

OPEN SKIES

Department of Surgery Newsletter

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Saskatchewan Transplant Surgeons

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UNIVERSITY OF
SASKATCHEWAN



CHAIRMAN'S MESSAGE



As I reflect on 2015 which is rapidly drawing to a close, it is clear to me that the Department has made significant advances. Among the major accomplishments has been the accreditation by the Royal College of all our residency programs in its recent 6 year review. This is an indication that we are on the right academic pathway and should continue to strive to even higher standards. The establishment of the Trauma Program Pilot has been a long-expected achievement. This program will allow us to provide the best possible trauma care to our patients and fulfill an academic gap in trauma training in our Province.

The administrative infrastructure of the Department has been completed with the addition of Dr. Francis Christian as Director of Quality Improvement and Patient Safety, Dr. Cole Beavis as Director of Surgical Skills and Simulation and Dr. Gary Groot as Director of Surgical Oncology. These surgeons will provide the leadership in their portfolios to advance the clinical and academic goals of the Department. An exciting development has been the proposed establishment of a Surgical Skills Laboratory in the newly renovated Anatomy laboratory in B wing of the Health Sciences Center. This state-of-the-art facility will be completed by the summer of 2016.

In 2015, we have recruited 5 new surgeons to the Department, their profiles are included in this issue of the OPEN SKIES. The unprecedented growth of the Department with 23 new surgeons recruited in the past two and a half years will enhance our capability to service the people of Saskatchewan accomplish our academic mission and propel us to a bright future.

This year, we instituted the first Surgical Humanities Day with an art exhibition, a classic music concert and a superb presentation by Henry Wolfe at Surgical Humanities Grand Rounds. The Journal of the Surgical Humanities continues to thrive and our program is rapidly achieving national and international prominence under the capable leadership of Francis Christian.

My sincere gratitude to all the members of the Department for all their hard work this year, I am proud of our successes and your commitment to making Surgery in Saskatchewan the best it could be. I wish you and your families joy, peace and health for the holiday season.

*Ivar Mendez, MD, PhD, FRCSC, FACS
F.H. Wigmore Professor of Surgery*

ON THE COVER: *Saskatoon Transplant Surgeons
(left to right): Dr. Gavin Beck, Dr. Mike Moser, Dr. Yigang Luo*

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Editor

Dr. Ivar Mendez

Contributors

Dr. Ivar Mendez

Dr. Mike Moser

Dr. Gavin Beck

Dr. Yigang Luo

Dr. Francisco Cayabyab

Design/Digital Production

Department of Surgery
Communications

DEPARTMENT OF SURGERY
College of Medicine
University of Saskatchewan

107 Wiggins Road, Suite B419
Health Sciences Building
Saskatoon, SK S7N 5E5

TEL: 306.966.7323

FAX: 306.966.8026

Email: open.skies@usask.ca
www.medicine.usask.ca/surgery

TRANSPLANT PROGRAM



Saskatoon has long been a pioneer in kidney transplantation, dating back to the second kidney transplant in Canada done in Saskatoon on December 11, 1963. Before the end of the 1960s about 10% of all the kidney transplants that had been performed in the world had taken place in Saskatoon.

Kidney transplant surgery took a brief hiatus between 2010 and 2011. Recently the Saskatchewan Renal Transplant Program has succeeded in recruiting a full complement of 3 dedicated transplant surgeons and had a very good year in 2014, with 30 kidney transplants done in Saskatoon.

All three current transplant surgeons received their transplant training in London, Ontario, a centre known around the world for its multi-organ transplant unit. Dr. Mike Moser, after a 6 month sabbatical in London, Ontario, was the solo surgeon from December 2011 until October 2012, when Dr. Yigang Luo was recruited from Windsor, Ontario. The two surgeons had known each other since 1998 when Mike was a resident doing an elective in London and Yigang was a fellow. Dr. Luo brings a vast experience to Saskatoon, including prior training in China, Cambridge, and Oklahoma City. Finally, Dr. Gavin Beck, who completed his general surgery residency in Saskatoon, was recruited at the completion of his multi-organ transplant fellowship in London, and joined the team in August 2014.

Saskatoon is not only a pioneering centre for kidney transplants, but also for Laparoscopic Live Donor Nephrectomy. Dr. Peter Barrett, who retired in 2012 was one of the first surgeons in Canada to perform the procedure in 2003 and furthermore, he mentored many of the surgeons across Canada who are doing the procedure today. The 'keyhole' approach to kidney donation allows a much shorter hospital stay, a shorter recovery and less pain, and this has even translated into an increase in the living donation rate by 20-30% in Canada.

The Saskatchewan Program was also the second Canadian program, in 2006, to adopt pulsatile machine cold perfusion; this apparatus has led to a reduction in preservation injury and an improvement in kidney function after transplantation. After 6 years of use in preserving deceased-donor kidneys, we became the first program in North America to use the technology on Living Donor Kidneys and this is showing promising results. Basic science research is currently underway at the University of Saskatchewan in machine preservation, both cold and normothermic.

Due to the ever-increasing gap between the numbers of people waiting for kidneys and the number of donor kidneys available, there has been a return to organ Donation after Cardiac Death (DCD) in Canada (since 1972 deceased organ donation was after brain death only). Recently, the Saskatchewan Transplant Team performed the first 'modern-day' DCD kidney retrieval and transplant in Saskatoon since 1972, and all three surgeons worked together with the transplant team to ensure that this 'first' went well. Teamwork and collaboration is important in surgery, and even more so in a relatively small transplant program with no surgical fellows, and this was vital to the success of the DCD retrieval and transplant.

MEET OUR NEW FACULTY

*Dr. Craig Gendron**Dr. Paul Hartman**Dr. Ian Lutz*

Dr. Gendron is a native of Edmonton, Alberta. After pursuing undergraduate studies at the University of Alberta obtaining a Bachelor of Science degree, he moved to Saskatoon to obtain his medical degree from the University of Saskatchewan. He then moved to Winnipeg, Manitoba where he completed his residency training in Plastic Surgery at the University of Manitoba.

Following Residency, he completed a one year fellowship in Craniofacial and Pediatric Plastic Surgery at Cincinnati Children's Hospital Medical Centre.

Dr. Gendron has a strong interest in pediatric cleft and craniofacial conditions and will be joining the division of Plastic Surgery.

Dr Paul Hartman is originally from Halifax, Nova Scotia. With medicine being his direction from a young age, he attended Acadia University in Wolfville NS graduating in 2004 with a BSc Biology. After a brief hiatus from education, he began his medical education at Dalhousie Medical School in Halifax, graduating in 2010. He did his Urology residency training through the University of Ottawa completing this in July of 2015.

Dr Hartman has relocated to Saskatoon with his wife, Tonya, and four children, Blake, Gavin, Troy, and Olivia, to begin his career with the Division of Urology.

Through residency, Dr Hartman was very involved in medical student education. He was a regular attendee at the CUSEC meeting, and is looking for opportunities to continue this endeavor as a staff.

Dr. Lutz spent his youth in a small Alberta farming community. He completed his first undergraduate years at the University of Calgary where he met a Saskatchewan girl and not long after found himself married and moving to Saskatoon. He completed his Undergraduate Bachelor of Science degree, High Honours in Biochemistry, at the University of Saskatchewan. He gained entrance to the University of Saskatchewan College of Medicine where he graduated with his Medical Doctorate in 2009. In 2014 he completed his Residency in Orthopaedic Surgery also at the University of Saskatchewan now being completely outnumbered in his family by his wife and their three daughters. After attaining his FRCSC in 2014, Dr. Lutz moved to Calgary for a Fellowship in Adult Hip and Knee Joint Reconstruction with a special focus on conservative young adult hip, specifically, impingement and peri-acetabular osteotomies. Dr. Lutz joined the Division of Orthopedic Surgery in September and will be focusing his practice on Adult hip and knee primary and revision arthroplasty, and also non-arthritic young adult hip.

SURGICAL HUMANITIES DAY

Thursday, September 24

The inaugural Surgical Humanities Day was a huge success. The day was marked with a art exhibition, Department of Surgery GRAND Rounds lecture from acclaimed stage and film actor Mr. Henry Woolf and an evening at the Orchestra with Department of Surgery members performing.



Dr. Nicholas Peti



Dr. Niroshan Sothilingam

Dr. Nicholas Peti is from White City Saskatchewan. He obtained a degree in organic chemistry from the University of Regina, prior to attending the University of Saskatchewan for medical school and surgery residency training, obtaining his FRCSC in General Surgery in 2013.

He completed a two year clinical fellowship in Calgary, and holds the FRCSC designation in Vascular Surgery. Calgary is one of North America's top endovascular aortic centers, and Nick looks forward to bringing his expertise in thoracic aortic disease to Saskatoon and St Paul's Hospital's new thoracic endovascular program. He also has interests in carotid disease, risk factor modification, health care policy and medical education.

His wife Erin is an obstetrics nurse, bringing her expertise in single room maternity from Calgary to Saskatoon, and they are joined by their baby Isaac, who has loaded up on snow suits for the move to chilly Saskatoon.

Dr. Sothilingam grew up in Saskatoon where he attended the University of Saskatchewan and completed his Bachelor of Science in Kinesiology. He obtained his Medical Degree at Medical University of the Americas in St. Kitts & Nevis. He then returned home to complete his General Surgery residency and obtain his FRCSC.

Over the last 2 years Dr. Sothilingam completed a clinical fellowship in London Ontario at Western University/London Health Science Centre. He spent his first year attaining skills in vascular surgery and his second year as a clinical trauma fellow. During this time, he attained skills in operative trauma management, critical care and how to develop and run a trauma service.

Dr. Sothilingam has joined the Division of General Surgery and will be a key member of the new trauma program at the University of Saskatchewan.



NEW APPOINTMENTS



Dr. Francis Christian
Director, Quality Improvement and Patient Safety



Dr. Cole Beavis
Director, Surgical Skills and Simulation



Dr. Gary Groot
Director, Surgical Oncology

Dr. Christian is Clinical Professor in the Division of General Surgery. He is a Fellow of The Royal College of Surgeons of Edinburgh (1993) and of The Royal College of Surgeons of Canada (2000). In 2011 he completed the Surgical Education Research Fellowship (SERF). Dr. Christian has a major interest in Quality Improvement, Surgical Humanities and Surgical Education. He has had education and training in the implementation of the National Surgical Quality Improvement Program (NSQIP). His research interests and ongoing projects include leveraging information technology in the service of Quality Improvement; the use of robotics in surgical education; and research into the basic and clinical aspects of thyroid disorders.

The Department of Surgery has identified quality improvement and patient safety as central to the practice of surgery in Saskatoon and it is intended to facilitate a culture of continuous and ongoing quality improvement and patient safety based on shared values and common goals.

Born and raised in Saskatoon, Dr. Beavis completed his M.D. and Orthopaedic Surgery residency training at the University of Saskatchewan and is a community based faculty member and former Research Director in the Division of Orthopaedics. He did fellowship training in orthopaedic trauma in Edinburgh, Scotland and arthroscopy and sports medicine in Winnipeg and in Dallas, Texas. He completed his Diploma in Sport Medicine through the Canadian Academy of Sport Medicine and currently has a practice focused on Orthopaedic Sports Medicine. He has travelled internationally as a team physician over ten times highlighted by Hockey Canada's National Junior team at the 2013 World Jrs. Dr. Beavis is the former President of the Saskatchewan Orthopaedic Association and current President of the Saskatchewan Academy of Sports Medicine as well board member of the Canadian Orthopaedic Association. He had published 15 articles in peer reviewed journals and 1 book chapter. Most importantly he is a proud husband to Pediatric Orthopaedic Surgeon Lauren Allen and father to Malynn and Bobby.

Gary Groot MD, PhD, FRCS(C), FACS, is a General Surgical Oncologist. He is a clinical professor in the Department of Surgery and associate professor in the Department of Community Health and Epidemiology. A graduate from the University of Saskatchewan Dr. Groot did his surgical oncology training at the University of Manitoba before returning to practice in Saskatoon where he has contributed to the growth and development of the Department of Surgery in multiple capacities over the years. Clinically Dr. Groot focuses on Head & Neck Oncology, Breast, Sarcoma and Melanoma.

His current involvement with the Ministry of Health's Appropriateness Program, a provincial quality improvement initiative, the Canadian Partnership against Cancer and the American Head and Neck Society Quality Improvement Committee all align with his efforts to establish a national and internationally recognized program of research in health services quality improvement at the University of Saskatchewan.

BIO-SCIENCES RESEARCH



Dr. Francisco Cayabyab obtained his PhD degree in Physiology at the University of Toronto, where he studied the biochemical and biophysical properties of HERG potassium channels.

He previously trained as a postdoctoral fellow in the Cardiovascular Ion Channel Physiology Lab (Simon Fraser University, Canada) and in the Brain Research Center (University of British Columbia, Vancouver, BC).

His main areas of research work are in neurobiology of adenosinergic signaling in neurodegenerative diseases and breast cancer biology. Past and current funding sources include CFI, HSFC, SHRF, and CBCF-P/NWT.

Excitotoxic Potential of Adenosine Signaling in the Brain: Novel Targets for Neuroprotection?

For decades, it has been suggested that the excitatory nerve transmitter glutamate mediates most of the nerve excitotoxicity after stroke, but antagonists of glutamate receptors have been unsuccessful as neuroprotective agents in clinical trials. The neuromodulator adenosine is also known to be elevated after stroke, and recent studies from our lab suggest that prolonged stimulation of adenosine receptors may alter the composition of specific glutamate receptors.

Specifically, we found that in our hypoxia/reperfusion injury model as well as in our in vivo stroke model, the adenosine A1 receptors induce changes in the composition of AMPA receptors (a class of glutamate receptors) that make them more calcium permeable. Further studies are underway to test whether this contributes to the cellular basis of increased neurodegeneration in vulnerable brain regions, including the memory-forming center called the hippocampus. We also recently determined that hippocampal long term potentiation, a cellular substrate of learning and memory, shows significant attenuation in animals with mild cortical stroke compared to sham-operated control animals. We have also identified several intracellular signaling pathways downstream of adenosine A1 receptor signaling that could provide the basis for the development of novel stroke therapeutic drugs. Our on-going work may provide an explanation for the decades old mystery of delayed neuronal cell death that occurs days or weeks following the initial stroke injury.

Action of Estrogen on HERG Potassium Channels in Human Breast Cancers

Breast cancer remains a complex disease process and its incidence is increasing worldwide. Human breast cancer cells can arise when molecular switches in breast tissue become hyperactive, resulting in uncontrolled proliferation. In some cases, hormone replacement therapy has been associated with increased incidence of human breast cancers. The hormone estrogen is a major factor in regulating cell division and proliferation, and promotes gene expression by activating intracellular messengers or switches, including STATs (signal transducer and activator of transcription). Also in recent years, emerging evidence suggest the potassium ion channel called HERG is over-expressed in many types of cancer cells. The current study, funded by the Canadian Breast Cancer Foundation – Prairies/NWT Region, is contributing further insight into how estrogen triggers HERG expression and cancer cell growth. The ultimate goal is to identify new anti-cancer drug targets that inhibit breast tumors.

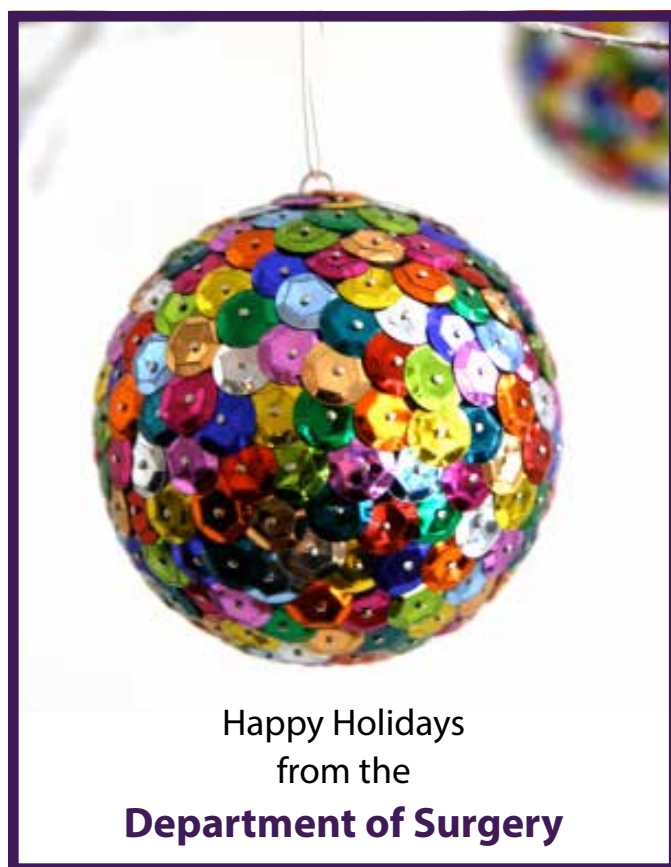
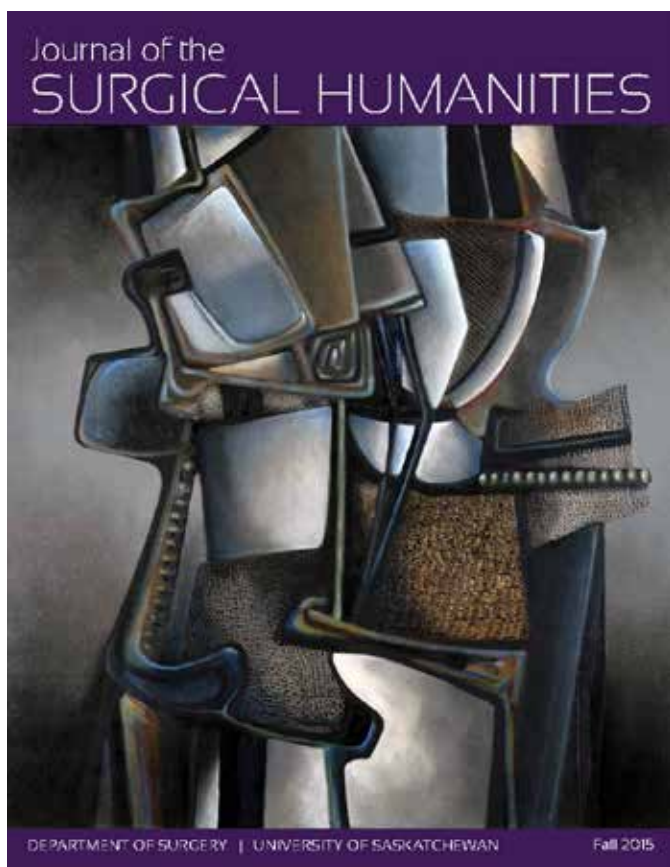
RESEARCH STAFF



Karen Mosier has a BA in Psychology and a MSc in Pharmacy. She has nine years' experience in research administration. She worked as a Research Facilitator in the Western College of Veterinary Medicine for 5 years and as a Research Coordinator in the Department of Psychiatry, College of Medicine for 4 years.

Karen was hired as a Research Coordinator by the Department of Surgery on December 1, 2015. Her position was created to provide mentorship and research support for faculty and residents and to promote a dynamic research culture within the department. Her primary duties include finding funding

opportunities for research projects, reviewing grant applications and budgets, providing guidance through the grant writing process, and educating and teaching on CCV development and ethic application submissions. She will also act as a liaison for the Department of Surgery with the Office of the Vice-Dean Research, College of Medicine and Research Services to promote excellence in research and ensure timely processing of research applications. Karen will also work with the Research Committee and coordinate the Department of Surgery Research meetings and the annual Research Day.



COMING SOON ...

NEW ISSUE OF THE JOURNAL OF THE SURGICAL HUMANITIES