Laurence E. Becker Symposium:
Advances in Paediatric Laboratory Medicine

19th Annual DPLM Symposium
13th Laurence Becker Symposium

Children are Not Small Adults:
Metabolic and Endocrine Disorders
of Childhood and Adolescence

Wednesday, June 3, 2015
### Program

**Registration:** (8:00 a.m. -11:00 a.m.) Rotunda, 1st Floor, Black Wing

**Main Auditorium:** 1246 Burton Wing

**Chair and Organizer:** Dr. Khosrow Adeli, Head, Clinical Biochemistry, SickKids

<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<td>8:45 – 9:00 a.m.</td>
<td><strong>Introduction</strong></td>
<td>Dr. Richard Hegele, Chief, Department of Paediatric Laboratory Medicine, The Hospital for Sick Children and Chair, Department of Laboratory Medicine and Pathobiology, University of Toronto</td>
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<tr>
<td>9:00 – 10:00 a.m.</td>
<td><strong>Department of Paediatrics Grand Rounds</strong></td>
<td><strong>Cell-Based Insulin Replacement for Diabetes</strong></td>
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<td>Dr. Timothy Kieffer, Professor, Cellular &amp; Physiological Sciences and Surgery, University of British Columbia</td>
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<td>10:00 – 10:20 a.m.</td>
<td><strong>Coffee Break</strong></td>
<td>(Rotunda, 1st Floor, Black Wing)</td>
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<td>10:20 – 10:50 a.m.</td>
<td><strong>Paediatric Type 2 Diabetes: Small Patients, Large Problems</strong></td>
<td>Dr. Elizabeth Sellers, Associate Professor, Paediatrics and Child Health, University of Manitoba and Children’s Hospital Research Institute of Manitoba</td>
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<td>10:50 – 11:20 a.m.</td>
<td><strong>Metabolic Disturbances in Children with Hypothalamic Obesity Treated for Craniopharyngioma</strong></td>
<td>Dr. Jill Hamilton, Associate Professor, Department of Paediatrics, The Hospital for Sick Children</td>
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<td>11:20 – 11:50 a.m.</td>
<td><strong>Paediatric Lipid Disorders: Familial Hypercholesterolemia</strong></td>
<td>Dr. Brian McCrindle, Professor, Department of Paediatrics, The Hospital for Sick Children</td>
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<td>11:50 – 12:20 p.m.</td>
<td><strong>Closing The Gaps in Paediatric Reference Intervals for Metabolic and Endocrine Markers – The CALIPER and CHMS Initiatives</strong></td>
<td>Dr. Khosrow Adeli, Professor, Departments of Biochemistry and Laboratory Medicine and Pathobiology, The Hospital for Sick Children</td>
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<td>12:20 – 2:30 p.m.</td>
<td><strong>Lunch and Posters</strong></td>
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<td>2:30 – 3:00 p.m.</td>
<td><strong>Poster Awards Presentation and Reception</strong></td>
<td>(Cafeteria Greenery, Main Floor, Atrium Wing)</td>
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*One quarter of the time for each speaker's presentation is allocated to question and discussion.*

### 2015 Symposium Speakers

![Dr. Richard Hegele](image1)
![Dr. Timothy Kieffer](image2)
![Dr. Elizabeth Sellers](image3)
![Dr. Jill Hamilton](image4)
![Dr. Brian McCrindle](image5)
![Dr. Khosrow Adeli](image6)
Objectives

Participants will be able to:

- Describe complex metabolic and endocrine diseases in children with type 1 and 2 diabetes, hypothalamic obesity, and familial hypercholesterolemia
- Appraise current and potential therapeutic approaches for pediatric metabolic and endocrine disorders
- Understand the benefits of physiological insulin replacement versus exogenous insulin delivery
- Understand the challenges of developing a stem cell based cure for diabetes
- Review the epidemiology of type 2 diabetes in children
- Provide a description of the clinical picture of children with type 2 diabetes
- Review the co-morbidities and complications of type 2 diabetes in children
- Understand the pattern of weight gain seen in children treated for craniopharyngioma brain tumors
- Describe the physiological mechanisms attributed to weight gain and metabolic disturbances in children treated for craniopharyngioma brain tumors
- Understand screening strategies to detect familial hypercholesterolemia in paediatric patients
- Review dietary strategies and therapeutic interventions for management of familial hypercholesterolemia
- Understand the gaps in paediatric laboratory reference values for metabolic and endocrine biomarkers and the potential for misdiagnosis and errors in test result interpretation
- Assess the utility of recently established paediatric reference interval databases (CALIPER and CHMS) in more accurate diagnosis and monitoring of endocrine and metabolic disorders in children and adolescents

Dr. Laurence E. Becker was the Founding Chief of the Department of Paediatric Laboratory Medicine (DPLM) at The Hospital for Sick Children (SickKids) and Professor, Laboratory Medicine and Pathobiology and Paediatrics at the University of Toronto. He spent his entire career at SickKids, which began in 1972 as a resident in Neuropathology.

Dr. Laurence (Larry) Becker graduated from the University of Alberta Medical School in 1967. In 1974, following a postgraduate specialization in neuropathology at the University of Toronto and at the Johns Hopkins Medical School in Baltimore, he joined the staff at SickKids as a neuropathologist. He was appointed Professor, Department of Laboratory Medicine & Pathobiology and Paediatrics at the University of Toronto in 1980, and Pathologist-In-Chief at SickKids in 1994. In 1996, after 22 years at Sick Kids, he became the first Chief of the Department of Paediatric Laboratory Medicine (DPLM).

At SickKids, Dr. Becker’s passion was evident in his leadership of the Department of Paediatric Laboratory Medicine, and in the diagnostic work he carried out behind the scenes. As a neuropathologist, his caseload was always up to date, and he unfailingly assisted members of the paediatric and surgical medical staff at all hours when his advice was needed. As Chief of DPLM, Dr. Becker never tired of explaining and arguing for the importance of paediatric laboratory medicine and the specialized knowledge that is required to support an effective diagnostic service for children.

Dr. Becker was considered a world-leading authority on childhood neuropathology. He will be particularly remembered for advancing knowledge of paediatric cerebral tumours and sudden infant death syndrome. Dr. Becker held research grants from a wide variety of Canadian and international sources. He was an invited speaker at scientific meetings around the world, and received many awards and honours. He authored more than 325 peer-reviewed publications in scientific journals, 44 book chapters, and more than 300 brief communications.

Dr. Becker founded the DPLM Symposium in 1997 to showcase advances in paediatric laboratory medicine and highlight achievements of the amalgamated department. Since 2003, the Symposium has been named ‘Laurence E. Becker Symposium’ in honour of Dr. Becker’s outstanding contribution to SickKids and the medical profession. This annual symposium is supported in part by the Laurence Becker Fund through The Hospital for Sick Children Foundation.