



Spring 2017

A Message from the Director

The Zane Cohen Research Centre is an international leader in the understanding and management of gastrointestinal diseases. Made up of a multidisciplinary network of over 45 clinicians, geneticists, radiologists, genetic counselors, information system specialists, psychologists, international fellows and students. We strive to develop novel research for the betterment of our patient populations in the areas of inflammatory bowel disease (Crohn's disease and ulcerative colitis) and hereditary gastrointestinal cancer, such as familial adenomatous polyposis (FAP), and Lynch syndromes.

Inflammatory bowel disease occurs in one in 150 Canadians and is increasing in incidence, particularly in the pediatric population. Canada has the highest incidence of IBD in the world. Ongoing studies attempt to search out the causal mechanisms of these diseases and develop new medical and surgical options of treatment. In the field of hereditary gastrointestinal cancer, we have the largest series of patients and families in Canada and are expanding our role in the search for new genes as causes for the development of these syndromes.

I urge you to read through our network newsletter to gain an appreciation of the expanse of the work that we do in these areas. I look forward to discussing with you, questions you might have regarding the work that we do.

We Build Knowledge To Improve Treatment



Dr. Zane Cohen
Director, Zane Cohen Centre

Abdominal Sarcoma Program

Canadian Abdominal Sarcoma Consortium (CASC)

In an effort to define the Canadian abdominal sarcoma experience, a team of dedicated physicians and researchers from centers across Canada have joined together to create a working group, the Canadian Abdominal Sarcoma Consortium (CASC). This group joins together researchers from across Canada with the support of the clinical research team at Princess Margaret/Sinai Health System. The goal of the group is to create standardized data collection tools including synoptic reporting for physicians in order to better collect information on the Canadian abdominal sarcoma experience.

The Trans-Atlantic Retroperitoneal Sarcoma Working Group (TARPSWG)

The Abdominal Sarcoma Program at Princess Margaret/Mount Sinai Hospital is an invited member of the Trans-Atlantic Retroperitoneal Sarcoma Working Group (TARPSWG). Members are from multiple research centers across Europe and North America: Italy, France, U.K., Poland, the Netherlands, Germany, U.S. and Canada. This group of dedicated sarcoma physicians and researchers meets throughout the year at international meetings and collaborates on research projects. This year, the TARPSWG group is introducing the Retroperitoneal Sarcoma Registry (RESAR), a multi-institutional data collection tool. Our clinical research group has been selected to demonstrate the utility of this tool to the other members of the TARPSWG group, as we have been involved in the set-up and beta-testing of this registry. We will be using this database over the next few years to look at our retroperitoneal sarcoma patients with the



Toronto Abdominal Sarcoma Surgeons - Dr. Carol Swallow, Dr. Savtaj Brar and Dr. Rebecca Gladly

goal of creating consistent high-quality prospective data on even larger numbers of patients in future publications from the group.

International Retroperitoneal Sarcoma Clinical Trial

Since 2012, we have been the lead North American site in an International Retroperitoneal Sarcoma Trial (known as STRASS), looking at preoperative radiation and surgery or surgery alone. This year, we have continued to have strong recruitment numbers to this trial and are currently 3rd site worldwide for recruitment. Since local recurrence is the main pattern of failure in RPS patients, the use of radiation may improve outcomes, but this has not been studied in a clinical trial setting. STRASS is the only prospective trial for Retroperitoneal Sarcoma worldwide and has reached patient accrual as of March 2017.



Dr. Tae Hart
Research Scientist

Families affected by Colorectal Cancer

Novel study on Colorectal Cancer

Colorectal cancer (CRC) is among the most commonly diagnosed cancers, despite the efficacy of prevention through colonoscopy. First-degree relatives of those diagnosed with CRC are at increased risk of this cancer, but tend to have poor colonoscopy participation rates. Intrafamilial communication (e.g., talking about cancer within the family) is an important element to discussing cancer risk and need for colonoscopy, with the burden falling on the person diagnosed with CRC to inform his or her relatives. There is limited research on this topic among people with CRC and their kin. However, studies from those diagnosed with Lynch syndrome, a genetic condition that increases the risk of CRC, shows there are common obstacles that make it difficult for people to talk about the increased cancer risk and need for colonoscopy with their close relatives. Some obstacles include difficulty discussing the topic of cancer, fear of harming the relationship with the relative, being socially distant, and having disruptive or negative relationships with certain family members. To improve adherence to colonoscopy screening it is imperative that issues in intrafamilial communication and kin-reported barriers to CRC screening be addressed. Dr. Tae Hart, along with ZCC colleagues Spring Holter, Steve Gallinger, and Kelly McShane (Ryerson University) have received a grant from the Collaborative Group of the Americas on Inherited Colorectal Cancer to conduct a study that will examine

the reasons: 1) Why individuals with CRC do not disclose to their relatives that they are at higher risk of developing CRC and need regular colonoscopy; and, examine what supports and resources are needed by individuals with CRC to facilitate this conversation. 2) Why lack of participation in colonoscopy screening is high among relatives at increased risk for CRC who have been informed to get regular surveillance; and, uncover what supports and resources relatives need to facilitate this health behaviour. All participants will be recruited from the Canadian Colorectal Cancer Consortium, which is a Terry Fox Research Institute funded multi-site prospective CRC study (PI, Dr. Steven Gallinger; Project Manager, Spring Holter). Dr. Hart is recruiting two sets of participants (40 participants in total) for this project: 1) People diagnosed with CRC who have not had a conversation with their close relatives about their increased risk of developing CRC and 2) Kin who have not had a colonoscopy within the last ten years. Participants will partake in focus groups, which will help the researchers to understand the obstacles to talking about cancer (for people diagnosed with CRC) and obtaining colonoscopy (for kin). The results of the proposed research will increase our understanding of the interventions, resources, and supports that individuals with CRC and their relatives require to facilitate regular colonoscopy participation.



Dr. Steven Gallinger
HPB Surgeon

Ontario Pancreas Cancer Study

Pancreatic adenocarcinoma, the most common type of pancreas cancer, is the fourth leading cause of cancer related deaths worldwide and remains one of the most fatal malignancies with minimal improvements in survival rates over the last few decades. Dr. Steven Gallinger is the Principal Investigator of the Ontario Pancreas Cancer Study (OPCS) at Mount Sinai Hospital and the University Health Network. The objectives of the OPCS are to identify and characterize causes of pancreas cancer, including genetic, environmental, and lifestyle factors, as well as explore treatment options available to patients with this disease. The OPCS is a large registry with overall aims to help us better understand risk factors, patterns of inheritance, and discover possible genetic and biochemical markers of pancreas cancer. In addition, we are interested in evaluating pancreas cancer screening techniques with the hope that, in the future, the disease may be detected at an early stage.

Eligible participants include those living in Ontario with a recent diagnosis of pancreas cancer. The first stage of the study involves obtaining information about family history, treatment, and personal history/lifestyle from a questionnaire package that is provided to participants. The second stage of the study involves collecting blood (or saliva), medical records, and any available tissue samples from previous biopsies or surgeries (if applicable). These samples are used to investigate potential sources of genetic risk of pancreas cancer. If there is a family history of cancer, genetic counsellors can provide information and make referrals for further genetic assessment and possibly genetic testing and cancer screening, when appropriate. We are now in our 15th year and have recruited over 2200 participants since 2003. We are fortunate to have an outstanding team of researchers, genetic counsellors and clinicians to collaborate together on multiple national and international research projects.



Left to Right: Melyssa Aronson, Spring Holter, Dr. Zane Cohen, Kara Semotiuk, Laura Winter

Familial Gastrointestinal Cancer Registry (FGICR)

The FGICR was established in 1980 to provide education, support and research opportunities to families suspected of having a hereditary condition which increases their risk to develop digestive cancers, such as colorectal, stomach and pancreas. Since these syndromes can also increase the risk of cancer in other organ systems, such as gynecological, urinary tract and brain cancer, the FGICR works with families that have all types of cancer. The Zane Cohen Centre houses a full time genetic clinic, headed by Dr. Zane Cohen, with geneticist, Dr. Raymond Kim, and genetic counsellors: Melyssa Aronson, Kara Semotiuk, Spring Holter and Laura Winter. Together, they provide genetic counselling, education and testing to determine the genetic cause of cancer in families. Knowing the genetic cause of cancer in the family helps to determine the appropriate screening needed to prevent cancer in all relatives. To date, our clinic has followed over 3,000 families suspected of having a hereditary condition and we have found the genetic

cause of cancer in 911 families and over 2,500 patients. The most common conditions found are: FAP (Familial Adenomatous Polyposis), which causes a carpeting of polyps in the colon; Lynch syndrome which causes hereditary colorectal and uterine cancer; and Hereditary Diffuse Gastric Cancer Syndrome, which causes a high risk of stomach and breast cancer. Our research focuses on many different aspects, including discovery of new genes for those many families that have not yet had a genetic cause identified. New technologies, such as Next Generation Sequencing, are able to test many more genes for a fraction of the cost of old technology. Through the help of our families, we are learning more about the cancer risk associated with the different genetic conditions and studies are ongoing to find the best way to prevent these cancers, including: medication trials to prevent colorectal polyps and cancer, gynecological screening for uterine cancer, or intensive stomach cancer screening aimed at identifying elusive stomach cancer at an early stage. Surgeons, gastroenterologist, gynecologist oncologist and psychologists all work together to study ways to prevent cancer in our families. The FGICR is a leader in the field and recognized around the world as a centre of excellence for hereditary gastrointestinal cancer. Our team members have been asked to present lectures around the world, collaborate on research studies and lead committees to determine the testing criteria for the province. We are hosting a Hereditary Gastrointestinal Cancer Symposium in May 2017 for the province of Ontario to provide education to all health care providers in this area and ensure equality of care around the province. We also host Education nights for individuals with adenomatous polyposis conditions (such as FAP and MAP) as well as Lynch syndrome, and these are planned for the Fall, 2017.

We invite you to partner with us
www.zanecohencentre.com/donate



Dr. Mark Silverberg
Gastroenterologist

IBD Biomarkers Research Studies

Dr. Silverberg's IBD Biomarkers research program is in its 15th year. He has a team of project managers, research assistants and coordinators, lab technicians, scientific associates and trainees. The goals of our research program are to identify susceptibility genes and biomarkers for Inflammatory Bowel Disease (IBD), which include Crohn's disease and Ulcerative colitis, and to explain the contribution of these markers to the cause and clinical course of IBD. We use a number of high-throughput methodologies such as genome-wide association studies (studying DNA and genes), whole-genome expression (studying which genes are on or off), microRNAs (small molecules that can regulate gene expression) and microbiome (gut bacteria) analysis. We also investigate serum levels of novel antibodies, biologic drug levels and their corresponding antibodies and correlate these with phenotype and how this information can be applied to clinical management. Our current projects are directed toward understanding the relationship between

the microbiome in the digestive tract and host genotype or gene regulation, to gain more insight into the role of diet and how food may trigger or exacerbate IBD. We hope that ultimately, this will lead to tools that may allow clinicians to better predict who may develop IBD and also identify high-risk patients so that a more personalized approach to treatment may be employed. This research program has been funded mainly by grants from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK/NIH), Crohn's and Colitis Canada (CCC) and Canadian Institutes of Health Research (CIHR), as well as generous donations. For more information on the Silverberg Lab, please visit our lab website at: <http://research.lunenfeld.ca/silverberg>. We are recruiting subjects for various research studies. A full listing of all clinical-translational and clinical trial research projects can be found at: <http://zanecohencentre.com/ibd/research>



Dr. Robin McLeod

Best Practice in Surgery

Best Practice in Surgery is the University of Toronto Department of Surgery's quality improvement program and has replaced Best Practice in General Surgery (BPIGS). The BPIGS initiative began in 2006 with the aim of standardizing care based on best-evidence in the Divisions of General Surgery at the University of Toronto adult teaching hospitals. Building on the success of BPIGS, we have now initiated Best Practice in Surgery. Our aim is to ensure all patients having surgery at the University of Toronto affiliated hospitals receive high quality, person-centered care resulting in optimal patient and clinical outcomes.

- Collaborate with stakeholders in hospitals, other Departments, and Institutions to ensure patients receive high quality multidisciplinary care
- Measure our performance and outcomes
- Provide education to all of our residents so they can undertake or participate in quality initiatives
- Encourage research in quality and knowledge translation and use this platform to perform clinical trials when evidence is lacking.

To do this, we will:

- Promote the use of best-evidence by developing and implementing clinical practice guidelines
- Encourage a person-centered care approach to optimize our patients' experience

We are currently undertaking several quality improvement initiatives including the development and implementation of clinical practice guidelines, the development of a local patient centred care strategy, and more. If you would like more information, please contact Emily Pearsall at bestpracticeinsurgery@utoronto.ca.



Brenda O'Connor
Research Nurse

IBD Support Network Update

Treatment of IBD involves more than diagnosis, prescribing medication or undergoing surgery. When confronted with illness, patients seek professional help and advice from their physician, nurse, social worker and also rely on support from family members, peers and fellow patients. Our support groups are an excellent opportunity for patients, family members and friends to gain

information on all aspects of their IBD journey. The groups also provide a safe forum to meet and share on living well with the diseases and receive peer support. The Daytime support group meets monthly at 2pm on the 14th floor classroom on the last Wednesday of the month: April 26, May 31, September 27, October 25, November 29 and December 20 for 2017.

The Evening support group starts at 7pm in the 18th floor auditorium: May 29, September 25, and November 27 for 2017.

For information about the support groups and speakers, please access <http://zanecohencentre.com/ibd/for-patients/ibd-supportnetwork>. If you have any questions, please contact Brenda O'Connor at 416-586-4800 x8349 or email brenda.o'connor@sinaihealthsystem.ca. If you are not in the Greater Toronto area or are unable to attend the IBD support meeting and would like to become a peer support person or receive peer support, please email Brenda directly.



Dr. Anand Govindarajan
Colorectal Surgeon

Peritoneal Malignancy Program

As of March 2017, the Peritoneal Surface Malignancy Program at Mount Sinai Hospital has completed over 200 operations for peritoneal malignancy (cancer that has spread to the abdominal lining). These complex surgeries offer the only potential for cure in this advanced form of cancer, and in Ontario, are only performed at Mount Sinai Hospital. We have many ongoing studies to assess and improve outcomes in these patients, many of which have been presented at national and international conferences. Currently, we have two important prospective studies ongoing, one assessing many aspects of quality of life in these patients, an understudied area, and the other examining whether new imaging methods, such as PET and MRI scans, can significantly improve our current method of assessing these patients. Members of our group also have an active basic science lab looking at oncolytic virotherapy and its potential to treat peritoneal surface malignancies and other cancers. Dr. Govindarajan is taking on the role of site principal investigator to open Mount Sinai and the Princess Margaret Cancer Centre as new sites for a multi-centre trial coordinated by investigators at the Ottawa Hospital Research Institute. This study is investigating whether extended use of a commonly used blood-thinner can improve cancer-specific survival following surgery for colorectal cancer. In addition, we will soon be initiating the PICaSO trial exploring a new method of improving outcomes of patients undergoing major surgery for gastrointestinal cancers, known as prehabilitation. Prehabilitation involves improving a patient's physical and mental conditioning before surgery to hopefully improve outcomes after major surgery. This method of prehabilitation could represent a paradigm shift in the way we currently prepare cancer patients for surgery; therefore, this study has the potential to significantly improve patient outcomes.

STUDY UPDATES



Dr. Geoffrey Nguyen
Gastroenterologist

PACE IBD Telemedicine Program

Through support from Crohn's and Colitis Canada, the Inflammatory Bowel Disease (IBD) centre at Mount Sinai Hospital has embarked on an innovative project to improve access to quality IBD care for individuals living in rural and remote communities throughout Ontario. As a participant site within the Promoting Access and Care through Centres of Excellence (PACE) network, our IBD team is conducting eVisits through our newly launched telemedicine program. The IBD telemedicine program is dedicated to serving patients living with Crohn's disease and Ulcerative Colitis who reside in underserved locations throughout Ontario. We accept referrals for adult patients

residing at least 100 kms from Mount Sinai Hospital in Toronto. Patients in the IBD telemedicine program will have access to real-time medical consultations from Gastroenterologists who specialize in IBD management. Telemedicine involves a health care specialist speaking with a patient through videoconferencing technology similar to Skype or FaceTime, but within a secured computer network. Through the use of this technology, our program endeavors to minimize the disruption, stress and cost that can be associated with travel to Toronto for IBD related medical appointments.



Dr. Ken Croitoru
Gastroenterologist

The GEM Project

Dr. Croitoru continues to lead the GEM (Genetics, Environmental and Microbial) project, the first large-scale prospective cohort study of its kind. The goal is to identify the cause of Crohn's disease by studying healthy first-degree relatives (FDR) of Crohn's patients. The GEM Project has now assembled over 4700 individuals at high risk of developing Crohn's disease. To date, 54 have developed Crohn's disease, allowing us to begin to examine the genetic, microbial and immune differences that may explain why these individuals developed disease. It is through these efforts that we hope to develop strategies for prevention and improved treatments of IBD while working towards a cure. As part of this work and with additional funding from CIHR, the GEM Project Team has published a milestone paper in Nature Genetics defining individual

genes that can affect the makeup of our intestinal bacteria. This work which has been funded by Crohn's and Colitis Canada and Helmsley Charitable Trust is now a global multi-centre study, coordinated out of Mount Sinai Hospital. The IBD Center is also excited to see the start of construction and installation of the new research-dedicated MRI to be used in our clinical and translational research efforts. For more information on the GEM project including how to participate please see the GEM website www.gemproject.ca or follow us on twitter: @The_GEMProject



Staff of the Zane Cohen Centre thank you for your continued support



Dr. Carol Durno
Pediatric Gastroenterologist



Research advancement in Biallelic Mismatch Repair Deficiency (BMMRD) Syndrome

Pediatric gastroenterologist Dr. Carol Durno, along with a local and international team of gastroenterologists have been working to develop clinical recommendations and evidence based guidelines for surveillance and management of patients with BMMRD syndrome. It is a rare hereditary condition that increases a person's risk to developing cancer at young ages, often starting in childhood. We are pleased to report that these recommendations were endorsed by the three major gastrointestinal societies in the U.S., and will be jointly published in four leading gastroenterology journals.

The Toronto team has launched the first international clinical trial to evaluate the outcomes of small bowel surveillance in patients with BMMRD. In October 2016, our research was recognized with a Gold Medal Research Award at the World Congress of Pediatric Gastroenterology. We look forward to sharing the results with you in the upcoming publications.

Much work remains to improve care and outcomes for people with BMMRD in three main areas:

1. Increasing healthcare professionals' awareness of BMMRD for early detection
2. Demonstrating the value of small bowel screening in BMMRD patients
3. Advancing treatment of BMMRD cancers with immunotherapy



**Zane Cohen Centre
for Digestive Diseases**
Sinai Health System

We Invite You to Partner With Us ...
... as we "join the dots more quickly"
to bring new knowledge into practice for
better care for patients and their families.

There are many ways to support our work.
These include gifts of cash, stocks or
existing insurance policies.

Legacy gifts to the Zane Cohen Centre
can also be designated in a will.

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Advancement Director, Mount Sinai Foundation
Email: Sarah.Hurrle@sinaihealthsystem.ca
Tel: 416-586-4800 x 6006
Cell: 647-248-7434
Fax: 416-586-8936

For general inquiries, contact us at:
Zane Cohen Centre for Digestive Diseases
60 Murray Street, 3rd Floor, Box 24
Toronto, Ontario, Canada M5T 3L9
Toll Free: 1-877-586-5112
Email: zcc.msh@sinaihealthsystem.ca
Web: zanecohencentre.ca