



Holland Bloorview

Kids Rehabilitation Hospital

SickKids

Thames Valley
Children's Centre



ERINOAKIDS
Centre for Treatment and Development



McMaster
Children's Hospital



Inspiring Innovation and Discovery



**Making Research
Relevant to Families**

We want to hear from you!



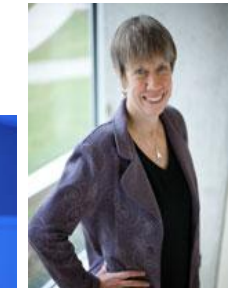
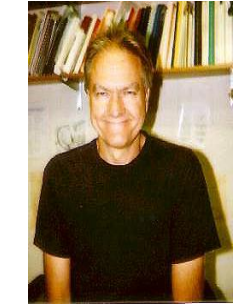
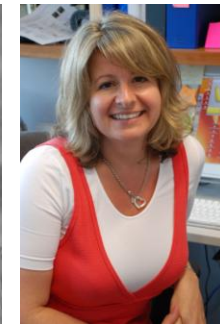
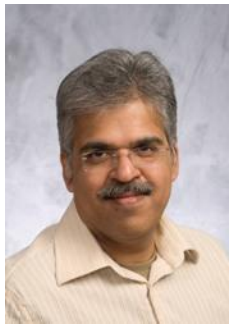
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Agenda

1. Introductions
2. Overview of CP-NET
3. Building a Parent/Family Advisory Group
4. Getting the Right Information to the Right People at the Right Time
5. Research Priorities & Future Directions





Ontario Brain Institute
 Childhood Cerebral Palsy Integrated Neuroscience
 Discovery Network (CP-NET)
 Investigator Group





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Hotel Dieu
HOSPITAL



CP-NET Organizations

- Holland Bloorview Kids Rehabilitation Hospital (lead)
- The Hospital for Sick Children
- The University of Toronto
- Toronto Western Hospital, University Health Network
- Robarts Research Institute, University of Western Ontario
- McMaster Children's Hospital, Hamilton Health Sciences
- McMaster University
- Child Development Centre, Hotel Dieu Hospital
- Queen's University
- Children's Treatment Centre, Health Sciences North
- Laurentian University
- Grandview Children's Centre
- ErinoakKids Centre for Treatment and Development
- Children's Hospital of Eastern Ontario, University of Ottawa
- Thames Valley Children's Centre
- Rotman Research Institute, Baycrest



CP-NET Investigators

Holland Bloorview

Kids Rehabilitation Hospital

Dr. Darcy Fehlings (Lead) – Holland Bloorview Kids Rehabilitation Hospital

Dr. Gabrielle deVeber – SickKids

Dr. Michael Fehlings – Toronto Western Hospital, University Health Network

Dr. Ravi Menon – Rotman Research Institute, University of Western Ontario

Dr. Peter Rosenbaum – McMaster University

Dr. Stephen Scherer – SickKids

Dr. Elaine Biddiss – Holland Bloorview Kids Rehabilitation Hospital

Dr. Craig Campbell – Thames Valley Children's Centre, London Health Sciences Centre

Dr. Tom Chau – Holland Bloorview Kids Rehabilitation Hospital

Dr. Robert Chen – Toronto Western Hospital, University Health Network

Dr. Jan Willem Gorter – McMaster Children's Hospital, McMaster University

Dr. Mark Henkelman – SickKids

Dr. Carolyn Hunt – Grandview Children's Centre

Dr. Anne Kawamura – Holland Bloorview Kids Rehabilitation Hospital

Dr. Marie Kim – ErinoakKids Centre for Treatment & Development

Dr. Anna McCormick - Children's Hospital of Eastern Ontario, University of Ottawa

Dr. Ronit Mesterman - McMaster Children's Hospital, McMaster University

Dr. Cindi Morsehead – University of Toronto

Dr. Sean Murray – Health Sciences North

Dr. Andrew Paterson – SickKids

Dr. Lucie Pelland – Queen's University

Dr. Dawa Samdup – Child Development Centre, Hotel Dieu Hospital

Dr. Stephen Scott – Queen's University

Dr. Manohar Shroff – SickKids

Dr. Margot Taylor – SickKids

Dr. Derek van der Kooy – University of Toronto

Dr. Richard Wintle – SickKids

Dr. Virginia Wright – Holland Bloorview Kids Rehabilitation Hospital

Dr. Nancy Young – Laurentian University

Ms. Lauren Switzer – CP-NET Project Manager – Holland Bloorview Kids Rehabilitation Hospital





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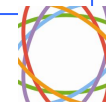
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CENTRE

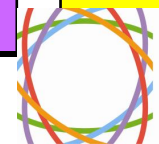


- OBI CP-NET Industrial Partners**
- | | |
|----------------------------|--------------------|
| Electronic Arts | Siemens Healthcare |
| BKIN Technologies | XLR Imaging |
| Gesture Tek | Sangamo Inc |
| Cell Cure Neuroscience Ltd | Covidien Inc. |
| Northern Digital | Allergan Inc. |
| Hocoma Inc | Stem Cells Inc. |
- OBI CP-Net Patient Advocacy Organization Partners**
- CanChild Centre
 - NeuroDevNet
 - Ontario Federation for CP
 - OACRS
 - Heart and Stroke Foundation of Ontario
 - Parents for Children with Hemiplegic CP

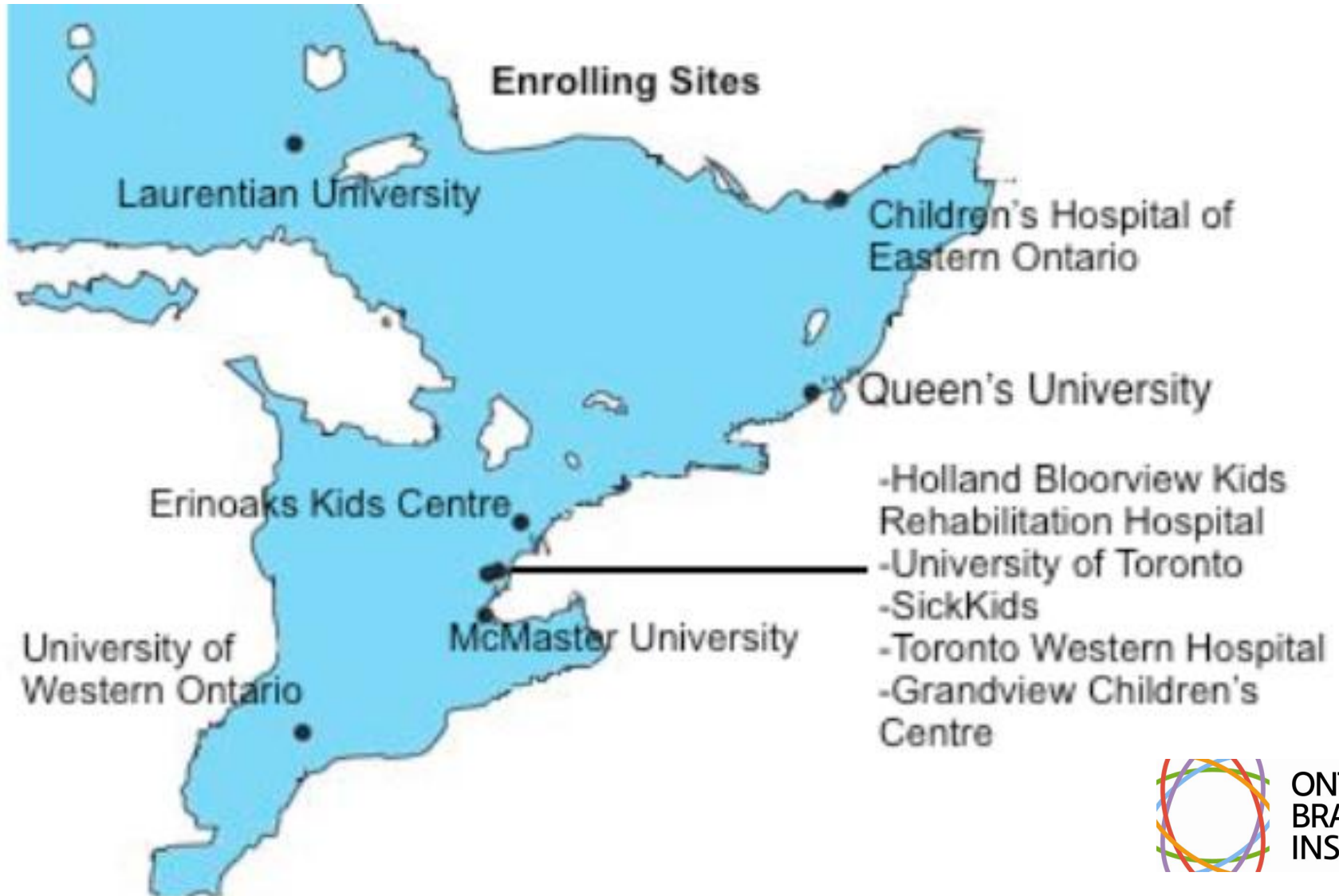
OBI CP-Net Vision: to transform care for children with CP and their families by accelerating the development of new neuroscience treatments

Databases

Research Themes	Clinical Risk Factors	Genomics	Neuro-Developmental	Neuro-Imaging
1) Neuro-Developmental Patterns				
2) Genomics				
3) Constraint Therapy				
4) Technology Innovation				

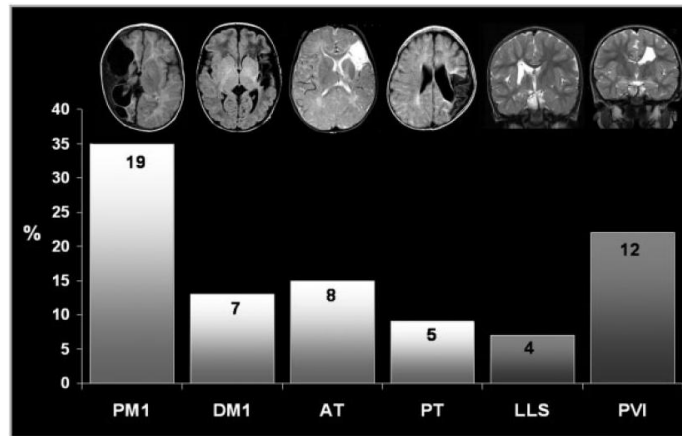


Sites Involved



Research Themes

1. Predicting developmental outcomes based on images of the brain



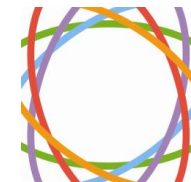
Adam Kirton, MD, MSc, FRCPC,¹ Gabrielle deVeber, MD, MHSc, *Ann Neurol* 2008;63:436–443

2. Role of Genetics in Hemiplegic CP

- Special genetic testing to discover genetic risk factors for hemiplegic CP

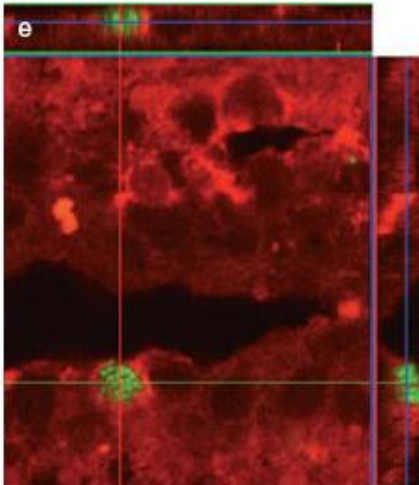
Research Theme 3: Constraint Therapy

- 3a) Can we predict when Constraint Therapy will have the most benefit by looking at images of the brain?



Research Theme 3: Constraint Therapy

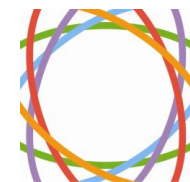
3b. Looking at the molecular and cellular mechanisms of Constraint Therapy in mice with a focus on stem-cells. Can the information in mice tell us something about kids with hemiplegic CP?



DEVELOPMENTAL MEDICINE & CHILD NEUROLOGY

ORIGINAL ARTICLE

Effects of constraint-induced movement therapy on neurogenesis and functional recovery after early hypoxic-ischemic injury in mice



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Theme 4: Developing Technological Innovations for Neuro-Rehabilitation

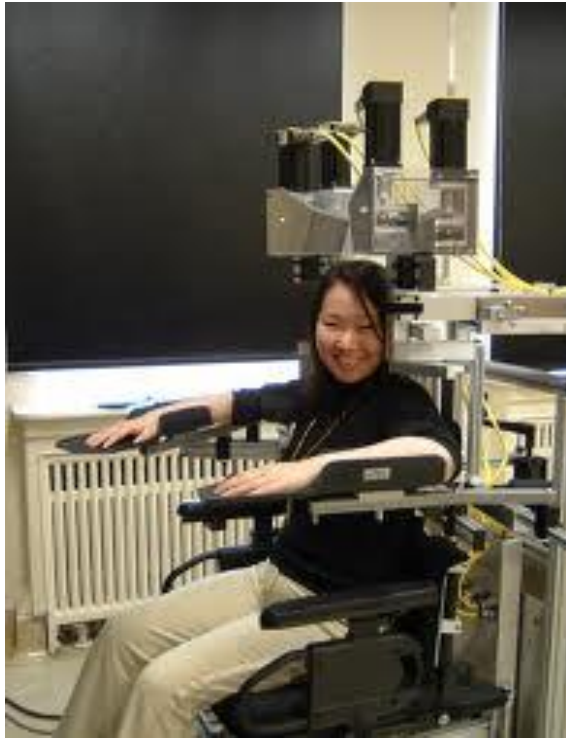
a. Virtual Reality Therapy (Kinect)



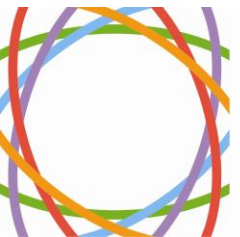
b. Robotics-Assisted Gait Training (Lokomat)



c. Robotic Upper-Limb Proprioception (Kinarm)



d. Transcranial Magnetic Stimulation (TMS)



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