



UNIVERSITY
OF ALBERTA



Assiniboia Hall
Assiniboia Hall

2022-23 ANNUAL REPORT

DEPARTMENT OF ANESTHESIOLOGY
AND PAIN MEDICINE

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MESSAGE FROM THE CHAIR AND ZONE DEPARTMENT HEAD

We are pleased to present our 2022-2023 annual report for the University of Alberta Department of Anesthesiology and Pain Medicine. This is our opportunity to highlight our department members and their achievements over the past year. We hope that you enjoy reading this report as much as we have enjoyed writing it.

Our department consists of 7 full time continuing faculty, 2 special continuing faculty and over 200 clinical faculty based at 11 hospitals, including 4 major teaching hospitals, in the Edmonton area. We are committed to excellence in clinical care, exemplary postgraduate education in anesthesiology, perioperative and pain medicine and the discovery and dissemination of new knowledge in both basic science and clinical/ translational research.

As you will read in the coming pages, we've had another exceptional year, marked by achievements in clinical excellence, research, and education. We extend our sincere appreciation to all members of our department for their hard work, dedication, and commitment. As we look to the future, we are confident that we will continue to thrive and contribute in a meaningful way to the development of anesthesia both locally and further afield.



Dr. Derek Dillane
Associate Professor and Chair



Dr. Dominic Cave
Clinical Professor
Zone Department Head



TERRITORIAL ACKNOWLEDGEMENT



THE DEPARTMENT OF ANESTHESIOLOGY AND PAIN MEDICINE AND THE UNIVERSITY OF ALBERTA RESPECTFULLY ACKNOWLEDGES THAT WE ARE LOCATED ON TREATY 6 TERRITORY, A TRADITIONAL GATHERING PLACE FOR DIVERSE INDIGENOUS PEOPLES INCLUDING THE CREE, BLACKFOOT, MÉTIS, NAKOTA SIOUX, IROQUOIS, DENE, OJIBWAY/ SAULTEAUX/ANISHINAABE, INUIT, AND MANY OTHERS WHOSE HISTORIES, LANGUAGES, AND CULTURES CONTINUE TO INFLUENCE OUR VIBRANT COMMUNITY.

VISION, MISSION, & VALUES

VISION

A Department of Anesthesiology and Pain Medicine recognized for people who embrace exceptional patient care and innovative education and research.

MISSION

To provide the best quality patient care, education and research through teamwork, safe practices and innovation.

VALUES

Transparency - The availability of information is free and open while simultaneously remaining respectful of privacy requirements and confidentiality agreements. We believe this to be the foundation of the way we work with each other, our colleagues and patients.

Accountability - We own our actions and outcomes. We believe in measuring and reporting our results.

Respect - We value others, their differences, their contributions, their inherent worth as individuals. We believe in the autonomy and dignity of individuals, the mutuality of our relationships and the principle of inclusiveness.

Professionalism - We fulfill our duty to the public, give back to the profession, act with integrity, fulfill our obligations to one another and deliver safe care. We believe in the principle "First do no harm".

Learning - We are lifelong learners. We believe in creating a nurturing, learning environment that challenges and mentors individuals to reach their full potential.

Innovation - We are open to trying and evaluating better ways of doing things and to a culture of curiosity and discovery.

Workplace satisfaction - We are a workplace that values its people, is responsive to their lifestyle needs and engages their hearts and minds. We believe in valuing the worker as much as the work.

Wellness - We are committed not only to the wellness of our patients, but to ourselves, each other and our families. 'Balance' is fundamental to this value.

DEPARTMENT HISTORY

The History of Anesthesiology and Pain Medicine at the University of Alberta

The history of anesthesia at the University of Alberta is as old as the institution itself. In 1922 the Strathcona hospital became fully affiliated with the University of Alberta and was renamed the University Hospital. At that time there were no formal training programs in anesthesia and anesthesia was administered by general practitioners.

In 1936 Dr. Ernie Watts was appointed Director of Anesthesia at the University of Alberta Hospital. Prior to retirement he established a training program in Anesthesia in 1948. This training program was accredited by the Royal College.

All members of the department elect to become independent, fee-for-service providers except the Head of the Department, who remained a hospital employee.

Dr. William B MacDonald is appointed Chair of the department.

Dr. Barry Finegan began the first of two 5-year terms as Chair of the department.

Dr. Saifee Rashiq, a product of the residency program becomes the first locally trained Chair since Dr. Moonie in 1975.

Dr. Derek Dillane is named Chair of the department. Dr. Dominic Cave is named Zone Clinical Lead.

1955

Anesthesia becomes an independent department with a staff of six full time hospital employed anesthetists. Dr. Ted Gain is appointed Clinical Professor and Head of the university Department.

1957

1975

Dr. George T Moonie is appointed Chair of the department as a university employee.

1984

1989

Dr. Brendan Finucane is appointed Professor and Chair of the department. Under his leadership the department mandate expands, leading to the Department of Anesthesiology *and Pain Medicine*.

1999

2010

Dr. Michael Murphy appointed Chair and Zone Clinical Lead of the department.

2016

2018

Dr. Andrew Shaw becomes department Chair and also assumes the position of Zone Clinical Lead.

2022

Thank you to Dr. Brendan Finucane, Professor Emeritus, for his contribution to this section.

CLINICAL LEADERSHIP

LIVER TRANSPLANT GROUP

Our group of 6 transplant anesthetists delivered anesthetics for 111 transplants in 2022, 5 of which were multivisceral transplants and several living related donors making the University of Alberta hospital one of the busiest transplant centers in Canada. We have an outstanding group of anesthetists, from a varied background, providing a wide breadth of practice and skills.

Transesophageal echo is available, and several team members are advanced TEE certified. Anesthesia is involved in the selection and approval of each transplant candidate and routinely attend transplant rounds.

Each transplant presents its own unique complexities, and the average MELD of our recipients is increasing. Managing massive hemodynamic and coagulopathic derangement is a part of our everyday practice. Additionally, approximately 20% of our recipients undergo transplantation on continuous renal replacement therapy, adding further complexity. Advanced life support equipment such as ECMO is available at our center, as well as ROTEM for real time assessment of coagulation.

Dr. Justin Byers

Assistant Clinical Professor

Division lead for Liver Transplant Anesthesia

Department Fellowship Director of Liver Transplant



MULTIDISCIPLINARY PAIN CLINIC

The Pain Team, which is located at the Kaye Edmonton Clinic, continues to provide multidisciplinary pain services for patients with complex pain problems. Most are referred by other Pain clinics in the city. Staffed by five Physicians, the clinic offers services in nursing, clinical psychology, physiotherapy and yoga. After pandemic restrictions were lifted, new patients visits and follow up numbers are getting back to pre-pandemic levels. Virtual follow up clinics are still popular, with those from small cities and rural communities finding this method of delivering clinical services convenient and cost effective.

Our in-patient (on call) chronic pain service is available only at University of Alberta Hospital. This has always been popular with other medical disciplines. Collaboration with Addiction Services and Acute Pain colleagues is currently being mapped out with the possibility of introducing the Addiction Recovery and Community Health (ARCH) program in the near future.

The Clinical Psychology Team has been providing a growing range of Pain Management courses, from Pain 101– Pain 701. Dr. Mark Simmonds, (a Certified Teacher in this area), provides a course on mindfulness and self-compassion. His courses have been well received by a large number our patients. Our yoga program continues to be popular and is often well attended.

Our team is continually engaged in education of residents from Anesthesiology, Addiction Medicine, Psychiatry and Clinical Psychology. Some team members continue to be actively involved in research initiatives locally, nationally and internationally.

Dr. Jabulani Moyo

Director, Multidisciplinary Pain Clinic
Kay Edmonton Clinic



NEUROANESTHESIA GROUP

The Department of Anesthesiology and Pain Medicine at the University of Alberta Hospital currently has a dedicated team of 15 anesthesiologists who deliver elective and emergency neuroanesthesia services.



We continue to provide care for a broad range of neurosurgical procedures. In 2022, a total of 474 craniotomies were undertaken. Of these, 312 were elective, 117 emergent and 45 STAT. The majority of craniotomy cases were for tumour resection; with 154 elective tumour resections and 29 emergent cases. Clipping of aneurysms and arteriovenous malformations were the next most prevalent group involving a craniotomy, with 19 elective and 8 emergent clippings. The remainder of craniotomies were undertaken for microvascular decompression and epilepsy procedures. Brain biopsies, burr holes for hematoma, and extracranial shunt procedures continue to contribute a significant work load with 52, 141 and 116 procedures being undertaken respectively.

On average one carotid endarterectomy was carried out per week. During 2022, insertion of deep brain stimulators with awake craniotomy regained momentum following a hiatus during the pandemic. We are currently inserting one per month with the aim to increase this further. A number of rhizotomy and pituitary surgeries continue to be performed. Spine surgery continues to contribute substantially to the workload with 166 such procedures being performed by neurosurgeons over the last year.

We are fortunate to continue to have the use of our dedicated MRI operating suite with a state-of-the-art 3T MRI to enable us to undertake complex imaging in the operating room setting. Furthermore, as a collective group our anesthetic department continues to deliver anesthesia in the biplanar angiography suite where a number of complex vascular procedures, including the coiling of aneurysms and arteriovenous malformations, in addition to endovascular thrombectomies for ischemic stroke patients, are performed. Criteria for endovascular thrombectomy has widened, leading to an increase in these cases.

The resident neuroanesthesia rotation continues to receive positive feedback from our residents which is a reflection of the invaluable mentorship and teaching they receive from our group. As Neuroanesthesia Fellowship Program Director, Dr. Hajat continues to actively recruit for the neuroanesthesia fellowship, for which we are seeking accreditation from the International Council on Perioperative Neuroscience.

NEUROANESTHESIA GROUP

Last year we welcomed Dr. Lu Qiao to our group. After completing his anesthesia residency training at the University of Alberta in July 2021, he undertook a fellowship in Anesthesia Simulation and Medical Education at the University of Toronto. During his fellowship, he spent a considerable amount of his clinical time anesthetizing for a range of elective and emergent neurosurgical cases. On his return to Edmonton, in addition to clinical work, he took up the post of Simulation Director.

We have also recently welcomed Dr. Michael Ma to the group. He completed his anesthesia training in Ireland in 2019. He then went on to complete fellowships in Advanced Airway Management and Obstetric Anesthesia before embarking on a Regional Anesthesia Fellowship at the University of Alberta. We look forward to the expertise that Drs Qiao and Ma bring. We are continually reassessing our staffing needs to ensure we provide the necessary elective and emergency coverage.

Dr. Susan Halliday

Assistant Clinical Professor

Division Lead for Neuroanesthesia

Department Fellowship Director of Neuroanesthesia



PEDIATRIC ANESTHESIA GROUP



The Division of Pediatric Anesthesiology at the Stollery Children's Hospital is comprised of 18 staff members, two Fellows and a core of pediatric centric anesthesia technicians. Together, they oversee anesthesia services for all pediatric surgical specialty groups in the Edmonton Zone including congenital cardiac and transplant programs which have an inter-provincial catchment.

As well, they serve a robust and growing demand in pediatric sedation service in areas outside the operating room including cardiac catheterization laboratory, electrophysiology studies laboratory, interventional radiology, MRI (cardiac, intra-operative and general), computed tomography and nuclear medicine suites and diagnostic and interventional endoscopy.

We have a highly rated training program for Fellows, residents, allied health professionals and students.

Work continues with our Operating Room Leads to balance scheduled and unscheduled surgery with the hope of developing a dedicated 24.7 staffed and funded urgent/emergent surgical room thus avoiding the cost, inconvenience and inefficiency of postponing elective surgery for urgent/emergent surgeries. The development of a 24.7 staffed short stay surgical unit (SSSU) will be a boost for patient throughput and is due to come online in December of 2023 after a very successful trial period last year.

Staff member recruitment is looking positive with the anticipation of three new hires in 2024 and two more in 2025. Two long serving members of our Division will be retiring at the end of 2023-2024 - Dr. Cathy Tang and Dr. Robert Seal, respectively. Their contributions over decades of exemplary clinical, teaching and leadership service are massive and we wish them both a happy retirement, days filled with enjoyment and a well-deserved rest from clinical duties.

Dr. John Koller

Associate Clinical Professor
Zone Clinical Head of Pediatric Anesthesiology
Stollery Children's Hospital



REGIONAL ANESTHESIA & ACUTE PAIN MEDICINE GROUP

Our regional anesthesia and acute pain medicine service is very busy, serving the University of Alberta hospital which is a tertiary center. Our team consists of 9 fellowship trained staff anesthesiologists with subspecialty interests, anesthetic technicians, as well as 3 acute pain nurses. There are also regular junior and senior anesthesia residents rotating through our service, as well as fellows from within Canada and internationally.

Our regional anesthesia service provides nerve blocks peri-operatively for patients undergoing peripheral limb, general and trauma surgeries. We have a well-equipped 3 bed block room staffed by an anesthesiologist and an anesthesia technician where we perform our regional nerve blocks.

The Acute Pain Service follows-up patients in the postoperative period for pain management. Our service also collaborates closely with the chronic pain team as we continue to provide care for our more clinically challenging acute on chronic pain patients.

Dr. Vivian Ip

Clinical Professor

Department Fellowship Director of Regional Anesthesia and Acute Pain Medicine



CLINICAL UNITS

Cross Cancer Institute

The Cross Cancer Hospital runs one operating room daily and has committed to 1200 surgeries per year. From January to November, we completed 1108 surgeries and are well on track to reach our commitment. Compared to 2019 (pre-COVID), we have increased our surgical output by nearly 200% and for breast cancer even by 300%. While all of our patients are day surgical, the majority of surgeries are breast cancer related. The scope consists of Level 1 and 2 oncoplastic breast cancer surgery, with or without lymph node involvement. Other types of surgeries performed at the Cross Cancer are brachytherapy of the cervix, the prostate, and the eye, as well as anal laser, minor gynecological procedures, and thyroid and parathyroid surgery.

The administration of anesthesia has almost entirely shifted towards Monitored Anesthesia Care (MAC) and avoiding airway manipulation. This has led to greatly increased patient satisfaction, efficiency, and reduced resource utilization.

The outlook for 2024 is to finalize plans for the building of a second operating room and the creation of an anesthesia care team model to provide the same high level of service without the need for additional anesthesia people power.

Dr. Timur Ozelsel

Clinical Professor

Clinical Site Lead, Cross Cancer Institute



Grey Nuns Community Hospital

At the Grey Nuns Community Hospital (GNCH), the Department of Anesthesia has been diligently serving the community with a commitment to excellence. In the past year, from July 1, 2022, to June 30, 2023, the institution has seen notable changes in its staff. We successfully welcomed two new permanent hires into the team. Additionally, three locums were hired to support various medical needs and maintain quality patient care.

We would like to take this opportunity to acknowledge Dr. Sue Reid for her outstanding contributions to the GNCH. She retired this academic year after years of dedicated service to the institution. Her long-standing passion for Women's Health will not be forgotten, and we extend our heartfelt appreciation for her commitment and dedication throughout her tenure. Dr. Reid's retirement marks a milestone, and we wish her all the best in this new chapter of her life.

The GNCH is fortunate to have a team of 20 dedicated anesthesiologists with a total Full-Time Equivalent (FTE) of 15.45. Our department boasts individuals with a diverse set of subspecialty skills including Pre and Post Graduate Medical Education, Medical Simulation, Intensive Care, Chronic Pain Management, Transesophageal Echocardiography, Addictions Medicine, and Zone Quality Improvement. These highly skilled and experienced team members play a pivotal role in ensuring the highest quality of care for patients.

The surgical specialties at the GNCH include vascular surgery (Northern Alberta Vascular Centre), general surgery, gynecology, obstetrics, otolaryngology (ENT - Ear, Nose, and Throat), orthopedics, plastics, and operative dental care for complex patients. Out-of-Operating-Room Services include deep procedural sedation for complex/challenging endoscopy, ERCP, and bronchoscopy, electroconvulsive therapy, support for ICU and ED colleagues with emergent or difficult airway, preadmission clinic and perioperative consults.

The GNCH conducts a significant number of surgical and obstetrical cases, including both elective and emergency procedures. The surgical and obstetrical activity data illustrates the department's dedication to providing elective and emergency surgical care and ensuring safe deliveries for expecting mothers within the community. The hospital continues to adapt and maintain its commitment to patient care and safety.

Academic Year	Electives Cases	Emergency Cases	Obstetrical Activity: C-Sections	Obstetrical Activity: Vaginal Deliveries
2022/2023	6,719	1,560	2,203	3,384
2021/2022	5,996	1,613		
2018/2019	7,545	1,684		

*Chart does not include the first two academic years of the Covid-19 pandemic.



The GNCH and the Department of Anesthesia is actively engaged in various initiatives aimed at enhancing the quality and safety of patient care. These initiatives reflect the commitment to continuous improvement and the well-being of its patients:

- **National Surgical Quality Initiative Program (NSQIP):** The hospital is actively involved in the National Surgical Quality Initiative Program (NSQIP), a national program focused on improving surgical care quality, patient outcomes, and safety. Through participation in NSQIP, the Department of Anesthesia works to continuously enhance its surgical practices and patient care.
- **Vascular Surgery Initiative (VQI)** The hospital is also part of the Vascular Surgery Initiative (VQI), which emphasizes quality improvement in vascular surgery procedures.
- **Development of New Bi-Site Surgery Quality Council:** In collaboration with the Misericordia Hospital, the Grey Nuns Community Hospital is a part of the newly formed Bi-Site Surgery Quality Council. This council includes representation from both hospitals, fostering a collaborative approach to enhancing healthcare quality. The aim is to collectively improve patient care and safety through shared expertise and best practices.
- **Anesthesia Care Team –** Extensive work has been completed in collaboration with Dr. Warren Luksun (Anesthesia Lead, Anesthesia Care Teams, Edmonton Zone) to develop and begin training of RT3s for an Anesthesia Care Team model at the GNCH.

Other initiatives include surgical site infection reduction, urinary tract infection reduction, optimal perioperative antibiotic prophylaxis timing, perioperative glycemic control, and breast feeding in the perioperative period.

These initiatives underscore our commitment to excellence in healthcare, continuous improvement, and the provision of high-quality, safe care to the community and its patients.

Dr. Raveen Bhalla MD FRCPC
Associate Clinical Professor
Site Lead, Grey Nuns Hospital

Leduc Community Hospital

Leduc Community Hospital (LCH), department of anesthesia provides services to 3 operating rooms, 1 postoperative anesthesia care unit, 1 preadmission care clinic and 1 endoscopy suite. Services are provided through one staff general practitioner anesthesiologist at an FTE 0.75 and the remaining services are shared among the University of Alberta Hospital anesthesiologist group. During this period, the LCH anesthesia department has hired one more general practitioner anesthesiologist on a locum and availability basis.

LCH provides services to seven surgical specialties; general surgery, neurosurgery, orthopedics, plastics, ENT, urology and recently, vascular surgery. These specialties run in the 3 operating rooms from Mondays to Fridays. In 2022, LCH performed 2,659 surgical procedures. The endoscopy suite performs gastroenterological procedures on Mondays and Wednesdays provided by a gastroenterologist and a general surgeon. The preadmission clinic has two weekly sessions, Tuesdays, and Fridays. LCH does not perform any emergency cases and all surgical cases are ambulatory in nature.

The LCH anesthesia department is striving to update its anesthesia equipment with the introduction of 7 Target Controlled Infusion pumps – 2 in each operating room and 1 in the endoscopy suite. The anesthesia drug tray will be updated and streamlined within the coming year with new, appropriate medications. The plan is also to run biannual anesthesia emergencies drills with the operating room nurses. In addition, the preadmission clinic policy and guidelines are undergoing an update.

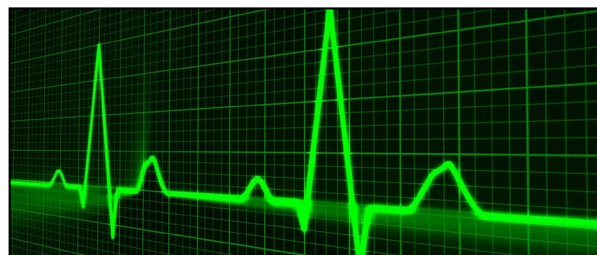
Dr. Mahmood Zaki

Assistant Clinical Professor
Site Lead, Leduc Community Hospital



Mazankowski Alberta Heart Institute

The Mazankowski Alberta Heart Institute remains a leader in care provision for patients with cardiac disease in Canada. As anesthesiologists, we are very privileged to work at this centre and engage in perioperative care for patients with complex medical problems.



This year, like most other hospitals in post-pandemic Canada, we were faced with a marked increase in patients presenting with acute illnesses requiring urgent surgery. Case complexity was significantly higher and the demand for intensive care beds was a constant source of stress for our leaders. All teams rallied to meet this demand in the context of a significant manpower shortage across all disciplines.

In all, we completed approximately 1500 cardiac cases. Our transplantation numbers rose, as did the requirement for mechanical circulatory support. In addition, waitlists for electrophysiology studies in the cardiac catheterization labs and for transcatheter aortic valve replacements rose. To meet this demand, the anesthetic group grew by two. Continued expansion in all areas of care means that we will need to grow further in the coming years to meet an ever-growing need for anesthesia services in both the operating rooms and the cath labs.

Non-clinical work continued to grow during the year. Drs Lam, Neufeld, Pittman and Sidhu are all currently leading academic projects in our centre. Their studies are assessing the use of whole blood in complex cardiac surgical cases, the use of regional anesthesia in TAVR procedures, and the use of transesophageal echocardiography to predict the need for right ventricular assist devices in patients presenting for durable left ventricular device insertion. Journal publications (listed below) are just reward for their hard work in the context of such high clinical demand. Dr Lam received a teacher-of-the year award for 2023.

Dr. Sidhu continued her hard work in building a POCUS program for residents in Edmonton. Drs Lam, Van Rensburg and Varughese have continued their work in improving our Enhanced Recovery after Cardiac Surgery program. Dr. Sidhu has, in addition, taught on the Canadian Resuscitative Ultrasound Course, the Canadian Resuscitative TEE Course and the Critical Accountability Course. She is a member of the Cardiovascular Research Institute Education and Training Committee, the POCUS Working Group Committee, and the Kaplan Leadership Grant Review Sub-Committee for the Society of Cardiovascular Anesthesiologists.

Dr. Lam has conducted several quality initiatives in this area to ensure that we continue to meet the highest possible standards in perioperative care. Dr. Achen has continued his leading role in building and establishing the Western Canadian Cardiac Anesthesiologists Society annual meeting. This meeting is now a feature event in the western half of this country.

We have participated in interdisciplinary round presentations with our colleagues in the intensive care and in cardiology. Dr. Lam continued her work as a coordinator in our participation in multi-centre national and international trials (the BFREE, NEWTONCABG and



TRICSIV studies). We continue to provide training for two fellows each year, and Dr. Berube is working hard to ensure we provide high-quality education in both anesthesia and transeosophageal echocardiography.

We are very grateful to all for their hard work in raising the profile of the department.

Publications:

O'Brien, D, EL-Andari, R, Alomran, M, McLachlan, ME, Lam, W, Al-Aklabi, M, MacArthur, RGG. Left ventricular fibroma presenting as esophageal spasm: a case report. *J Card Surg*. 2022; 37: 3421-3425. doi:10.1111/jocs.16754

Nguyen, Q., Manikala, V., Vautour, D., Lam, W., MacArthur, R., Neufeld, A. Redo heart transplant without allogeneic blood transfusion. *Indian J Thorac Cardiovasc Surg* 39, 57–59 (2023). <https://doi.org/10.1007/s12055-022-01412-4>

Defoe, M., Lam, W., Becher, H., Lydell, C., Hong, Y., Sidhu, S. Right ventricular ejection fraction derived from intraoperative three-dimensional transeosophageal echocardiography versus cardiac magnetic resonance imaging. *Can J Anesth/J Can Anesth* 70, 1576–1586 (2023). <https://doi.org/10.1007/s12630-023-02569-1>

El-Andari, R, Duan, Q, Neufeld, A, Nagendran, J. Anomalous left anterior descending coronary artery arising from the right coronary artery: a case report. *Future Cardiology* 2023; 19(1): 45-49.

Dr. Anthony George

Assistant Clinical Professor

Site Lead, Mazankowski Heart Institute

Misericordia Community Hospital

At the Misericordia Community Hospital (MCH), the Department of Anesthesia has been diligently serving the community with a commitment to excellence. In the past year, from July 1, 2022, to June 30, 2023, the institution has seen notable changes in its staff. We welcomed two new hires to the team. Dr. Brian Knight moved on to casual and Dr. Keith Drader moved to locum status. We are fortunate to have a team of 23 dedicated anaesthetists of various full-time equivalents (FTE).

Surgical specialties performed at the MCH include urology, orthopedics, general surgery, gynecology, plastics oral maxillofacial surgery and ear surgery through IRSM. Out-of-Operating-Room Services include:

- Sedation for complex/ challenging endoscopy and ERCP;
- supporting our colleagues in ICU and the ED with emergent or difficult airway management;
- Sedation and anesthesia for MRI;
- Blood patches for headache due chronic dural leaks not related to epidural or spinal anesthesia, as well as headaches due to post-dural puncture;
- Sedation for neuromodulation (ECT);
- Peri-operative consults;
- Backup to our anesthesia colleagues on labour and delivery;
- Addiction medicine assessment and consultation;
- Regional anesthesia for management of complex pain syndromes;
- Supervising ketamine infusions for surgical patients with complex pain needs;
- Point of care U/S guided nerve blocks for hip fracture patients in the ED awaiting definitive care.

The Misericordia Community Hospital conducts a significant number of surgical and obstetrical cases, including both elective and emergency procedures.

Academic Year	Elective Cases	Emergency Cases	Obstetrical Activity: C-Section	Obstetrical Activity: Vaginal Deliveries
2022/2023		1,560	757	1,589
2021/2022	7,419	3,228		
2018/2019	10,203	3,374		

*Chart does not include the first two academic years of the Covid-19 pandemic.

Dr. William Flexer

Assistant Clinical Professor
 Site Lead, Misericordia Hospital
 Department Program Director,
 Family Practice Anesthesia Residency Program



Royal Alexandra Hospital

In the period of July 2022- June 2023 we gained 4 staff (total 2.5 FTE) and had 1 retirement (Dr. Oliver Schneider). Dr. Carolyn Hui left the department to move to British Columbia in July 2022, she played a major role in medical education and was a key member of our leadership team as Deputy Chief to the Department of Anesthesia at the Royal Alexandra Hospital. As of June 2023, our group consisted of 56 members with a total FTE of 35.75.

Our site consists of 32 operating theatres spread throughout the hospital in 4 key areas: the Diagnostic Treatment Centre (DTC) has 13 ORs, the Active Treatment Centre (ATC) has 8 ORs, the Orthopedic Surgery Centre (OSC) has 4 ORs and the Women's Hospital has 5 ORs with an additional 2 theatres for Obstetrics. We have a range of surgical specialties at our site including Urology, General Surgery, Thoracic Surgery, Orthopedic Surgery, Plastic Surgery, Neurosurgery (limited to spine surgery), Ophthalmology, Otolaryngology, Maxillofacial Surgery, Obstetrics and Gynecology. Our general surgery group specializes in Bariatrics and minimally invasive surgery, Trauma and Oncology. We provide out of OR services to Endoscopy (GI and Bronchoscopy/EBUS), Pacemakers, Diagnostic Imaging, Preadmission clinic, Neuromodulation (ECT), and we run a full Acute Pain Service with nursing support Monday to Friday.

In 2023 we performed 24,821 elective surgeries (DTC 6,182, ATC 11,641, OSC 3,324, Women's 3,674) and 6,518 emergency surgeries (DTC 4,793, ATC 1,539, OSC 7, Women's 179). In Obstetrics, we had a total of 6,502 deliveries with 2,589 of these deliveries being done by Caesarean section.

We have had amazing success with our Acute Pain Service, specifically showing significant reductions in hospital length of stay in our Trauma patient population. We implemented an Anesthesia Care Team model in Ophthalmology specifically for surgeries requiring topical anesthesia and are currently working on training Respiratory Therapists in elective orthopedic surgery to expand this program.

Dr. Alan Cheng

Assistant Clinical Professor
Site Lead, Royal Alexandra Hospital

Dr. Christine Fedorow

Assistant Clinical Professor
Site Lead, Royal Alexandra Hospital



Sturgeon Community Hospital

At the Sturgeon Community Hospital (SCH), the Department of Anesthesia has been diligently serving the community with a commitment to excellence. We are fortunate to have a team of 19 dedicated anesthesiologists of various full-time Equivalents (FTE) and 4-5 Locums. The surgical specialties we perform include: obstetrics, orthopedics, general surgery, plastics, gynecology, and endoscopy. Our Out-of-Operating-Room Services include Labour Delivery Recovery and Postpartum (LDRP), cardioversion, PAC, endoscopy, ward consults/IVs, and APS consults on the ward.

The Sturgeon Community Hospital successfully welcomed two new staff hires and Family Practice Anesthesia welcomed three new hires to the team. This past year Dr. Chuck Stryveen retired after contributing years of collegiality and commitment. We would like to take this opportunity to acknowledge Dr. Stryveen for his outstanding contributions.

Year	Cases	Emergency Cases	Obstetrical Activity: C-Section	Obstetrical Activity: Vaginal Deliveries
2023 (to date)	4,033	1,570	843	1,772
2022	5,299	2,132	796	2,554
2021	4,876	2,103	741	2,622

We are committed to a number of initiatives. We are leading the implementation of Respiratory Therapy Assistant (RTAs) in the zone. The primary goal is to offload our staff to decrease the number of callbacks, increase the number of cases by having one anesthesiologist providing regional blocks and directing those patients to one or two RTA monitored ORs. RTA coverage is provided for both endo suites freeing up one anesthesiologist to go to another site.

In addition, we are moving towards splitting 24-hour calls into two shifts of ten and 14-hours. This will allow us to increase the OR coverage from 7 p.m. to 11 p.m. Those measures should decrease the workload, increasing staff satisfaction and patient care and safety, mostly LDRP patients.

Three TEE certificated anesthesiologists are involved in a new project at the SCH that aims to perform elective and emergent exams alongside the cardiology team. Lastly, Dr. Lima has taken over the anesthesia Q&I role.

Dr. Ricardo Bittencourt
Assistant Clinical Professor
Interim Site Lead, Sturgeon Community Hospital



University of Alberta Hospital



Once again over the past year at the University of Alberta Hospital our department has been at the forefront of delivering exceptional clinical care in our unique academic environment. I am delighted to acknowledge the relentless dedication and commitment exhibited by both our longstanding and newly joined colleagues. The collaborative efforts of our diverse team have resulted in a blend of experience and fresh perspectives, creating a dynamic environment that propels us towards excellence.

Attending anesthesiologists provide weekday coverage for the 16 adult operating rooms and the surgical MRI suite. Surgical specialties include orthopedic, trauma, general surgery, hepatobiliary surgery, transplant, neurosurgery, spine, plastic and reconstructive, burns, urology, and ENT surgery. Anesthesia support is also provided outside the operating room for ECT, endoscopy, Diagnostic Imaging, MRI / CT and the Stroke Program. We also provide anesthesia staffing for a regional anesthesia block room, Acute Pain Service and a Pre-Admission Clinic.

In addition to our highly sought after residency program, we have an established fellowship program with positions for regional, neuroanesthesia, and liver transplant anesthesia. The past year has seen the start of an innovative Anesthesia Care Team program which we are confident will help address the current anesthesia workforce shortage which is being experienced across Canada. We are happy to welcome the first three members of this program to our team; Glenn Day, Deidre Scott and Jason Foerster.

One of our challenges this year has been the growing imbalance of unscheduled to scheduled surgical cases. We provided anesthesia for 5,653 (47.9%) scheduled cases and 6,159 (52.1%) unscheduled cases for a total of 11,812 surgeries. We have identified correction of this imbalance as a priority to address over the next 12 months in addition to recruiting anesthesiologists to join our dedicated and passionate colleagues.

Two members of our department retire at the end of this year, Dr Sobolev and Dr Escuder and we wish both many happy years of retirement.

Dr. James Green

Professor (Special Continuing)
Site Lead, University of Alberta Hospital

AWARDS & RECOGNITION

INTERNAL AWARDS



TEACHER OF THE YEAR

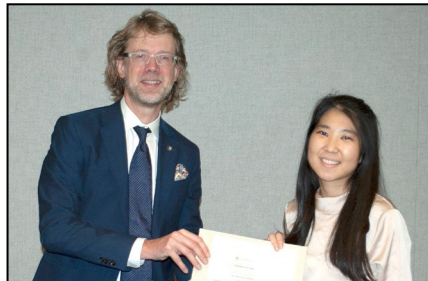
Dr. Wing Lam



DR. BRENDAN T FINUCANE RESIDENT ORAL RESEARCH AWARD

1st Place - Dr. Jaeun Yang

Comparison of Different Vasopressors
on Spinal Cord Blood Flow



POSTER RESEARCH AWARD

1st Place - Dr. Fulin Wang

Optimizing resuscitation of the donation after circulatory
death (DCD) heart by pharmacological postconditioning
in ex vivo perfused porcine hearts

DR. BARRY A FINEGAN FELLOW RESEARCH AWARD

1st Place - Dr. Elliott Pittman

Combined femoral and ilioinguinal/iliohypogastric
nerve blockade vs local infiltration for Transfemoral
Transcatheter Aortic Valve Implantation (TAVI)
procedures

ANNOUNCING TWO NEW DEPARTMENT AWARDS



OUTSTANDING ACHIEVEMENT FOR NEW EDUCATORS

Dr. Jaime Sim

EXCELLENCE IN MENTORING

Dr. Varun Suresh

AWARDS & RECOGNITION

EXTERNAL AWARDS

2023 CANADIAN ANESTHESIOLOGISTS' SOCIETY
AWARD FOR BEST NEUROANESTHESIA PAPER
AND BEST RESIDENT ORAL PRESENTATION

Dr. Jaeun Yang

Comparison of different vasopressors on spinal cord
blood flow.



2023 EDMONTON ZONE MEDICAL STAFF
ASSOCIATION

Dr. Timur Ozelsel

Physician Innovator of the Year

[Award Video](#)



Edmonton
Zone Medical
Staff Association



2023 DR. MASURU YUKAWA AWARD FOR INNOVATION IN WORKPLACE WELLNESS



Dr Masaru ('Mas') Yukawa (1977-2017) was Chief of Anesthesia at the Mazankowski Heart Institute. He was an outstanding clinician, teacher and mentor. He died by his own hand, following a long standing and very private battle with mental illness. By creating this award in his name, his family wishes to stimulate the study and remediation of physical, psychological, organizational and other factors that might cause or perpetuate mental illness in those who work in the Operating Rooms of the University of Alberta Hospitals, and, by extension, in other similar places.

[More information and to view the awards ceremony](#)

RECIPIENTS:

MR. ANDREW PINFOLD,
DR. ERIC YOSHIDA,
DR. ALISON HARRIS

TITLE:

ADDRESSING WELLNESS AND THE
WORKING-LEARNING ENVIRONMENT OF
PHYSICIANS/SURGEONS-IN-TRAINING AT
THE VANCOUVER GENERAL HOSPITAL

2023 DR. ROBERT JAMES KELLY GLOBAL HEALTH MEMORIAL AWARD



This Award memorializes Dr Robert ("Rob") Kelly, a member of this department who died tragically at an early age. His family and friends wish to acknowledge the dedication that Rob brought to his career, patients, students and co-workers by creating an annual award in his name that epitomizes what we all believe he represented: an opportunity to 'give back' by supporting the meaningful participation in a Global Health project.

RECIPIENT:

DR. BRIGITTA RILEY

TITLE:

CONTRIBUTING TO THE EDUCATION OF
ANESTHESIOLOGY RESIDENTS IN RWANDA
THROUGH CANADIAN ANESTHESIOLOGISTS'
SOCIETY INTERNATIONAL EDUCATION
FOUNDATION (CASIEF)

Contributing to the education of anesthesiology residents in Rwanda through Canadian Anesthesiologists' Society International Education Foundation (CASIEF)

The Anesthesiology and Pain Medicine program from the University of Alberta participated in global health education efforts in partnership with the Canadian Anesthesiologists Society International Education Foundation (CASIEF).

Dr. Michael Vargo, staff anesthesiologist from the Royal Alexandra Hospital, was joined by two residents, Drs. Brigitta Riley and Alan Chan, on a global health project in Rwanda. They were also joined by James Simon, program manager for continuous improvement at the University of Alberta.

CASIEF has been involved in the development of an anesthesiology curriculum since 2006 focusing on building capacity and creating a sustainable training program. For four weeks, Drs. Vargo, Riley and Chan provided education to Rwandan anesthesiology residents. They facilitated the junior and senior academic days providing valuable insight into the topics being covered. Based upon observations made during academic and clinical time, focused educational sessions were created to enhance specific knowledge and skills. This was in the form of didactic lectures, case discussion, simulation, and clinical teaching.

Mr. Simon organized a 3-week quality improvement workshop to provide the residents and health care leadership with the foundations of quality and problem-solving methodology using PDSA cycles and 8-step problem solving training. He also held leadership sessions on cascading and supporting change, and strategic performance.

Following their return to Edmonton, their efforts continue. The insights and lessons learned from the project in Rwanda were shared with the Edmonton anesthesiology group at Grand Rounds on November 24, 2023. Dr. Riley is working to create a global health elective curriculum for anesthesiology residents at the University of Alberta. Finally, Mr. Simon remains in contact with residents and leadership in Rwanda providing ongoing support to help them achieve their quality improvement goals and improve patient care.



2023 DR. JEAN HUGILL RESEARCH AWARD



Dr. Hugill was one of the first female specialist physicians on the West Coast after graduating from University of Alberta's Faculty of Medicine in 1946.

She was a pioneer in the development of obstetric anesthesia in Canada and was passionate about the provision of a "good birth" for mother and child. She became an expert on the anesthesia management of surgery for pheochromocytoma—surgery that continues to tax the skill of the anesthesiologist—and provided care for more patients with this condition than all her colleagues combined.

Dr Hugill founded the first Anesthesia department in Port Alberni's West Coast General Hospital, and later joined Vancouver General Hospital as a lead anesthesiologist until 1985.

Over the course of her lifetime, Dr Hugill donated over \$1.2 million to further pain management and anesthesia at the University of British Columbia and University of Alberta.

Pharmacokinetic profile of ropivacaine given as a universal dose infusion via transversus abdominis and rectus sheath block catheters for postoperative pain control

PI: Dr. James Green

Collaborators:

Alan Chan, Department of Anesthesiology and Pain Medicine, Resident
Dion Brocks, Professor, Faculty of Pharmacy and Pharmaceutical Sciences
Hamadah Al Nebaihi, Faculty of Pharmacy and Pharmaceutical Sciences

Life cycle assessment of different types of anesthetic: a randomized controlled trial

PI: Dr. Vivian Ip

Co-PI: Timur Ozelsel, Associate Clinical Professor, Department of Anesthesiology and Pain Medicine

Collaborator: Ben Keymer, Medical Student

Better Simulate, Than Never: A literature review and proof of concept design of a novel anesthesia machine simulator

PI: Dr. Lu Qiao

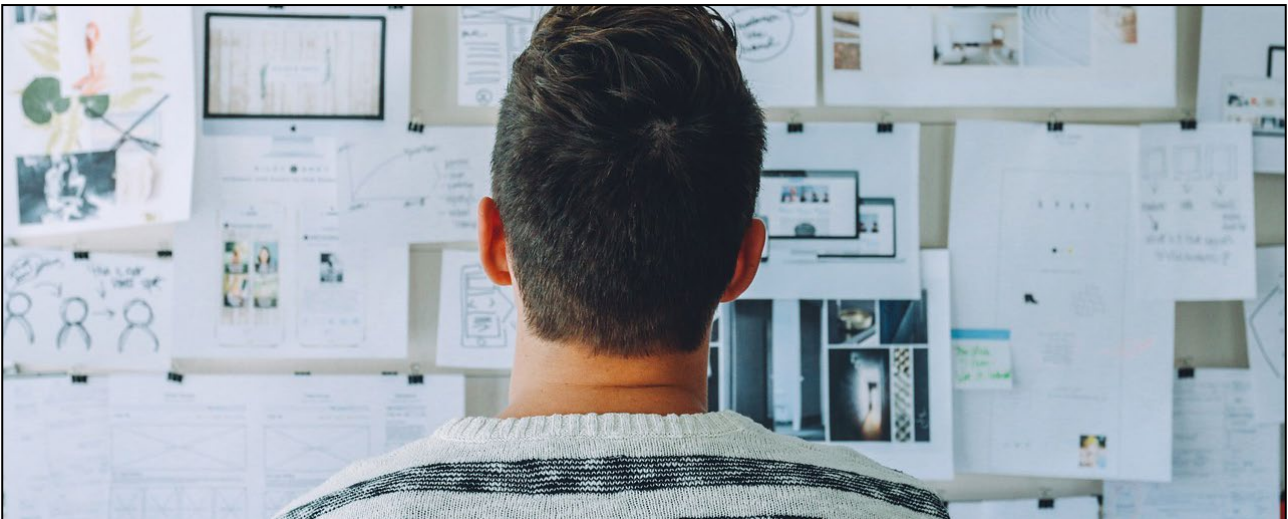
Collaborators:

Yishi Sun, Department of Anesthesiology and Pain Medicine, Resident
Andrew Reid, Simulation Consultant, eSIM Provincial Simulation Program, AHS
Jonathan Duff, Associate Professor Special Continuing PICU, Department of Pediatrics

RESEARCH

The Department of Anesthesiology and Pain Medicine at the University of Alberta is committed to the pursuit of academic excellence and knowledge generation to advance clinical care and practice. The department's portfolio of clinically oriented, patient driven research has continued to grow over the past year with the launch of the Hugill Research Awards program. These research grants are made available to department members and affiliated staff to facilitate the establishment of new research programs that address clinical research questions and challenges to patient care. These awards are supported by the Office of Research (Dima Al Montour, Maha Alsaif, Fadi Hammal, and Maliha Muneer) who aid in study design, statistical analysis and obtaining approvals for ethics and other required documentation.

The department is also home to three CIHR funded laboratories engaged in multidisciplinary discovery science (see research summaries from Zaugg, Bourque and Kerr labs). These facilities offer fellows and residents unique scientific opportunities to address research questions using state of the art and cutting-edge technology.



2022-2023 PUBLICATIONS

39 Total Publications - see page 58 for full list.

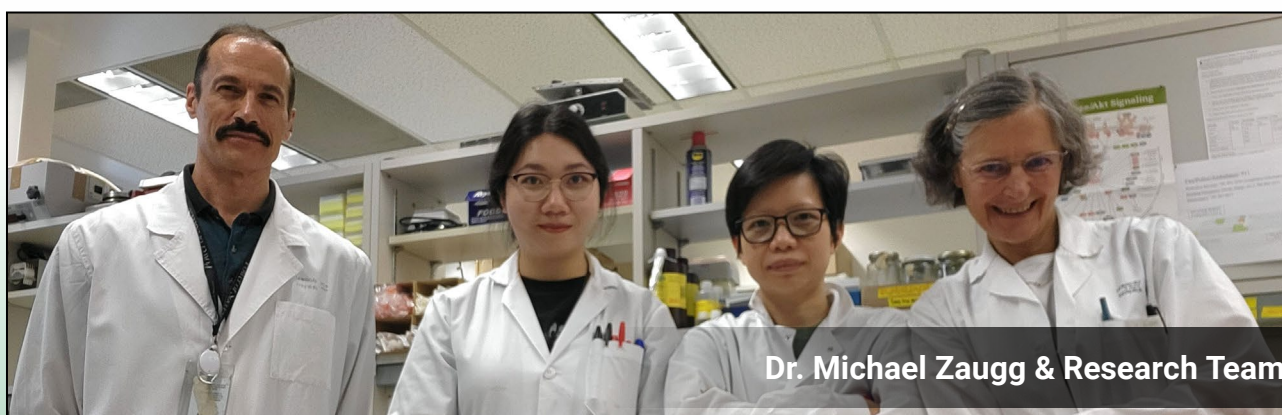
Featured Publication

Simmonds MK, Dick BD, Verrier MJ, Reid KL, Jamieson-Lega K, Balisky KJ, Davey AE, Freeman KM. The Effect of a Brief Physician-Delivered Neurobiologically Oriented, Cognitive Behavioural Therapy (Brief-CBT) Intervention on Chronic Pain Acceptance in Youth with Chronic Pain-A Randomized Controlled Trial. *Children (Basel)*. 2022 Aug 26;9(9):1293.
[doi: 10.3390/children9091293.](https://doi.org/10.3390/children9091293)



RESEARCH - UPDATE FROM THE LABS

Research in the Zaugg Lab seeks to understand the signaling networks involved in the stress response related to ischemia-reperfusion injury in mammalian cells and tissues, with the goal of translating this knowledge into potential therapies aiming at improving perioperative patient care and outcomes. In addition, we strive to understand the role of metabolic stress and of inflammatory pathways in conditions relevant to perioperative medicine such as major trauma (surgery), transplantation, cardiovascular, and thoracic surgery. Finally, we understand that the enhancement and optimization of nutritional support in surgical and critically ill patients is of great importance at a time of major stress with synthesis of key blood/tissue components and necessary for proper wound healing and recovery (regeneration).



We have currently two major areas of investigation:

1. Conditioning of the heart in cardiac surgery and cardiac transplantation with the aim at reducing reperfusion injury. We are currently testing multi-drug conditioning therapies in a large animal (porcine) model of Cardiac Donation after Circulatory Death (DCD). The porcine DCD heart transplant model is a unique model to study cardiac resuscitation in general, but also has a great potential of expanding the donor pool for cardiac transplants by successfully resuscitating hearts after circulatory arrest. Resuscitated hearts are perfused ex vivo for hours in a more natural protective beating state as opposed to preservation with cardioplegia, and can be tested whether they are suitable for transplantation.

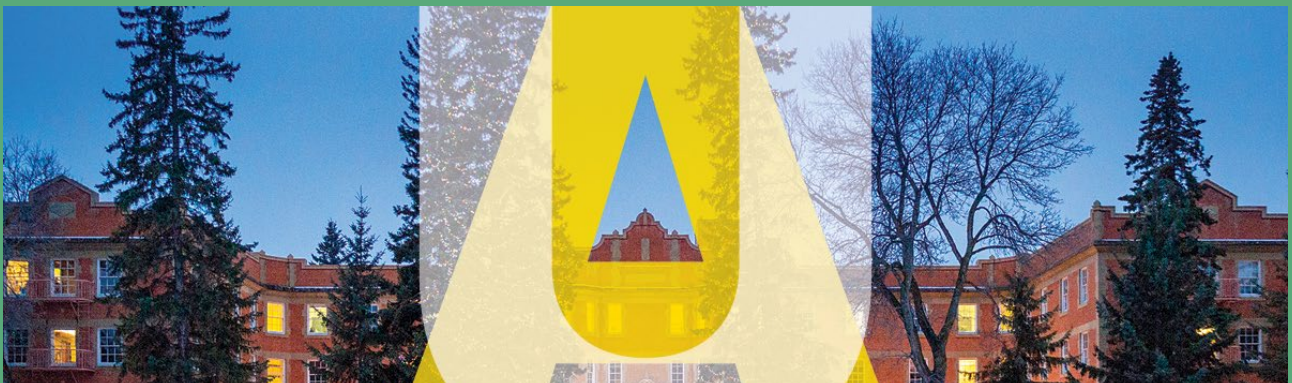
Our current trainee on the project, Fulin Wang (Department of Pharmacology, University of Alberta), successfully passed her reclassification exam to PhD program in July 2022 and is expected to complete her degree in 2025. Fulin was awarded the Faculty of Medicine & Dentistry 2022-2023 Graduate Studentship in Cardiac Sciences. She also won the prize for Best Oral Presentation at the Cardiovascular Research Institute Research Day held on June 17, 2022.

2. Immuno-metabolism: we are studying the potential to beneficially modulate the activity of the immune system by nutritional interventions with specific metabolic compounds such as lipid mediators (resolvins, maresins) involved in the resolution of the inflammatory state using a mouse model of total parenteral nutrition (TPN). The final goal is to understand the adverse effects underlying TPN and to ultimately improve the immunometabolic management of critically ill patients due to sepsis and organ failure.

Collaborations are always welcome and we very much support research contributing to the understanding of physiological changes (e.g. genetic, metabolome- or microbiome-related) in response to anesthesia and/or to surgical stress in patients.

Selected Recent Publications

1. Lucchinetti E, Lou PH, Holtzhauer G, Nouredine N, Wawrzyniak P, Hartling I, Lee M, Strachan E, Clemente-Casares X, Tsai S, Rogler G, Krämer SD, Hersberger M, **Zaugg M**. Novel lipid emulsion for total parenteral nutrition based on 18-carbon n-3 fatty acids elicits a superior immunometabolic phenotype in the murine model compared to standard lipid emulsions. *Am J Clin Nutr*. 2022 ;116(6):1805-1819. PMID: 36166844
2. Gueguen E, Morsy Y, Scharl M, Krämer SD, **Zaugg M**, Hersberger M, Rogler G, Wawrzyniak M. Endothelial Barrier Disruption by Lipid Emulsions Containing a High Amount of N3 Fatty Acids (Omegaven) but Not N6 Fatty Acids (Intralipid). *Cells*. 2022;11(14):2202. PMID: 35883643
3. Nouredine N, Hartling I, Wawrzyniak P, Srikanthan P, Lou PH, Lucchinetti E, Krämer SD, Rogler G, **Zaugg M**, Hersberger M. Lipid emulsion rich in n-3 polyunsaturated fatty acids elicits a pro-resolution lipid mediator profile in mouse tissues and in human immune cells. *Am J Clin Nutr*. 2022;116(3):786-797. PMID: 35849016
4. Lucchinetti E, Lou PH, Lemal P, Bestmann L, Hersberger M, Rogler G, Krämer SD, **Zaugg M**. Gut microbiome and circulating bacterial DNA ("blood microbiome") in a mouse model of total parenteral nutrition: Evidence of two distinct separate microbiotic compartments. *Clin Nutr ESPEN*. 2022 Jun;49:278-288. PMID: 35623826
5. Devereaux PJ and POISE-3 Investigators. Tranexamic Acid in Patients Undergoing Noncardiac Surgery. *N Engl J Med*. 2022;386(21):1986-1997. PMID: 35363452
6. Hartling I, Cremonesi A, Osuna E, Lou PH, Lucchinetti E, **Zaugg M**, Hersberger M. Quantitative profiling of inflammatory and pro-resolving lipid mediators in human adolescents and mouse plasma using UHPLC-MS/MS. *Clin Chem Lab Med*. 2021; 59(11): 1811-1823. PMID: 34243224.
7. Lou PH, Lucchinetti E, Wawrzyniak P, Morsy Y, Wawrzyniak M, Scharl M, Krämer SD, Rogler G, Hersberger M, **Zaugg M**. Choice of Lipid Emulsion Determines Inflammation of the Gut-Liver Axis, Incretin Profile, and Insulin Signaling in a Murine Model of Total Parenteral Nutrition. *Mol Nutr Food Res*. 2021; 65(5): e2000412. PMID:32729969.



**Dr. Stephane Bourque**

Research in the Bourque program focuses on understanding the mechanisms by which stressors (iron deficiency, sepsis) during critical periods of development affect growth and development of the fetus/neonate, and in turn predispose the offspring to lifelong health complications. In the past year, we've made progress in several research areas, but a few notable updates are summarized below.

Iron deficiency (ID) is the most common nutritional deficiency worldwide; 25-30% of pregnant women in developed countries (23% in Canada), and a staggering 50-80% of women in developing countries have ID. ID during development can affect long-term health of the offspring, putting these individuals at increased risk for chronic diseases throughout life. Unfortunately, detecting ID in the fetus is difficult, and iron supplementation strategies rarely improve pregnancy outcomes. Our recent work has identified disparities between maternal and fetal biomarkers for ID (1-3), and we are currently conducting a clinical study to developing better diagnostic tools for fetal and neonatal ID and anemia. This clinical study was recently funded by a WCHRI Innovation Grant (\$60,000; 2022-2025). In addition, we continue to study the effects of ID on offspring organ development (4), as well as long-term consequences on chronic disease risk using established animal models (5). In the past few years, we have invested heavily in "-omics"-based approaches (6), which provide unparalleled insights into the pathophysiology of ID, and continue to provide clues for novel therapeutic targets. Funding for this work was recently renewed by CIHR (\$918,000; 2022-2027).

We've also recruited a number of excellent trainees in the past year. These include Ibrahim Khodabocus (PhD program), Si Ning Liu (MSc program), Rohini Roy Roshimi (MatCH program), Brandon Truong (undergraduate thesis program, summer research program), Avery Noppers (summer research program), Navdeep Badhan (summer research program), Ben Magalnick (summer research program), and Reid Collins (summer research program). Finally, two of our trainees have completed their training programs in my laboratory; Dr. Forough Jahandideh completed her postdoctoral fellowship, and accepted a position as Research Coordinator with Sepsis Canada at the Ottawa Health Research Institute. Kimberly Macala successfully defended her PhD dissertation in December 2022, and is currently running an independent research program in the Department of Critical Care Medicine.

Bourque Lab at Rosso



Selected references

1. Woodman AG, Care AS, Mansour Y, Cherak S, Panahi S, Gragasin FS, **Bourque SL**. Modest and severe maternal iron deficiency in pregnancy are associated with fetal anaemia and hypoxia in rats. *Sci Rep*. 2017 Apr;7:46573. (2017 IF: 4.122)
2. Sanni OB, Chambers T, Li J, Rowe S, Woodman AG, Ospina MB, **Bourque SL**. A systematic review and meta-analysis of the correlation between maternal and neonatal iron status and hematologic indices. *EClinicalMedicine*. 2020 Oct 8;27:100555. (IF: 17.033)
3. Gragasin FS, Ospina MB, Serrano-Lomelin J, Kim SH, Kokotilo M, Woodman AG, Renaud SJ, **Bourque SL**. Maternal and cord blood hemoglobin as determinants of placental weight and efficiency: a cross-sectional study. *J Clin Med*. 2021 Mar; 10(5):997. (IF: 4.964)
4. Woodman AG, Mah RL, Kinney S, Holody CH, Wiedemeyer AR, Noble RMN, Clugston RD, **Bourque SL**. Perinatal iron deficiency causes sex-dependent alterations in renal retinoic acid signaling and nephrogenesis. *J Nutr Biochemistry*. 2022. In Press. (IF: 6.117)
5. **Bourque SL**, Davidge ST. Developmental programming of cardiovascular function: a translational perspective. *Clin Sci (Lond)*. 2020 Nov 27;134(22):3023-3046. (IF: 6.876)
6. Roberts H, Woodman AG, Baines KJ, Jeyarajah MJ, **Bourque SL**, Renaud SJ. The effects of maternal iron deficiency on placental development and function. *Endocrinology*. 2021 Dec; 162:bqab215. (IF: 5.051)

Recent Trainee Awards

1. Jad Julian Rachid (MSc student) was awarded a Motyl Scholarship in Cardiac Sciences.
2. Si Ning Liu (MSc student) was awarded a Maternal and Child Heart (MatCH) Scholarship.
3. Claudia Holody (MSc student) was awarded a DOHaD international Travel Award (only 2 awards were available to be won).
4. Jad Julian Rachid (MSc student) and Si Ning Liu (MSc program) were awarded the Mary Louise Imrie Graduate Student Award.
5. Ibrahim Khodabocus (PhD student) and Si Ning Liu (Msc program) were awarded Medical Sciences Graduate Program Scholarships
6. Dr. Forough Jahandideh (postdoctoral fellow) and Kimberly Tworek (summer research program) were awarded travel awards from the Canadian Critical Care Translational Biology Group.
7. Kimberly Tworek (summer student) received 2nd place for oral presentation at the 27th Annual Meeting of the ASICP.

Research in the Kerr lab is focusing on the neuro-immune contributions to chronic pain states arising from injury or disease in the nervous system. We have a primary focus on pain in auto-immune disorders such as MS but are also interested in pain that arises after traumatic nerve injury to a peripheral nerve. The lab employs a variety of behavioral assays to assess pain and nociception in rodents and we also use cell and molecular techniques to understand the underlying mechanisms generating chronic pain in these disorders.

The Neuroimmunology and Pain Lab is located on the 5th floor of HMRC. It's is a shared research space with the lab of Dr. Jason Plemel (Dept. of Medicine).

We currently have a collaborative project examining macrophage phenotypes after peripheral nerve injury that includes contributions from the UofA Multidisciplinary Pain Clinic and Dr. Bruce Dick (Dept. of Anesthesiology). Other collaborations involve members of the Dept. of Pharmacology (Dr. Anna Taylor and Dr. Harley Kurata) as well as a project with Drexel University (Lab of Dr. John Bethea) examining TNF, ER stress and the effects on neural plasticity.

Funding

The lab is currently funded by two CIHR Project Grants "Understanding the contribution of the peripheral nervous system to central neuropathic pain" and "Deciphering macrophage phenotypes in neuropathic pain". We are also funded by an Operating Grant from the MS Society of Canada, "Examining inflammatory processes in the DRG as a driver of neuropathic pain in MS".

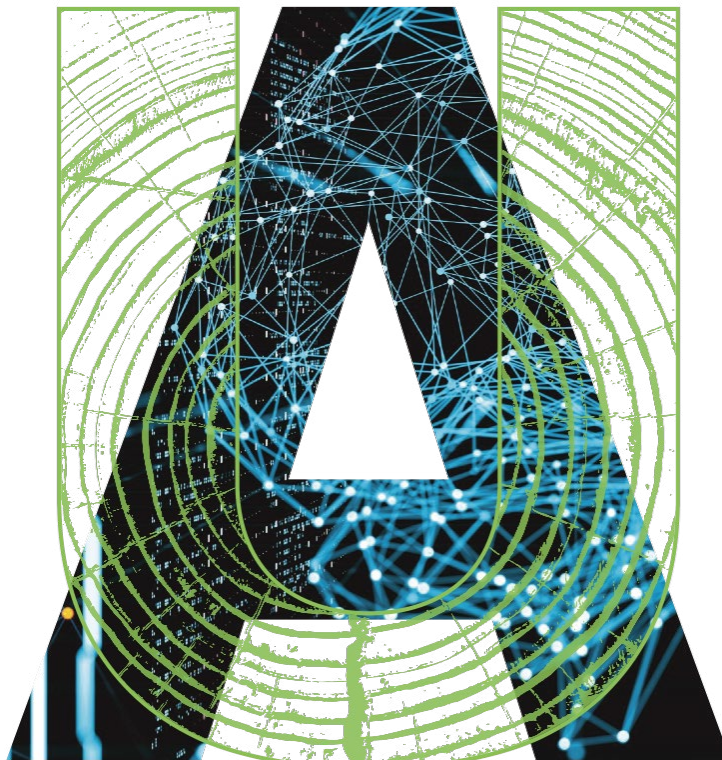
Selected Recent Publications

1. Maguire, A.D., Fiedman, T.F., Villarreal, D., Haq, F., Dunn, J., Pfeifle, K., Tenorio, G., Buro, K., Plemel, J.R., **Kerr, B.J.** (2022). Sex differences in the inflammatory response of the mouse DRG and its connection to pain in experimental autoimmune encephalomyelitis. *Scientific Reports* 12, 20995 (2022). <https://doi.org/10.1083/s41598-022025295-y>
2. Zia, S., Hammond, B.P., Zirbgible, M., Sizov, A., Baaklini, C.S., Panda, S., Ho, M.F.S., Lee, K.V., Mainnali, A., Burr, M.K., Williams, S., Caprariello, A.V., Power, C., Simmen, T., **Kerr, B.J.**, Plemel, J.R. (2022) Single-cell microglia transcriptomics during demyelination defines a microglial state required for lytic carcass clearance. *Molecular Neurodegeneration* (accepted, in press)



Dr. Brad Kerr
Director -Research

3. Samtleben, S., Mina, L., Yap, M.C., Branton, W.G., Yousuf, M.S., Tenorio, G., Ballanyi, K., Giuliani, F., **Kerr, B.J.**, Power, C and Simmen, T. (2022) Astrocytes Show Increased Levels of Ero1a in Multiple Sclerosis (MS) and its Experimental Autoimmune Encephalomyelitis (EAE) Animal Model. *European Journal of Neuroscience* (accepted, in press)
4. Dworsky-Fried, Z., Faig, C.A., Vogel, H.A., **Kerr, B.J.** and Taylor, A.M.W. (2022) Central amygdala inflammation drives pain hypersensitivity and attenuates morphine analgesia in experimental autoimmune encephalomyelitis. *Pain* 163(1): 49-61
5. Yousuf, M.S., Samtleben, S., Lamothe, S., Friedman, T., Catuneanu, A., Thorburn, K., Desai, M., Tenorio, G., Schenk, G.J., Ballanyi, K., Kurata, H.T., Simmen, T. and **Kerr, B.J.** (2020). Endoplasmic reticulum stress in the dorsal root ganglia regulates large-conductance potassium channels and contributes to pain in a model of multiple sclerosis. *FASEB* 34 (9): 12577-12598
6. Yousuf, M.S, Maguire, A.D, Simmen, T and **Kerr, B.J** (2020) ER-mitochondria interplay in chronic pain: The calcium connection. *Molecular Pain* Jan-Dec 2020;16:1744806920946889
7. Dworsky-Fried, Z., **Kerr, B.J.** and Taylor, A. (2020) Microbes, microglia, and pain. *Neurobiology of Pain*. Jan 29;7:100045. doi: 10.1016/j.ynpai.2020.100045.
8. Plemel, J.R., Stratton, J., Michaels, N.J., Rawji, K.S., Zhang, E., Sinha, S., Baaklini, C.S., Dong, Y., Ho, M., Thorburn, K., Friedman, T.N., Jawad, S., Silva, C., Caprariello, A.V., Hoghooghi, V., Yue, J., Jaffer, A., Lee, K., **Kerr, B.J.**, Midha, R., Stys, P.S., Biernaskie, J., Yong V.W. (2020) Microglia response following acute demyelination is heterogenous and limits infiltrating macrophage dispersion. *Science Advances*. Jan 15;6(3):eaay6324. doi:10.1126/sciadv.aay6324.



12th ANNUAL GELFAN AND BELL ANESTHESIA CONTINUING EDUCATION AND RESEARCH SYMPOSIUM



KEYNOTE SPEAKER

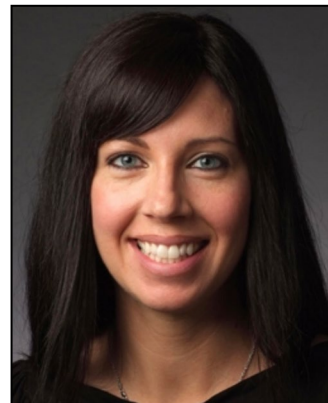
"From the helm of the CJA to you: Taking a moment to celebrate our science, shared successes, and diversity"

Stephan K. W. Schwarz MD, PhD, FRCPC
Faculty of Medicine | Anesthesiology, Pharmacology & Therapeutics
The University of British Columbia | Vancouver Campus

GUEST ADJUDICATORS

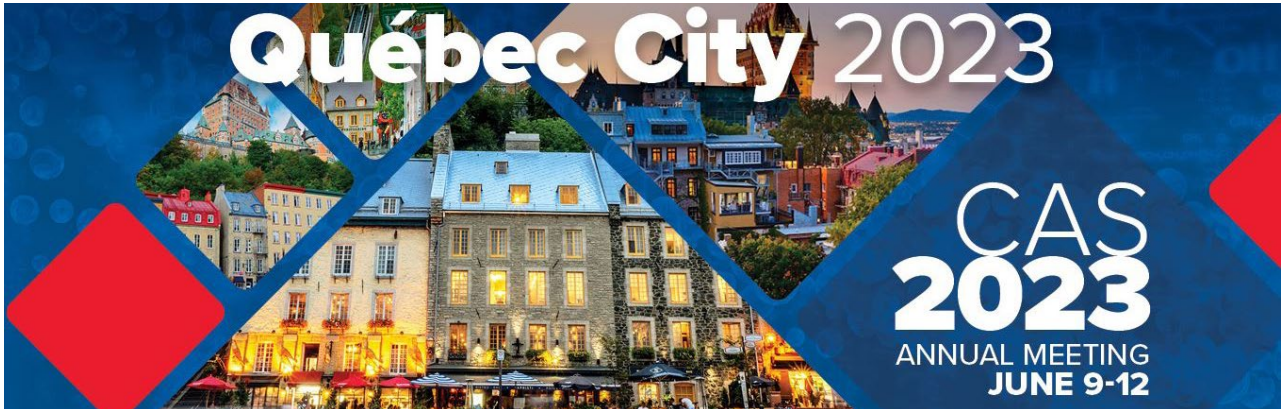


Dr. Akua Gyambibi MD, FRPC
Clinical Lecturer
Misericordia Hospital



Dr. Angela Neufeld MD, FRP MD, FRPC
Assistant Professor (Special Continuing)
University of Alberta Hospital



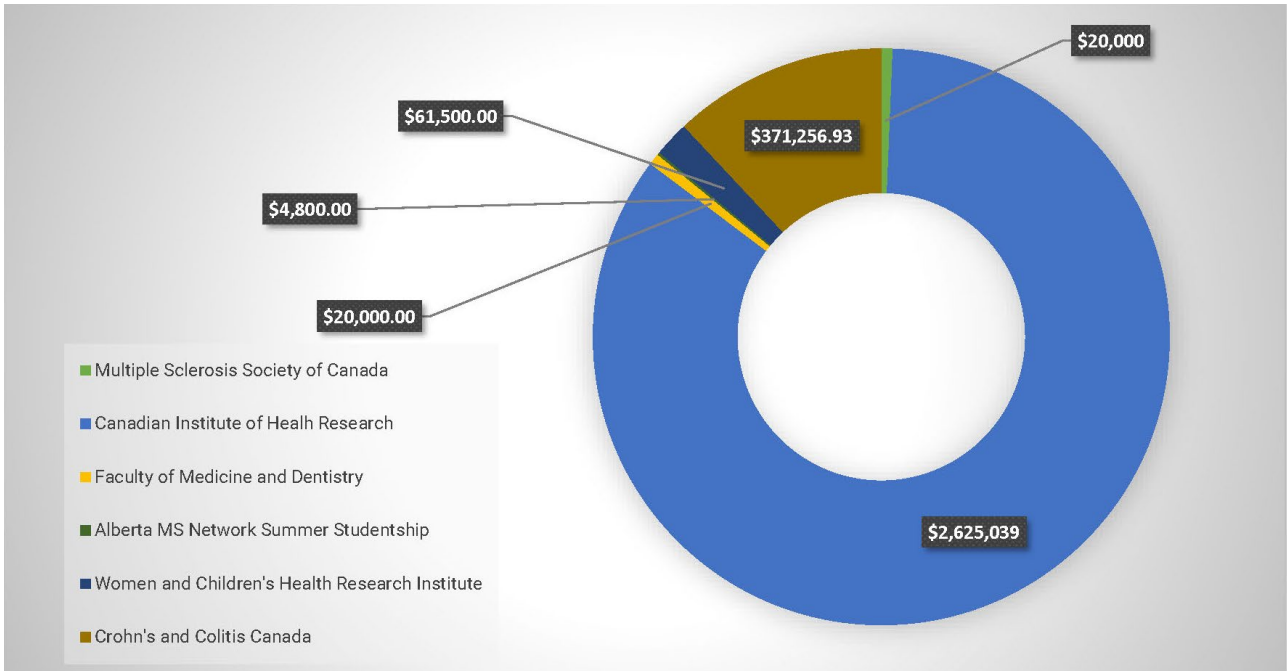


Francesca Seal, Christine Chiu and Richard Mah Presenting at CAS June 2023.



Jaeun Yang, Christine Chiu, Derek Dillane, Saifee Rashiq, Richard Mah and Francesca Seal enjoying an evening in Quebec City at CAS June 2023

GRANTS



\$3,102,595.93

TOTAL GRANT FUNDING

Featured Grant

Investigator: Dr. Bradley Kerr (PI)
Title: Deciphering macrophage phenotypes in neuropathic pain
Funder: CIHR
Funding Year: 2022
Award: \$1,258,426.00

GRANTS

Manager	Description	Award Start Date	Award End Date	Award Amount	Funding Agency
Bourque, Stephane	Mechanisms of programming of cardiorenal dysfunction by perinatal iron deficiency	10/1/2022	9/30/2027	\$918,000.00	Canadian Institutes of Health Research
Bourque, Stephane	Targeting renal vascular and mitochondrial dysfunction to prevent acute kidney injury in sepsis	2022	2024	\$100,000.00 *declined	Kidney Foundation of Canada Health Research Grant
Bourque, Stephane	Developing new ways to diagnose fetal and newborn iron deficiency and anemia	10/1/2022	9/30/2024	\$60,000.00	Women and Children's Health Research Institute
Bourque, Stephane (supervisor), Julian Rachid	WCHRI Travel Grant	1/1/2023	12/31/2023	\$750.00	Women and Children's Health Research Institute
Bourque, Stephane (supervisor), Si Ning Liu	WCHRI Travel Grant	1/1/2023	12/31/2023	\$750.00	Women and Children's Health Research Institute
Dick, Bruce	Understanding and predicting response to surgery for Trigeminal Neuralgia	2023	2028	\$930 000.00	Canadian Institutes of Health Research
Dick, Bruce	Deciphering macrophage phenotypes in neuropathic pain	2022	2027	\$329,000.00	Canadian Institutes of Health Research
Dick, Bruce	Lonelier than ever: Examining the experience of loneliness amongst adolescents with chronic pain in the context of COVID-19: A mixed methods study.	2022	2024	\$119,613.00	Canadian Institutes of Health Research

GRANTS

Kerr, Bradley	Deciphering macrophage phenotypes in neuropathic pain	10/1/2022	9/30/2027	\$1,258,426.00	Canadian Institutes of Health Research
Kerr, Bradley (supervisor), Olivia La Caprara	Novel pathways in neuropathic pain: examining the miR-21:TLR7 signalling axis for pain in MS	7/1/2022	6/30/2023	\$20,000.00	Multiple Sclerosis Society of Canada
Kerr, Bradley (supervisor), Andrea Klassen	2023 Alberta MS Network Summer Studentship	5/1/2023	8/31/2023	\$4,800.00	Alberta MS Network Summer Studentship
Zaugg, Michael	Protecting the gut and boosting healthy immunity during oral nutrition deprivation: Role of lipid mediators and interleukin-10	4/1/2023	3/31/2026	\$371,256.93	Crohn's and Colitis Canada
Zaugg, Michael (supervisor), Fulin Wang	Studentship in Cardiac Sciences	2022	2023	\$20,000.00	Faculty of Medicine and Dentistry

* awarded but ultimately declined by the PI

Total \$3,102,595.93



EDUCATION



Dr. Saifee Rashid
Director - Education

The department remains committed to preparation of the next generation of anesthesiologists, to playing its part in ensuring an adequate supply of properly trained specialists and subspecialists for the population's needs, and to keeping its current cadre of practitioners abreast of the latest scientific and technical developments in the specialty.

We are active at all levels of the learning continuum.

Undergraduate

University of Alberta medical students continue to actively seek out exposure to anesthesiology. While there is no mandatory rotation in the specialty, 91 students undertook electives during the 2022- 2023 academic year, and many more had to be turned away. An additional 51 students asked for and were given short-term shadowing exposure to our work in operating rooms and other locations. Students from the St Andrews/Edinburgh/Alberta Program, which provides undergraduate medical education to Canadian students in Scotland regularly select anesthesia as one of their options during their rotations in Edmonton. Anesthesia Faculty are active in the didactic and Discovery Learning phases of the Year 1 and 2 curriculum , and also support the students' Anesthesia Club.

Student evaluations of their time with us are amongst the best in the Faculty.

The recent appointment of a designated Undergraduate Education Coordinator, Dr. Sean Goos (RAH), will ensure that the program goes from strength to strength.

Fellowship Training

The scale and complexity of the care that our hospitals deliver and the caliber of our Staff instructors combine to make Edmonton an ideal advanced training venue. The Department offers subspecialty Fellowship training programs in the following areas:

Pediatric Anesthesia (Director Dr. Graham Steele to Jan 2023, now Dr. Shauna Turnbull), Cardiac Anesthesia (Dr. Angela Neufeld to Nov 2022, now Dr. Joel Berube), Regional Anesthesia (Dr. Ciarán Twomey), Pain Medicine (Dr. Mark Simmonds), Liver Transplant Anesthesia (Dr. Martine Lindsay to Dec 2022, now Dr. Justin Byers), Transitional Research (Dr. Michael Zaugg) and Peri-operative Ultrasound (Dr. Derek Dillane). The newest addition to our program is Neuroanesthesia (Dr. Zakir Hajat), which will accept applications for the 2024-2025 cycle, and which, uniquely, will be financially supported by the University of Alberta Hospital Foundation.

Our Fellowships are highly regarded, and entry is competitive. We received almost 100 applications from trained anesthesiologists during the 2022-2023 year, from all over the world.

Graduating Fellows go on to enhance subspecialist staff levels in both our own centre and farther afield. 2023 graduates Drs Michael Ma and Elliot Pittman have joined our own Regional Anesthesia and Cardiac Anesthesia groups respectively. Pediatric Fellowship graduate Dr. Oliver Hatheway now practices at the Alberta Children's Hospital in Calgary, while Cardiac graduate Dr. Andy Liu has returned to his home province of Saskatchewan.

Family Practice Anesthesia

Under the Directorship of Dr Will Flexer of MHE, our Family Practice Anesthesia training program continues to be highly sought-after by Family Medicine graduates seeking enhanced skills. 21 applications were received for the four available 2022-2023 slots. Comprehensive preparation for independent anesthesia practice in a rural environment is provided, including a preparatory in-person simulation-based boot camp at the Northern Ontario School of Medicine, clinical training in adult, pediatric and obstetric anesthesia, and in critical care. 2023 Graduate Dr. Kina Ellison now works in Quesnel BC, Dr. Bradley Willis works mostly in Port Alberni BC, Dr. Franz Kruger has returned to his former hospital in Edson AB and Dr. Gavin Greenfield provides Family Practice anesthesia services in the Bow Valley and Pincher Creek areas of Southern Alberta. All four successfully challenged the in-house exit examination administered by Dr Flexer. Also in 2022-2023, the program began to benefit from increased financial support for its site-specific training leads from the Department of Family Medicine.

Continuing Professional Development

For practicing anesthesiologists, the need to stay abreast of new developments in the specialty has to be balanced against time constraints imposed by busy practices and family lives. The current manpower crisis has increased these pressures. Nonetheless, learning opportunities directed primarily towards established practitioners continue to be made available. Weekly Grand Rounds are either site-specific, or available city-wide, using videoconferencing techniques made familiar by the pandemic. They are delivered by our own residents, faculty or external speakers, and have included didactic presentations and quality and safety meetings.

In 2022, Dr. Landon Berger (RAH) continued his task of breathing fresh life into our City-wide evening Journal Clubs, to universal acclaim. Events are sponsored by the staff of each of our sites in rotation. While some tired anesthesiologists may simply show up for the promise of a good restaurant meal and convivial company, they invariably leave having enjoyed vigorous debate about interesting or contentious papers from the recent literature, and with their knowledge of statistics and clinical methods improved by Dr. Berger's informal but highly informative didactic interludes.

EDUCATION LEADERSHIP

UNDERGRADUATE PROGRAM

Dr. Sean Goos

POSTGRADUATE PROGRAM

Dr. Graham Steel - Program Director

Dr. Jaime Sim - Assistant Program Director

Dr. Lu Qiao - Director Simulation

POSTGRADUATE FAMILY PRACTICE PROGRAM

Dr. Will Flexer - Program Director

FELLOWSHIP TRAINING PROGRAM

Dr. Saifee Rashid - Fellowship Program Director
Director, Education

Dr. Joel Berube - Cardiac Anesthesia Fellowship Director

Dr. Justin Byers - Liver Transplant Fellowship Director

Dr. Zakir Hajat - Neuroanesthesia Fellowship Director

Dr. Mark Simmonds - Pain Medicine Fellowship Director

Dr. Shauna Turnbull - Pediatric Anesthesia Fellowship Director

Dr. Derek Dillane - Perioperative Ultrasound Fellowship Director

Dr. Ciaran Twomey - Regional Anesthesia Fellowship Director

Dr. Michael Zaugg - Transitional Research Fellowship Director



Mentorship Report

The Residency program is accompanied by a parallel Mentorship program. Each resident is paired with a staff anesthesiologist for the duration of their training and the pair meet regularly to discuss progress in a supportive and confidential fashion. This offers an opportunity for the resident to debrief difficult events, learn the so-called hidden curriculum, obtain career advice and to be assisted in more general ways with the transition into independent practice by a wise and experienced colleague.

The following Staff Anesthesiologists gave freely of their valuable time to the Mentorship program in 2022-2023:

Landon Berger
Joel Berube
Magnus Breitling
Sunita Broemling
Cathy Cave
Mairi Chadwick
Ron Cheng
Angelo Chiarella
Mary Chisholm
Liz Colcy
Christine Fedorow
Ariane Fielding
Kyle Garrett
Bart Godlewski
Ferrante Gragasin
James Green
Rick Haugen
Jeff Heinrichs
Sarah Joly
Nikhil Khembavi
Jen Klinck

Matt Kokotilo
Megan Lalonde
Wing Lam
Ed Lazar
Angela Neufeld
ManCho Ng
Katie Oman
Timur Ozelsel
Deepali Patil
Lu Qiao
Russell Quapp
Tara Rimmer
Katrina Roberts
Patrick Seguin
Surita Sidhu
Sam Stetsko
Shauna Turnbull
Tim van Haften
Varun Suresh
Adrianna Woolsey



Dr. Steel and the 2023 R5's

Residency Report

I'd like to begin this update by introducing myself. My name is Graham Steel and I started as the Residency Program Director on January 1st 2023.

2022-2023 was a busy year for the residency program:

This was a year of new beginnings: CaRMS 2023 brought us 11 excellent new junior colleagues, 8 in the FRCPC program and 3 in the enhanced skills Family Medicine program. We are also happy to welcome Ian Armstrong who is an FPA returning to the FRCPC program and Rodger Craig who has transferred to Edmonton from residency at Queen's University. All of our senior residents were successful in completing their FRCPC exams and are excited to enter clinical practice or fellowship positions from Alberta to Australia.

This was a year of change. We saw the departure of several familiar faces: our program director Dr. Heather Ting, our assistant program director, Dr. Liza Noonan and program administrator Kay Kovithavongs. We want to thank them all for their amazing contributions to our program and wish them luck as they take on new challenges. We would also like to welcome Dr. Jaime Sim as assistant program director and Laura Kruzenga as Program Administrator.

This was also a year of growth. The program has been approved to take 10 PGY 1 residents in CaRMS in 2024 and has, for the first time, opened to AIMG applications. We're excited to see simulation opportunities expand under Dr. Lu Qiao's leadership as well as new opportunities for residents to undertake electives in Medical Education and increase their teaching involvement with medical students and junior residents through work being led by Dr. Varun Suresh.

Finally, resident research continues to expand and thrive both locally as showcased at research day and on the national stage. One notable highlight from the past year is Dr. Jaeun Yang winning 2023 CAS awards for best Neuroanesthesia Paper and best resident oral presentation.

Dr. Graham Steel

Clinical Professor

Department Director of Education Program, Residency Program

Simulation Report

We are excited to share some updates and developments in the Anesthesiology and Pain Medicine Simulation Program that will further enhance the educational experience for our residents and promote excellence in medical education.

As the Simulation Director, one of my primary objectives is to improve the frequency, variety, and quality of simulation experiences for our residents. Simulation training is a vital component of medical education, and the groundwork has been laid for a range of formative simulation sessions, including Simulation Bootcamp, ACRM (Anesthesia Crisis Resource Management), Difficult Airway Management, MEPA (Managing Emergencies in Pediatric Anesthesia), Obstetrical Crisis Management, and Trauma Emergencies. These sessions are designed to provide residents with comprehensive training to enhance their clinical skills and crisis management abilities. We are also excited to continue summative simulation scenarios in CanNASC (Canadian National Simulation Curriculum) for the PGY4 residents. This will further strengthen the assessment of resident competence and readiness for independent practice. In addition to high-fidelity perioperative simulation training, diversification into real-life case discussions, task trainers, standardized patients, and virtual reality modules offer an immersive and realistic learning experience for our residents.

Left to Right: Amy Berger (Embedded Actor), Dr. Liban Mohamed (PGY4), Dr. Josh Foley (PGY4), Dr. Rebecca Entz (PGY5)



In the coming years, we plan to collaborate with Surgery, Obstetrics, and Emergency Medicine residency programs to create and participate in multi-disciplinary simulation scenarios. This collaborative approach will promote teamwork and enhance the coordination of care among various specialties. We are also proud to share that Dr. Yishi Sun, a PGY2 resident, has received the Dr. Jean Hugill Research Award and is collaborating with the University of Alberta Learning Design Studio to conceive and build an anesthetic machine simulator. This project aims to address the shortcomings of our current simulation systems and elevate the learner experience.

Lastly, we are pleased to announce that we have created the Transition to Practice (TTP) Simulation and Medical Education Elective, which is now available to PGY5 residents. This elective provides residents with the knowledge and skills required to teach learners and incorporate elements of simulation into their teaching. This much-needed experience will prepare our senior residents to provide safe and efficient care while concurrently delivering excellent and effective perioperative teaching.



Left to Right: Dr. Liban Mohamed (PGY4), Dr. Bruce Ramsey, Dr. Evan Ritchie (PGY4)

We want to thank all the faculty members who have contributed to our simulation program over the past year. Your dedication and support are invaluable. We are always looking for more faculty members interested in learning the design, facilitation, and debriefing processes of simulation. Your participation may be eligible to receive MOC credits in all three categories. We encourage you to get involved if you are passionate about medical education and would like to contribute to our program.

These developments represent a significant step forward for our Anesthesiology and Pain Medicine Simulation program, and we look forward to the positive impact they will have on our residents and the broader medical community.

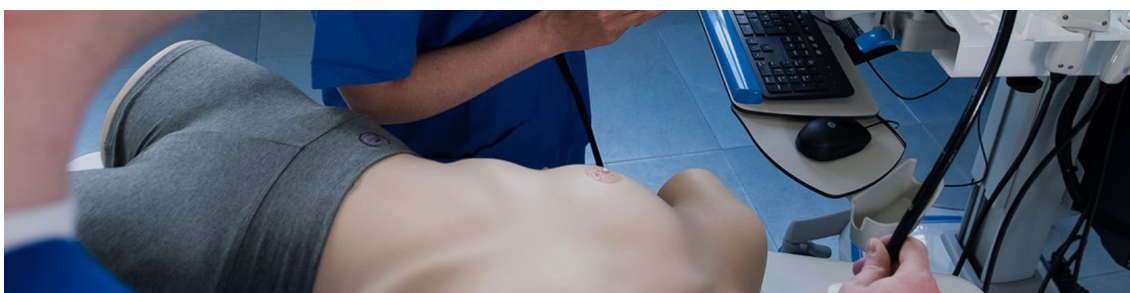
Dr. Lu Qiao
Assistant Clinical Professor
Simulation Director

NOVEL CARDIAC ANESTHESIA/SURGICAL TRAINING, IN ALBERTA

The University of Alberta has developed a novel training program using Intelligent Ultrasound's HeartWorks Transthoracic/Transesophageal Echocardiography (TTE/TEE) system to simulate perioperative cardiac anesthesia/surgical scenarios. Exposure to rare but catastrophic surgical incidents in a controlled, realistic environment allows trainees to take a phased approach to scenario management without the stress of a high-stakes environment.

Dr. Surita Sidhu was instrumental in the development of the training program, with the University Hospital Foundation's purchase of the HeartWorks system through a generous donation. A second cardiac anesthesiologist, **Dr. Wing Lam**, has also been heavily involved in the development of this program.

[More information can be found here at Intelligent Ultrasound.](#)



A novel approach to combined simulation training in cardiac anesthesia/surgery, in Alberta

SURGICAL SIMULATION

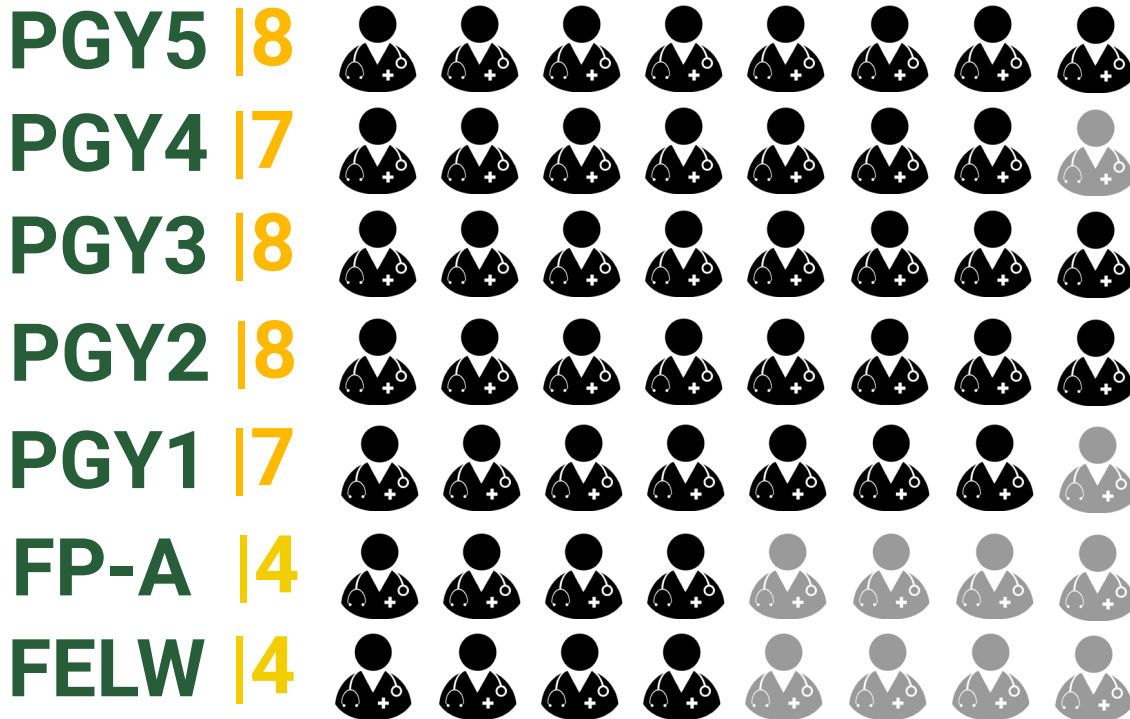
Abigail White explains that a full cardiac surgical team tends to be larger than in most other surgical specialties, and includes anesthesiologists, surgeons, nurses and perfusionists, who operate specialized medical machinery like heart-lung machines. These professions all practice simulations with their specialty peers, but the entire team doesn't actually meet until a surgery is taking place. Surgical trainees are taught how to do a procedure, but they don't get to experience a real one until it's happening right in front of them. She believes this needs to change. "A successful operation depends on a successful team," she stresses. "So we decided to develop this multidisciplinary simulation program that has been ongoing for the past couple years now," she says. White credits colleague Andrew Reid, **cardiac anesthesiologist Surita Sidhu**, her program director Steven Meyer and her PhD supervisor, Bin Zheng, for helping her develop the program.

Read the full article here: [Teamwork and tools key to successful cardiac procedures](#)

CaRMS



LEARNERS



2023 Research Day Resident Class

EDUCATION EVENTS 2022-2023

GENERAL EVENTS

Transfusion Bootcamp	Oct 7, Jan 13, Feb 10, Apr 14
CaRMS	Feb 8
Journal Clubs	Oct 13 and March 2
Research Day	May 12
Written exam	Sept 28 and 29
Applied exam	April 18 and 19

ANESTHESIA KNOWLEDGE TEST (AKT)

AKT-1 PreTest	June 30
AKT-1 PostTest	Aug 3
AKT-24	Aug 3 for R5s

SIMULATION

R1 Boot Camp	July 5, 6, 7
CanNASC	Dec 19, 20, 21 and May 8, 9, 10



Drs. Fong and Shears
Alberta Cardiac Surgical Resident Retreat

APPENDIX

FACULTY

Achen, Blaine

Assistant Clinical Professor

Amyotte, Nicholas

Clinical Lecturer

Auld, Michael

Clinical Professor

Baithoun, Hala

Clinical Lecturer

Baldonado, Narciso

Assistant Clinical Professor

Banasch, Matthew

Assistant Clinical Professor

Banno, Dean

Clinical Lecturer

Barker, Andrew

Assistant Clinical Professor

Barnard, Eduard

Associate Clinical Professor

Bateman, Kendall

Assistant Clinical Professor

Berger, Landon

Assistant Clinical Professor

Bergstrom, Richard

Associate Clinical Professor

Berube, Joel Michel

Associate Clinical Professor

Department Fellowship Director of Cardiac
Anesthesia**Bhachu, Santokh**

Assistant Clinical Professor

Bhalla, Raveen

Associate Clinical Professor

Site Lead, Grey Nuns Hospital

Bishop, Edward

Associate Clinical Professor

Bittencourt, Ricardo

Assistant Clinical Professor

Interim Site Lead, Sturgeon Community Hospital

Booyesen, Corne Francois

Assistant Clinical Professor

Bourque, Stephane

Associate Professor

Boyle, Riley Matthew

Assistant Clinical Professor

Breitling, Magnus

Associate Clinical Professor

Brin, Geoff

Clinical Lecturer

Brindley, Peter

Adjunct Professor

Broemling, Sunita

Assistant Clinical Professor

Brown, Nathan

Clinical Lecturer

Bucyk, Brent

Assistant Clinical Professor

Bucyk, Taylor

Clinical Lecturer

Byers, Justin

Assistant Clinical Professor

Division lead for liver transplant anesthesia
Department Fellowship Director of Liver
Transplant (Feb 2023 ->)

FACULTY

Campbell, Elroy

Assistant Clinical Professor

Campbell, Jeffery

Assistant Clinical Professor

Cave, Cathy

Assistant Clinical Professor

Cave, Dominic

Clinical Professor

Zone Clinical Department Head

Chadwick, Mairi

Assistant Clinical Professor

Chan, Douglas

Assistant Clinical Professor

Charlton, Jeff

Assistant Clinical Professor

Chen, Danny

Assistant Clinical Professor

Cheng, Alan

Assistant Clinical Professor

Site Lead, Royal Alexandra Hospital

Cheng, Ronald

Assistant Clinical Professor

Cheung, Joseph

Clinical Lecturer

Chiarella, Angelo

Associate Clinical Professor

Chou, Eric Meng

Assistant Clinical Professor

Christ, Albert

Associate Clinical Professor

Chung, Brendon

Assistant Clinical Professor

Cohen, Matthew R

Associate Clinical Professor

Colcy, Elizabeth

Assistant Clinical Professor

Datta, Ansuman

Assistant Clinical Professor

Dattilo, Franco

Clinical Lecturer

Davidson, Zachary

Clinical Lecturer

Derzi, Simone

Assistant Professor

Dick, Bruce

Professor

Chief of Psychology, Multidisciplinary Pain Clinic

Dickson, Clayton

Adjunct Professor

Dillane, Derek

Associate Professor

Department Chair

Drader, Keith

Associate Clinical Professor

DuVal, Douglas

Clinical Professor

Eagle, Christopher

Adjunct Professor

Eliasson, Teresa

Associate Clinical Professor

Escuder, Juan Ruiz

Assistant Clinical Professor

Farries, Alayne

Associate Clinical Professor

FACULTY

Fedorow, Christine

Assistant Clinical Professor

Field, Nicholas

Clinical Lecturer

Fielding, Ariane

Associate Clinical Professor

Flexer, William V

Assistant Clinical Professor

Department Program Director Family Practice

Anesthesia Residency Program

Site Lead, Misericordia Hospital

Ford, Victor

Assistant Clinical Professor

Freed, Adam

Assistant Clinical Professor

Fuger, Jason

Assistant Clinical Professor

Funk, Gregory

Adjunct Professor

Gamez, Ryan David

Assistant Clinical Professor

Garrett, Kyle

Assistant Clinical Professor

Gelinas, Jean Pierre

Assistant Clinical Professor

George, Anthony

Assistant Clinical Professor

Site Lead, Mazankowski Heart Institute

Gilchrist, Ainslie

Assistant Clinical Professor

Gill, Rajwinder

Clinical Lecturer

Godlewski, Bartosz

Assistant Clinical Professor

Goos, Sean

Clinical Lecturer

Gragasin, Ferrante

Clinical Professor

Green, James

Professor (Special Continuing)

Clinical Site Lead, University of Alberta Hospital

Gregg, Kevin Ronald

Assistant Clinical Professor

President - AMA Section of Anesthesiology

Gunanayagam, Angelo

Clinical Lecturer

Gupta, Sunil

Assistant Clinical Professor

Gurges, Ramy

Assistant Clinical Professor

Gyambibi, Akua

Clinical Lecturer

Hajat, Zakir

Clinical Lecturer

Department Fellowship Director of Neuro

Anesthesia

Halliday, Susan

Assistant Clinical Professor

Division Lead for Neuro Anesthesia

Hardy, Dorothy

Assistant Clinical Professor

Hasanni, Sameer

Assistant Clinical Professor

Haugen, Richard

Clinical Professor

FACULTY

Hawkins, Kenneth Wm

Assistant Clinical Professor

Heinrichs, Jeffrey

Clinical Lecturer

Heyns, Marthinus(Daneel)

Clinical Lecturer

Ho, Pakto (Austin)

Clinical Lecturer

Hoda, Syed (Zia)

Assistant Clinical Professor

Hogan, Michael

Associate Clinical Professor

Holinski, Paula

Associate Clinical Professor

Hult, Keith

Site Lead, Ft. Saskatchewan Community Hospital

Ip, Hui Yun (Vivian)

Clinical Professor

Director, Regional Anesthesia and Acute Pain

Medicine, U of A Hospital

Director, Ambulatory Regional Anesthesia

Program, U of A Hospital

Editorial Board member, Canadian Journal of
Anesthesia

Editor, American Society of Regional Anesthesia
newsletter

Vice Chair, ASRA newsletter committee

Vice Chair, Regional Anesthesia Section,

Canadian Anesthesia Society

Chair, ASRA Green Anesthesia Special Interests
Group

Chair, Environmental Sustainability Section of
the Canadian Anesthesia Society

Jacka, Michael

Associate Clinical Professor

Janke, Michael

Clinical Lecturer

Jansen, Paul

Site Lead, Westview Health Centre

Jewer, Kyle

Assistant Clin Professor

Joly, Sarah

Assistant Clinical Professor

Kembhavi, Nikhil

Assistant Clinical Professor

Kerr, Bradley

Professor

Department Director of Research

Kindzierski, Robert

Assistant Clinical Professor

Klassen, Neil

Clinical Professor

Zone Clinical Department Head

Klinck, Jennifer

Assistant Clinical Professor

Knezevich, Mark

Assistant Clinical Professor

Knight, Brian

Clinical Professor

Kokotilo, Matthew

Clinical Lecturer

Koller, John

Assistant Clinical Professor

Site Lead, Stollery Children's Hospital

Zone Clinical Head of Pediatric Anesthesiology

Kowe, Olajide

Clinical Lecturer

Koziak, Adrian

Assistant Clinical Professor

FACULTY

Labbaf, Saeed

Assistant Clinical Professor

LaFontaine, Alika

Associate Clinical Professor

President – Canadian Medical Association

Lalonde, Megan

Assistant Clinical Professor

Lam, Darren

Clinical Lecturer

Lam, Wing Ying

Assistant Clinical Professor

Lazar, Edward

Assistant Clinical Professor

Leighton-Lane, Dayna

Assistant Clinical Professor

Leung, Tanya

Assistant Clinical Professor

Levin, Iwan

Assistant Clinical Professor

Lilley, John

Clinical Professor

Lima, Ronald

Clinical Lecturer

Lindsay, Martine

Clinical Lecturer

Department Fellowship Director of Liver
Transplant (until Feb 2023)**Luksun, Warren**

Assistant Clinical Professor

Ma, Michael

Clinical Lecturer

Macala, Kimberly

Assistant Adjunct Professor

Mack, Cheryl

Assistant Clinical Professor

Magistris, Fabio

Clinical Lecturer

Maragh, Vashti

Assistant Clinical Professor

Marsicano, Daniela

Clinical Lecturer

Matthey, Peter

Assistant Clinical Professor

McGrath, Tara

Assistant Adjunct Professor

McCombs, Kyle

Clinical Lecturer

Melnyk, Vladyslav

Clinical Lecturer

Mohamed, Karim

Assistant Clinical Professor

Montasser, Sam (Osama)

Clinical Lecturer

Moyo, Jabulani

Assistant Clinical Professor

Division Lead for Chronic Pain

Murray, Katie

Clinical Lecturer

Muzyka, David

Assistant Clinical Professor

Nanji, Jalal

Assistant Clinical Professor

Needham, Craig

Assistant Clinical Professor

FACULTY

Neufeld, Angela

Assistant Professor (Special Continuing)

Ng, Man Cho

Assistant Clinical Professor

Noble, Colin

Assistant Clinical Professor

Noonan, Liza

Assistant Clinical Professor

Oman, Kathleen (Katie)

Assistant Clinical Professor

Osmond, Colette

Assistant Clinical Professor

Ozelsel, Timur

Clinical Professor

Site Lead, Cross Cancer Institute

Paetsch, Paul

Assistant Clinical Professor

Pagliardini, Silvia

Associate Adjunct Professor

Paterson, Scott

Clinical Professor

Patil, Deepali

Associate Clinical Professor

Popoff, Jeffrey

Assistant Clinical Professor

Primrose, Matthew

Clinical Lecturer

Qiao, Lu

Assistant Clinical Professor

Department Director of Simulation Education

Quapp, Russell James

Assistant Clinical Professor

Quigley, Nicole

Assistant Clinical Professor

Quinn, Michael

Assistant Clinical Professor

Radtke, Kristin

Clinical Lecturer

Ramsey, Bruce

Clinical Professor

Rashiq, Saifee

Professor

Department Fellowship Program Director

Department Director of Quality & Patient Safety

Rimmer, Tara

Assistant Clinical Professor

Roberts, Katrina

Clinical Lecturer

Roda, Richard

Clinical Lecturer

Rudge, Trevor Damon

Assistant Clinical Professor

Rudolph, Florian

Assistant Clinical Professor

Rutten, Kelsey

Assistant Clinical Professor

Scheelar, Les

Assistant Clinical Professor

Site Lead, Leduc Community Hospital

Seal, Robert

Clinical Professor

Seguin, Patrick

Assistant Clinical Professor

FACULTY

Sidhu, Surita

Clinical Professor
 Department Coordinator Point of Care
 Ultrasound Rotation, Residency Program
 Co-lead Joint Cardiac Anesthesia/Cardiac
 Surgical Simulation Program

Sikorski, Robert

Assistant Clinical Professor

Sim, Jaime

Clinical Lecturer
 Department Assistant Director of Education,
 Residency Program

Simmonds, Mark

Clinical Professor
 Department Fellowship Director of Pain
 Medicine

Simmonds, Matthew

Associate Clinical Professor

Singh, Sarab

Assistant Clinical Professor

Smith, Graeme

Assistant Clinical Professor

Snider, Doug

Assistant Clinical Professor

Sobolev, Igor

Associate Clinical Professor

Soong, John

Assistant Clinical Professor

Sowa, Bernard

Associate Clinical Professor
 Edmonton Zone Medical informatics Lead,
 Anesthesiology (Connect Care)
 Co-Chair, Anesthesia Area Council (Connect
 Care)

Steel, Graham

Clinical Professor
 Department Director of Education Program,
 Residency Program

Stetsko, Samuel

Assistant Clinical Professor

Strydom, Carin

Assistant Clinical Professor

Suresh, Varun

Clinical Lecturer

Tang, Cathy

Assistant Clinical Professor

Taylor, Anna

Assistant Adjunct Professor

Terblanche, Ockert

Assistant Clinical Professor

Ting, Yizhen (Heather)

Assistant Clinical Professor
 Department Postgraduate Program Director

Torok-Both, Clinton

Assistant Clinical Professor

Townsend, Derek

Clinical Professor
 Facility Medical Director - University of Alberta
 Hospital, Mazankowski Heart Institute, Kaye
 Medical Clinic

Tse, Jennifer E

Assistant Clinical Professor

Turnbull, Shauna

Clinical Lecturer
 Department Fellowship Director of Pediatric
 Anesthesia

FACULTY

Twomey, Ciaran

Assistant Clinical Professor
Department Fellowship Director of Regional
Anesthesia

Van den Heever, Zacharias

Assistant Clinical Professor

Van Haaften, Timothy

Assistant Clinical Professor

Van Rensburg, Gerhardus

Clinical Lecturer

Van Rooy, Elizabeth

Clinical Lecturer

Vargo, Michael

Assistant Clinical Professor

Varughese, Thomas

Assistant Clinical Professor

Vipulanathan, Nirupan

Assistant Clinical Professor

Wachowski, Ireneusz

Assistant Clinical Professor

Wang, Haotian

Clinical Lecturer

Wildgrube, Peter

Associate Clinical Professor

Wilson, P Scott

Assistant Clinical Professor

Woolsey, Adrianna

Clinical Lecturer

Yeh, Timothy

Associate Clinical Professor

Zaki, Mahmood

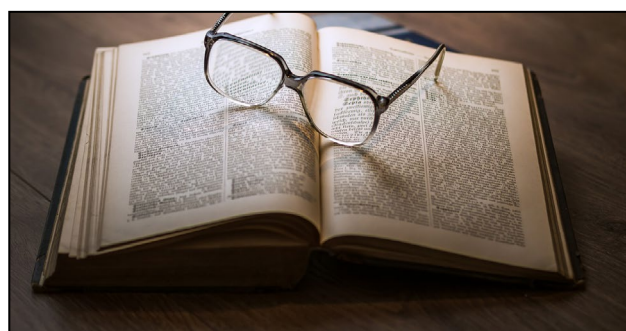
Assistant Clinical Professor
Site Lead, Leduc Community Hospital

Zaugg, Michael

Professor
Department Fellowship Director of Transitional
Research

Ziwenga, Ophillia

Assistant Clinical Professor



DEPARTMENT STAFF

DEPARTMENT OFFICE

Cruywels, Lisa - Academic Department
Manager

Beisel, Susan - HR/Financial Assistant

Harrison, Corrina - Administrative Support

Nowak, Lorraine - Executive Assistant

Prinsen, Rosanne - Communications
Coordinator

EDUCATION

Chaba, Darci - Program Administrator

Kruzenga, Laura - Program Administrator

RESEARCH

Al Mohtar, Dima - Research Assistant

Alsaif, Maha - Project Research Coordinator

Hammal, Fadi - Research Associate


Muneer, Malia - Clinical Research
Coordinator


2022-2023 PUBLICATIONS

COVID-19 Publications highlighted with a

1. Neuman MD, Feng R, Ellenberg SS, Sieber F, Sessler DI, Magaziner J, Elkassabany N, Schwenk ES, **Dillane D**, Marcantonio ER, Menio D, Ayad S, Hassan M, Stone T, Papp S, Donegan D, Marshall M, Jaffe JD, Luke C, Sharma B, Azim S, Hymes R, Chin KJ, Sheppard R, Perlman B, Sappenfield J, Hauck E, Hoefft MA, Tierney A, Gaskins LJ, Horan AD, Brown T, Dattilo J, Carson JL; REGAIN (Regional versus General Anesthesia for Promoting Independence after Hip Fracture) Investigators. Pain, Analgesic Use, and Patient Satisfaction With Spinal Versus General Anesthesia for Hip Fracture Surgery : A Randomized Clinical Trial. *Ann Intern Med.* 2022 Jul;175(7):952-960. doi: 10.7326/M22-0320. Epub 2022 Jun 14. PMID: 35696684.
2. **Dillane D**, Ramadi A, Nathanail S, **Dick BD**, Bostick G, Chan K, **Douglas C**, Goplen G, **Green J**, **Halliday S**, Hellec B, **Rashiq S**, Scharfenberger A, Woolsey G, Beaupre LA, Pedersen ME. Elective surgery in ankle and foot disorders-best practices for management of pain: a guideline for clinicians. *Can J Anaesth.* 2022 Aug;69(8):1053-1067. English. doi: 10.1007/s12630-022-02267-4. Epub 2022 May 17. PMID: 35581524.
3. Bowdridge EC, Thompson J, **Bourque S**, Stapleton P. Editorial: Getting to the heart of developmental toxicities. *Front Toxicol.* 2023 Jan 16;5:1138470. doi: 10.3389/ftox.2023.1138470. PMID: 36726487; PMCID: PMC9886310.
4. Noble RMN, Jahandideh F, Armstrong EA, **Bourque SL**, Yager JY. Broccoli Sprouts Promote Sex-Dependent Cardiometabolic Health and Longevity in Long-Evans Rats. *Int J Environ Res Public Health.* 2022 Oct 18;19(20):13468. doi: 10.3390/ijerph192013468. PMID: 36294045; PMCID: PMC9603818.
5. **Lucchinetti E**, Lou PH, Holtzhauer G, Noureddine N, Wawrzyniak P, Hartling I, Lee M, Strachan E, Clemente-Casares X, Tsai S, Rogler G, Krämer SD, Hersberger **M**, **Zaugg M**. Novel lipid emulsion for total parenteral nutrition based on 18-carbon n-3 fatty acids elicits a superior immunometabolic phenotype in a murine model compared with standard lipid emulsions. *Am J Clin Nutr.* 2022 Dec 19;116(6):1805-1819. doi: 10.1093/ajcn/nqac272. PMID: 36166844.
6. Schroeder KM, **Özelsel T**, **Ip V**. Carbon Footprint of Anesthesia: Comment. *Anesthesiology.* 2022 Jul 1;137(1):122. doi: 10.1097/ALN.0000000000004224. PMID: 35507701.
7. Woodman AG, Mah RL, Kinney S, Holody CD, Wiedemeyer AR, Noble RMN, Clugston RD, **Bourque SL**. Perinatal iron deficiency causes sex-dependent alterations in renal retinoic acid signaling and nephrogenesis. *J Nutr Biochem.* 2023 Feb;112:109227. doi: 10.1016/j.jnutbio.2022.109227. Epub 2022 Nov 23. PMID: 36435294.
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Date	Presenter	Title
September 2	Various Panelists	Special Session - Province-wide Surgery Rounds
September 16	Richard Bergstrom	Iron, where it came from, what it does
October 7	Max Levine/Raymond Xing	Kidney Transplant
October 21	Harissios Vliagoftis	An overview of perioperative anaphylaxis
October 28	Various Panelists	Are traditional transplant ethics consistent with the inclusion of MAID in donor populations?
November 18	Ally Farran	"Catch Me If You Can": Preventing Drug Diversion in the Operating Room
November 25	Lynn Squires	The Perioperative Breastfeeding Patient
December 02	Stephen Van Heyst	Stress Dose Steroids
December 16	Josh Hahn	Perioperative Arrhythmia and CIED Management
January 06	Katherine Impey	ABC's of ACS for the Anesthesiologist Perioperative considerations for Abdominal Compartment Syndrome
January 20	Melissa Shears	VADs for non cardiac surgery
February 03	Ryan Brenneis	The Basics of Lung Ultrasound and Its Evolving Role in Perioperative Anesthesia
February 17	Kristina Jeon	Update on PFTs
February 24	Josh Foley	Processed EEG in Anesthesia
March 03	Alan Chan	Dexmedetomidine: A review of its role in regional anesthesia
March 17	Reid McKibbon	Perioperative Sepsis Management
March 31	Basil Matta	Oxygen Delivery and Cerebral Metabolism
April 21	Michelle Graham	Perioperative Cardiac Complications
April 28	Jamie Hilland	Can Perioperative Anesthesia Influence Oncologic Outcomes
May 26	Yasmin Valji	Sedation for Lower Limb Arthroplasty in Both the Elective and Urgent Setting
June 2	Nori Bradley	ROTEM in the Trauma Bay / ARCH at the U of A Hospital
June 23	Christine Chiu	E-cigarette use and its implications



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