DIVISIONAL OVERVIEW

The Division of Cardiology was formally established in the 1940’s and is now one of the largest and most successful in the world. Its philosophy has remained unchanged since its inception over sixty years ago; to provide the highest quality care in an evidence-based environment of clinical innovation and scientific discovery.

Over the past decade, the Divisional activities, in close collaboration with surgical and intensive care colleagues, have contributed to our markedly improved preoperative diagnosis and postoperative outcomes for children undergoing cardiac surgery, 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 has won international recognition for its contribution 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 our world-class laboratory science program. One of the most exciting clinical developments has been the recent commissioning of an integrated suite of catheter laboratories and magnetic resonance scanning facility. This unique fusion will allow “simultaneous” multi-mode investigation and treatment, setting the scene for MRI-guided interventional procedures in children, and providing for unique physiologic insights into cardiovascular disease. This philosophy of clinical, academic and administrative integration led to formation of the Labatt Family Heart Centre in 2007, with major new financial support for the formation of chairs and fellowships, development of infrastructure, and the endowment of an innovation fund providing internal revenue for seed-funding and Heart Centre-sponsored thematic research.

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 myocardial development, and developmental genetics, detailed study of the intercellular structure of the heart and vessels, electrophysiology of the developing heart and immunology of cardiac transplantation. While undergoing a change in leadership, it is expected that high quality basic and translational research, with an emphasis on direct clinical applicability, will continue to form the bedrock of our academic program.

Finally, 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.
HONOURS AND AWARDS

Dr. Anne Dipchand: James C. Fallis Teaching Award (Invited Speaker), Division of Paediatric Emergency Medicine, The Hospital for Sick Children, 2006.

Dr. Paul Kantor: Second Prize, Oral Abstract Presentation. “Resting cardiac index, ejection fraction ad exercise capacity in a pediatric heart failure clinic population”. The Second International Conference on Heart Failure in Children and Young Adults, Laguna Niguel, CA, 2006.


Dr. Dragos Predescu: Third Prize, abstract poster annual resident research day: “Resting cardiac index, ejection fraction ad exercise capacity in a pediatric heart failure clinic population”. The Second International Conference on Heart Failure in Children and Young Adults, Laguna Niguel, CA, 2006.

PUBLICATIONS


BOOK CHAPTERS


FUNDING


Characterization of circulating effectors and temporal profiling of remote ischemic preconditioning. Redington AN, Callahan J, Gross GJ, Kharbanda R. Canadian Institutes of Health Research ($324,951 2006-2009)


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


Effects of remote ischemic preconditioning on the clinical investigation and genomic responses to open heart surgery in children. Redington AN, McCrindle BW. Canadian Institutes of Health Research ($100,000 2007-2008)


HLA Sensitization: Prevalence and impact of alloantibodies in paediatric heart transplant recipients. Dipchand AI, Pollock-Barziv S, McCrindle BM. The Hospital for Sick Children Paediatric Consultants Partnership’s Grant ($10,000 2007-2008)

Improving paediatric cardiac care in Ontario: Leveraging information to enhance patient outcomes, provide accountability and system monitoring. Kantor PF, Syed N, MacDonald S. Ontario Ministry of Health and Long-Term Care ($57,063 2006-2007)


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


Perioperative use of thymoglobulin in paediatric heart transplant recipients. Dipchand AI, Pollock-Barziv SM, Allain-Rooney T, Kantor PF. Genzyme Canada ($5,000 2006-2007)


Role of chronic inflammation and systemic lupus erythematosus-related factors in the development of premature atherosclerosis in paediatric SLE. Silverman ED, Bargman JM, Beyene J, Bradley TJ. The Heart and Stroke Foundation of Ontario ($304,826 2006-2009)

Temporal profiling and circulating effectors of remote ischemic preconditioning. Redington AN, Callahan J. Canadian Institutes of Health Research ($284,000 2005-2008)


The SAMIS Trial: Multicenter study of antiarrhythmic medications for treatment of infants with supra-ventricular tachycardia. Sanatani, S, Stephenson EA, Potts J, McCrindle BM, Etheridge S. The Heart and Stroke Foundation of British Columbia and Yukon ($440,060 2006-2010)


Ventricular force and vascular stiffness in the evaluation of paediatric heart failure. Kantor PF, Bradley T (co-PI), Roche SL, Slorach C. The Hospital for Sick Children Paediatric Consultants Partnership’s Grant ($9,100 1997)

