Division of Haematology/Oncology

DIVISIONAL OVERVIEW

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.

The division is the largest Royal College of Physicians and Surgeons of Canada accredited training program for the specialty paediatric haematology/oncology in Canada (Training Program Director, Dr. Angela Punnett). The education program in the division also includes a very large international training program in paediatric haematology/oncology and offers subspecialty training opportunities in areas such as paediatric leukemia/lymphoma, neurooncology, cancer genetics, blood and marrow transplantation and paediatric thrombosis and haemostasis.

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, 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).

CROSS-APPOINTEES /
PART-TIME
Dr. Anthony Chan
Dr. Stephen Comay
Dr. Lee Ann Gallant
Dr. Mark Greenberg

DR. DAVID HODGSON
DR. NICOLE INCH
DR. NORMAND LAPERIERRE
DR. BARBARA-ANN MILLAR
DR. AUBREY MAZE
DR. JILL SOLOMON

DR. O. AL-SHARIF
DR. Q. ALHARBI
DR. M. ALI
DR. P. ANGELETTI
DR. M. ASIM
DR. J. BAKER

DR. W. BALLOURAH
DR. V. BREAKEY
DR. M. CADA
DR. A. CASTELLIANO
DR. P. GIBSON
DR. S. GUPTA
DR. C. LAM

CLINICAL AND RESEARCH FELLOWS
Dr. I. Abosoudah
Dr. F. Al-Abbas
Dr. S. Al-Majidi
Dr. A. Al-Rawas

Dr. W. Ballourah
Dr. V. Breakey
Dr. M. Cada
Dr. A. Castelliano
Dr. P. Gibson
Dr. S. Gupta
Dr. C. Lam
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.


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)

Acute Megakaryocytic Leukemia in Down syndrome. Hitzler J. National Cancer Institute of Canada ($137,484 2006-2009)

An international Phase II trial investigating nimotuzumab in pediatric patients with recurrent diffuse pontine glioma (DIPG). Baruchel S. YM Bioscience (Funded per patient 2007-2010)

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)

Biology of Langerhans Cell Histiocytosis. Abla O. Faculty Development Award ($3,500 2008)


Child Health Research Institute [Infrastructure for new Research Building]. Rossant J, Malkin D, + 24 other co-applicants. Canada Foundation for Innovation ($91,000,000 2008-2013)


ChIMES - Understandability and content validity. Sung L, Tomlinson D. Pediatric Oncology Group of Ontario ($14,992 2009-2010)


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 ($400,000 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. McCrindle BW, Manlihot 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 Ontario Pediatric Oncology Clinical Trials Research Network.


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)

To improve infrastructure for paediatric cancer clinical trials.

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)

