr. Jenny Chou

Dr. Roxana Conti
Dr. Blondel Crosdale
Dr. Jihan El-Sayed
Dr. Walid El-Naggar
Dr. Manal El Sayed

Dr. Kamal El-Tobgy
Dr. Emer Finan
Dr. Claudia Garcia Gelvez
Dr. Omer Hamud
Dr. Jasmine Hu


Simic N, Asztalos E, Rovet J: Impact of neonatal thyroid hormone insufficiency and medical morbidity on infant neurodevelopment and attention following preterm birth. Thyroid 2009: 19: pp 395-401.


**BOOKS AND BOOK CHAPTERS**


FUNDING

A multi-faceted approach to the implementation of recommendations for management of infants at increased risk for sepsis for the inter-professional health care team. Shah V, Jefferies A. Academic Health Sciences Alternate Funding Plan Phase III Innovation Fund ($39,613 2009)

A national role-based survey investigating the use of information technology in Canadian neonatal intensive care units. Percival JC, McGregor C, Cately C, James A. Canadian Patient Safety Institute. ($20,000 2009-2010)

Airway modulation of pulmonary vascular tone during development and following pulmonary hypertension. Belik J. Canadian Institutes of Health Research ($110,108/year 2004-2009)

Antepartum care of high risk pregnancy team. Janssen P, Lee SK. Canadian Institutes of Health Research ($213,000 2008-2011)

Assessment and evaluation of a pilot interprofessional OSCE (iOSCE). Simmons B, Reeves S, Wagner SJ. Undergraduate Medical Education Curriculum Renewal Fund, University of Toronto ($19,141 2009)


Comparison of tutor versus multi-media computer disk for teaching the Neonatal Pain, Agitation and Sedation Scale (N-PASS). Lee KS, Gibbins S, Aliwalas L. Paediatric Consultants Grant ($5,000 2008)


Efficacy and safety of methyloxanthines in very low birth weight infants: 5-year outcome. Schmidt B, Asztalos E. *Canadian Institutes of Health Research* ($1,744,740 2004-2009)


EPIQ-II Project Principal investigator, James A. The Hospital for Sick Children site. *Canadian Institutes of Health Research* ($57,000 2009-2010)


Hypercapnia as therapy for neonatal pulmonary hypertension. Jankov RP. *Canadian Institutes of Health Research* ($579,880 2009-2014)

Hypoglycemia and neuroplasticity in the neonatal period. Shroff MM, Moore AM, Whyte HEA, Taylor MJ. *Translational Research Grant, Department of Medical Imaging, University of Toronto* ($35,000/year 2008-2010)

Impact of ACORN newborn education program in rural China. Du L, Singhal N, McMillan DD, Aziz K, Lee SK. *Canadian Institutes of Health Research* ($180,000 2008-2011)

Implementation of a wireless positive patient identification system for the prevention of breast milk errors in the NICU. O’Brien K, Unger S. *MSH UHN AMO Phase III AFP Innovation Funding* ($60,014 2008)

Inhibition of physiological apoptosis as a major component of chronic neonatal lung injury. Tanswell AK, Jankov RP. *Canadian Institutes of Health Research* ($430,045 2007-2012)

Initiative for translational hypertension research. Branko B, Lee SK. *University of Alberta* ($300,000 2008-2011)


Low vs high fidelity simulation in neonatal resuscitation training. Finan E, Bismilla Z, Whyte HE, McNamara P, LeBlanc V. *Paediatric Consultants Grant* ($5,000 2008-2009)

Maternal Infant Care (MICare) research. Lee SK. *Ontario Ministry of Health and Long-Term Care* ($15,000,000 2009-2013)


Multiple courses of antenatal corticosteroids for preterm birth (MACS). Murphy K, Asztalos E. *Canadian Institutes of Health Research* ($2,943,583 2006-2010)


Pediatric Perinatal Surgery Network (CAPSNET).
Skarsgard E, Lee SK. **Canadian Institutes of Health Research** (246,500 2004-2009)

Pharmacology of milrinone in persistent pulmonary hypertension of the newborn. Taddio A, McNamara PJ. **The Hospital for Sick Children - New Ideas Grant** ($39,349 2006-2008)

PIERS. Von Dadelszen P, Lee SK. **Canadian Institutes of Health Research** ($724,992 2007-2010)

Predicting neurobehavioral outcome in preterm neonates.
Taylor M., Whyte HE, Moore A, Shroff M, Raybou C, Donner E, Frisk V. **Canadian Institutes of Health Research** ($929,910 2007-2012)

Preterm birth and healthy outcomes. Olson D, Lee SK. **Alberta Heritage Foundation for Medical Research** ($5,000,000 2008-2013)


Reactive nitrogen species and smooth muscle growth regulators in the pathogenesis of newborn pulmonary hypertension. Jankov RP. **Career Development Award, Canadian Child Health Clinician Scientist Program** ($280,000 2004-2008)

Regulation of normal and oxygen-mediated aberrant postnatal lung growth by growth factors. Tanswell AK. **Canadian Institutes of Health Research** ($799,686 2005-2010)

Rho-kinase inhibitor as therapy for chronic neonatal pulmonary hypertension. Jankov RP. **Canadian Institutes of Health Research** ($323,592 2007-2010)

Role of peroxynitrite and macrophages in newborn pulmonary vascular remodeling. Jankov RP. **Canadian Institutes of Health Research** ($285,888 2005-2008)

Role of reactive oxygen/nitrogen species in normal and aberrant postnatal lung growth. Tanswell AK. **Canadian Institutes of Health Research** ($708,400 2004-2009)

Role of Rho-kinase in hypoxia-mediated pulmonary hypertension. Jankov RP. **Dean's Fund New Staff Grants Program, Faculty of Medicine, University of Toronto** ($10,000 2005-2009)

Safety and efficacy of methylxanthines in the very low birth weight infant: 5 year follow-up. Schmidt B, Asztalos E. **Canadian Institutes of Health Research** ($1,744,740 2004-2009)

Steroids in Immune Mediated Congenital Complete Atrio-Ventricular Heart Block (CAVB): Do They Affect Brain Development? Kelly EN. **Physicians' Services Incorporated Foundation** (43,900 2006-2009)


The developing lung: Cellular and molecular physiology. Tanswell AK. Canadian Institutes of Health Research ($252,476/year 2004-2009)


The interprofessional OSCE development simulation tool (part II). Simmons B, Reeves S, Wagner SJ. Educational Development Fund, University of Toronto ($17,000 2009-2010)


What is it like for NICU nurses to care for newborns at the end of their lives? Lindsay G, Ives-Baine LA, Cross N, Hellmann J. University of Ontario Institute of Technology ($17,850 2007-2008)


DIVISION HEAD
Dr. Denis F. Geary

FULL-TIME
Dr. Elizabeth A. Harvey
Dr. Diane Hébert
Dr. Valerie Langlois

Dr. Christoph Licht
Dr. Rulan Parekh
Dr. Tino D. Piscione
Dr. Lisa A. Robinson
Dr. Norman D. Rosenblum

PART-TIME
Dr. Rachel Pearle
Dr. Lindsay Teskey

ADJUNCT
Dr. Leo Levin

HONORARY
Dr. Gerald S. Arbus

CLINICAL FELLOWS
Dr. Thoraya Al Maslamani
Dr. Dana Al-Nabhani

Dr. Swasti Chaturvedi
Dr. Sudarsana De
Dr. Seema Hashmi
Dr. Khalid Malik
Dr. Pornroong Prutthiphongsit
Dr. Konggrapun Srisuwon
Division of Nephrology

DIVISIONAL OVERVIEW
The previous year has been another excellent one for the Division of Nephrology. The number of patients and the complexity of their care, which is the fundamental backbone of our clinical training program, continues to grow. Ironically, however, this almost unique clinical experience which is so highly valued by our trainees will increase future challenges as appropriate care providers must be identified in the face of diminishing working hours by trainees.

Academically, the profile of our colleagues in research activities was again recognized by the success of their applications for funding as well as the high profile of the journals in which their work has been published.

Expertise in clinical trials development and clinical epidemiology, which had been missing from our portfolio, has been provided with the arrival of Dr. Rulan Parekh who joined the division from Johns Hopkins. Dr. Parekh will continue to lead studies related to cardiovascular disease among patients with chronic kidney disease as well as prevention of progression of chronic kidney disease.

Great changes will occur to the division in the coming year as Dr. Geary steps down from his role of Division Head and a new leader is chosen following an international search.

HONOURS AND AWARDS

Piscione TD: Norman Siegel Research Scholar Award (ASN), 2008

Robinson LA: Canadian Institutes of Health Research, Synapse Award, 2008

Rosenblum ND: Schwartz-Reisman Visiting Scholar, Tel-Aviv University, December, 2008

SUBSPECIALTY RESIDENTS
Dr. Entesar Alhammadi
Dr. Naifain Al Kalbani
Dr. Mathieu Lemaire
Dr. Seetha Radhakrishnan

POST-DOCTORAL FELLOWS
Dr. Darren Bridgewater
Dr. Jason Cain
Dr. Lijun Chi

CLINICAL RESEARCH ASSOCIATES
Michelle Frieling
Jun Chuan Teh

ADMINISTRATIVE STAFF
Dana Deberny
Juliet Rodrigo
Bernard Singh
Marisa Tuo
Andrea Verdugo
Tania Viseu
PUBLICATIONS


BOOKS AND BOOK CHAPTERS


FUNDING
Atypical Hemolytic Uremic Syndrome: A new pathological role for complement and coagulation control in platelets. Licht C. Heart and Stroke Foundation of Canada ($94,470/year 2009-2012)

Canada Research Chair in Developmental Nephrology (Tier I). Rosenblum ND. Canada Research Chairs Program ($200,000/year 2005-2012)

Canadian Child Health Clinician-Scientist Program. Rosenblum ND. Canadian Institutes of Health Research ($300,000/year 2002-2009)

Canadian Paediatric Clinician Scientist Program. Rosenblum ND. B.C. Research Institute for Children’s and Women’s Health ($150,000/yr 2002-2015)

Canadian Paediatric Clinician Scientist Program. Rosenblum ND. SickKids Foundation ($300,000/year 2002-2014)

Control of kidney cell determination and morphogenesis by BMPs and beta-catenin in the normal and dysplastic kidney. Rosenblum ND. Canadian Institutes of Health Research ($155,828/year 2008-2013)
Kids Science. Robinson L. **Ministry of Research and Innovation, Youth Science and Technology Outreach Program** ($150,000 2006-2009)

Regulation of the membrane-anchored Chemokine, Fractalkine, by Thromboxane A2. Robinson L. **Heart and Stroke Foundation of Ontario** ($268,452 2007-2010)

Role of the primary cilium in nephrogenesis. Rosenblum ND. **The Kidney Foundation of Canada** ($50,000/year 2008-2010)

Sonic hedgehog and its signaling effectors control kidney morphogenesis. Rosenblum ND. **Canadian Institutes of Health Research** ($134,419/year 2006-2009)


The interface of the complement and the coagulation system in patients with aHUS. Licht C. **SickKids Research Institute, Start-up Operating Fund** ($70,000/year 2006-2008)

The role of notch signaling in focal segmental glomerulosclerosis. Piscione TD. **The American Society of Nephrology** ($200,000 2007-2009)

The role of Slit/Robo signaling in renal inflammation. Robinson L. **Canada Research Chair, Tier 2** ($500,000 2004-2009)

The role of Slit/Robo signaling pathways in kidney inflammation. Robinson L. **Early Researcher Award, Government of Ontario** ($100,000 2006-2008)

The role of Slit/Robo signaling in kidney inflammation. Robinson L. **The Kidney Foundation of Canada** ($100,000 2007-2009)

Topic #1: KidCOM-Study; Topic #2: Interface of Complement and Coagulation in aHUS. Licht C. **The Foundation for Children with Atypical HUS** ($5,000 2009)
DIVISION HEAD
Dr. O. Carter Sneed III

FULL-TIME
Dr. Rand Askalan
Dr. Brenda Barwell
Dr. Gabrielle deVeber
Dr. Elizabeth Donner
Dr. Cecil Hahn
Dr. Daune MacGregor
Dr. Berge Minassian
Dr. Mahendranath Moharir
Dr. Teesta Soman
Dr. Ingrid Tein

Dr. Jiri Vajsar
Dr. Shelly Weiss

PART-TIME
Dr. Evdokia Anagnostou
Dr. Danielle Andrade
Dr. David Berbrayer
Dr. Pamela Cooper
Dr. Jonathan Gladstone
Dr. Cristina Go
Dr. Jeffrey Kobayashi
Dr. Betty Koo
Dr. Wayne Langburt
Dr. Christine Lay

Dr. Shanna Lindsay
Dr. William Logan
Dr. Gilbert Miller
Dr. Peter Rumney

Dr. Mahendranath Moharir
**DIVISIONAL OVERVIEW**

The major foci of the clinical activities of the Division of Neurology are epilepsy, stroke, headache, neurometabolic disease, neuromuscular disease, neurogenetics, sleep disorders, movement disorders, demyelinating diseases, functional neuroimaging and neurointensive care.

The Division of Neurology has a Royal College accredited training program in Child Neurology as well as postdoctoral training programs in epilepsy, stroke, neurometabolic disease and demyelinating diseases. In addition, there are a number of graduate students and postdoctoral fellows in clinical neurophysiology, neurogenetics, molecular and cellular neurobiology.

The research foci of the Division of Neurology is epilepsy (both clinical and basic research), magnetoencephalography, stroke, dyslexia, burden of disease and quality of life, muscular dystrophy, multiple sclerosis, fatty acid oxidation disorders and molecular and cellular neurobiology.

**HONOURS AND AWARDS**

Appendino JP: Prichard Day Prize Winner (Fellow), 2009

Brandsema J: Prichard Day Prize Winner (Resident), 2009

Kobayashi J: Division of Developmental Paediatrics Faculty Teaching Award, June 2009

Tein I: Appointed Chair, Scientific Program Committee, Xth International Child Neurology Association Congress, Cairo, Egypt, May 2010

Tein I: William A. Hawke Award for Excellence in Clinical Teaching, Division of Neurology, The Hospital for Sick Children, 2009

Hung R: William J. Logan Award for Excellence in Clinical Teaching, Division of Neurology, The Hospital for Sick Children, 2009

Zimnowodzki B: Department of Paediatrics Administrative Award, 2009
PUBLICATIONS


**BOOKS AND BOOK CHAPTERS**


Weiss SK, MacFarlane J. Recognizing narcolepsy or probable narcolepsy in a child. In: Casebook of Sleep Medicine. American Academy of Sleep Medicine, Westchester, IL, 2008.
**FUNDING**

**Anterior nucleus of the thalamus deep brain stimulation:** A PET study. Andrade D. *University of Toronto, Division of Neurology - New Initiatives Program* ($30,000 2009)

**Atypical absence epilepsy:** GABAB R– mediated mechanisms. Snead OC. *Canadian Institutes of Health Research* ($141,000 2003-2008)

**Autism Treatment Network - Research and clinical database.** Loh A, Weiss SK. *Autism Treatment Network* ($250,000 2008-2012)


**Canadian Institutes of Health Research Team in Childhood Obesity Research.** McCrindle B, Tein I, Anderson H, Hamilton J, Parkin P, Pencharz P. *Canadian Institutes of Health Research* ($2,364,738 2008-2013)

**Conscious will and voluntary actions:** Is there a last ventrilogoist in the brain? Perez Velazquez JL. *Bial Foundation* (€47,500 2009-2011)

**Cortical oscillations and altered states of consciousness:** The study of meditative states and functional brain connectivity. Perez Velazquez JL. *Bial Foundation* (€48,000 2009-2011)

**Dissociating cognitive and motor components of healthy and dysfunctional expressive language development in children.** Pang EW, Cheyne D, De Nil L, Roberts SW. *Canadian Institutes of Health Research* ($251,594 2008-2013)

**Fellowship funding.** Vajsar J. *International Federation of Clinical Neurophysiology* ($25,000 2009-2010)


**Genetics of reading disabilities.** Barr CL, Kerr E, Lovett MW. *Canadian Institutes of Health Research* ($1,026,192 2008-2013)


**Globus pallidus deep brain stimulation in children with dystonia.** Soman TB, Moro E, Lozano AM, Westmacott R, Gorman D. *Canadian Institutes of Health Research* ($30,000 2008-2009)

**Improving epileptogenic lesion detection in children with MRI-negative localization-related epilepsy using diffusion tensor imaging.** Widjaja E, Geibprasert S, Snead OC, Otsubo H. *Physicians’ Services Incorporated Foundation* ($45,000 2008)

**Infantile spasms: An animal model.** Stewart L, Snead OC. *Savoy Foundation Award* ($23,000 2008-2009)
MEB Diseases. Vajsar J. SickKids Foundation ($37,000 2006-2009)

Multimodal neuroimaging and neurobehavioural outcomes in preterm neonates. Taylor M, Whyte H, Shroff M, Donner EJ, Moore A, Soman T. Canadian Institutes of Health Research ($925,000 2007-2012)

Multimodal neuroimaging of frontal lobe cognitive function in children. Taylor M, Donner EJ, Pang E. Canadian Institutes of Health Research ($466,335 2006-2010)


Murine knockout model of 4-hydroxybutyric aciduria. Snead OC, Gibson KM. National Institutes of Health (US$117,500 2006-2011)


Pilot study of biomarkers for spinal muscular atrophy. Vajsar J. Spinal Muscular Atrophy Foundation USA ($28,000 2008-2009)

Role of the carnitine/organic cation transporters in the mammary gland and implications for the suckling infant Tein I. Mead-Johnson Grant ($25,000 2009)


The Children’s Stroke Project. deVeber G. Anonymous Children’s Foundation ($2,070,000 2001-2009)


Toward the correction of Rett-like behavior in MeCP2-deficient mice by exogenous gene delivery. Snead OC. Canadian Institutes of Health Research ($117,137 2004–2009)


Validation of the NIH Stroke Scale in Children. Ichord R, deVeber G. National Institute of Neurological Disorders and Stroke ($45,000 2006-2009)

Verapamil for women with catamenial epilepsy. Andrade D. Krembil Scientist Development Seeding Grant ($39,000 2008-2009)
DIVISIONAL OVERVIEW

The Emergency Department (ED) at SickKids provides acute care to children who are ill or who have been injured. We are the primary care centre for children in Toronto, as well as the tertiary referral centre for the Greater Toronto Area (GTA) and are the designated Paediatric Trauma Centre for the GTA. The division currently has 21 full-time staff, the majority of whom are recertified in both paediatrics and paediatric emergency medicine. The division also has a cadre of part-time paediatricians. Completion of the redevelopment of the ED’s physical plant will happen in 2010. Phase 1 (March 2009) and Phase 2 (September 2009) have been completed with completion of Phase 3A and B expected in 2010.

The division has an active three-year academic fellowship program. The Royal College of Physicians and Surgeons has fully accredited our fellowship program. In addition, we have a number of clinical departmental fellows from around the world spending a year or more with us, further developing their paediatric emergency medicine knowledge and skills. We have also worked with the Canadian Armed Forces to provide paediatric training to their physician assistants. We currently provide telephone consultative support to the Canadian Armed Forces in Afghanistan for any paediatric concerns they may encounter. The division continues to run Paediatric Life Support Courses (PALS and APLS). We also have a well developed weekly half-day of educational activities for trainees and all health care providers in the ED. In the fall, the division will present the sixth annual Paediatric Emergency Medicine Update which in the past five years has been an overwhelming success.

Research in the division remains clinically focused, covering a wide range of topics from respiratory disease acute care management to orthopaedic injuries, and pain and sedation, to vomiting, diarrhea and dehydration. Research done within the division continues to be presented nationally and internationally with publications in peer-reviewed journals. Overall, the result has been a substantial increase in clinical research activities which has set us on par with the other North American leaders in paediatric emergency medicine.

HONOURS AND AWARDS

Boutis K: Terry Klassen Paediatric Emergency Research of Canada Young Investigator Award, 2009

Finkelstein Y: Visiting Associate Professor of Pediatrics, Harvard Medical School, Boston, MA

Finkelstein Y: Research Award, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, Toronto

Freedman S: Department of Paediatrics, University of Toronto, Junior Physician Researcher Award, 2009


Freedman S: Division of Pediatric Emergency Medicine, The Hospital for Sick Children, Research Recognition Award – MD, Runner-up, in recognition of excellence in outstanding effort and contribution to research 2008-2009

Jarvis DA: PeRLS Award – Lifetime Achievement for sustained excellence in Life Support teaching for paediatric residents, June 2009

Komar L: Runner-up - PEM Teaching Program Award, June 2009

Mikrogianakis A: Clinical Teaching Award, “For Excellence in Clinical Teaching”, The Hospital for Sick Children Division of Paediatric Emergency Medicine, 2009

Mikrogianakis A: Associate Professor of Pediatrics, The University of Toronto, Toronto, Ontario, 2009

Mizzi T: “Clinical Practice Award” The Hospital for Sick Children, Division of Paediatric Emergency Medicine, June 2009

Dr. Sudhir D’Souza
Dr. Anh Do
Dr. Janine Flanagan
Dr. John Freedman
Dr. Claudio Fregonas
Dr. Sabine George
Dr. Cara Gilman
Dr. Peter Glazer
Dr. Donna Goldenberg
Dr. Massoud Grouhi
Dr. Shuja Hafiz
Dr. Mark Handley-Derry
Dr. Leah Harrington
Dr. Nicole Inch
Dr. Edward Jin
Dr. Eddy Lau
Dr. Yen Le
Dr. Patricia Linders
Dr. Steven Moss
Dr. Patricia Neelands
Dr. Carole O’Beirne
Dr. Linda Pedder
Dr. Christina Ricks
Dr. Jennifer Riley
Dr. Lillian Rojnica
Dr. Domenick Shelton
Dr. Heshy Sturm
Dr. Rahim Valani
Dr. Charmaine Van Schaik
Dr. Jeff Weisbrot
Dr. Sheldon Wise
Dr. Hirotaka Yamashiro
Mounstephen W: Visiting Professor China-Shanghai, Beijing and Xi’an, November 2008

Pirie J: James C. Fallis Teaching Award, Division of Paediatric Emergency Medicine, The Hospital for Sick Children, 2009

Pirie J: Runner-Up, Clinical Teaching Award, Division of Pediatric Emergency Medicine, The Hospital for Sick Children, 2009

Pirie J: Teaching Excellence for the Paediatric Resident Lecture Series, The Hospital for Sick Children, 2009

Ratnapalan S: Associate Professor of Pediatrics, The University of Toronto, Toronto, Ontario, 2009

Scolnik D: Runner-Up for Clinical Recognition - MD Full-Time Award for excellence, outstanding effort and contribution to the Emergency Department, 2008

Scolnik D: Winner of Clinical Teaching Award - Staff Physician Full-Time, Division of Paediatric Emergency Medicine, 2008

Scolnik D: Winner of James C Fallis Teaching Award for Best PEM (Paediatric Emergency Medicine) Staff Physician Presentation, Division of Paediatric Emergency Medicine, 2008

PUBLICATIONS


CROSS-APPOINTEES

Dr. Eyal Cohen
Dr. Astrid Guttman
Dr. Ronik Kanani
Dr. Christoph Licht
Dr. Jonathan Tolkin

CLINICAL FELLOWS

Dr. Amer Ahmad
Dr. Samim Al-Qadhi

ACADEMIC FELLOWS

Dr. Saneh Vala
Dr. Klaus Werner

Dr. Fatoumah Alabdulrazzaq
Dr. Ahmed Al-Saleh
Dr. Alexi Baiboud
Dr. Vered Gazit
Dr. Miguel Glatstein
Dr. April Kam


**BOOKS AND BOOK CHAPTERS**


**FUNDING**


Ascertainment of abusive fractures in a pediatric ED. Al-Saleh, Plint A, Boutis K. Canadian Hospitals Injury Reporting and Prevention Program at The Hospital for Sick Children and Children’s Hospital of Eastern Ontario ($8,000 2008-2009)

Ascertainment of abusive fractures in pediatric emergency departments. Boutis K, Plint A. Children’s Injury Reporting and Prevention Program ($4,000 2008)

Case mix study. Boutis K, Pecaric M, Andrews M, Pusic M. Royal College of Physicians and Surgeons Medical Education Research Grant ($25,000 2009-2011)


Funding for the position of a research coordinator in the Emergency Department. Initiative spearheaded by S. Schuh, the Research Director in the ED. Schuh S. *Trudell Medical* ($50,000 2006-2008).


Improving physician skills in the diagnosis of skull x-rays. Boutis K, Pecaric M. *Paediatric Consultants Grant* ($5,000 2009-2010)


The sensitivity of a clinical decision rule to detect the salter-harris i of the distal fibula. Boutis K, Babyn P. *Paediatric Consultants Grant* ($10,000 2008-2010)


DIVISION HEAD
Dr. Jeremy Friedman

FULL-TIME
Dr. Hosanna Au
Dr. Carolyn Beck
Dr. Stacey Bernstein
Dr. Catherine Birken
Dr. Zia Bismilla
Dr. Trey Coffey
Dr. Eyal Cohen
Dr. Emma Cory
Dr. Astrid Guttman
Dr. Robert Hilliard
Dr. Sanjay Mahant
Dr. Charlotte Moore
Dr. Patricia Parkin
Dr. Elena Pope
Dr. Michelle Shouldice
Dr. Susan Tallett
Dr. Michael Weinstein
Dr. Randi Zlotnik Shaul

MAJOR PART-TIME
Dr. Mark Feldman
Dr. Saul Greenberg
Dr. Moshe Ipp

Dr. Sheila Jacobson
Dr. Michael Peer
Dr. Adam Rapoport
Dr. Miriam Weinstein
Dr. Christine Newman

Left to right: Ms. Meredith Kirkland-Burke,
Dr. Michelle Shouldice and Ms. Jennifer Kingston
Division of Paediatric Medicine

DIVISIONAL OVERVIEW

The division (comprising General Paediatrics, SCAN and Dermatology) continues to play an integral role in the core activities of the Department of Paediatrics. Our faculty had a very successful and productive academic year in 2008-09. There are currently 16 full-time and nine major part-time physician faculty for a total of 17.5 FTE. The division held a retreat with two sessions in the summer and fall of 2008 to help develop a new strategic plan for the next five years. In May 2009, Dr. Friedman underwent a successful five-year review of his divisional leadership.

The clinical program remains extremely busy and is the largest in-patient service in the hospital. We continue to be involved in the development of the paediatric hospital movement in Canada and the U.S. with Dr. Mahant and Dr. Cohen on the executive of the CPS hospitalist section, with Dr. Mahantas President-Elect.

The divisional complex care program continues to develop under the leadership of Dr. Eyal Cohen. On the clinical side, a dedicated in-patient complex care team now operates six beds and is staffed by a hospitalist with complex care expertise and a nurse practitioner. The ambulatory arm of the complex care team has begun taking referrals through the ARMS system, although capacity remains limited at this time. The hospital has helped fund a pilot project to study a new model of care whereby a medical home for the most complex multi-system patients with high resource requirements would be developed in their community hospitals in collaboration with the SickKids program (pilot sites are Brampton and Orillia). The Norman Saunders Complex Care Initiative funded four research grants in 2008-09 and a second competition will run in the fall of 2009. Dr. Christine Newman, who has worked at the hospital for many years as a neonatologist and palliative care physician and currently has a 0.5 FTE appointment in Palliative Care and Bereavement, joined the division this year from Clinical Pharmacology.

The obesity program has been funded through the Ministry of Health and Long-Term Care and a tertiary care obesity clinic will be starting this fall with Dr. Catherine Birken in the Paediatric Medicine Consultation Clinic.

Faculty members continued to excel, advocate and gain recognition as leaders in their field. Dr. Robert Hilliard is President-Elect of the Canadian Paediatric Society, Dr. Sanjay Mahant was elected President of the Hospital Medicine section and Dr. Michelle Shouldice was elected President-Elect of the CPS section of Child and Youth Maltreatment. Dr. Jeremy Friedman is an Associate Editor of the Paediatrics and Child Health Journal. Dr. Friedman edited a new book for parents Canada’s Toddler Care Book, with seven contributing authors from the division. This book is a followup to the highly successful bestselling Canada’s Baby Care Book authored by divisional faculty in 2007, and was released in Canada and the U.S. in the spring of 2009. Dr. Friedman and Dr. Bismilla were co-authors of the eleventh edition of the HSC Handbook of Paediatrics, which was released in the spring of 2009. Dr. Astrid Guttmann was invited to join the Canadian Child and Youth Coalition taskforce on Health Human Resources and the Child and Youth Advisory Committee to the Provincial Council on Maternal, Child and Youth Health. Dr. Charlotte Moore continues as the Provincial Lead of Maternal, Child and Youth Health Strategy in the Office of the Assistant Deputy Minister. Our division was well represented on the expert panels convened by the MOH to support the initiatives in obesity and complex care.

Career development is very active with four faculty currently involved in postgraduate Masters level training (two in research methods and two in education). Members of the division attended leadership courses through the APA as well as through the department at the Rotman School of Business.

This has been a successful year with regard to research productivity. There were over 20 abstracts from the division at the annual PAS and CPS meetings, including many platform presentations. Funding from both internal and external agencies was secured. A new exciting initiative called TARGet Kids, which is a collaboration between our PORT group, community paediatricians and members of the Department of Family and Community Medicine group, has been launched and is already involved in a number of studies to address gaps in knowledge about the prevalence, predictors, outcomes and effective strategies for prevention and early identification of common problems. Many manuscripts were published in top general paediatric journals (see below).

PART-TIME
Dr. Tony Barozzino
Dr. Salvatore Cammisuli
Dr. Nhung Ho
Dr. Perla Lansang
Dr. Alex Levin

ASSOCIATE
Dr. Michael Sgro
Dr. Christine Webster
Dr. Sanjeev Luthra
Dr. Ivor Margolis
Dr. Yehuda Nofech-Mozes
Dr. Daniel Roth
Dr. Gary Sibbald

ADJUNCT
Dr. Peter Azzopardi
Dr. Ranjit Baboolal
Dr. Anna Banerji
Dr. Carolyn Calpin
Dr. Bert Cellupica

PART-TIME
Dr. Ronik Kanani
Dr. Nirit Bernhard
Dr. Anna Banerji

ADJUNCT
Dr. Ivor Margolis
Dr. Yehuda Nofech-Mozes
Dr. Daniel Roth

ADJUNCT
Dr. Patric Colangelo
Dr. Carlos E. Confreras
Dr. Hilary de Veber
Dr. Paul Dick
Dr. Suhd (Tony) D’Souza
Dr. Claudio Pregonas
Education is an important priority in our division, with Dr. Susan Tallett leading the new SickKids Learning Institute and Dr. Stacey Bernstein energizing the Undergraduate Education Program as Director. Under the leadership of Dr. Parkin and Dr. Shouldice, the fellowship program continues to grow in leaps and bounds with a total of 13 fellows this year. Once again the residents identified their general paediatric in-patient rotations as their most highly rated experience of the year. Many faculty members were recognized with teaching awards (see below).

Special mention to Dr. Moshe Ipp for being promoted to Full Professor. This is an outstanding achievement. His promotion to the highest level provides recognition of Dr. Ipp’s tremendous contribution, particularly in the area of research over his many years on faculty. Honourable mentions also go to Dr. Pat Parkin for winning the Department of Paediatrics prestigious Harry Bain Award and to Dr. Jonathan Maguire (our chief fellow) for his numerous awards this year.

HONOURS AND AWARDS

Au H: Royal College of Physicians and Surgeons Traineeship Grant for Masters Study in Medical Education, 2009.


Bernstein S: R.H.A. Haslam Preclerkship Teaching Award Department of Pediatrics Undergraduate Teaching Awards, University of Toronto, 2009.

Bernstein S: W.T. Aikins Award, University of Toronto Faculty Teaching Award (Small Group) Individual Teaching Performance, 2008.

Coffey T: Knowledge and attitudes of paediatric residents towards disclosure of adverse events. Runner-up - Families as Partners in Patient Safety Award, 2009.


Ipp M: Promoted to Professor, Paediatrics, University of Toronto, May 2009.

Jacobson S: Marvin Gerstein Award, 2008.

Mahant S: Royal College of Physicians and Surgeons of Canada: Clinical Traineeship Grant for MSc. 2008.

Parkin P: Harry Bain Award for Excellence in Clinical Teaching, Department of Pediatrics, University of Toronto, 2009.


Tallett S: Paediatric Academic Leadership - Clinical Educator Award, Paediatric Chairs of Canada, 2009

Weinstein M: James C. Fallis Teaching Award, Invited Speaker - Division of Paediatric Emergency Medicine, 2008.
PUBLICATIONS


**BOOKS AND BOOK CHAPTERS**


Beck CE: Your older toddler (age 2 to 3 years). In: Canada’s Toddler Care Book: A Complete Guide from 1 to 5 Years Old (Friedman JN, ed.). Robert Rose Inc., Toronto, 2009.


**BOOKS EDITED**


**FUNDING**


Amniotic membrane grafting in patients with epidermolysis bullosa with chronic wounds. Lo V, Pope E. CREMS Summer Student Program ($3,300 2008)


An open label extension study to determine safety of etanercept in paediatric subjects with plaque psoriasis. Pope E, Weinstein M. Amgen Canada Inc. ($43,000 2006-2009)


Career Enhancement Award. Guttmann A. **Canadian Child Health Clinician Scientist Program**. ($5,000/year 2006-2011)


Clinical Traineeship Grant. Mahant S. **Royal College of Physicians and Surgeons of Canada** ($3,000 2008)


Complementary medicine in Canadian pediatric patients with atopic dermatitis: A cross sectional survey. Redlick F, Weinstein M, Pope E. **Canadian Dermatology Foundation** ($10,000 2006-2008)


Developing quality and safety indicators for Canada’s emergency department. Schull M, Guttmann A. **Canadian Institutes of Health Research** ($20,000 2008-2009)


Evaluation of the emergency department general internal medicine patient flow toolkit. Schull M, Guttmann A. **Canadian Health Services Research Foundation/Ministry of Health and Long-Term Care** ($500,000/$1,133,400 2007-2011)

Examining the impact of primary care reform in Ontario on access to and quality of care. Glazier R, Guttmann A. **Canadian Institutes of Health Research** ($816,724 2008-2011)


Genetic analysis of PHACE(S) Association. An international registry based out of the University of California, San Francisco. Frieden IJ, Pope E, Siegel D. University of Southern California at San Francisco ($20,000 2006-2009)


International registry for paediatric cutaneous T-cell lymphoma: A longitudinal, prospective, observation study of cutaneous T-cell lymphoma in the paediatric population. Pope E, Weinstein M, Weitzman S, Taylor G. Dean’s Fund New Staff Grants Program, Faculty of Medicine, University of Toronto ($10,000 2004-2009)

Is prolonged bottle feeding an independent risk factor for overweight in young children? Birken CS, Parkin PC, O’Connor D, Jacobson S, Peer M, Mekky M. Dean’s Fund New Staff Grants Program, Faculty of Medicine, University of Toronto ($9,972 2008-2013)


Nadalol for proliferating infantile hemangiomas: A prospective open label study. Chakkittakandiyil A, Weinstein M, Pope E. Pediatric Consultants Grant ($10,000 2009)

New Investigator Salary Support Award. Guttmann A. **Canadian Institutes of Health Research** ($50,000/year plus benefits 2006-2011)


Palindromy at the NF1 locus as a risk factor for NF1-associated malignancy. Lewis S, Parkin P. **Sickkids Research Institute New Ideas Grant** ($45,023 2006-2009)


Patterns and predictors of health care utilization by adult survivors of childhood cancer: A Pediatric Oncology Group of Ontario and ICES population database linkage study. Nathan P, Guttmann A. **Canadian Institutes of Health Research** ($426,000 2009-2011)


Primary care practice characteristics and regional physician supply: Effects on access to primary and specialty care for children in Ontario: A first look. Guttmann A. **Physicians’ Services Incorporated Foundation** ($123,000 2006-2009)
Regional migration patterns of children with complex chronic conditions. Cohen E, Guttmann A, Yantzi N. **Norman Saunders Complex Care Initiative Grant ($25,603 2009-2010)**

Respiratory Population-Based Outcomes Network: Studies and Evaluations (RESPONSE). To T, Guttmann A. **Canadian Institutes of Health Research/Ministry of Health and Long-Term Care ($150,000/$300,000 2007-2010)**

Safer medications for children: Quantifying nephrotoxicity through secondary analysis of electronic data. Parshuram C, Guttmann A. **Canadian Institutes of Health Research, Maternal and Child Health ($100,000 2009-2011)**

Short and long term outcomes of complicated pediatric pneumonia. Cohen E, Weinstein M, Dell S, Mahant S, Trabuici J, Mekky M. **Dean’s Fund New Staff Grants Program, Faculty of Medicine, University of Toronto ($10,000 2007-2010)**


Teaching intubation to residents: Standard mannequin vs. high fidelity simulation. Whyte H, Bismilla Z, Finan E, Jefferies A, LeBlanc V. **Physicians’ Services Incorporated Foundation ($17,000 2007-2008)**


The usefulness of comprehensive care plans for children with special health care needs. Adams S, Cohen E, Mahant S, Friedman JN, Nicholas D: **Norman Saunders Complex Care Initiative Grant ($21,660 2008-2010)**

Treatment choices for children with typical acute immune thrombocytopenic purpura: Development of a decision aid. Beck C, Birken CS, Blanchette V, Boydell K, Llewellyn-Thomas H, Parkin PC. **Dean’s Fund New Staff Grants Program, Faculty of Medicine, University of Toronto ($10,000 2006-2011)**

Vitamin D deficiency in urban Canadian toddlers: A study of prevalence and risk factors. Parkin PC, Maguire J, Mekky M. **Dairy Farmers of Ontario ($90,000 2008-2010)**

DIVISION HEAD
Dr. Felix Ratjen

FULL-TIME
Dr. Allan L. Coates
Dr. Sharon Dell
Dr. Hartmut Grasemann
Dr. Indra Narang
Dr. Theo Moraes
Dr. Melinda Solomon
Dr. Padma Subbarao
Dr. Neil Sweezey

PART-TIME
Dr. Peter Bikangaga
Dr. Dhenuka Radhakrishnan
Dr. Charlotte Miller

ADJUNCT SCIENTIST
Dr. Hiran Selvadurai

CROSS-APPOINTEES
Dr. T. Douglas Bradley
Dr. Theodore Marras

HONORARY
Dr. Dennis Gurwitz
Dr. Elizabeth Tullis

Dr. Hartmut Grasemann and team
Division of Respiratory Medicine

DIVISIONAL OVERVIEW

The Respiratory Medicine Program continues to provide comprehensive care for the full range of paediatric pulmonary diseases such as asthma, cystic fibrosis (CF), interstitial lung diseases, primary ciliary dyskinesia (PCD), hereditary hemorrhagic telangiectasia (HHT), sleep-related disorders of breathing and complex respiratory care requiring ventilatory support as well as children with congenital malformations involving the respiratory tract. We provide consultation support for the hospital in all areas of paediatric respiratory disease as well as diagnostic services including flexible bronchoscopy.

Over the last few years we have broadened our diagnostic spectrum of tests to assess diseases with airway inflammation. The testing of nitric oxide in exhaled air as well as gas mixing techniques has resulted in tests more sensitive to diagnose obstructive airway diseases. The addition of an infant pulmonary function laboratory has a unique spectrum of tests that are not available in any other centre in Canada. The infant pulmonary function lab has opened the potentials for diagnostic tools to objectively assess lung disease in infants and young children. This service is available for the assessment of hospital in-patients and outpatients. We are currently in the process of closing the gap by developing pulmonary function tests for preschool children.

As part of the Toronto Lung Transplantation Program, the division provides pre- and post-transplantation care for children with end-stage lung disease. The lung transplant program continues to be the largest paediatric lung transplant program in the country.

The training program is led by Dr. Melinda Solomon and has independent accreditation by the Royal College of Physicians and Surgeons of Canada. We have the largest training program for paediatric respiratory medicine in the country and provide the full range of training required for Board Certification in Pediatric Pulmonology in the U.S. Not only do we offer training to Royal College of Physicians and Surgeons of Canada eligible candidates, we also train physicians from abroad. Dr. Solomon is the CF Clinic Director as well as the Medical Director of the Lung Transplant Program and has recently completed a certificate from the University of Toronto Education Scholars Program. She is involved in educational research, focusing on the cognitive-behavioral aspects of teaching communication supported by a grant from the Education Development Fund. She is presently pursuing her MScCH in Health Professions Teacher Education.

The major research foci includes clinical and epidemiological studies in patients with asthma and CF, translational studies on airway inflammation and infection in CF, effects of sex hormones on airway inflammation, defining the role of novel genes in lung development, studies in aerosol therapy and exercise physiology. The division also continues to be involved in the NIH-funded Childhood Asthma Management Program Continuation Study (Dr. Grasemann, Dr. Subbarao and Dr. Solomon). There has also been a growing interest in assessing the pulmonary sequelae of sickle cell disease that is currently being addressed in a number of research studies (Dr. Grasemann, Dr. Narang and Dr. Subbarao). Dr. Hartmut Grasemann was promoted to Associate Professor this year and received the Senior Scientist Award from the Canadian Cystic Fibrosis Foundation. Dr. Allan Coates and Ms. Laura Seed have been very active on both the provincial and national level with the Ontario Lung Association and the Canadian Thoracic Society by promoting training of spirometry in children as well as acting in advisory roles for research studies using lung function testing with Statistics Canada.

FELLOWS
Dr. Fiona Kritzinger
Dr. Dimas Mateos Corral
Dr. Sintra Phumethum

SUBSPECIALTY RESIDENTS
Dr. Tara Allen
Dr. Suhail Al-Saleh
Dr. Reshma Amin
Dr. Glenda Bendak
Dr. Tania Samanta
Dr. Joanna Swinburne

ADMINISTRATIVE STAFF
Tara Beattie
Jennifer Chay
Christina Della-Spina
Victoria Snell
Dr. Subbarao has initiated the pilot phase of the CHILD study, a large birth cohort study to elucidate the factors important for the development of asthma in early childhood, which is supported by Canadian Institutes of Health Research and AllerGen. She is leading this project as a co-Principal Investigator with Dr. Malcolm Sears from McMaster University. Dr. Subbarao has been successful in attracting additional private funding for the infant pulmonary function cohort in this study that will provide the largest study using lung function measurements in this age group to date. Dr. Subbarao has also received a Canadian Institutes of Health Research Young Investigator Award. Dr. Sharon Dell focuses on respiratory outcomes research and teaches in the graduate Clinical Epidemiology program at the University of Toronto. She collaborates with investigators at Health Canada to conduct research in air pollution lung health effects, along with investigators across North America in multi-centre clinical studies of children with Primary Ciliary Dyskinesia. Dr. Indra Narang focuses on clinical and physiological studies related to sleep disordered breathing and has begun collaborating with numerous services in the institution studies on obesity and cardiac disorders such as cardiomyopathies. Dr. Theo Moraes’s research is directed toward a better understanding of the processes driving lung inflammation as well as immunological mechanisms involved in immunity against respiratory viruses. There is a broad spectrum of both basic science and clinical research that bridges the laboratory to the clinic in many disease areas. Dr. Grasemann is leading a series of studies to elucidate the role of arginase and NO deficiency in CF lung disease sponsored by Canadian Institutes of Health Research and the Canadian CF Foundation.

Dr. Ratjen and the CF group are involved in multiple studies in a leading (PI) role, including multi-centre studies on azithromycin in Pseudomonas negative CF patients. This is the first collaborative study funded by the U.S. Cystic Fibrosis Foundation conducted in Canada and the U.S. The study on the role of aspergillus infection in CF is funded by both the Canadian Cystic Fibrosis Foundation and Physician Service Incorporated. The multi-centre study on the use of hypertonic saline as an early intervention strategy is funded by the U.S. Cystic Fibrosis Foundation and NIH. Dr. Ratjen is also involved in developing new outcome measures to assess improvement in CF lung disease within the BREATHE program, a study to develop CFTR corrector therapy funded by Canadian Institutes of Health Research and the Canadian Cystic Fibrosis Foundation (Dr. Ratjen).

Other studies supported by research grants as well as generous support by individuals such as the Irwin family are ongoing in addition to industry sponsored studies including an 80 site study in Australia, Canada and the U.S. on denufosol, a P2Y receptor agonist that activates chloride conductance through alternative chloride channels (PI Dr. Ratjen). The CF group is also involved in other clinical drug studies targeting the basic defect in CF. A close collaboration exists with the adult CF program at St. Michael’s Hospital led by Dr. Tullis, of clinical care and many areas of research, and with the Lung Transplant Team at Toronto General Hospital led by Dr. Keshavjee.

In addition, members of the division are key partners of the CF team that has now formed an approved Cystic Fibrosis Centre highlighting the long-standing and ongoing excellence in both CF clinical care and CF research at SickKids. The CF Centre is co-led by Christine Bear (Senior Scientist, Molecular Structure and Function) and Dr. Felix Ratjen. Newborn screening for CF began last year and the CF team at SickKids was a major driving force in getting this off the ground. Dr. Ratjen acts as a medical advisor to the newborn screening group in Ottawa and a collaborative study funded by the Canadian Cystic Fibrosis Foundation has been initiated to evaluate the clinical course of patients with an unclear diagnosis within the Newborn Screening Program.

For a more complete description of our clinical activities, educational events and research interests, please visit the Division of Respiratory Medicine Website as well as the CF Centre website.
PUBLICATIONS


BOOKS AND BOOK CHAPTERS


FUNDING

A double-blind, multi-center, multi-national randomized, placebo-controlled trial evaluating aztreonam lysine for inhalation in patients with cystic fibrosis, mild lung disease and P. aeruginosa (AIR-CF4). Ratjen F, Solomon M.

Gilead Sciences ($39,555 2008-2009)

A multi-stage population based study to determine the association between air pollution and asthma. Dell S, Steib D, Gilbert N, Jerret M, Miller D, To T. Health Canada ($76,442 2007-2009)


Breathe Program – a randomized-controlled trial of inhaled hypertonic saline (7%) to detect a treatment effect using the lung clearance index in CF patients with normal lung functions. Ratjen F. Canadian Cystic Fibrosis Foundation ($61,654 2007-2009)

Body image and eating disturbances in paediatric heart and lung transplant recipients: A pilot study. Pollock-Barziv S, Solomon M. International Society for Heart and Lung Transplantation (Social Sciences Award) ($12,000 2008-2009)

Canadian birth cohort Indoor air and the development of asthma and allergy (CHILD Study) Subbarao P, Sears M, Grasemann H, Dell S, Ratjen F. Canadian Institutes of Health Research ($12,000,000 2007-2013)


Defining the role of stenotrophomonas maltophilia in CF patients. Waters V, Ratjen F. Canadian Cystic Fibrosis Foundation ($240,000 2009-2011)

Diagnosing cystic fibrosis in neonates and adults: Where do we draw the line? Durie P, Tullis E, Ratjen F. Canadian Cystic Fibrosis Foundation ($360,000 2008-2011)

Effect of increased L-arginine bioavailability on Pseudomonas aeruginosa infection of the lung in cystic fibrosis. Grasemann H, Ratjen F, Pencharz P, Scott J. Canadian Institutes of Health Research ($100,000 2007-2009)

Establishing and validating evidence-based algorithms and indicators for longitudinal chronic respiratory disease surveillance. To T, Dell S. Public Health Agency of Canada ($124,881 2008-2009)


Functional relevance of altered L-arginine metabolism in cystic fibrosis lung disease. Grasemann H. Canadian Cystic Fibrosis Foundation ($170,000 2009-2011)


Glucocorticoid receptor and glucocorticoid-responsive genes in developing lung. Sweezey N, Kaplan F. Canadian Institutes of Health Research ($563,500 2004-2009)

Inhaled saline for infants study (ISIS-002). Davies S, Rosenfeld M, Ratjen F. National Institutes of Health and the US CF Foundation (US$1,794,674 for first year funding October 1, 2003-September 30, 2008)

L-arginine in cystic fibrosis. Grasemann H, Ratjen F. The Lynne and Arnold Irwin Foundation ($25,000 2007-2008)
Long term outcomes after pediatric complicated pneumonia. Cohen E, Dell S. Dean’s Fund New Staff Grants Program, Faculty of Medicine, University of Toronto ($10,000 2008-2009)

Masters project funding to Wallace Wee: The accurate prediction of drug lung deposition based on the combination of nebulizer performance and the patient’s age and pattern of breathing. Natural Sciences and Engineering Research Council of Canada ($17,500 2009-2010)

Making the link between objective measures of airway disease and epidemiological survey data. Dell S. Ontario Lung Association ($50,000 2008-2009)


Modulation by sex hormones of inflammation and susceptibility to Pseudomonas aeruginosa in cystic fibrosis airways. Canadian Cystic Fibrosis Foundation ($140,000 2007-2009)/Irwin Family Fund for CF Research ($20,000/year 2007-2009)

Multi-center, multi national, randomized, placebo-controlled trial of azithromycin in participants with cystic fibrosis, 6-18 years old, culture negative for Pseudomonas aeruginosa. Ratjen F, Solomon M. Cystic Fibrosis Foundation Therapeutics Inc. ($5,200,464 2006-2009)

Pharmacogenomics of P2Y2 receptor activation. Ratjen F. Inspire Inc. ($51,030 2007-2009)

Pharmacogenetic variability in response to denufosol therapy. Ratjen F. Inspire Inc. ($42,065 2008)


Surfactant protein D controls inflammatory response and modulates NO synthesis in the cystic fibrosis lung. Grasemann H (David Douda, PhD, student). Ontario Student Opportunity Trust Fund/Restracomp ($60,000 2008-2011)

The Hospital for Sick Children Centre for the Study of Complex Childhood Diseases. Post M, Ratjen F. Canadian Foundation for Innovation ($20,571,919 2006-2009)


Young infants with acute recurrent wheezing – To puff or not to puff? A randomized controlled trial. SickKids Foundation/ Institute of Human Development, Child and Youth Health, Canadian Institutes of Health Research ($130,000 2008-2010)
DIVISION HEAD
Dr. Brian Feldman

FULL-TIME
Dr. Susanne Benseler
Dr. Ronald Laxer
Dr. Rayfel Schneider

MAJOR PART-TIME
Dr. Shirley Tse
Dr. Rae Yeung

PART-TIME
Dr. Earl Silverman

CROSS-APPOINTEES
Dr. Vivian Bykerk
Dr. Hans-Michael Dosch
Dr. Paul Fortin

CLINICAL FELLOWS
Dr. Roberta Berard
Dr. Daniela Ardelean
Dr. Nicholas Blanchette
Dr. Karoon Danayan
Dr. Boris Hugle
Dr. Clare Hutchinson
Dr. Sathish Kumar
Dr. Lily Lim
Dr. Heinrike Schmeling

Dr. Lynn Spiegel
Division of Rheumatology

DIVISIONAL OVERVIEW
The Division of Rheumatology provides comprehensive care for children with rheumatic diseases. The ambulatory clinics have approximately 5,000 patient visits per year at SickKids. In addition to the general rheumatology clinics, there are unique multidisciplinary subspecialty clinics for children with dermatomyositis, morphea, systemic JIA and systemic lupus erythematosus. New clinics for children with central nervous system vasculitis and juvenile spondyloarthropathy have been initiated. Dr. Lynn Spiegel has developed a program to prepare teens, their parents and families to transition from paediatric to adult health care. The division makes extensive use of the medical day care unit where children receive joint injections under anaesthesia, therapeutic infusions or undergo investigations which would otherwise require in-patient admission. An increasing number of children have benefited from treatment with biologic agents on the medical day care unit.

The Division of Rheumatology has the largest paediatric rheumatology fellowship training program 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, Germany, India and Singapore. Paediatric Rheumatology graduates have done extremely well in obtaining academic placements across Canada and around the world and trainees have been productive in the research arena.

Research foci include the development of a trial design for the study of rare diseases, outcome, prognosis and treatment studies in juvenile arthritis, SLE, neonatal lupus, scleroderma, dermatomyositis, vasculitis and CNS vasculitis. Dr. Rayfel Schneider is a leading investigator of an international trial on a new therapy for the treatment of patients with systemic JIA.

Basic research focuses on the immunopathogenesis of Kawasaki disease using an animal model.

HONOURS AND AWARDS
Benseler S: Subspecialty Teaching Award for Excellence in Clinical Teaching from the Department of Paediatrics, University of Toronto, The Hospital for Sick Children, 2009.

Convery H, Rheumatology Nurse, had her abstract entitled “A Novel Educational Tool for Childhood CNS Vasculitis” accepted for presentation at the 2008 ACR/ARHP Annual Scientific Meeting in San Francisco, CA in October 2008.

Danayan K: won 1st prize for the poster competition at the Rheumatology Ogryzlo Day June 2009 for her project “Recurrence of Neonatal Lupus Erythematosus in Siblings”.

Dr. Linda Hiraki was awarded the Chisholm Memorial Fellowship and the Edward Christie Stevens Fellowship by the Postgraduate Medical Education Awards Committee of the Faculty of Medicine in July 2008. After consideration, and an offer from The Harvard Knox Scholarship Committee, Dr. Hiraki decided to move to Boston to pursue a Doctor of Science in Epidemiology at Harvard.

Hutchinson C: Winner of the first prize for her podium presentation at Ogryzlo Day 2008 for her presentation on “Open Label Study for Treatment of Angiography-Negative, Biopsy-Positive Primary CNS Vasculitis in Children”.

Hutchinson C: Her abstract on the “Long-term neurological outcome of primary small vessel CNS vasculitis” was selected for a Podium presentation at the ACR Meeting, 2008.

Hutchinson C: received the TAS-UCB postgraduate fellowship for 2 years, as well as a CIHR Master’s award. She was unable to hold two awards at the same time so unfortunately had to turn down the CIHR award.
Jurencak R: graduated from the Rheumatology Program and was offered a staff position in the Division of Pediatric Rheumatology at the Children’s Hospital of Eastern Ontario.

Lim L: Her Poster “Poor bone mineral density was already present in newly diagnosed Juvenile Systemic Lupus Erythematosus patients” was recognized as a “notable poster” at The American College of Rheumatology Meeting, 2008.

Rheumatology Nursing Team: Recipient of the 2009 Grace Evelyn Simpson Reeves Award for Excellence as a Nursing Team.


Silverman E: Inaugural Chair holder of The Ho Family Chair in Paediatric Autoimmune Diseases at The Hospital for Sick Children and the University of Toronto, 2009.

Tyrell P: University of Toronto - Institute of Medical Sciences won the American College of Rheumatology - Research and Education Foundation - Abbott Medical/Graduate Student Achievement Award, Nov. 2008. This award recognizes outstanding medical and graduate students for significant work in the field of rheumatology.

Tyrell P: He also won the American College of Rheumatology 2008 Notable Poster award. This represents the top 15% of all abstracts submitted.

Tyrell P: At the Canadian Student Health Research Forum (May 2009): Pascal was nominated by the University of Toronto as being within the top 2% of doctoral students, for participation in the CIHR Research Poster Competition at the Canadian Student Health Research Forum, June 3, 2009 in Winnipeg, Manitoba, Canada.

PUBLICATIONS


**BOOKS AND BOOK CHAPTERS**


**FUNDING**


Determinants of risks and outcomes in inflammatory arthritis. Siminovitch K, Bernatsky SR, Bombardier C, Briollais L, MacPherson AJ, Oen KG, Yeung RSM, **Canadian Institutes of Health Research** ($400,000/year 2007-2012)

Developing an understanding of mentoring. Leslie K, Schneider R. **Paediatric Consultants Grant** ($5,000 2008)

International Juvenile Idiopathic Arthritis Initiative. Yeung R. **Networks of Centres of Excellence** ($50,000 2009)

Kawasaki disease: On our way to unraveling the pathogenesis. Yeung R. **Canadian Institutes of Health Research** ($425,214 2008)


Towards a better understanding of Kawasaki disease. Yeung R. **Heart and Stroke Foundation of Canada** ($239,158 2008)

Validation of the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and the Bath Ankylosing Spondylitis Functional Index (BASFI) in children with spondyloarthropathy. Tse S, Feldman BM, Laxer R, Anderson M, Whitney K, Marcuz J. **Spondyloarthritis Research Consortium of Canada** ($9,842 2009-2010)
FACULTY
Dr. Golda Milo-Manson,
Vice President,
Medicine & Academic Affairs

PHYSICIAN DIRECTORS
Dr. Peter Rumney,
Rehabilitation & Complex
Continuing Care

Dr. Darcy Fehlings,
Child Development Program
Dr. Rob Carmichael,
Chief of Dental Services

STAFF PHYSICIANS
Dr. Evdokia Anagnostou
Dr. Doug Biggar
Dr. Ryan Hung
Dr. Elizabeth Jimenez
Dr. Anne Kawamura

Dr. Jeff Kobayashi
Dr. Laura McAdam
Dr. Gilbert Miller
Dr. Angela Orsino
Dr. Jonathan Tolkin
Dr. Wendy Roberts
Bloorview Kids Rehab

Bloorview Kids Rehab AFP (9.5 FTEs)

Active consulting staff = 17 subspecialists

As a provincial facility, we see almost 7,000 children and youth on an outpatient basis and we have over 650 patient admissions each year.

Bloorview Kids Rehab offers both in-patient and outpatient developmental and rehabilitation services to the children and families of the Greater Toronto Area and provides tertiary services in paediatric rehabilitation to the Province of Ontario.

The Fourth Annual Roszel Developmental Paediatric Resident Research Day was held in February 2009.

Medical Education Chair
Dr. Golda Milo-Manson

Developmental Paediatric Residency Program Director
Dr. Anne Kawamura

Resident Coordinators
Dr. Laura McAdam and Dr. Elizabeth Jimenez

Year 2008-09
Paediatric RII ........................................................... 359 days
Neurology ................................................................. 101 days
Psychiatry ................................................................. 19 days
PM&R ................................................................. 107 days
Medical students ..................................................... 443 days
Developmental paediatric Subspecialty residents ..................................................... 1035 days

TOTAL ................................................................... 2064 days

Developmental Paediatric Fellows and Residents 2008/2009
Dr. Michal Begin
Dr. Joelene Huber
Dr. Ghassan Abu Kuwaik
Dr. Sharon Smile
Dr. Lyn Sonnenberg
Dr. Elizabeth Young

For the academic accomplishments, please see the Division of Developmental Paediatrics report.
**Transplant Centre**

**PROGRAM OVERVIEW**

SickKids has one of the largest paediatric solid organ transplant programs in North America, with over 1,000 children in receipt of a solid organ graft. We deliver family-centred end-stage organ failure and transplantation care from the fetal stage through the teenage years. Our clinical volumes are within the top five to 10 per cent of transplant centres in North America. Patient care is enhanced by interdisciplinary educational programs, fellowship training in transplantation and strong basic, translational and clinical research programs.

We have had a busy and highly successful academic year as outlined below.

**Team.** Our team continues to grow. We are grateful to the Department of Paediatrics, SickKids’ Research Institute, Department of Surgery, Labatt’s Heart Centre, and Liam’s Light Foundation who have provided support for the recruitment of new medical, surgical and interprofessional staff with interests in transplantation. New additions to SickKids include: Dr. Rulan Parekh, Nephrology (Kidney Transplantation); Dr. Anand Ghanekar, Surgery (Liver and Intestine Transplantation); Dr. Yaron Avitzur, Gastroenterology (Intestine Transplantation); and Dr. Binita Kamath, Gastroenterology (Liver Transplantation).

We added to our focus on health related quality of life research through recruitment to our interprofessional team with the addition of Stacey Pollack, PhD, Paediatrics, and the planned recruitment of Samantha Anthony, Ph.D. when she completes her post-doctoral fellowship.

**Clinical Care.** In 2008-2009, the hospital received $500,000 as one-time funding to support the clinical programs. The majority of this funding was used to enhance interprofessional services across all programs within the Transplant Centre. The hospital and Ministry also reached agreement this year on funding for intestine transplantation at a rate of $235,000 per case. Finally, in recognition of the life-saving clinical work performed in the transplant clinical programs, the hospital shifted resources to create surge capacity on the in-patient unit by opening beds on Ward 6B. These investments have enhanced in-patient and ambulatory care, improved patient access and promoted team satisfaction through a better quality work life. The investments allowed our clinical programs to remain busy and highly successful. A total of 65 organ transplants were performed over the past fiscal year with patient survival rates that match or exceed the best programs worldwide.

**Education.** To improve our educational offering, we have integrated transplantation education into the Department of Paediatrics curriculum, developed a new academic Transplant Centre Medical fellowship with 3.5 FTE positions and created a fellowship in Paediatric Transplant Surgery. Dr. Solomon, working closely with the solid organ program leaders and Dr. Adele Atkinson, developed a program that provides paediatric residents exposure to transplantation outpatient and in-patient care. Dr. Dipchand is the administrative head for the Transplant Centre Fellowships.

Dr. Fecteau administered the surgical fellowship.
**Research.** An inventory of the research awards by our interdisciplinary, medical and surgical team revealed more than $6,186,418 in total funding and 37 related publications during the past year. Our clinical research capacity and performance will substantially increase 2009-14 through participation in three new NIH-funded clinical trials of liver and heart transplantation and intestinal failure. Other research foci with extramural funding include: vaccination strategies, prevention of Epstein-Barr virus and Respiratory Syncytial virus complications post-transplantation (Upton Allen); quality of life following heart and liver transplantation (Anne Dipchand, Stacey Pollack, Vicky Ng); xenotransplantation (David Grant and Thomas Waddell); adolescent issues of transition to adult care (Miriam Kaufman); techniques to enhance lung recovery for transplantation (Shaf Keshavjee and colleagues); and leukocyte trafficking in allograft rejection (Lisa Robinson).

To expand our academic activities and profile, we have raised more than $1.4 million in donations over the past year. The priorities for the use of these donated funds will include: interdisciplinary team research; novel, high-risk, high reward studies including regenerative medicine projects examining the mechanisms of limb and tracheal regeneration; and development of a Transplant Biobank, under the Executive Leadership of Dr. Seema Mital, Heart Transplantation, and Dr. Freda Miller, Regenerative Medicine, SickKids’ Research Institute, which will store DNA and RNA as well as skin cells for research on induced pluripotent stem cells.

**Advocacy.** Our team continues to strongly advocate for paediatric solid organ transplant recipients through representation on provincial, national and international committees. Members of the Transplant Centre serve on the Board of the International Pediatric Lung Transplant committee (member, Mindy Solomon), the International Pediatric Transplant Association (council members, Anne Dipchand and Upton Allen), the American Society of Transplantation, the Pediatric Community of Practice (incoming chair, Anne Dipchand), the Trillium Gift of Life Board (member, Diane Hebert), the Canadian Liver Transplant Study Group (president, David Grant), the International Intestine Transplant Society (President, David Grant) and the Canadian Blood Services Transplant Expert Working Group (member, David Grant).
The value of experience is not in seeing much, but in seeing wisely.

from The Student Life: The Philosophy of Sir William Osler
Paediatric Housestaff

**CHIEF RESIDENTS – PGY4S**
- Dr. Michelle Batthish
- Dr. Ewurabena Simpson

**ASSOCIATE CHIEF RESIDENTS – PGY4S**
- Dr. Celia Atkinson
- Dr. Sloane Freeman
- Dr. Tarek Khaldin
- Dr. Caroline McLaughlin
- Dr. Michelle Porepa
- Dr. Kevin Weingarten
- Dr. Eitan Weinberg

**THIRD YEAR RESIDENTS – PGY3S**
- Dr. Fahed Aljaser
- Dr. Ahmed Alkheit
- Dr. Kesete Bezu
- Dr. Joyce Cheng
- Dr. Auran Denburg
- Dr. Alisha Kassam
- Dr. Rae Koffman
- Dr. Dianne Lim
- Dr. Nadia Luca
- Dr. Aif Manji
- Dr. Gagandeep Saund
- Dr. Deena Savlov
- Dr. Ksenia Shvyntska
- Dr. Gordon Soon
- Dr. Christopher Sulowski
- Dr. Mark Tessaro
- Dr. Nisha Thampi
- Dr. Athine Toulany

**SECOND YEAR RESIDENTS – PGY2S**
- Dr. Leila Fazeli Chaghoshi
- Dr. Amy French
- Dr. Silvio Gonzalez
- Dr. Andrea Hoffman
- Dr. Emilie Jean-St-Michel
- Dr. Julie Johnston
- Dr. Dina Kulis
- Dr. Ana Marissa Lagman-Bartolome
- Dr. Paola Luca
- Dr. Mary Kate Mennie
- Dr. Niraj Mistry
- Dr. Reem Mohammed
- Dr. Nakkil Pai
- Dr. Anastasiou (Taso) Papadopoulos
- Dr. Cynthia Papalos
- Dr. Alisha Rachlis
- Dr. Audrey Segal
- Dr. Maher Shalabi
- Dr. Shawna Silver
- Dr. Jennifer Smith
- Dr. Cyria Villani
- Dr. Cyris Boelman (PGY2 neuro)
- Dr. John Brandsma (PGY2 neuro)

**FIRST YEAR RESIDENTS – (PGY1S)**
- Dr. Raghdh Al-Abdwani
- Dr. Salman Al-Khalifa
- Dr. Sundeep Bola
- Dr. Melissa Chan
- Dr. Sylvia Cheng
- Dr. Jackie Chiang
- Dr. Justine Cohen-Silver
- Dr. Lindsey Craw
- Dr. Kate Houston
- Dr. Luke Jagiello
- Dr. Mikhail Katz-Lavigne
- Dr. Shannon Knights
- Dr. Eric Keelink
- Dr. Charles Larson
- Dr. Ridoutaman Minhas
- Dr. Amit Mukerji
- Dr. Zoe Nugent
- Dr. Melanie Penner
- Dr. Maian Rolfman
- Dr. Natasha Saunders
- Dr. Catalina Tamayo
- Dr. Lance Rodan (PGY1 neuro)
- Dr. Dragos Nita (PGY1 neuro)
The 2008-2009 academic year saw another successful and exciting Department of Paediatrics Grand Rounds series. The purpose of Paediatric Grand Rounds in the Department of Paediatrics at the University of Toronto is to bring the world’s most eminent clinicians, scientists, and medical educators to SickKids. Grand Rounds provides an opportunity for SickKids’ faculty, house-staff, and students to experience cutting-edge research relevant to the health care of children. All presentations highlight the link between the “bench and bedside”, demonstrating how new scientific advances translate into state-of-the-art health care for children.

One of the highlights of the 2008-2009 series was the 2008 Robert H.A. Haslam Lecture, which was delivered by Dr. John Challis, President and CEO of The Michael Smith Foundation for Health Research. Dr. Challis gave an interesting lecture on preterm birth and programming later life disease. Dr. Victor Nizet, Professor of Pediatrics and Pharmacy, University of California, San Diego School of Medicine gave a fascinating presentation on the pathogenesis of bacterial infections. Dr. Bernard Thebaud from the University of Alberta was invited to give the 2008 Barry Smith Lecture. He delivered a state-of-the-art presentation entitled “About Supermice and Supercells: Implications for Lung Regeneration”. Dr. Chris Feudtner, Director of Research, Pediatric Advanced Care Team, Children’s Hospital of Philadelphia, together with Ian Brown, feature writer for The Globe and Mail, delivered a compelling presentation on the care of children with complex diseases. Dr. James Downing, Director of the Molecular Pathology Laboratory at St. Jude’s Children’s Research Hospital, presented his ground-breaking research on the molecular pathology of acute leukemia. Other highlights included lectures from Drs. Sonia Caprio (Yale University), Kathy Shaw (Children’s Hospital of Philadelphia), Kent Saylor (Montreal Children’s Hospital), Michael Shevell (McGill University), Michael Holick (Boston University), Charles Larson (University of British Columbia), Franz Schaefer (University of Heidelberg), Ivan Silver (University of Toronto), John Zupancic (Harvard University), and Ann Reed (Mayo Clinic).

In addition to these lectures, Drs. Elena Pope and Philip John gave a combined lecture on vascular malformations in children. Drs. Meredith Irwin and David Kaplan gave a “bench-to-bedside” presentation on neuroblastoma. Drs. Felix Ratjen, Michelle Letarte, and Marie Faughnan gave a fascinating lecture about hereditary hemorrhagic telangiectasia, while Drs. Anne Griffiths and Alexio Muise spoke about their ground-breaking work in unraveling the genetics of inflammatory bowel disease. Drs. Shaf Keshavjee and Hartmut Grasemann gave an excellent rounds entitled “Pediatric Lung Transplantation: New Frontiers”. These represent only a fraction of the outstanding rounds which made up the 2008-2009 series.

Grand Rounds will continue to be held on Wednesdays from 9:00 a.m. to 10:00 a.m. in the Daniels Hollywood Theatre at SickKids. The Department of Paediatrics Grand Rounds Committee would like to acknowledge the help and support of the following people, to whom we are very grateful: The Paediatric Executive Committee; Valerie Daniels, Department of Paediatrics; and Frank Ferrari and Sam Mendolia from the Audio-Visual Department at SickKids.
July 9 – Dr. Fatima Kakkar, Dr. Ronan Leahy, Dr. Shaun Morris, Division of Infectious Disease, SickKids: The Changing Face of Pneumococcus

July 16 – Dr. Vicky Breakey, Dr. Amy Lee Chong, Division of Haematology/Oncology, SickKids: Teens with Tumours: How Age Influences Diagnosis, Treatment and Outcome in Adolescents with Cancer

July 23 – Dr. Christopher Barnett, Dr. Hanna Faghfouri, Dr. Shailly Jain, Division of Clinical Genetics, SickKids: Does ‘X’ really mark the spot? The pediatrician’s guide to genetic and metabolic investigation of mental retardation

July 30 – Dr. Jorina Elbers, Dr. Ryan Hung, Dr. Naila Makhani, Division of Neurology, SickKids: BrainTeasers

August 6 – Dr. Rayzie Shulman, Dr. Clodagh O’Gorman, Dr. Dror Kotlin, Division of Endocrinology, SickKids: Diabetes – Try to Control Yourself!

August 13 – Dr. Seetha Radhakrishnan, Dr. Naifain Al Kalbani, Division of Nephrology, SickKids: Footprints in time: making podocyte history

August 20 – Dr. Marko Vezmar, Dr. Jaime Alkon, Division of Cardiology, SickKids: How to Recognize Heart Failure?

August 27 – Dr. Alexandra Balma Mena, Dr. Navneet Sharm, Division of Paediatric Medicine and Section of Dermatology, SickKids: Wheal or no Wheal: A Review of Chronic Urticaria

September 10 – Dr. Paul Pencharz, Staff Physician, Division of Gastroenterology, Hepatology and Nutrition, SickKids: The role of the gut in the amino acid metabolism of the neonate.

September 17 – Dr. Victor Nizet, Professor of Pediatrics and Pharmacy, Chief, Division of Pediatric Pharmacology and Drug Discovery, UCSD School of Medicine: Probing Staph and Strep immune evasion for novel treatment strategies

September 24 – Dr. John Challis, Professor of Physiology, Ob/Gyn and Medicine, University of Toronto: Haslam Lecture: Preterm birth and Programming later life disease.

October 1 – Dr. Diane Wherrett, Staff Physician, Division of Endocrinology, SickKids: The Pathway to Type 1 Diabetes: Below the Tip of the Iceberg

October 8 – Dr. Chris Feudtner, Children’s Hospital of Philadelphia, Ian Brown, Globe and Mail Complex Care Rounds: Partnering Leadership

October 15 – Dr. Michael Shevell, McGill University Clinical Pathology Conference

October 22 – Dr. Kathy Shaw, Chief of Pediatric Emergency Medicine, Children’s Hospital of Philadelphia: Occult UTI: How and Which Febrile Infants should be Screened for UTI

October 29 – Dr. Brian Feldman, Head, Division of Rheumatology, SickKids: Laski Lecture: Hemophilia and arthritis - an ounce of prevention is worth a pound of cure.

November 5 – Dr. Kent Saylor, Director of the Northern and Native Child Health Program, Montreal Children’s Hospital: Harry Bain lecture: Aboriginal Children’s Health in Canada

November 12 – Dr. Mary Fallat, Professor of Surgery, Director of Pediatric Surgery, University of Louisville, KY: Bioethics Rounds: Preservation of Fertility in Pediatric and Adolescent Patients with Cancer
November 19 – Dr. Sonia Caprio, Professor, Pediatric Endocrinology, Yale University, New Haven, CT: Type 2 Diabetes in Youth: An Evolving Picture

November 26 – Dr. Rosanna Weksberg, Staff Physician, Division of Clinical and Metabolic Genetics, SickKids: Epigenetics Punctuates the Genetic Code: A Pediatric Primer

December 3 – Dr. Bernard Thebaud, Assistant Professor, Department of Pediatrics/Perinatal Research Centre Neonatology, University of Alberta Hospital: Barry Smith Lecture: About supermice and supercells: Implications for lung regeneration

December 10 – Dr. Brian McCrindle, Staff Physician, Division of Cardiology, SickKids: Who Are You Calling ‘Fat’?!?

2009
January 7 – Donna Koller, David Nicholas, Child Life Department, SickKids Research Institute: Psychosocial and health services consequences of infectious outbreaks: Lessons learned for paediatric pandemic planning

January 14 – Dr. James Downing, Scientific Director and Director Molecular Pathology Lab, St. Jude’s Children’s Research Hospital, Memphis, TN: Daniel Burton Lecture: Molecular pathology of acute leukemia

January 21 – Dr. Peter Durie, Staff Physician, Division of Gastroenterology, Hepatology and Nutrition, SickKids: Wherefore cystic fibrosis? Advances in disease pathogenesis and therapy 20 years after the discovery of the CFTR Gene

January 28 – Michael Holick, Chief of Endocrinology, Metabolism and Nutrition Program Director, General Clinical Research Center, Boston University School of Medicine: An Enlightening Perspective on Vitamin D for Health

February 4 – Dr. John Zupancic, Director of Neonatology, Beth Israel Deaconess Medical Center, Boston: Why bother with the dollar? Harnessing evidence and efficiency in the treatment of premature infants

February 11 – Dr. Stephen Warren, Professor of Biochemical and Pediatrics, Emory University: Jacobs Ladder Award in Neurogenetics: ‘Newborn and conventional mutation screening in fragile X syndrome’

February 18 – Dr. Elena Pope, Section Head, Dermatology, SickKids, Dr. Philip John, Director, Vascular Malformation Program, DI, SickKids: The Skin and Beyond: An Approach to Infantile Hemangiomas

February 25 – Dr. Ivan Silver, Professor, Department of Psychiatry, Vice Dean of Continuing Education and Professional Development, Director, Centre of Faculty Development, Faculty of Medicine, University of Toronto: Medical Education Day, ‘Lost in Translation?: Life-long learning across the continuum’

March 4 – Dr. Meredith Irwin, Staff Physician, Division of Hematology/Oncology, Dr. David Kaplan, Cell Biology, SickKids: Old drugs for new cells: Novel approaches to developing therapies for the pediatric cancer neuroblastoma
March 11 – Dr. Charles Larson, Director, Centre for International Child Health, British Columbia Children’s Hospital, Vancouver, BC: Global Child Health Day: Bringing zinc treatment of childhood diarrhea to scale: ‘Cring-Cring’ baby zinc

March 25 – Dr. Susanne Benseler, Staff Physician, Division of Rheumatology, SickKids: Childhood CNS vasculitis: A novel inflammatory brain disease

April 1 – Dr. Franz Schaefer, University Children’s Hospital, Heidelberg, Germany: Optimal care of children with chronic kidney disease

April 8 – Dr. Rod McInnes, Senior Scientist, Developmental and Stem Cell Biology, SickKids: Synapses, Genetics, and Prospects for the Drug Treatment of Developmental Delay

April 15 – Dr. Anne Griffiths, Head, Division of Gastroenterology, Hepatology and Nutrition, SickKids, Dr. Aleixo Muise, Staff Physician, Division of Gastroenterology, Hepatology and Nutrition, SickKids: IBD: In pursuit of cause

April 22 – Dr. Felix Ratjen, Head, Division of Respiratory Medicine, SickKids, Dr. Marie Faughnan, Director Pulmonary Function Lab, St. Michael’s Hospital, Dr. Michelle Letarte, Senior Scientist, Molecular Structure and Function, SickKids: Mastering Hereditary Hemorrhagic Telangiectasia: An opportunity for prevention

April 29 – Dr. Shoo Lee, Head, Division of Neonatology, Mount Sinai Hospital and SickKids: Paediatric Update - Care of the newborn: a global perspective

May 6 – Dr. Hartmut Grasemann, Staff Physician, Division of Respiratory Medicine, SickKids, Dr. Shaf Keshavjee, Transplant Program, UHN: Pediatric lung transplantation: new frontiers

May 13 – Dr. Ann Reed, Rheumatology and Adolescent Medicine, Mayo Clinic, Rochester, MN: Abraham Shore Lecture: Dermatomyositis

May 20 – Winner to be announced, Andrew Sass-Kortsak Award Lecture

May 27 – Dr. Irena Nulman, Associate Director, Motherisk Program, SickKids: Motherisk Lecture: The Andre Boivin Professorship Lecture: Starting Safe: Preconception health and risk screening

June 3 – Department of Paediatrics Research Day

June 10 – Amy Kuebelbeck, Author, Waiting with Gabriel: Continuing a Pregnancy with a Terminal Prenatal Diagnosis

June 17 – Department of Paediatrics Awards Day
Awards

TEACHING/EDUCATION AWARDS

Dr. Stacey Bernstein – R.H.A. Haslam Preclerkship Teaching Award to the faculty member who has demonstrated excellence in preclerkship teaching.

Dr. Yehuda Nofech-Mozes – The Lionel Weinstein Clerkship Teaching Award to the faculty member who has demonstrated excellence in clerkship teaching.

Dr. Marvin Gans – The Undergraduate Community Teaching Award in recognition of excellence in the teaching of medical students within community-based hospitals and offices.

Dr. Patricia Parkin – Harry Bain Award to a full-time member of the Department of Paediatrics who has demonstrated excellence in teaching as nominated by core paediatric residents.

Dr. Michael Peer – Marvin Gerstein Award to a part-time member of the Department of Paediatrics who has demonstrated excellence in teaching as nominated by core paediatric residents.

Dr. Eddy Lau – Postgraduate Community Teaching Award in recognition of excellence in the teaching of paediatric residents within community-based hospitals and offices.

Dr. Jonathan Pirie – PERLs Award (Paediatric Educational Resident Lecture Series Award) to the faculty member who has demonstrated commitment to excellence in teaching at the Paediatric academic sessions.

Dr. Anna Jarvis – PERLs Award for special achievement.

Dr. Susanne Benseler – Subspecialty Teaching Award to the faculty member who has demonstrated commitment to excellence in teaching the subspecialty residents and clinical fellows.

Dr. Miriam Kaufman – Continuing Medical Education Award to the faculty member who has demonstrated excellence in course coordination or teaching in a Department of Paediatrics/University of Toronto Continuing Education sponsored event.

CLINICAL AWARDS

Dr. Hilary Whyte – Richard Rowe Award for Clinical Excellence in Paediatric Medical Care to the physician in the Department of Paediatrics who has demonstrated excellence in the delivery of clinical care in the broadest sense over a significant period of time.

Dr. Ute Bartels – Junior Faculty Award for Clinical Excellence in Paediatric Medical Care to a physician within the first 5-10 years of appointment to an Academic Health Sciences Centre, who has demonstrated excellence in the delivery of clinical care.

RESEARCH AWARDS

Dr. Berge Minassian – Physician Researcher Award for Scientific Accomplishment to recognize the accomplishments of a physician who has generated a body of research that is exerting a major impact in a field of study. The awardee will be more than six and less than 15 years beyond the date of appointment as a faculty member in an Academic Health Sciences Centre.

Dr. Stephen Freedman, Dr. Patrick McNamara – Junior Faculty Research Award to recognize outstanding achievements and progress in research by a physician during the first six years after his/her initial academic appointment and whose primary appointment is in the Department of Paediatrics, University of Toronto.

PAEDIATRIC ADMINISTRATIVE AWARD

Ms. Barbara Zimnowodzki – In recognition of an administrative support staff member in the Department of Paediatrics who has demonstrated outstanding performance and excellence in all aspects of their role. This individual possesses outstanding communication and interpersonal skills and is motivated to perform above and beyond their daily responsibilities. This award was first awarded in 2007.
Promotions/Recognition

PROMOTED TO PROFESSOR OF PAEDIATRICS
Dr. Gabrielle de Veber
Dr. Moshe Ipp
Dr. Miriam Kaufman
Dr. Lorelei Lingaard

PROMOTED TO ASSOCIATE PROFESSOR OF PAEDIATRICS
Dr. Adelle Atkinson
Dr. Stacey Bernstein
Dr. Hartmut Grasemann
Dr. Eyal Grunebaum
Dr. Hans Hitzler
Dr. Robert Jankov
Dr. Patrick McNamara
Dr. Angelo Mikrogianakis
Dr. Chris Parshuram
Dr. Savithiri Ratnapalan
Dr. Prakesh Shah
Dr. Brenda Spiegler
Dr. Lillian Sung
Dr. Diane Wherrett

THOSE WHO REACHED NORMAL RETIREMENT AGE
The following reached normal retirement age in June of 2008:

Dr. Robert Hilliard
Dr. Paul Pencharz
Dr. O. Carter Snead

25 YEARS OF SERVICE AWARDS
The following were honoured for their 25 years of service to The Hospital for Sick Children in June of 2008:

Dr. Lee Benson
Dr. Victor Blanchette
Dr. Joe Clarke
Dr. Denis Geary
Dr. Anne Griffiths
Dr. Jonathan Hellmann
Dr. Anthony Hui
Dr. Paul Hwang
Dr. Beverly Kupfert
Dr. Rosanna Weksberg
“But overall, it is about individual values and valuing the individual.”

John F. Crigler, MD, Harvard Medical School
Resident and Fellow Awards and Achievements

TEACHING/EDUCATION AWARDS
Dr. Arlene Toulany (PGY3), Dr. Michelle Batthish (PGY4),
Dr. Ewurabena Simpson (PGY4) – Christopher Ondaatje
Award to a senior resident for excellence in clinical
teaching as nominated by core paediatric residents.

CANMEDS AWARD – SUBSPECIALTY TRAINEE
Dr. Jonathon Maguire

CANMEDS AWARD – CORE PAEDIATRIC TRAINEE
Dr. Nikhil Pai

CLINICAL AWARDS
Dr. Gordon Soon, Dr. Arlene Toulany – The Saunders Prize
to a senior resident who has demonstrated excellence in
clinical paediatrics.

RESEARCH AWARDS
Dr. Emilie Jean-St-Michel – 1st Place, Core Paediatrics

SENIOR TRAINEE – CLINICAL SCIENCE
Dr. Jonathon Maguire – 1st Place
Dr. Sumit Gupta – Tie 2nd Place
Dr. Mathieu Lemaire – Tie 2nd Place

SENIOR TRAINEE – BASIC SCIENCE
Dr. Saswati Sen – 1st Place
Dr. Michael Hawkes – 2nd Place
Annual Resident and Fellow Research Day (June 3, 2009)

ORAL PRESENTATIONS

Barnett C, Clinical & Metabolic Genetics

Barton-Forbes M, Infectious Diseases

Benchimol E, Gastroenterology, Hepatology & Nutrition
Incidence and prevalence of childhood-onset inflammatory bowel disease in Ontario: Results from the Ontario Crohn’s and Colitis Cohort. Benchimol EI, Guttmann A, Griffiths AM, Rabeneck L, Mack DR, Brill H, Howard J, To T

Cain J, Nephrology
GLI3 repressor controls nephron endowment via direct effects on ureteric tip cell differentiation. Cain JE, Islam E, Haxho F, Nieuwenhuis E, Hui C-C, Rosenblum ND

Maguire J, Paediatric Medicine

Mistry N, Core Paediatrics
Determinants of child health: Children’s access to a paediatrician. Mistry N, Foyt R, Dell S, Stieb D, Parkin P

Sahni M, Neonatology

Sakaguchi S, Clinical Pharmacology & Toxicology

POSTER PRESENTATIONS

Abed S, Paediatric Medicine
Proton pump inhibitors for treatment of gastroesophageal reflux in children: a systematic review. Abed S, Mahant S

Ahmad S, Paediatric Emergency Medicine
The effect of a novel restructuring of the Pediatric Emergency Department. Ahmad SA, Chan K, Pirie J

Al-Abdulrazzaq F, Paediatric Emergency Medicine
Infant distress during MDI vs nebulizer therapy for acute wheezing. Al-Abdulrazzaq F, Schuh S

Al Kalbani N, Nephrology
Idiopathic hypercalcemia in infants with renal dysplasia. Al Kalabani N, Harvey E, Geary D

Alkhater R, Neurology
Towards the identification of pediatric movement disorder genes: a family with a new neurotransmitter disorder. Alkhater RA, Rilstone JJ, Minassian BA

Alkon J, Cardiology
The right ventricular systolic to diastolic duration ratio predicts functional capacity and survival in children with pulmonary arterial hypertension. Alkon J, Humpi T, Manihiot C, McCrindle BW, Reyes JT, Friedberg MK

Al-Saleh A, Paediatric Emergency Medicine
Ascertainment of abuse related fractures at a children’s Emergency Department. Al-Saleh A, Somji Z, Plint A, Boutis K
Amin R, Respiratory Medicine
A pilot study of FDG-PET imaging to detect changes in airways inflammation in pediatric cystic fibrosis patients after treatment for a pulmonary exacerbation. Amin R, Charron M, Grinblat L, Shammas A, Grasemann H, Ratjen F

Appendino J, Neurology
The impact of amplitude integrated electroencephalography on neonatal intensive care unit practice. Appendino JP, McNamara P, Keyzers M, Stephens D, Hahn CD

Ardelean D S, Rheumatology
Pediatric Takayasu arteritis: significance of central nervous system manifestations. Ardelean DS, Schneider R, Silverman ED, Laxer R, Seed M, Yoo SJ, Benseler SM

Balma-Mena A, Paediatric Medicine
The multifaceted subacute cutaneous lupus erythematosus. Balma-Mena A, Ho N

Bar-Yosef O, Neurology

Begin M, Developmental Paediatrics

Breakey V, Haematology/Oncology
The quality of hemophilia information available on the internet. Breakey VR, Ignas D, Blanchette V

Chaturvedi S, Nephrology

Ching J, Core Paediatrics

Chong A, Haematology/Oncology
Optic pathway gliomas in adolescence. Chong AL, Bouffet E, Tabori U, Huang A, Bartels U

Chung B, Medical Genetics

Courtney-Martin G, Gastroenterology, Hepatology & Nutrition
The addition of cysteine to the total sulphur amino acid requirement as methionine does not increase erythrocytes glutathione synthesis in the TPN fed human neonate: A pilot study. Courtney-Martin G, Moore AM, Ball RO, Pencharz PB

Danayan K C, Rheumatology
Recurrence of neonatal lupus erythematosus in siblings. Danayan KC, Tyrrell P, Silverman E

Djokanovic N, Clinical Pharmacology and Toxicology
Does treatment with bisphosphonates endanger the human pregnancy? Djokanovic N, Klieger-Grossman D, Koren G

Elango R, Gastroenterology, Hepatology & Nutrition
Evidence that protein requirements in healthy school-age children are significantly underestimated in current recommendations. Elango R, Humayun MA, Ball RO, Pencharz PB

El Sayed M, Neonatology

Faghfoury H, Clinical and Metabolic Genetics
Transient fulminant hepatitis in a patient with classical citrullinemia. Faghfoury H, Schulze A

Finan E, Neonatology
High-fidelity simulation may not be superior to traditional Low-fidelity methods for neonatal Resuscitation training. Finan E, Bismilla Z, Whyte HE, LeBlanc V, McNamara PJ
Garcia-Bournissen F, Clinical Pharmacology and Toxicology

Glatstein M, Paediatric Emergency Medicine
Sulfonylurea ingestion. Glatstein M, Scolnik D, Finkelstein Y

Gibson P, Haematology/Oncology

Goh E, Clinical and Metabolic Genetics
Autosomal dominant connective tissue disorder presenting with short stature, clubfeet, sparse hair, hyperextensible joints, hernias and distinctive facial features – a new syndrome? Goh E, Barnett C, Lee B, Hinek A, Chitayat D

Gupta S, Haematology/Oncology

Hang M, Haematology/Oncology
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