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
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.
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
Kaye 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 workload 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 Airways 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
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 anesthetists 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.

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


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.

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Elective Cases</th>
<th>Emergency Cases</th>
<th>Obstetrical Activity: C-Section</th>
<th>Obstetrical Activity: Vaginal Deliveries</th>
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<tr>
<td>2022/2023</td>
<td></td>
<td>1,560</td>
<td>757</td>
<td>1,589</td>
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<td>2021/2022</td>
<td>7,419</td>
<td>3,228</td>
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<td>2018/2019</td>
<td>10,203</td>
<td>3,374</td>
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*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 anesthetists 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 Strytveen retired after contributing years of collegiality and commitment. We would like to take this opportunity to acknowledge Dr. Strytveen for his outstanding contributions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
<th>Emergency Cases</th>
<th>Obstetrical Activity: C-Section</th>
<th>Obstetrical Activity: Vaginal Deliveries</th>
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<td>2023 (to date)</td>
<td>4,033</td>
<td>1,570</td>
<td>843</td>
<td>1,772</td>
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<td>2022</td>
<td>5,299</td>
<td>2,132</td>
<td>796</td>
<td>2,554</td>
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<tr>
<td>2021</td>
<td>4,876</td>
<td>2,103</td>
<td>741</td>
<td>2,622</td>
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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
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
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 trail**

*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

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**


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.

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.
Selected references


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 autoimmune 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 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


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

Dr. Bradley Kerr

Dr. Derek Dillane

Drs. Gyambibi, Neufeld, Schwarz
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

**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

<table>
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<tr>
<th>Manager</th>
<th>Description</th>
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<td>Bourque, Stephane</td>
<td>Mechanisms of programming of cardiorenal dysfunction by perinatal iron deficiency</td>
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<td>2023</td>
<td>$20,000.00</td>
<td>Faculty of Medicine and Dentistry</td>
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* awarded but ultimately declined by the PI

Total $3,102,595.93
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 Rashiq - 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 Haaften
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.

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.

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.

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

117 applicants
60 interviews
7 matches

LEARNERS

PGY5 | 8
PGY4 | 7
PGY3 | 8
PGY2 | 8
PGY1 | 7
FP-A | 4
FELW | 4

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

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Drs. Fong and Shears
Alberta Cardiac Surgical Resident Retreat
## APPENDIX
### FACULTY

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Additional Information</th>
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<tr>
<td>Achen, Blaine</td>
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<td>Banno, Dean</td>
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<td>Berube, Joel Michel</td>
<td>Associate Clinical Professor, Department Fellowship Director of Cardiac Anesthesia</td>
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<tr>
<td>Bhachu, Santokh</td>
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<td>Bhalla, Raveen</td>
<td>Associate Clinical Professor, Site Lead, Grey Nuns Hospital</td>
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<td>Bishop, Edward</td>
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<td>Bittencourt, Ricardo</td>
<td>Assistant Clinical Professor, Interim Site Lead, Sturgeon Community Hospital</td>
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<td>Booysen, Corne Francois</td>
<td>Assistant Clinical Professor</td>
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<td>Bourque, Stephane</td>
<td>Associate Professor</td>
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<td>Boyle, Riley Matthew</td>
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<td>Breitling, Magnus</td>
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<td>Broemling, Sunita</td>
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<td>Brown, Nathan</td>
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<tr>
<td>Bucyk, Taylor</td>
<td>Clinical Lecturer</td>
</tr>
<tr>
<td>Byers, Justin</td>
<td>Assistant Clinical Professor, Division lead for liver transplant anesthesia</td>
</tr>
<tr>
<td></td>
<td>Department Fellowship Director of Liver Transplant (Feb 2023 -)</td>
</tr>
</tbody>
</table>
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
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Site Lead, Royal Alexandra Hospital

Cheng, Ronald
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Cheung, Joseph
Clinical Lecturer

Chiarella, Angelo
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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, Anuman
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
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Eliasson, Teresa
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Escuder, Juan Ruiz
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Farries, Alayne
Associate Clinical Professor
FACULTY

Fedorow, Christine  
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Field, Nicholas  
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Fielding, Ariane  
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Flexer, William V  
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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
<table>
<thead>
<tr>
<th>Name</th>
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<tr>
<td>Hawkins, Kenneth Wm</td>
<td>Assistant Clinical Professor</td>
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<td>Ho, Pakto (Austin)</td>
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<td>Ip, Hui Yun (Vivian)</td>
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<td></td>
<td>Director, Regional Anesthesia and Acute Pain Medicine, U of A Hospital</td>
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<td>Vice Chair, ASRA newsletter committee</td>
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## FACULTY

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</tbody>
</table>
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
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Sim, Jaime
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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
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Turnbull, Shauna
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Department Fellowship Director of Pediatric
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FACULTY

Twomey, Ciaran  
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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

Vipulananthan, 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 🌐


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The Department of Anesthesiology & Pain Medicine combines exceptional training and research in the areas of anesthesia, pain medicine and perioperative care.

2. **Multidisciplinary Pain Clinic**
Whether you have chronic pain, have a family member with chronic pain, or you are a physician wishing to refer a patient to us, this website contains a great deal of information that we hope you'll find useful.

3. **Postgraduate Residency Program**
Our residents are exposed to a diverse range of clinical settings as Edmonton zone hospitals are at the forefront of modern medical care.

4. **Current Residents**
List of current residents, effective from July 1 2022 - June 30, 2023.

5. **Programs**
The Department of Anesthesiology & Pain Medicine in the Faculty of Medicine & Dentistry at the University of Alberta provides medical training programs across the entire MD educational spectrum.
Total # of postings
64

Total # new followers
58

Total # of impressions
32,011
A total tally of all the times tweets have been seen
### Grand Rounds 2022-2023

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