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Cystic Fibrosis Research in Saskatchewan

How **Dr. Martha McKinney** is strengthening the USask's woven vision of Boundless Collaboration, Courageous Curiosity, and Inspired Communities.

Dr. Martha McKinney is a recent addition to the Department of Pediatrics moving from Université de Montréal in October 2019. She works within the division of Pediatric Respiriology at the University of Saskatchewan. She completed a Bachelor's degree in Life Sciences from Massachusetts Institute of Technology, a medical degree from Wake Forest University, and a Masters of Public Health in Epidemiology from the University of Washington. Her principal research focus has been clinical research in cystic fibrosis (CF). This genetic disorder affects about 75,000 people worldwide, with about 4,300 people with CF living in Canada. Although the gene for CF



was discovered in 1989, it is still incurable, life shortening, and poses a significant burden for people living with CF. It is considered an orphan disease, so research such as clinical trials for new treatments requires collaboration between multiple centres. Aligning with USask's pillar of Boundless Collaboration, Dr. McKinney is hoping to establish a clinical research program here which

will include clinical trials for medications and other treatments, and which will also look at other questions related to CF using other research methods, such as qualitative and epidemiological studies. Dr. McKinney has applied to be part of a national research collaborative, the CanACT Canadian trials in CF group. She is also the Saskatchewan site principal investigator for the PIPE trial, looking at whether prednisone can be useful in CF pulmonary exacerbations that do not respond quickly to standard antibiotic therapy. Other projects include a resident's project with Dr. Supraja Rengan, which is looking at smoking and vaping in older children and teens with CF and their families.

McKinney continued from page 1...

Having an active CF clinical research centre in Saskatoon will allow patients to participate in projects without having to travel to another province. Beyond the clinical research, Dr. McKinney is also embracing USask's interdisciplinary threads by strengthening the weave with biomedical science laboratories at USask including Dr. Juan Ianowski's laboratory to work on translational studies in CF.



In March, Dr. McKinney and Cystic Fibrosis Canada met with Saskatchewan members of parliament to ask the Federal Government to stop proposed changes to the Patented Medicines Price Review Board (PMPRB). The proposed changes would make it more difficult for drugs like [Trikafta](#) to get approved in Canada which is currently known as the CF “breakthrough medication” because it works in 90 percent of CF cases. Cystic Fibrosis Canada would like the Saskatchewan government to sit down with both the drug manufacturer and regulators to fast-track the approval of the medication.

Dr. McKinney's advocacy to improve the lives of her patients in her community is the final thread that makes her addition to our province and university an inspiring example of the champions we need. Research in orphan diseases is not always easy to organize or to get funded.



This photo was taken on March 11th at the Saskatchewan Legislative building in Regina. Published on <https://twitter.com/CFCanadaSask>

Cystic fibrosis has served as a model for this, and hopefully the success of new therapies and approaches will be applicable to other conditions.

Dr. McKinney is open to more ideas and to collaborating with other groups interested in working with children and adolescents burdened by chronic diseases to evaluate and improve their family's challenge of care and their own quality of life.

To learn more about Cystic Fibrosis Canada and their initiatives please visit their website at <https://www.cysticfibrosis.ca/>

Special Thanks to Dr. Martha McKinney for providing content for this article. She would also like to acknowledge her collaborators: Dr. Janna Brusky, Dr. Julian Tam, Dr. Rupeena Purewal, Dr. Abid Lodhi, Juleigh Clarke (physiotherapy), Lorna Kosteniuk (CF nurse), Niki Afseth (CF nurse)

Congratulations to Dr. Krista Baerg and Dr. Karen Leis for their recognition in the Canadian Pediatric Society Year in Review

Below are excerpts from the 2020 CPS Year in Review Publication

Taking pains to avoid same. Writers from one CPS committee (Acute Care) and 3 sections (Hospital Paediatrics, Community Paediatrics, and Paediatric Emergency Medicine) pooled their knowledge, experience, and skills to advocate for better management of procedure-related pain and distress in children. Dr. Evelyne Trottier, an emergency physician at the CHU Sainte-Justine and assistant clinical professor at the University of Montreal, writing with Drs. Marie-Joëlle DoréBergeron, Laurel Chauvin-Kimoff, **Krista Baerg**, and Samina Ali, addresses pain as undertreated, multifactorial and, if not always preventable, then certainly treatable by applying or combining simple, evidence-based strategies. Their statement, posted in November, was widely shared on social media and within the child pain community.

Where there’s hope, there’s help. Responding to a tragic cluster of suicides among Indigenous youth in her province, **Dr. Karen Leis**, CPS Board representative for Saskatchewan, wrote moving letters both to Premier Scott Moe and the editor of the Saskatoon Star Phoenix, in early December. She cited painful statistics, one being that a First Nations girl living in Saskatchewan is 29 times more likely to die by suicide than her non-Indigenous peers. Dr. Leis called for swift action to address the root causes of mental illness and suicide: poverty, the living legacies of colonialism and racism, and substance abuse. Long-term investments in a suicide prevention strategy that ensures effective, accessible, and culturally appropriate mental health services are urgently needed. The federal government has since committed \$2.5 million over 2 years for youth mental wellness and suicide prevention programming in Saskatchewan First Nations communities.

Did you know?

DATASTORE is a professional-quality, high-capacity, backed-up data storage service for USask full-time faculty researchers. The storage space is accessible as a shared network disk (mapped drive). Each faculty member is entitled to up [3TB of free-of-charge storage space](#) which can be made accessible to their students and collaborators.

Coming Events

May 6	Respiratory Research Centre COVID-19 webinar - The Respiratory Implications of COVID-19: A Saskatchewan Perspective
May 6	CME COVID-19 webinar: Wellness
May 8	Child Health Research Day Abstract Due Download Abstract Submission Form Download KT Submission Form
May 19	Resident Research Day Abstract Due
May 21	Pediatric Grand Rounds – Josh Lawson
June 18	Child Health Research Trainee Day
June 22	Resident Research Day

2020 Publications

- Armstrong MD, **Hansen G**, Schellenberg KL. [Rural Residence and Diagnostic Delay for Amyotrophic Lateral Sclerosis in Saskatchewan.](#)
- Batthish M, Berard R, Cabral D, Bolaria R, Chédeville G, Duffy C, Gerhold K, Gerschman T, Huber A, Proulx-Gauthier JP, **Rosenberg A**, Rumsey D, Schmeling H, Shiff N, Soon G, Bruns A, Tucker L, Guzman J; Canadian Alliance of Pediatric Rheumatology Investigators. [A new Canadian inception cohort for juvenile idiopathic arthritis: The Canadian Alliance of Pediatric Rheumatology Investigators Registry](#)
- Bitnun A, Ransy DG, Brophy J, Kakkar F, Hawkes M, Samson L, Annabi B, Pagliuzza A, Morand JA, Sauve L, Chomont N, Lavoie S, Kim J, Sandstrom P, Wender PA, Lee T, Singer J, Read SE, Soudeyins H; **Early Pediatric Initiation Canada Child Cure Cohort (EPIC4) Research Group.** [Clinical Correlates of Human Immunodeficiency Virus-1 \(HIV-1\) DNA and Inducible HIV-1 RNA Reservoirs in Peripheral Blood in Children With Perinatally Acquired HIV-1 Infection With Sustained Virologic Suppression for at Least 5 Years.](#)
- Català A, Ali SS, Cuvelier GDE, Steele M, Klaassen RJ, Fernandez CV, Pastore YD, Abish S, Rayar M, Jardine L, Breakey VR, Brossard J, **Sinha R**, Silva M, Goodyear L, Lipton JH, Michon B, Corriveau-Bourque C, Sung L, Lauhasurayotin S, Zlateska B, Cada M, Dror Y. [Androgen therapy in inherited bone marrow failure syndromes: analysis from the Canadian Inherited Marrow Failure Registry.](#)
- Christensen CA, Mugarab-Samedi V.** [Management of large congenital parameatal cyst: Observation or intervention? \(Case Report\)](#)
- Dover S, Blanchette VS, Wrathall D, Pullenayegum E, Kazandjian D, Song B, Hawes SA, Cloutier S, Rivard GE, Klaassen RJ, Paradis E, Laferriere N, Stain AM, Chan AK, Israels SJ, **Sinha R**, Steele M, Wu JKM, Feldman BM. [Hemophilia prophylaxis adherence and bleeding using a tailored, frequency-escalated approach: The Canadian Hemophilia Primary Prophylaxis Study.](#)
- Goswami IR, Whyte H, Wintermark P, Mohammad K, Shivananda S, Louis D, Yoon EW Shah PS; **Canadian Neonatal Network Investigators.** [Characteristics and short-term outcomes of neonates with mild hypoxic-ischemic encephalopathy treated with hypothermia.](#)
- Huntsman RJ**, Tang-Wai R, Shackelford AE. [Cannabis for Pediatric Epilepsy](#)
- Luna MS, Manzoni P, Paes B, Baraldi E, Cossey V, Kugelman A, **Chawla R**, Dotta A, Rodríguez Fernández R, Resch B, Carbonell-Estrany X. [Expert consensus on palivizumab use for respiratory syncytial virus in developed countries.](#)
- Mugarab Samedi V**, Miller G, Saade E, Kalaniti K. [A giant umbilical cord: Benign finding or surgical emergency?](#)
- Musharaf I, Daspal S, Shatzer J.** [Is Video Laryngoscopy the Optimal Tool for Successful Intubation in a Neonatal Simulation Setting? A Single-Center Experience.](#)
- Norman M, Håkansson S, Kusuda S, Vento M, Lehtonen L, Reichman B, Darlow BA, Adams M, Bassler D, Isayama T, Rusconi F, Lee S, Lui K, Yang J, Shah PS; International Network for Evaluation of Outcomes in Neonates (iNeo) Investigators, [Neonatal Outcomes in Very Preterm Infants With Severe Congenital Heart Defects: An International Cohort Study.](#)
- Rosenberg, A.** Do we need a new classification of juvenile idiopathic arthritis?
- Rezaei E, Hogan D, Trost B, Kusalik AJ, Boire G, Cabral DA, Campillo S, Chédeville G, Chetaille AL, Dancey P, Duffy C, Watanabe Duffy K, Gordon J, Guzman J, Houghton K, Huber AM, Jurencak R, Lang B, Morishita K, Oen KG, Petty RE4, Ramsey SE, Scuccimarrì R, Spiegel L, Stringer E, Taylor-Gjevre RM, Tse SML, Tucker LB, Turvey SE, **Tupper S**, Yeung RSM, Benseler S, Ellsworth J, Guillet C, Karananayake C, Muhajarine N, Roth J, Schneider R, **Rosenberg AM.** [Clinical and associated inflammatory biomarker features predictive of short-term outcomes in non-systemic juvenile idiopathic arthritis](#)
- Shukla V, Elkhateeb O, Shah PS, Yang J, Lee KS; Canadian Neonatal Network Investigators. [Outcomes of neonates born at <26 weeks gestational age who receive extensive cardiopulmonary resuscitation compared with airway and breathing support.](#)
- Tan Q, Potter KJ, Burnett LC, Orsso CE, **Inman M**, Ryman DC, Haqq AM. [Prader–Willi-Like Phenotype Caused by an Atypical 15q11.2 Microdeletion](#)
- Top KA, Vaudry W, Morris SK, Pham-Huy A, Pernica JM, Tapiéro B, Gantt S, Price VE, Rassekh SR, Sung L, **McConnell A**, Rubin E, **Chawla R**, Halperin SA, [Waning vaccine immunity and vaccination responses in children treated for acute lymphoblastic leukemia: A Canadian Immunization Research Network Study.](#)
- Yau D**, Laver TW, Dastamani A, Senniappan S, Houghton JAL, Shaikh G, Cheetham T, Mushtaq T, Kapoor RR, Randell T, Ellard S, Shah P, Banerjee I, Flanagan SE. [Using referral rates for genetic testing to determine the incidence of a rare disease: The minimal incidence of congenital hyperinsulinism in the UK is 1 in 28,389.](#)
- Yoo GHY, Mugarab-Samedi V, Hansen G, Miller G, Givelichian L, Kalaniti K, Daspal S,** [Rare cause of emergency in the first week of life: congenital hepatoblastoma \(case report\).](#)

Department of Pediatrics Covid-19 Research

Canadian COVID-19 CHD Surveillance Program

Congenital heart disease (CHD) has been suggested to be an increased risk factor for COVID-19. **Dr. Gitanjali Mansukhani**, supported by the rest of the **pediatric cardiology group**, is collaborating with the Canadian Pediatric Cardiology Association to set-up the Canadian COVID-19 CHD Surveillance Program. The primary objective is to collect clinical data from pediatric patients across Canada with CHD who have been diagnosed with or investigated for COVID-19. The goals are to improve the collective understanding in children with CHD of: (1) the epidemiology of COVID-19; (2) the risk factors for severe disease; and (3) to evaluate outcomes.

The CONvalescent Plasma for COVID-19 Research Trial in Children (CONCOR-KIDS)

Convalescent plasma from patients who have recovered from COVID-19 (C19) that contains antibodies to the virus is a potential therapy. This multi-centre, randomized trial will be conducted across Canada. **Dr. Rupeena Purewal** will be leading the Saskatchewan site. This pan-Canadian clinical trial has the potential to show safety of C19 convalescent plasma in pediatric population and to provide rationale for use in an emerging infection.

Impact of COVID-19 and Self Isolation on Patient Burden, Acuity and Severity in Pediatric Emergency Departments: A Multicenter Study

Dr. Ahmed Mater is the site lead for this cohort/ chart review at the Jim Pattison Children's Hospital.

SARS-CoV-2 and COVID-19 in children admitted to Canadian Hospitals: Understanding clinical spectrum and severity. A Paediatric Investigator Collaborative Network on Infections in Canada (PICNIC) study

There is a need to better understand the clinical spectrum and severity of hospitalized pediatric COVID-19 cases across Canada. The proposed study will be a retrospective chart review of children <18 years admitted to participating PICNIC academic centres who test positive for SARS-CoV-2 as identified through microbiological records or through Infection Control database and information. The results of this study would aid in healthcare education, anticipatory guidance, risk stratification, and management of children with suspected COVID-19. **Dr. Rupeena Purewal** is the site lead for the University of Saskatchewan.

The Children's Health Research Trust Fund (CHRTF) was established in 1983 to help raise funds to support child health research at the University of Saskatchewan. As all donated funds are endowed, the CHRTF has continued to grow to become an important part in helping advance research in the Department of Pediatrics. For further information about the CHRTF and to donate:

<https://donate.usask.ca/online/chrtf.php>



Our Partners:

The Jim Pattison Children's Hospital has historically provided strong support for child health research in Saskatchewan. The recent \$50 million donation from Jim Pattison allows for a steady stream of revenue to help meet research and programming needs for generations to come. Groundbreaking opportunities for pediatric researchers in Saskatchewan are on the horizon!



Contact us

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