

Getting the wires crossed: New research identifies cause of mirror movements

By Christine Zeindler

Ever notice when babies kick, both legs move at the same time? This “mirror movement” between the left and right side of the body is normal for infants. However, as the brain and motor systems develop, we learn to move our right and left limbs independent of one another. Some people however, may never master this and movements on the right side are mimicked by the left into adulthood. For example, when an adult with mirror movement taps his right foot to music, his left foot will also keep beat.

Now new research has identified a mutation in a gene called DCC that affects the nervous system and causes this inability to independently move one side and not the other.

“Adult mirror movement is very rare, but it is a phenomena observed throughout the world,” says lead author Dr. Myriam Srouf, a pediatric neurologist at The Montreal Children’s Hospital of the McGill University Health Centre. “Although parents may find this trait disturbing, children do learn to adapt by suppressing the undesired movement so the condition is less obvious.”

Dr. Srouf along with her colleagues from the Université de Montréal, CHU Sainte-Justine, Centre Hospitalier de l’Université de Montréal, Institut de Recherches Cliniques de Montreal, Montreal Heart Institute and Jundishapur University of Medical Sciences, analyzed the genes from four generations of a French-Canadian family affected by mirror movement. All had the same DCC mutation. Mutations in the same gene were found in an Iranian family with the same condition.

“Discovery of this mutation is significant as it is the first to indicate a role for DCC in human brain development and provides clues as to how the brain is wired. Now that we know the gene mutation responsible our next steps are to see if this disrupts any other body systems at a subtle level.”

The study results were published in the journal Science in April, 2010. The study was funded by the Canadian Institutes of Health Research.

Read more: cbc.ca/canada/montreal/story/2010/04/29/mirror-movement-disorder-gene.html#ixzz0oyQ29Kka.

MCH Trauma outreach activities and community partnerships

In keeping with our trauma centre mandate MCH Trauma continues its injury prevention outreach activities and community partnerships.

According to the Société de l’assurance automobile du Québec (SAAQ), teen drivers account for 10 % of drivers on Québec roads, yet account for 23 % of drivers involved in crashes. To address this important reality in the lead up to high school graduation MCH Trauma, in partnership with ThinkFirst Quebec and the SPVM was involved in a program for 2,000 secondary five students. Topics included risky behaviours, acute alcohol intoxication, and making wise choices. A well-attended joint press conference followed, and a new “teen focus” section was developed on our Trauma website.

Ongoing and new partnerships, as well as key strategic alliances were developed to further position MCH Trauma in a leadership role within the Québec trauma network. MCH trauma experts and community partners organized car seat verification clinics. Last year, as many as 80% of car seats verified by experts were found to be improperly installed.

Recognizing the importance of involving healthcare trainees in injury prevention, a pilot project involving eight McGill medical students was initiated. After orientation by Lisa Grilli, Injury Prevention Program Trauma Coordinator, they joined MCH Trauma experts at a community safety awareness fair. Plans are in place to expand this type of experience to other groups of healthcare trainees.

MCH Trauma experts participated in an educational outreach trauma conference in Val D’Or. According to Debbie Friedman, Trauma Director, this is a wonderful opportunity to share our expertise, and to network and develop partnerships. Another upcoming educational activity includes a presentation to St. John Ambulance volunteers on various trauma topics.

Other injury prevention activities this summer include a water safety campaign, advocating for bicycle helmet legislation, and continued work with sporting associations.

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