Comprehensive Research Experience for Medical Students

Summer Research Program 2021

Supervisor/Project Information Form

Due February 24, 2021 by email to crems.programs@utoronto.ca

**Supervisor Name**: Dr. Peggy Marcon

**Project Title**: Determining the incidence of delayed gastric emptying in pediatric patients with constipation using nuclear scintigraphy

**Hospital/Research Institution**: The Hospital for Sick Children

**Email**: peggy.marcon@sickkids.ca

**Field of Research (2 keywords)**: Pediatric, Gastroenterology

**Department**: Paediatrics

**School of Graduate Studies Appointment (IMS, LMP, IHPME etc)? Yes/No**: No

If YES, please name:
Brief Project Description (<300 words):

Background: While it is known that complex neurohormonal interactions exist between different segments of the gastrointestinal tract, the impact of constipation on gastric function has not been clearly elucidated in children. Nuclear scintigraphy is a non-invasive, quantitative tool to assess gut transit. This project aims to use whole-gut nuclear scintigraphy to assess the impact of constipation on gastric emptying. Previous descriptions of a “cologastric brake” exist and for this reason, we hypothesize that children with constipation are likely to exhibit delayed gastric emptying.

Methods: Retrospective cohort study of all patients who have undergone whole-gut nuclear scintigraphy at SickKids for constipation. Participants will be identified through the Nuclear Medicine database. Study reports and medical charts will be reviewed. The incidence of delayed gastric emptying in patients with constipation will then be assessed and regression techniques will be used to identify predictors of this association.

Significance: A better understanding of the interaction between constipation and gastric emptying will aid in the management of common and troublesome dyspeptic symptoms in pediatric patients with constipation.

Student Role: The student involved in this project will screen studies for eligibility, abstract data and participate with supervision and assistance in statistical analysis and preparation of a manuscript. They will receive education around the relevant conditions, investigations and research methods to ensure this is a successful and enriching experience for them.

Research Environment: Dr. Marcon is the primary physician managing patients with motility disorders at SickKids and brings a wealth of clinical and research experience in this field. A pediatric gastroenterology fellow with an interest in neurogastroenterology has been identified as an additional mentor for this summer student. An REB will be submitted ahead of the student’s placement to optimize their research time. Funding for this project has also been secured from the The John Garfield Campbell Fund.