

Genetic breakthrough for brain cancer in children

Canadian-led research team identifies two mutations in crucial gene involved in deadly pediatric brain tumours

By Julie Robert

n international research team led by the Research Institute of the McGill University Health Centre (RI MUHC) has made a major genetic breakthrough that could change the way pediatric cancers are treated in the future. The researchers identified two genetic mutations responsible for up to 40 per cent of glioblastomas in children - a fatal cancer of the brain that is unresponsive to chemo and radiotherapy treatment. The mutations were found to be involved

in DNA regulation, which could explain the resistance to traditional treatments, and may have significant implications on the treatment of other cancers. The study was published in the journal Nature (www.nature.com).

Using the knowledge and advanced technology of the team from the McGill University and Génome Québec Innovation Centre, the researchers identified two mutations in an important gene known as the histone H3.3. This gene, one of the guardians of our genetic heritage, is key in modulating the expression of our genes. "These mutations prevent the cells from differentiating normally and help protect the genetic information of the tumor, making it less sensitive to radiotherapy and chemotherapy," says **Dr. Nada Jabado**, hematologist-oncologist at The Montreal Children's Hospital of the McGill University Health Centre (MUHC) and principal investigator of the study.

"This research helps explain the ineffectiveness of conventional treatments against cancer in children and adolescents – we've been failing to hit the right spot,"



says Dr. Jabado, who is also an Associate Professor of Pediatrics at McGill University. "It is clear now that glioblastoma in children is due to different molecular mechanisms than those in adults, and should not be treated in the same way. Importantly, we now know where to start focusing our efforts and treatments instead of working in the dark".

Inappropriate regulation of this gene has been observed in other cancers such as

colon, pancreatic, lymphoma, leukemia and pancreatic neuroendocrine cancer, and future research could therefore reveal improved treatments for these diseases.

"What is significant here is that for the first time in humans we have identified a mutation in one of the most important genes that regulates and protects our genetic information. This is the irrefutable proof that our genome, if modified, can lead to cancer and probably other diseases. What genomics has shown us today is only the beginning," says Dr. Jabado.

"Personalized medicine has amazing potential for many areas of health care, including infection, rare diseases and cancer. Researchers, like this team, play a vital role in translating discoveries into improved patient care," says Dr. Morag Park, Scientific Director of the CIHR Institute of Cancer Research. "Through research advancements like this, there is now greater emphasis on using genetic information to make medical decisions. We congratulate Dr. Jabado and her team on these results".

Got Questions? Get Answers!

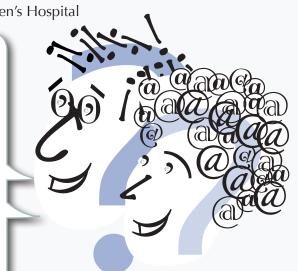
Send us your questions and concerns about the new Montreal Children's Hospital

It is an exciting time for all of us as we build our new hospital. We know many of you are curious and have questions about what's happening here and at the Glen. We'd like to hear them! Email your queries or submit them in person and we'll publish the answers in *Chez nous* as well as on the MUHC intranet. All questions will remain anonymous.

E-mail: lisa.dutton@muhc.mcgill.ca, or F-372

Looking forward to hearing from you!

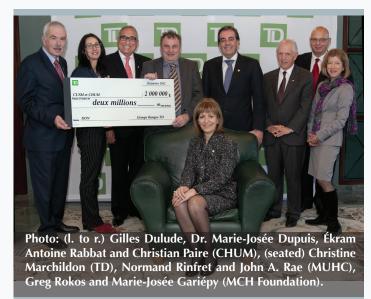
Lisa Dutton, Manager
Public Relations and Communications
The Montreal Children's Hospital
McGill University Health Centre



A \$2 million gift in support of better health care

Thank you to TD for an inspirational gift of \$2 million to the joint corporate campaign for the redevelopment of the McGill University Health Centre (MUHC) and the Centre hospitalier de l'Université de Montréal (CHUM); \$1 million of this amount will go towards the construction of the new MCH, as well as towards the establishment of the TD Post-Doctoral Fellowships in Child Health Research Excellence.

"This announcement demonstrates TD's commitment to the future of pediatric health care in Quebec and its faith in the excellent work performed at the Research Institute of the MUHC at the MCH," said Greg Rokos, chairman of the MCH Foundation. "With the construction of the new facilities, our doctors and researchers will be in an ideal environment for the advancement of research programs, where patients are followed prior to birth and throughout their lives."



Dr. Caroline Quach, infectious disease specialist at the McGill University Health Centre (MUHC) and the Research Institute of the MUHC, and member of the MCH Infectious Disease department, is the lead author of a new study recently published in the **Canadian Medical Association Journal**. The study, *Risk of infection following a visit to the emergency department: a cohort study*, was conducted from September 2006 to May 2008, and involved more than 1,200 elderly residents of 22 different long-term care facilities in Ontario and Quebec (such as a *Centre d'Hébergement de Soins de Longue Durée*-CHLSD).

"There certainly seems to be a benefit to isolating residents in the seven days following their return to a long-term care facility," says Dr. Quach. "In addition to endangering other resident's health, outbreaks generate a significant workload and financial cost to the healthcare facility." ED visits took place during the winter months, when respiratory and gastrointestinal infections are most likely. "Following their visit to the ED during the winter, residents were three times more likely to develop symptoms of new infection, and this only in the absence of other infectious disease outbreaks in their CHLSDs," says Dr. Quach.

The Montreal Children's Hospital takes first and second prize at inaugural 'Dancing with the Docs'

Dr. Preetha Krishnamoorthy is crowned the Dancing Queen with Dr. Nadine Korah one quick step behind



Dancing with the Docs brought the house down at Métropolis! Ten MUHC doctors amazed, thrilled and thoroughly entertained the 800-plus capacity crowd at the event held on February 4th at Métropolis. The evening raised \$203,000 for *The Best Care for Life* Campaign.

Dr. Krishnamoorthy, who performed a rollicking Bollywood-inspired cha-cha with her Arthur Murray partner Cristopher Panasuk, was crowned the winner, with Dr. Nadine Korah and Dr. Rayan Kaedbey as 2nd and 3rd place finishers respectively.

"This whole experience has been amazing, from start to finish," said Dr. Kirshnamoorthy. "It has been an honour to work alongside so many people – the dancers, my fellow doctors, the incredible organizers and the people behind the scenes – all for the same great cause."

Modeled after the hit TV show *Dancing with the Stars*, the evening saw the doctors face off against one another in a friendly competition. The doctors and their professional dance partners from the Arthur Murray Dance Schools performed everything from a sultry salsa to a dramatic paso doble and an uplifting disco routine.

The dancers faced a panel of celebrity judges including Jean-Marc Généreux, the choreographer and judge from the popular TV show *So You Think You Can Dance*, CTV News Anchor Mutsumi Takahashi, CJAD 800 Morning



Host Andrew Carter, and international dance champion Méryem Pearson. Mose Persico, Entertainment Host on CTV News and CJAD was the emcee.

The dancing doctors, representing all sites and missions of the MUHC, also included: Dr. Dara Charney, Dr. Frederic Dankoff, Dr. Sunil Garg, Dr. Nadia Giannetti, Dr. Dick Menzies, Dr. Yoel Moyal, and Dr. Donatella Tampieri.

"I congratulate all ten doctors for their magnificent performances this evening. They took time out of their very busy schedules to train and prepare, and we can't thank them enough for their enthusiasm and their goodnaturedness," said Normand Rinfret, interim director general and CEO of the MUHC. "This evening reflects the great spirit that we see throughout the MUHC and the passion that our entire team brings to patient care day in and day out."

John Rae, chair of The Best Care for Life Campaign, said the event demonstrates how raising money for an important cause can also make for an enjoyable evening. "Everyone thoroughly enjoyed themselves, and we are indeed grateful to the doctors and their wonderful supporters for contributing to the Best Care for Life Campaign. Dancing with the Docs was a tremendous success that promises to become a much-anticipated annual fundraiser," he said.

MCH Innovations and Achievements

The last issue of *Chez nous* featured a number of important accomplishments at the MCH over the past decade. Here are several more notable achievements.

- ▶ First institution in Canada to perform laparoscopic ureteral reimplantation (for urinary reflux) in 2003, and published in 2008.
- Second in the world to perform anterior retroperitoneoscopic adrenalectomy (for adrenal tumour) in 2008, and published in 2010.

RHALY advocacy project aims to get kids moving

By Dr. Evelyn Constantin, Dr. Conall Francoeur, and Dr. Claire LeBlanc

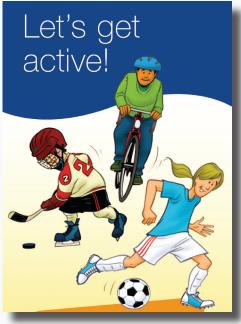
A little over a year ago, the pediatric residents assembled at our annual retreat with the goal of developing an initiative that could affect health beyond our hospital's doors. We considered a variety of interventions but it didn't take long for us to identify an important area where we clearly need to improve. While it's hard to make it through a day without hearing about the obesity epidemic in the news, we realized that an emphasis on healthy active living often gets left out of routine care at the hospital. That day marked the beginning of the Residents for Healthy Active Living in Youth (RHALY) advocacy project.

Those working extremely hard on this initiative include Dr. Elisa Ruano and Dr. Reem Al-Khalifah, as well as the other founding members of the RHALY committee (Drs. Catherine Nolin, Kim-Anh Nguyen, and Jade Seguin). New committee members include Drs. Sabrina Furtado, Conall Francoeur, Hugo Paquin and Janie Desrochers.

Our aim is to help children maintain healthy weights by increasing physical activity, eating better and developing healthy sleep habits. Sounds simple enough but how exactly do we intend to achieve this goal?

The Resident Continuity Clinic (RCC), where residents follow their own patients, was the ideal starting point for our efforts. Here we engage our patients and their families with questionnaires about physical activity, sedentary behaviour, sleep habits, diet, and socioeconomic status. These comprehensive questionnaires will help us target our counseling and will provide us with a baseline against which we can compare progress.

Probably our most important intervention however, is the patient tool-kit. Each child will receive a



package that includes Canada's most recent Food Guide, a pamphlet on agespecific activity recommendations, and region-specific information about community resources to encourage physical activity. Along with this package comes a prescription – but this isn't your typical prescription. There are no pills, powders or suspensions but rather targets for activity, diet, and screen time.

As part of the RHALY initiative, we have been working closely with-and extend our thanks to--the Public Relations and Communications team (notably Ms. Lisa Dutton) to create the RHALY logo as well as the Healthy Active Living information brochure and posters. We have already placed posters and brochures that help guide families in the hospital's waiting rooms. Though RHALY's roots are firmly planted in the RCC, the scope extends beyond the clinics. We hope to engage parents and patients with information sessions and motivational talks throughout the waiting rooms in the hospital. We also aim to work alongside the cafeteria staff to help role model healthy eating habits within the hospital. As RHALY's

activities grow, we foresee moving beyond the hospital and into schools, CLSCs and the YMCA to spread our message to the community as a whole.

The evaluation of any wellness strategies is critical. In this regard, Dr. Ruano and Dr. Al-Khalifah have been working closely with Dr. Evelyn Constantin to devise research projects to evaluate the impact of the RHALY initiative. Specifically, Dr. Al-Khalifah is working on a clinical research project proposal entitled: Impact of the Pediatric Residents' Initiative for Healthy Active Living in Youth (RHALY): A Prospective Cohort Study (Principal Investigators: Drs. E Constantin, L. Legault, R. Al-Khalifah; Co-investigators: Drs. C. LeBlanc and E. Mok), and Dr. Ruano is currently conducting an educationbased study related to RHALY and obesity counselling among pediatric residents (Principal Investigators: Dr. Mylene Dandavino, Dr. Elisa Ruano; Co-investigator: Dr. E Constantin).

The RHALY group would like to thank all of the above-mentioned research investigators, the RCC team (Dr. Catherine Henin, Ms. Kathy Clark), Drs. Preetha Krishnamoorthy, Meranda Nakhla, Helen Richard Gosselin and Paul Rossy, the Department of Pediatrics and the Division of General Pediatrics (notably Drs. Guyda, Brouillette, Shevell and Dougherty) for their support, input, financial contributions, and collaboration. The RHALY group looks forward to "RHALY"ing with and to continue collaborating with the hospital and the Department of Pediatrics on Healthy Active Living initiatives.

FAF recognizes special departments doing special work!

By Anita La Mendola, FAF member

Winter sets in and like every other year, Montrealers brace for the worst. We know what to expect: the dark mornings, the icy air, the deep snow and... our kids getting sick.

If we're lucky, then they only get runny noses or coughs. But all too often, we see not only colds, but serious flus and many other pitfalls of winter that send us to the emergency room. The Montreal Children's emergency room is always bustling - but during the 2011 holiday season, they saw almost three times the normal number of patients come through their doors. Without a doubt, the staff gave more than 100% effort to work through these long hours seeing to all these patients.

The Family Advisory Forum (FAF) wanted to acknowledge the ER staff expressly for this superb effort. On January 19, my fellow FAF member Sarah and I delivered fresh coffee and steaming muffins to the staff lounge. We were greeted with smiles and the staff were touched to be recognized for their hard work.

Thank you to the ER team for making a difference.



Sara Silva-Simoes (standing), member of the FAF and coordinator of the group's staff appreciation initiative, is shown here with (l. to r.) Vanessa DiCriscio, Kelly Cumming, and Alexandra Tassy.

Practicing Patient and Family Centred Care

Respect decisions



The results are in! Turquoise it is!

Thank you to everyone who took the time to vote on the official wayfinding colour of the new Montreal Children's Hospital at the Glen.



The 2010-2011 Annual Report of the Research Institute of the MUHC at the Montreal Children's Hospital now online

thechildren.com/en/research/

In this issue, we present the latest work of MCH researchers and trainees under the theme of "Child health research: Building on our strengths." We invite you to meet our research recruits, Drs. Krista Hyde and Pia Wintermark, and find out what is happening in the labs of five MCH investigators with highimpact programs.

You can send your feedback on this report to Alison Burch at alison.burch@muhc.mcgill.ca.

The "Danse Country au Galop" dance school is holding a fundraiser for the department of Otolaryngology. These attractive block note pads are available for \$10 each. All the money raised will go towards Otolaryngology at The Montreal Children's Hospital as well as the Angelman Foundation. The Dance-a-thon fundraising event will take place on Saturday, May 12, 2012. You can order the note pads by email from Terry Séguin at: fundraising_Terry@videotron.ca.



Making Headlines

The Montreal Children's Hospital Trauma department was the subject of features in both *Le Devoir* (January 14) and The Gazette (January 19). The articles focused on the department's innovative Concussion KIT, aimed at helping coaches, parents, athletic trainers, schools and

sporting associations, among others, recognize the signs and symptoms of a concussion while outlining what to do in case of a concussion, as well as what to expect after having one.

Awards and Nominations

Stéphanie Belanger, MSW, has recently joined the MCH. She works Monday to Fridays, from 3:00 to 11:00 p.m., primarily in the ER, but also responds to emergencies throughout the hospital.



Upcoming Auxiliary Events

Wednesday, February 22 Knits
Wednesday, February 29 Miscellaneous
Wednesday, March 7 Books



Career Day

Career Day welcomes over 300 students to MCH

Secondary IV and V students Hélène Vo Thach, Hannah Cadiente, Marina Makarchuk, Gerimae Pasion and Olga Trembatcheva from *École Paul Gérin Lajoie* in Outremont discuss their career options over a brief snack break at The Montreal Children's Hospital's 4th Annual Career Day event on February 7, 2012.

Chez nous is published by the MCH Public Relations and Communications office.

Contributors: Lisa Dutton, Evelyn Constantin, Conall Francœur, Anita La Mendola, Claire LeBlanc, Maureen McCarthy, Julie Robert and Pamela Toman

Graphic design: Jean-Claude Tanguay

To submit story ideas or texts to *Chez nous*, contact the Public Relations and Communications office at ext. 24307 or send your email to info@thechildren.com.





Our People

From Management to Medicine

McGill Medical student's career change has an interesting connection with The Montreal Children's Hospital

By Pamela Toman

wenty eight year-old Leigh Chantal Pharand didn't always have plans to become a doctor. The fourth year McGill Medical student with a previous degree in commerce had her sights set on a career in business consulting before she ever donned scrubs and a stethoscope.

But during a team-building volunteer day that she organized in her former role as a business professional at a management consulting firm, Ms. Pharand recalls feeling a new sense of satisfaction. She and her colleagues spent the day with young oncology patients, creating a Harry Potter themed event. It became more than just a volunteer exercise for Ms. Pharand; it was a glimpse into the future.

After two years in the business consulting industry, it became clear that although she enjoyed the challenges of her current job, something didn't feel quite right. It was time for a change.

Soon afterwards, Ms. Pharand, a Montreal native from a family of business professionals, decided to go back to school to complete a number of science classes. She also applied for a volunteering position at the MCH, where she worked on 6C1 and 6C2 two half days per week.



The experience, she says, only reinforced her wish to study medicine at McGill, and she was admitted to the Faculty of Medicine in the spring of 2008. "What it came down to was a question of values," she says of her career change, "in business, your values may not always be aligned with your client's, but in medicine, the bottom line is that everyone wants what is best for the patient."

It's in chatting about this steadfast commitment to putting patients first that stirs up the most passion in this ambitious soon-to-be doctor, as she recalls some of the patients she has met along the way that have taught her some of her most valuable professional and personal lessons.

One experience she recalls fondly was during a recent rotation in pediatrics at the MCH in the Short Stay Unit, which she completed this past September. "I had the opportunity to work with very inspiring physicians, in particular, on a somewhat challenging case with a three-year-old boy who required several hospitalizations respiratory distress asthma-like symptoms; needed a series of investigations and tests from many of the MCH departments," says Ms. Pharand.

"One of the physicians I worked with demonstrated strong patient-centered approach to medicine and really took the time to comfort the patient's mother, which I thought mirrored what medical students should aspire to do as physicians...and it really inspired me."

Now in her final year of medical school, Ms. Pharand says that working at The Children's was unlike any other clinical experience she has had to date. And while she admits having toyed with the idea of specializing in pediatric medicine, she says she hopes to devote her residency to family medicine, balancing adult care "with a lot of peds!"



OurHeroes

Former MCH patient sings her way to success

By Pamela Toman

istening to her belt out a song, you'd never know 22-year-old Kaila Picard was once more familiar with the halls of The Montreal Children's Hospital than singing in front of a live audience -- but the young songstress knows what it's like to be in and out of the hospital as a child.

A native Montrealer, Kaila remembers her time as a patient at The Montreal Children's Hospital fondly, but says it wasn't always easy to deal with the effects of juvenile rheumatoid arthritis, a condition she was diagnosed with at just three years of age.

"I had to go for check-ups at least once or twice a month for most of my childhood," she says, "which included visits with an occupational therapist, routine blood work, regular check-ups with my doctor, as well as physiotherapy sessions at school twice a week."

Juvenile rheumatoid arthritis is a long-term autoimmune illness resulting in joint pain and swelling. Generally, the more joints affected, the more severe the disease can be in young patients. In Kaila's case, many health professionals told her she may never be as active as other children her age.

"The funny thing is," Kaila explains, "I ended up graduating from elementary school as Athlete of the Year! So I never really gave in to the notion that I couldn't do certain things...I always believed I could be the exception."

Having transitioned to adult health care services to continue to monitor her condition, Kaila hasn't forgotten The Children's; she wants to give back by reaching out to other children going through the same experience she went through.

"I always felt really welcomed during my time as a patient at The Montreal Children's Hospital, and I always reflect on the staff and the environment there as incredibly positive," she says.

"If I could give any advice to patients currently going through extended bouts in hospital, I would tell them it gets better. When you are in the thick of it, it seems like it's the end of the world," she says, "and as I came to realize with my condition, it's important to remember there are good days and bad days. You have to keep pushing through and things will be okay."

Now living in Toronto, this young self-starter with a lifelong love of music is pursuing her dream of launching a career as a singer, having just launched her own EP. Her first single, entitled "Back 2 Square 1" has enjoyed local air time on Montreal's Virgin Radio 96 with good feedback.

Kaila's positive attitude and her unrelenting drive to surpass even her own goals are inspiring and will, without a doubt, skyrocket her to great places. To learn more about Kaila's music visit http://www.reverbnation.com/kailapicard.