

January 2019

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Featured Child Health Researcher  
Dr. Gregory Hansen

Dr. Gregory Hansen works within the division of Pediatric Critical Care at the University of Saskatchewan. He completed a Masters of Science and Fellowship in Pediatric Intensive Care from the University of Alberta, a Masters of Public Health from Johns Hopkins University, and a Fellowship in Pediatric Neurocritical Care from Lurie Children's Hospital in Chicago. Currently, his research interests include acute brain injury, prehospital management and ventilation.

Dr. Hansen joined the University of Saskatchewan in the fall of 2016 and during that time, he has made great translational advancements in his research endeavors. One such effort is to enhance neurocritical care through the application of novel bedside diagnostic imaging, invasive and noninvasive monitoring. At present, he is evaluating exciting and novel therapeutics in patients with severe traumatic brain injury and hypoxic ischemic encephalopathy, with the



hope to improve outcomes in this very vulnerable cohort.

The pediatric transport program in Saskatchewan is one of the largest in the country with over 550 missions per year. The very well established interdisciplinary team consists of both a registered nurse and respiratory therapist, and together they manage the most acute patients in all reaches of the province.

Together with Dr. Tanya Holt, they are evaluating quality

control metrics, patient triage, and the utilization of remote presence technology – the first of its kind in Canada.

This dynamic partnership has made significant strides in enhancing patient care by supporting the amazing health providers in rural and remote Saskatchewan.

His final area of focus is ventilatory support in the intensive care unit. Together with Jeff Dmytrowich and Dr. Holt, the team is currently examining electrical impedance tomography in both invasive and noninvasive forms of ventilation. This interdisciplinary team of respiratory therapists and specialists are at the forefront of translational research by bringing innovation to the bedside.

*Continued on pg 2...*

## Resident Research Interview Series – Dr. Gloria Yoo, Pediatrics

### What is the big question you're trying to answer here?

Appendicitis is one of the leading causes of emergency pediatric surgery in children that present to the emergency department with abdominal pain. An appendectomy is a relatively low risk procedure with minimal complications and remains the standard of care for management of both simple and complicated appendicitis. For a select number of pediatric patients with simple appendicitis, non-operative management with antibiotics is an appropriate alternative. The aim of this study was to evaluate the trend of non-operative management of simple appendicitis in our institution and determine any patient and clinical factors that favor successful non-operative management of appendicitis.

*Continued on pg 4...*

## Dr. Gregory Hansen

*...continued from pg 1*

During his time here in Saskatchewan, Dr. Hansen has made a notable impact by working on collaborative interdisciplinary teams, improving patient care with innovative research, and bringing fresh ideas to established programs. We are proud to highlight his achievements at the start of 2019. For more information, please check out his recent publications. We look forward to his continued success and progress.

For more information on Dr. Hansen's research check out his research page:

[https://www.researchgate.net/profile/Gregory\\_Hansen4](https://www.researchgate.net/profile/Gregory_Hansen4)

And the NEW website for Pediatric Intensive Care Unit:

<https://picusaskatchewan.ca>

### Recent Publications

- Agiro A, Gautam S, Wall E, Hackell J, Helm M, Barron J, Zaoutis T, Fleming-Dutra KE, Hicks LA, **Rosenberg A**. Variation in Outpatient Antibiotic Dispensing for Respiratory Infections in Children by Clinician Specialty and Treatment Setting. *Pediatr Infect Dis J*. 2018 Dec;37(12):1248-1254.
- Baydock T, Bector S, Taylor LM, **Hansen G**. Survey of Nutrition Practice in Patients with Severe Sepsis among Canadian Registered Dietitians. *Can J Diet Pract Res*. 2018 Oct 3:1-6.
- Carter A, Denton A, Ladino LD, Hassan I, Sawchuk T, Snyder T, Vrbancic M, Reuber M, **Huntsman R**, Tellez-Zenteno JF; PNES Canada Group. Experience of psychogenic nonepileptic seizures in the Canadian league against epilepsy: A survey describing current practices by neurologists and epileptologists. *Seizure*. 2018 Oct;61:227-233.
- Caudron M, **Holt T**, Cuvelier G, Dmytrowich J, **Hansen G**. Pulmonary Thromboses in Pediatric Acute Respiratory Distress Syndrome. *Respir Care*. 2018 Dec 24. pii: respcare.06106.
- Cuvelier GDE, Rubin TS, Junker A, **Sinha R**, **Rosenberg AM**, Wall DA, Schroeder ML. Clinical presentation, immunologic features, and hematopoietic stem cell transplant outcomes for IKBKB immune deficiency. *Clin Immunol*. 2018 Oct 31. pii: S1521-6616(18)30324-3. doi: 10.1016/j.clim.2018.10.019
- Holt T**, Prodanuk M, **Hansen G**. Utilizing Pediatric Scoring Systems to Predict Disposition During Interfacility Transport. *Prehosp Emerg Care*. 2018 Aug 17:1-5.
- Jariwala MP**, Laxer RM. Primary Vasculitis in Childhood: GPA and MPA in Childhood. *Front Pediatr*. 2018 Aug 16;6:226.
- Khamis MM, **Adamko DJ**, Purves RW, El-Aneed A. Quantitative determination of potential urine biomarkers of respiratory illnesses using new targeted metabolomic approach. *Anal Chim Acta*. 2019 Jan 24;1047:81-92.
- Khamis MM, Klemm N, **Adamko DJ**, El-Aneed A. Comparison of accuracy and precision between multipoint calibration, single point calibration, and relative quantification for targeted metabolomic analysis. *Anal Bioanal Chem*. 2018 Sep;410(23):5899-5913
- Nour MA**, Gill H, Mondal P, **Inman M**, Urmsom K. Perioperative care of congenital adrenal hyperplasia - a disparity of physician practices in Canada. *Int J Pediatr Endocrinol*. 2018;2018:8.
- Lee JY, Duffy CM, Guzman J, Oen K, Barrowman N, **Rosenberg AM**, Shiff NJ, Boire G, Stringer E, Spiegel L, Morishita KA, Lang B, Reddy D, Huber AM, Cabral DA, Feldman BM, Yeung RSM, Tucker LB, Watanabe Duffy K; ReACCh-Out Investigators. Prospective. Determination of the Incidence and Risk Factors of New-Onset Uveitis in Juvenile Idiopathic Arthritis: The Research in Arthritis in Canadian Children Emphasizing Outcomes Cohort. *Arthritis Care Res (Hoboken)*. 2018 Oct 15.
- Martinez-Rios C, **Jariwala MP**, Highmore K, Duffy KW, Spiegel L, Laxer RM, Stimec J. Imaging findings of sterile pyogenic arthritis, pyoderma gangrenosum and acne (PAPA) syndrome: differential diagnosis and review of the literature. *Pediatr Radiol*. 2019 Jan;49(1):23-36.
- McClellan S, **Baerg K**, Smith-Fehr J, Szafron M. Cost savings with transcutaneous screening versus total serum bilirubin measurement for newborn jaundice in hospital and community settings: a cost-minimization analysis. *CMAJ Open*. 2018 Jul 27;6(3):E285-E291.
- McNair J, Smith A, Bettinger JA, Vaudry W, **Tan B**, Desai S, Halperin SA, Top KA; Canadian Immunization Monitoring Program Active (IMPACT) Investigators. Invasive Haemophilus Influenzae Type B Infections in Children with Cancer in the Era of Infant Hib Immunization Programs (1991-2014): A Report From the Canadian Immunization Monitoring Program Active. *Pediatr Infect Dis J*. 2018 Jul;37(7):726-728.
- Reithmeier D, Tang-Wai R, Seifert B, Lyon AW, Alcorn J, Acton B, Corley S, Prosser-Loose E, Mousseau DD, Lim HJ, Tellez-Zenteno J, Huh L, Leung E, Carmant L, **Huntsman RJ**. The protocol for the Cannabidiol in children with refractory epileptic encephalopathy (CARE-E) study: a phase 1 dosage escalation study. *BMC Pediatr*. 2018 Jul 7;18(1):221.
- Strueby L**, Thébaud B. Novel therapeutics for bronchopulmonary dysplasia. *Curr Opin Pediatr*. 2018 Jun;30(3):378-383.
- Truong TH, Pole JD, Barber R, Dix D, Kulkarni KP, Martineau E, Randall A, **Stammers D**, Strahlendorf C, Strother D, Sung L. Enrollment on clinical trials does not improve survival for children with acute myeloid leukemia: A population-based study. *Cancer*. 2018 Oct 15;124(20):4098-4106.

\*Be sure to check out the new [Recent Publications Showcase](#) page of recent scholarly articles published by the College of Medicine researchers\*

## Coming Events

<b>Wed Feb 6</b>	CIHR Project Grant Spring 2018 Competition Registration Deadline
<b>Thurs Feb 7</b>	Juliet Sargeant 11am – 12pm East Lecture Thtr
<b>Thurs Feb 14</b>	Ben Tan 11am – 12pm East Lecture Thtr
<b>Wed Feb 27</b>	CIHR Project Grant: 2019 Spring Competition Research Services and Ethics Office Compliance Review Deadline
<b>Thurs Feb 28</b>	Juliet Soper 11am – 12pm East Lecture Thtr
<b>Wed Mar 6</b>	CIHR Project Grant: 2019 Spring Competition APPLICATION DEADLINE

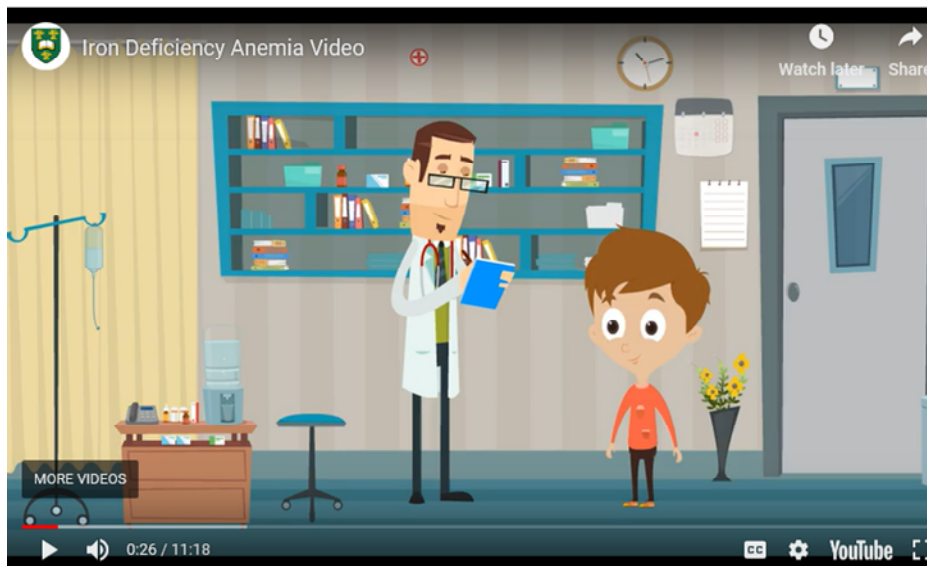
## Save the Date

The Department of Pediatrics presents,  
Child Health Research Trainee Day  
Thursday April 18, 2019  
12-6 pm  
Louis Loft

- Abstracts and RSVPs due March 14, 2019
- Residents, graduate and undergraduate students, and postdoctoral fellows from any discipline who are engaged in child health related research are invited to present
- Mix of poster and oral presentations
- Final agenda will be sent out once all abstracts are in
- Lunch and appetizers included
- Contact [tova.dybvig@usask.ca](mailto:tova.dybvig@usask.ca) for abstract submission form and to RSVP

### 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!



### Image of Interest

Join Johnny as he goes on a journey to learn more about iron deficiency anemia and how to defeat it! Video created by: Sina Sayedinazad Edited by: Roona Sinha, Sarah Tehseen, David Stammers, Craig Eling Voice Actors: Sarah McConnell, Jonah McConnell, Rachel McConnell, Roona Sinha, Sina Sayedinazad Funded by: University of Saskatchewan College of Medicine Dean’s Project  
Watch the entire video here: <https://medicine.usask.ca/pediatrics/research/newsevents>

## Resident Research *...continued from pg 2*

### **Briefly explain the methods you have used to carry out your research?**

This project is a retrospective chart review of pediatric patients who presented to any of the three Saskatoon Emergency Departments and/or were admitted to Acute Care Pediatrics with a diagnosis of simple appendicitis in the last five years. The diagnosis of appendicitis was made either from patient history, physical exam, imaging findings and/or in consultation and discussion with pediatric surgery. The primary outcome is the need for subsequent operative management after failed non-operative management of simple appendicitis.

### **When will you have results?**

The expected completion date for this project is within 6 months. At this point, we plan to submit this project for oral and/or poster presentation to general pediatric, pediatric emergency medicine, and/or pediatric surgery conferences. We will also prepare a manuscript and pursue publication.

### **What impact will this research potentially have on child health?**

There is a growing trend to treat simple appendicitis with antibiotics as opposed to appendectomy - this trend is also being practiced in Saskatoon. As our institution does not have local data regarding the current practice around simple appendicitis, this project will allow us to compare our current practice with the existing literature. Furthermore, we can present these findings to our local pediatric emergency and surgery departments to better inform our decisions in managing appendicitis in the emergency department.

### **What is new or unique about this research?**

Non-operative management of simple appendicitis is a relatively recent approach and challenges what is known to be the standard of care in the clinical management of pediatric appendicitis.



*Dr. Gloria Yoo was supervised by Dr. Ahmed Mater, Dept of Pediatrics*

This project provides additional data to determine what management strategy leads to better patient outcomes and may act as a pilot for future prospective, case-control studies in our institution.

### **How have you benefited from this research?**

I had the opportunity to become very familiar with the literature around pediatric appendicitis through a literature review. I also gained more experience in ethics application, methodology, and data collection. Dr. Mater, the Pediatric Emergency Research Canada Site Representative for Saskatoon, has also provided excellent mentorship and guidance throughout the course of this project.

### **What drew you to this area of research?**

The Emergency Department is often the first point of medical care for the management of many pediatric conditions. Therefore, it is crucial that the most current evidence-based management is being practiced in these departments. This project specifically provides more data around a new and emerging topic that challenges the standard of care for a common pediatric condition. Ultimately, research provides an opportunity to be a part of determining what factors lead to the best patient outcomes which in turn create positive change within the health care system at both an individual and systemic level.

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>



#### Contact us

For more information about The Department of Pediatrics Research, SPRING, or to contribute content to the Department of Pediatrics Research Report, please contact: Tova Dybvig Department of Pediatrics Royal University Hospital 103 Hospital Drive Saskatoon, SK Canada S7N 0W8 Phone: 306-844-1229 Email: Tova.dybvig@usask.ca