

# Transforming the future

for children whose lives are complicated by illness or disability.

Innovative research is being conducted at the McMaster Child Health Research Institute (MCHRI) to improve the lives of children who face long-term illness and disability, including cancer, diabetes, obesity, autism and other complex conditions. The MCHRI fuses the pediatric expertise of McMaster Children's Hospital with research innovations at McMaster University. The strength of the MCHRI includes partner groups such as the *CanChild* Centre for Childhood Disability Research.

## Rewriting the language of childhood disabilities



Researcher: **Dr. Peter Rosenbaum**, Director,  
McMaster Child Health Research Institute

For many parents of children with disabilities, hearing practitioners using phrases like “mild” and “high functioning” to describe their child’s condition creates confusion and uncertainty.

According to developmental pediatrician Dr. Peter Rosenbaum, the words “mild” and “severe” that have been used for years to describe a child’s level of cerebral palsy told parents virtually nothing. With the goal of helping to improve the lives of children with disabilities and their families, Dr. Rosenbaum and his colleagues at *CanChild* Centre for Childhood Disabilities set out to create a new model. The five-level classification system that was developed

gives a detailed description of the child’s function and accurately predicts how the child should progress. This system has been cited extensively and is now used across the world in over 25 languages.

Following the immense success of this model, Dr. Rosenbaum and *CanChild* have received support from Canadian Institutes of Health Research to create a similar system for autism. With so many children being identified with this neurodevelopmental disorder, “we need a common way of talking about the abilities of children with autism”, says Dr. Rosenbaum. “Simplifying how we communicate with the parents of children with complicated lives could have life-changing potential.”

## Encouraging physical activity in children and youth

Can an active lifestyle reverse muscle aging?

According to neurometabolic specialist Dr. Mark Tarnopolsky – it can. Recently, Dr. Tarnopolsky and his team conducted a study involving elderly people that yielded astounding results. In fact, the research has shown that four to six months of weight training in people over the age of 65 can reverse muscle aging by about 20 years.

A huge advocate for kids’ sports, Dr. Tarnopolsky strongly believes that encouraging physical activity at a young age is key to helping children lead healthy lifestyles later in life. With the levels of physical inactivity among Canadian children and youth on the rise, Dr. Tarnopolsky’s research could be very powerful in helping to reverse this alarming trend.

“Simplifying how we communicate with the parents of children with complicated lives could have life-changing potential.”

– Dr. Peter Rosenbaum



“If we start encouraging physical activity at a young age, we can make a huge difference for the health and well-being of children later in life.”

– Dr. Mark Tarnopolsky  
McMaster Children's Hospital/Hamilton  
Health Sciences Foundation Chair in  
Neuromuscular Disorders



CHILD HEALTH, TRANSFORMED.



McMaster  
Children's Hospital

## Giving premature babies a better chance at a healthy future



Researcher: **Dr. Christoph Fusch (left)**, Jack Sinclair Chair in Neonatology and Division Head of Neonatology, McMaster Children's Hospital

Thanks to the many advances in technology, treatment and care of premature babies that have been made over the past two decades, survival rates for babies admitted to the Neonatal Intensive Care Unit have improved dramatically. However, these babies bear a higher risk of acquiring infections and developing brain and lung damage.

Dr. Christoph Fusch, Division Head of Neonatology at McMaster Children's Hospital, has dedicated his research to finding ways of improving outcomes of premature and high-risk term infants. By identifying factors that will optimize nutrition and growth and promote normal brain development and functions in children born very early, Dr. Fusch and his team hope to improve the quality of life for these children and their families as they develop into adulthood.

## Helping disadvantaged children reach their full potential

It has long been suspected that children growing up in disadvantaged environments, do not go as far in school as their peers who come from higher socioeconomic backgrounds.

In 2011, Dr. Michael Boyle, Canada Research Chair in the Social Determinants of Child Health and a professor in the Department of Psychiatry and Behavioural Neurosciences at McMaster University, completed a long-term study confirming that the suspicions are in fact true.

Dr. Boyle's study focused on the relationship between a child's socioeconomic environment and their years of schooling. The results showed that children from wealthier families in more affluent neighbourhoods went much farther in school, whereas children living in poorer environments, left school much earlier. "The research that we have done focuses attention on the need to offset the disadvantages experienced by many children early in life," Dr. Boyle says.

## Thank you for supporting McMaster Children's Hospital!

Together, with your visionary support, we will continue to transform the lives of children and their families in the Hamilton region and beyond.



CHILD HEALTH, TRANSFORMED.

“ Our goal is to find out how to improve the development of premature babies so we can prevent these children from enduring health problems in the future. ”

– Dr. Christoph Fusch



“ If we can improve the opportunities available to children in disadvantaged environments, we can improve their capability and quality of life. ”

– Dr. Michael Boyle

To donate online, please visit  
[www.transformed.hamiltonhealth.ca/fall](http://www.transformed.hamiltonhealth.ca/fall)

P.O. Box 739 LCD 1, Hamilton, ON L8N 3M8  
Tel: 905-522-3863 · Fax: 905-577-8025  
[www.mackids.ca](http://www.mackids.ca)