



THE UNIVERSITY OF BRITISH COLUMBIA
Faculty of Medicine

**DEPARTMENT OF ANESTHESIOLOGY,
PHARMACOLOGY & THERAPEUTICS**
ANNUAL REPORT 2018



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Message from the Department Head



Thank you for taking a few minutes to go through this report. This year the report highlights a few areas in our department, with the usual detailed information placed as appendices. Please share with colleagues in your department, so they too can celebrate the successes of our colleagues as well as hopefully understand this diverse department a little better.

The Department opted in November of 2018 to undergo a governance renewal process, as an outcome of the 2017 department review. The Department has been reorganized into a truly merged department, with a Department Executive, Department Finance Committee, Department Appointments Reappointments and Promotions Committee, a Research Committee and an overarching Education Committee for all of our educational programs. All of these top-level committees are now established and functioning. There will be two full faculty meetings per year, with the first scheduled for September 2019.

Faculty Renewal

The Department needs faculty renewal in Pharmacology and Therapeutics as we have only one Assistant Professor (Partner track. Appointment). Using the department's identified strategic research priorities, we have applied in all 3 rounds of the Faculty Renewal process, and to date have received a shared position with Pediatrics for a basic scientist in the area of Pharmacogenomics of Pain. We will be entering the 3rd round competition in the spring of 2019 for two positions again, one in the critical succession category and one in translational medicine.

The Department's financial position is improved as all debts have been cleared, and there is some soft funding available to support term faculty positions, and/or to build funding to support a professorship. The Department Finance Committee is exploring options in depth and will take their recommendations to the Executive for approval.

The Department has continued to build on faculty development with the fifth annual Faculty Development Day on November 17, 2018. Dr. James Brown, the Faculty Development Director, pulled together an excellent program on 'Physician Leadership in Quality Improvement', led by Danielle Simpson from the BC Patient Safety Quality Council.

Building on the success of the first three years of the Vancouver Summer Program course in Pharmacology, Dr. Andrew Horne is now the Program Director of the UBC Faculty of Medicine Vancouver Summer Program. He will also still be the course director for APT's offerings.

The study program for international medical graduates to prepare for the Royal College Exams in Anesthesiology was created and run for a fourth year, from October 2018 to June 2019. Many anesthesia faculty were engaged as session reviewers and practice oral examiners. If success is candidates who pass their exams after prior failed attempts, then we had a successful program.

Once again the Whistler Anesthesia Summit held in March 2018 was an enormous success, with a star-studded list of anesthesia experts and some excellent workshops. The co-chairs, Dr. Cynthia Yarnold and Dr. Juliet Atherstone are truly formidable organizers, and have pulled together an excellent succession plan to ensure the ongoing success of this UBC-led anesthesia conference.

The Pain Medicine Residency Program has 2 residents now in the program, with funding for additional annual position to start in July 2019. A new Program Director was selected in the fall of 2018 – Dr. Michael Butterfield, a psychiatrist and graduate of the UBC Pain Medicine Residency Program, is the successful successor to Dr. Brenda Lau as of December 2018.

Research continues to flourish within the department. We have some very strong pharmacology researchers with well-established careers, and some early-mid career researchers such as Tillie Hackett who are proving very successful in the highly competitive grant and scholarship opportunities available in Canada. On the anesthesia side, we have clinician-researchers such as Mark Ansermino, Stephan Schwarz, Don Griesdale, Alana Flexman, Himat Vaghadia, Ray Tang, Steve Petrar, Kevin Froehlich, Juliet Atherstone, Gord Finlayson, Jens Lohser, Zoe Brown, Gillian Lauder, Simon Whyte, John Veall, Jason Wilson, Simon Massey, Aaron MacInnes, Peter Choi, Sean McLean, Rael Klein, Kelly Mayson, Andrew Sawka, Jacquie Trudeau, Neal Badner, and Anton Chau, whose work is making a difference in health outcomes.

Teaching is what connects our department, with passion amongst so many for teaching students of all levels and interests. I would like to thank everyone who engages in teaching undergraduates and medical students as I know how important it is for the future of the department to incite passion for our work in our learners. Those teaching in pharmacology receive consistently excellent teaching evaluations and our undergraduate and graduate programs in Pharmacology are highly competitive. Our anesthesia training core sites (VGH, SPH, BCCH, BCWH, RCH) and our affiliated sites (Lions Gate, Richmond, Burnaby, Surrey, Delta, Langley, Abbotsford, Chilliwack, Victoria, Nanaimo, Prince George, Kelowna Vernon, Kamloops, Penticton, Terrace/Mills, Kootenay) all have numerous trainees from various disciplines, and have constant pressure to take on more.

I would like to thank all of you for continuing to be generous with your time, your energy, your knowledge and your passion. Despite our improved departmental financial picture, I can never provide adequate compensation for all your contributed time and effort as I would like to be able to. Let us work on our strategic priorities together, of which the most important is fostering the strengths of our people.

Most appreciatively

A handwritten signature in blue ink, appearing to read "Roanne".

Roanne Preston, MD FRCPC
Department Head

Department Leadership

Roanne Preston – Department Head

Site Chiefs:

Hamed Umedaly – Head, VGH/UBCH Department of Anesthesia & Perioperative Care

Jim Kim – Head, St. Paul’s Hospital Department of Anesthesia

Norbert Froese – Head, BC Children’s Hospital Department of Anesthesia

James Brown, - BC Women’s Hospital Department of Anesthesia

Feisal Mohamedali – Head, Royal Columbian Hospital Department of Anesthesia

Feisal Mohamedali – Regional Head, Fraser Health Authority

Martin Roos – Head, Lions Gate Hospital Department of Anesthesia

Cornel VanWest – Head, Richmond General Hospital Department of Anesthesia

Gavin Gracias – Burnaby General Hospital Department of Anesthesia

Michael Breden – Chilliwack General Hospital Department of Anesthesia

Tom Ruta – Head, Victoria General/Royal Jubilee Hospitals Department of Anesthesia

Andrew Dikieson – Head, Kelowna General Hospital Department of Anesthesia

Tom Cull – Vernon Jubilee Hospital Department of Anesthesia

M Jamil Akhtar – Head, University Hospital of Northern BC Department of Anesthesia

Academic Leadership

T. Laine Bosma – Anesthesia Residency Program Director

Kenneth F. Ryan – Competence by Design (CBD) Program Director

Pascal Bernatchez – Basic Science Research Director

Don Griesdale – Clinical Research Director

Sastry Bhagavatula – Director/Advisor, PCTH Graduate Program

Peter Choi – Medical Undergraduate Program Director

John McAlpine - Family Practice Anesthesia Residency Program Director

John Veall - Simulation Program Director

James Brown - Faculty Development Chair

Giselle Villar – Visiting Professor & Continuing Professional Development Program Director

Cynthia Yarnold and Juliet Atherstone - Whistler Anesthesia Conference co-chairs

Stephan KW Schwarz – Dr. Jean Templeton Hugill Chair in Anesthesia

K Malcolm Maclure – BC Patient Safety Chair

Divisions

Ray Tang/Steven Petrar – Division Heads, Regional Anesthesia

Bobby Lee – Division Head, Cardiac Anesthesia

Alana Flexman – Division Head, Neuroanesthesia

Michael Negraeff – Division Head, Pain Management

Norbert Froese – Division Head, Pediatric Anesthesia

Roanne Preston – Division Head, Obstetric Anesthesia

Jens Lohser – Division Head, Thoracic Anesthesia

James Wright – Co-Managing Director, Therapeutics Initiatives

Ken Bassett – Co-Managing Director, Therapeutics Initiatives

DEPARTMENT HIGHLIGHTS

AWARDS OF EXCELLENCE



Dr. Mark Ansermino

Professor

BC Children's Hospital

Recipient - 2018 CAS Research Recognition Award

For his major contributions to anesthesia research in Canada



Dr. Peter Duncan

Clinical Professor Emeritus

Victoria BC

Recipient – 2018 CAS Emeritus Membership Award

Recognized individual who retired from clinical practice who during their careers, made a significant contribution to anesthesia



Dr. Roanne Preston

Professor & Head

BC Women's Hospital

Nominee – YWCA 2018 Women of Distinction Award – Health & Wellness Category – for extraordinary women leaders with unwavering

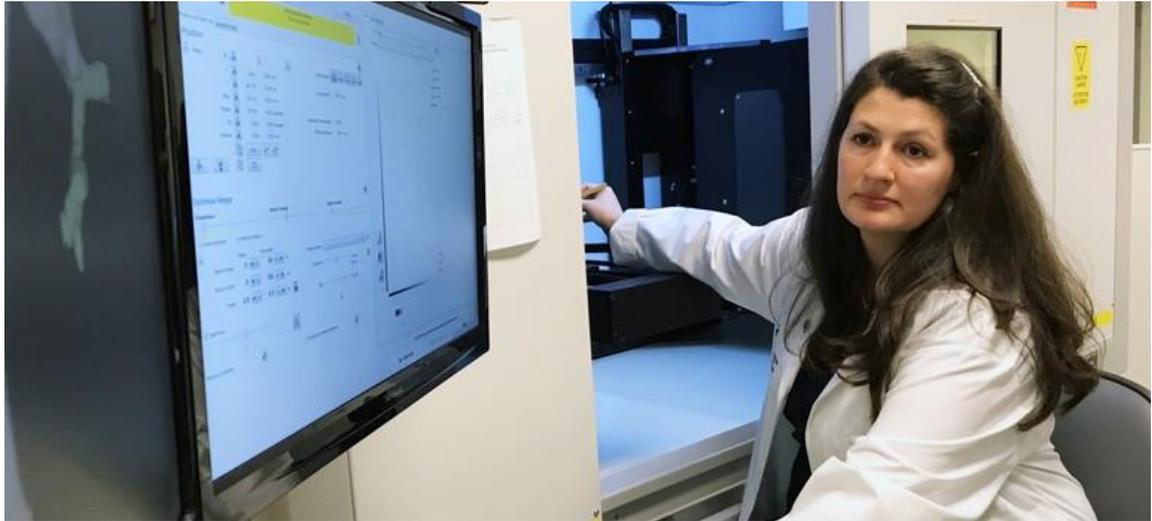
commitment to delivering, promoting and advocating for healthy lives and communities.



Dr. Jens Lohser
Clinical Professor
Vancouver General Hospital
Recipient – 2018 Clinical Excellence Award
Annual Vancouver Medical Staff Association Awards

RESEARCH IN THE SPOTLIGHT

Dr. Tillie-Louise Hackett, PhD
Associate Professor



UBC study raises alarm over COPD's early impact on lungs

(Posted in the Vancouver Sun Newspaper and UBCMedNet news-July 10, 2018)

Permanent lung damage caused by chronic obstructive pulmonary disease (COPD) starts much earlier than previously thought, even before patients are showing symptoms, according to research by the University of British Columbia.

The discovery, published this month in [*The Lancet Respiratory Medicine*](#), could dramatically change how patients are treated for COPD, the leading cause of hospital admissions in B.C. and Canada.

COPD is a chronic, progressive condition that slowly damages the tissues of the lungs. Currently, patients with mild disease, as determined by a lung function test, are given minimal or no treatment.

The researchers found that patients diagnosed with even mild COPD have already lost a significant portion of their small airways — an average of more than 40 per cent.

Tillie-Louise Hackett using the microCT scanner that was instrumental in the discovery about COPD's early destructiveness.

"These patients often have little to no symptoms, so it was believed their lungs were relatively undamaged," said Tillie-Louise Hackett, Associate Professor in the Department of Anesthesiology, Pharmacology and Therapeutics. "Now that we know the severity of the damage, we need to look at earlier intervention to ensure the best outcomes for COPD patients."

The new findings also suggest previous large clinical trials testing new COPD treatments may have failed because patients already had substantial lung damage.

"If the same drugs were tested on patients with more mild forms of the disease, and less tissue damage, the results could be very different," said Dr. Hackett, a principal investigator at St. Paul's Hospital Centre for Heart Lung Innovation (HLI).

Lung samples from 34 patients were analyzed using an ultra-high resolution micro-computed tomography (CT) scanner, one of only three scanners of this kind in the country. The HLI Lung Tissue Registry Biobank at St. Paul's has been collecting specimens for more than 30 years, but the recent addition of the microCT scanner — funded by the Canada Foundation for Innovation and the St. Paul's Foundation — made it possible to image samples that are embedded in paraffin in extreme detail.

It is estimated approximately one in 10 people over the age of 40 may suffer from COPD. Martin Mannette has been living with the disease for eight years. He is managing well with a careful combination of medication, but the 68-year-old is excited about how this research could impact future patients.

"I worry about COPD taking over as the number one killer," said Mannette, "so anything we can do for the next generation so they can avoid COPD is so important."

Professor of Respiratory Medicine Don Sin, the Canada Research Chair in COPD and a St. Paul's respirologist, said the findings have significant implications. By 2020, COPD is expected to be the third leading cause of death worldwide.

"This breakthrough finding will allow us to develop new drugs to treat patients with COPD at the earliest stages of their disease when the disease is reversible," Dr. Sin said. "This will prevent disease progression in thousands of patients and help them stay out of the hospital and remain healthy in their own homes."

12th Annual Research Day and Awards Night

May 22, 2018

Objective: To review research currently conducted by graduate and post-graduate trainees and fellows in the Department of Anesthesiology, Pharmacology & Therapeutics at the University of British Columbia.

Guest Judge & Keynote Speaker

**Dr. Steven Shafer – Professor, Anesthesiology, Perioperative and Pain Medicine
Stanford University
“Clinical Pharmacology: From Michael Jackson to Tensor Flow”**

Winning Presentations:

Oral - Anesthesiology

1st Place – Richard Alexander

ORAL ABSTRACT #31

Greenhouse gases: The choice of volatile anesthetic does matter

Richard Alexander, MD, BSc, Andrew Poznikoff, BSc, Stephan Malherbe, MBChB, MMed, FRCPC
BC Children’s Hospital

2nd Place – Shannon Lockhart

ORAL ABSTRACT #19

The Airway App : exploring the role of smartphone technology to capture emergency front-of-neck airway experiences internationally

LV Duggan(1), **SL Lockhart**(1), TM Cook(2), EP O’Sullivan(3), T Dare(4), PA Baker(5)

UBC, Royal United Hosp,UK, St James Hosp,Dublin; Auckland University,NZ, Starship Children’s Health,NZ

Oral - Pharmacology & Therapeutics

1st Place – Tim Fung

Investigating the Receptor Mechanisms Mediating the Antinociceptive Effects of 1-Amino-1-Cyclobutane Carboxylic Acid

2nd Place – Maartje Westhoff

Individual voltage sensor movements results in IKs channel conductance

Poster - Anesthesiology

1st Place – Ayda Askari

ORAL ABSTRACT # 25

The Early Use of Continuous Positive Airway Pressure In Patients With Obstructive Sleep Apnea Undergoing Transsphenoidal Pituitary Surgery: A Retrospective Cohort Study

William Rieley, BSc MBChB FRCA; **Ayda Askari**, MD BHSc; Ryojo Akagami, MD MSc FRCSC; Peter Gooderham, MD FRCSC; Pieter Swart, MD FRCPC; Alana M. Flexman, MD FRCPC
VGH, Division of Neurosurgery; UBC

2nd Place – Jamie Oentoro

ORAL ABSTRACT # 28

Improving practice through individualized reports on peri-operative quality assurance metrics and complications

JOentoro, MD, CWong, MD, KMayson, MD FRCPC; Vancouver General Hospital, UBC

1st Place – Amélie Pelland (Fellow)

An audit of the adherence to a protocol for cardiac risk assessment and monitoring in adults undergoing non-cardiac surgery at St. Paul's Hospital

APelland;CPrabhakar; CYarnold; UBC, St. Paul's Hospital

2nd Place – Randa Ridgway (Fellow)

ORAL ABSTRACT # 12

Anesthetic sparing effect of dexmedetomidine during TIVA with propofol and remifentanyl for children undergoing dental procedures.

RRidgway, APoznikoff, MGörges,SWhyte – BC Children's Hospital/BC Women's Hosp

Poster – Pharmacology & Therapeutics

1st Place – Yahya Asiri

Effects of Animal Strain on Sec, Circadian Rhythm, and Antinociception on Nociceptive Responses of Hypertonic Saline Assay in Mice

APT 2017 Papers of the Year Award

Basic Science Research Category:

An intraplantar hypertonic Saline Assay in Mice for Rapid Screening of Analgesics

October 2017

Y Asiri, T Fung, S Schwarz, K Asseri, I Welch, C Schuppli, A Barr, R Wall, E Puil, B MacLeod

Clinical Research Category

Dural Puncture Epidural Technique Improves Labor Analgesia Quality with Fewer Side Effects Compared with Epidural and Combined Spinal Epidural Techniques: A Randomized Clinical Trial

February 2017

A Chau, C Bibbo, C-C Huang, K Elterman, E Cappiello, J Robinson, L Tsen

AWARDS NIGHT

RESEARCH COMPETITION WINNERS:

1st Place - Anesthesia Oral Presentation:

Richard Alexander

2nd Place - Anesthesia Oral Presentation:

Shannon Lockhart

1st Place - Pharmacology & Therapeutics Oral Presentation:

Tim Fung

2nd Place - Pharmacology & Therapeutics Oral Presentation:

Maartje Westhoff

1st Place - Anesthesia Poster Presentation - Resident

Ayda Askari

2nd Place – Anesthesia Poster Presentation - Resident

Jamie Oentoro

1st Place – Anesthesia Poster Presentation - Fellow

Amélie Pelland

2nd Place – Anesthesia Poster Presentation – Fellow

Randa Ridgway

1st Place - Pharmacology & Therapeutics Poster Presentation:

Yahya Asiri

AWARDS

Anesthesiology Residents

Dr. Dimitri Giannoulis Memorial Award in Regional Anesthesia – Shannon Lockhart

Dr. John A. McConnell Memorial Award for Academic Excellence – Marcio Penner

Dr. Derek Daniel Wolney Memorial Prize for Clinical Proficiency – Chris Nixon-Giles

Dr. Jone Chang Memorial Award in Anesthesiology Excellence – Kali Romano

Dr. Jone Chang Memorial Prize in Chronic Pain – Justen Naidu

Dr. Anthony Boulton Award for FPA Clinical Excellence – Jordan Hamilton

Dr. Paul Kliffer Golden Epidural Award - Katrina Genuis (Jr Resident)

-Nav Chima (Sr Resident)

Dr. Michael Smith Award for Pediatric Anesthesia – Justen Naidu

Dr. Keith Mills Award for Excellence in Neuroanesthesia Studies – Evan Shao

Dr. Keith Mills Bursary for Neuroanesthesia Studies – Amber Galbraith

*RCH Resident Award for Clinical Excellence – Katrina Genuis (Jr Resident)
Nav Chima (Sr Resident)*

Ken C.K. Wong Award for Clinical Teaching – Alan Tung

VGH Kenny Wong Award for Clinical Excellence and Collegiality – Alexandre Lefebvre

*UBC APT Advance Simulation Program Awards
– Martha DiGiuseppe, Kristen Kidson, Matthew Walker*

Pharmacology & Therapeutics Undergraduate

*Esther Anderson Memorial Prize (highest graduating average in Honors Pharmacology)
Mr. (Tom) Theophile William Ouellette*

*Prakash Gill Memorial Prize (highest graduating average in Majors Pharmacology)
Ms. Helia Shariati & Mr. Tatsuma Hind*

*MERCK Canada (formerly FROSST) Medical Scholarship (final year medical student who has made
achievement in Therapeutics -
Mr. Sarpreet Sekhon*

*MERCK Canada Scholarship in Medicine -
Ms. Carol (Rui Qi) Dou*

FACULTY AWARDS

Master Teacher Awards:

Vancouver General Hospital– Dr. Henrik Huttunen

St Paul’s Hospital – Dr. Chris Prabhakar

St Paul’s Hospital – Dr. John Bowering

Royal Columbian Hospital – Dr. Laura Duggan

BC Children’s Hospital – Dr. Zoe Brown

BC Women’s Hospital – Dr. Anton Chau

Rural/Community hospitals – Dr. John Veall (LGH)

Medicine – Dr. Don Griesdale (Critical Care)

Family Practice Anesthesia Master Teacher Award – Dr. Kathleen Dalinghaus(Yukon)

Family Practice Anesthesia Master Teacher Award – Dr. Zoe Brown (BCCH)

Family Practice Anesthesia Master Teacher Award – Dr. John Veall (LGH)

Dr. Dimitri Giannoulis Resident Appreciation Award - Dr. Alana Flexman

**PROMOTIONS, RESEARCH AWARDS, SCHOLARSHIPS AND OTHER KUDOS
In 2018:**

Promotions:

Clinical Instructor to Clinical Assistant Professor:

Dr. Barry Thorneloe – Royal Columbian Hospital

Dr. Nick Kuzak – Kelowna General Hospital

Clinical Assistant Professor to Clinical Associate Professor

Dr. Giselle Villar – BC Women’s Hospital

Dr. Sarah Hall – Nanaimo General Hospital

Dr. Laine Bosma – St. Paul’s Hospital

Dr. James Kim – St. Paul’s Hospital

Dr. Bobby Lee – St. Paul’s Hospital

Dr. Oliver Applegarth – Vancouver General Hospital

Dr. Alana Flexman – Vancouver General Hospital

Dr. Henrik Huttunen – Vancouver General Hospital

Dr. Jonathan McEwen – Vancouver General Hospital

Dr. Raymond Tang – Vancouver General Hospital

Dr. Thomas Perry – Pharmacology & Therapeutics Section

Clinical Associate Professor to Clinical Professor

Dr. Terence Waters – Vancouver General Hospital

Hospitals and Health Centres

CLINICAL OVERVIEW

Department Statistics

Full-time faculty - 21

Clinical Faculty - 463

Fellows - 14

Residents - 59

Medical Students - 224

Number of ORs – 210

Pharmacology Graduate Program – 19 students

Pharmacology Undergraduate Program – 39 students

Postdoctoral Fellows -11

BRITISH COLUMBIA CHILDREN'S HOSPITAL

Dr. Norbert Froese

Department Head



The Department of Pediatric Anesthesia at BC Children's Hospital continued in its role as a foundation of academic and clinical medicine centred at BC Children's Hospital. 2018 was the first full calendar year in the hospital's new TECC Acute Care Centre. Advanced care was facilitated by the new larger and well equipped procedure suites and universal single family rooms. Challenges related to new workflows and spaces were mitigated by a collaborative effort of the health care team.



2018-19 Fellows Prakash Krishnan and Richard Lin with Heng Gan far left and Matthias Gorges far right

The clinical fellowship program remained strong and active, providing both advanced pediatric anesthesia clinical training and academic research and teaching opportunities for our fellows. Richard Lin and Prakash Krishnan, both from the UK, were our 2018-2019 Fellows. In 2018 Dr. Katherine Bailey established a plan to increase clinical fellowship numbers from the longtime number of two up to a goal of four. Department case number data was used to show the ability to support the increased fellow numbers. Work is underway to develop funding streams for additional fellow remuneration. A third fellow, from Uganda and separately funded will be joining the department for the 2019-2020 academic year and will test the increased fellow number model.

BC Children's Hospital remained an active and engaged partner in the UBC anesthesia residency training program. In addition the department continues to provide exposure to anesthesia to non-anesthesia residents and fellows as well as medical students and associated health care providers.

BC Children's Hospital annual Provincial Pediatric Anesthesia Update course was again staged in 2018. This course brings anesthesia providers with a pediatric practice together with our sub-specialist pediatric anesthesiologists for a day of simulation, problem based learning and didactic lectures. It is well received and is an important component of education outreach for the department.



2018 Pediatric Anesthesia Update Course

The restructured Pediatric Anesthesia Research Team under the leadership of co-chairs Simon Whyte and Matthias Gorges consolidated its operations in 2018. It has proven to be sustainable and effective in supporting clinical research in the Department. Andrew Poznikoff as the department's research coordinator provides the backbone of the unit's research support. The unit's effectiveness is evidenced by the breadth of active projects and the number of staff anesthesiologists involved in clinical research projects.

Mathiew Kiberd, a relatively new addition to our staff left the department in 2018 for further training in Pediatric Cardiac Anesthesia and then back to his home in Halifax.

Dr. Richard Lee who has long been a pillar of the Department had previously retired from regular practice. He continued to work part time through 2018 but announced his intention to completely withdraw from all clinical practice at the end of 2018. The Department is grateful for Dr. Lee's leadership over many years and looks forward to his continued presence at academic rounds and other department events.

We welcomed Dr. Randa Ridgway in October of 2018 as a new addition to our staff. Dr. Ridgway was well known to the Department having finished her fellowship in June of the same year. Among her many contributions, Dr. Ridgway will co-lead the acute pain service.

We also welcomed Dr. Cheryl Peters as a Department Member in 2018. Dr. Peters completed a combined Pediatric Anesthesia / Pediatric Intensive Care Medicine fellowship at BCCH and will play a valuable role in bridging these two areas.



BC Childrens' Hospital Department of Anesthesia Faculty and Staff 2018

**BRITISH COLUMBIA WOMEN'S HOSPITAL
& HEALTH CENTRE**

Dr. Roanne Preston
Dr. Simon Massey
Interim Co-Department Heads



Following the opening of the Teck Acute Care Centre (TACC) in October 2017, which provided BC Women's with a new LDR, ORs and 70-bed NICU, BCW has had ongoing renovations in order to improve the aging building that holds most of the BCW services. The Urgent Care Centre on the main floor is functioning well. The Fir unit for women with substance-use issues has been relocated into the old Children's hospital, providing better space for these longer-stay women. Renovations to increase our single-room maternity room capacity by 10 rooms is currently underway. Following the completion of that project, we are planning on expansion and relocation of the ambulatory services and gynecology daycare surgery program. We now also have a gynecology procedural sedation program, with trained RNs providing the sedation services. We now have 24/7 Anesthesia Assistant coverage which allows us to provide cell salvage services again.

Our fellowship program is highly sought after, and currently run by the very skilled Dr. Anton Chau who is also the Research Director for our department.

We have successfully recruited 3.5 new faculty, one has already joined us and the others will over the course of the next year.

VANCOUVER GENERAL/UBC HOSPITALS

Dr. Hamed Umedaly

Department Head



Executive Summary

2018 was an excellent year with such highlights as the enhanced transplant volumes, the ongoing evolution of higher risk quaternary referral patients, the recruitment of tremendous talent and expertise to care for high risk patients and the superb level of education for medical students, residents and fellows.

The challenges for the next few years will be incorporating the Cerner Clinical Transformation into the anesthesia workflow and enhancing the information data available to investigate and advocate for quality and safety improvement and educational opportunities.

Above all, of paramount importance will be the training, recruiting and retaining of talent necessary to care for high risk patients, and the need to educate the future generations of anesthesiologists for the benefit of British Columbians and Canadians.

Solid Organ Transplantation

Volume of work has increased dramatically to the following:

Liver Transplant	86
Lung Transplants	52
Kidney Transplants	110

This access has led to significant opportunities in improved patient care and education but has been challenging as the vast majority of this work is highly complex, high gravity care that occurs after-hours.

Fellowships

The excellent fellowship program at VGH continues to develop under the leadership of Drs. John Dolman and Pamela Lennox. Every year about 5 to 6 Fellows originating from the UK, Australia, New Zealand and Ireland, have trained in general fellowships in Cardiac Anesthesia, Neuroanesthesia and Perioperative Care.

Simulation

Dr. John Veall joined our department and is leading the UBC Academic Anesthesiology Simulation Program.

Dr. Andrew Sawka has been leading the in-situ simulation program together with Emergency Medicine, OR & PACU Nursing, Trauma Surgery and other departments which include the Blood Bank, Laboratory Medicine and Obstetrics. This program has two significant areas of patient care systems where there are opportunities for improvement, in particular, with communication.

OR Development and Rejuvenation

Drs. Oliver Applegarth and Rael Klein have represented the department in leading the O.R. re-design. 16 new O.R.'s are being built on the 3rd floor of JPP, with the plan for them to come online in 2021, following which, the 2nd and 3rd phases will occur to renew the 2nd floor O.R.'s with the building of a second hybrid OR and a purpose built simulation O.R.

Equipment & Technology

Following an outstanding fund-raising effort, the department has been able to secure funding for point-of-care videolaryngoscopy for all sites, improved state-of-the-art technology for flexible video bronchoscopy equipment and upgraded perioperative Echocardiography equipment. Rotational Thrombelastography is available as virtual point care testing as has guided goal directed product transfusion to mitigate acquired perioperative coagulopathies in transplantation cardiac surgery and trauma.

Research, Discovery & Publications

Research is thriving under the leadership of Dr. Ray Tang and reported under the research heading.

Funding for Research was continued by a commitment made by the department matched by the VGH UBC Hospital Foundation.

Kudos:

Dr. Jacqueline Trudeau - Merit Research Awards by VADA & VHAS

Dr. Jens Lohser –Vancouver Acute Clinical Excellence Award

Dr. Alana Flexman - ***Dr. Dimitri Giannoulis Resident Appreciation Award***

Dr. Henrik Huttunen – Master Teacher Award

Dr. Alana Flexman was appointed to the editorial board of the Canadian Journal of Anesthesia and continues as a member of the Standards Committee for the Canadian Anesthesiologist Society and is the Neuroanesthesia Section Chair for the CAS and a member of the executive for the Society of Neurological Anesthesia and Critical Care.

Dr. Pieter Swart continues to serve on the Standards Committee for the Canadian Anesthesiologist Society.

“Congratulations to all in recognition of these meritorious contributions”

New Staff Recruitment for 2018

Dr. Navraj Chima

Dr. Laura Duggan

Dr. Darren Mullane

Dr. Justen Naidu

Dr. Chris Nixon-Giles

Dr. Kali Romano

Dr. John Veall

Departures in 2018

Dr. Stuart Herd - Returned to London, Ontario after having served for 8 years as Clinical Associate Professor and Associate Head UBC Hospital.

Retirements

Dr. Patrick O'Connor

Dr. Theodore Weideman

Returned from Fellowship 2018

Dr. Sandy Kisilevsky	Neuroanesthesia	University of California, San Francisco
Dr. Alex Wong	Regional Anesthesia	Sunnybrook Health Sciences Centre
Dr. Donald Young	Perioperative Medicine	UBC & McMaster University

Departure for Fellowship 2018

Dr. Steve Moore	Hepatobiliary & Liver Transplant	Toronto General Hospital
Dr. Jei-Eung Park	Hepatobiliary & Liver Transplant	UCLA Medical Centre
Dr. Kali Romano	Critical Care Medicine	UBC
Dr. Peter Rose	Regional Anesthesia	Ottawa Hospital

Anesthesia Residency Program

Site Coordinators - Drs. Chris Durkin & Travis Schisler

- Coordinating excellent general clinical and subspecialty anesthesiology in Neuro, Cardiac and Thoracic Anesthesia, as well as, focusses in Hepatobiliary, Perioperative Care & Perioperative Pain.
- Effectively incorporated Competency By Design paradigm into the education at Vancouver Acute
- Coordinated and led academic days and clinical rounds.
- Dr. Alexandre Lefebvre – awarded the Dr. Kenny Wong Clinical Excellence & Collegiality Award

Medical Students Rotation in Anesthesiology

Curriculum & Teaching	Dr. Peter Choi
3 rd Year Rotation Students	Dr. Cristin McRae
4 th Year Elective Students and CaRMS / Residency Selection Committee	Dr. Jamie Walker
	Dr. Chris Durkin
	Dr. John McEwen
	Dr. Sean McLean
	Dr. Kali Romano
	Dr. Peter Rose

ROYAL COLUMBIAN & EAGLE RIDGE HOSPITALS

Dr. Feisal Mohamedali
Department Head



Royal Columbian and Eagle Ridge Hospitals

The Department of Anesthesiology and Perioperative Medicine provide services at both Royal Columbian and Eagle Ridge Hospitals. The Royal Columbian Hospital is one of only two Level 1 trauma centers in the province and serves as the tertiary care referral center for the entire Fraser Health Authority, which serves over 1.8 million people. The Royal Columbian Hospital is one of the few remaining truly general hospitals, provides a wide spectrum of surgical services. In fact, the range of surgical services provided at the Royal Columbian Hospital is unmatched by any other single site in British Columbia. It is the highest volume cardiac center in BC and also sees the most high-level trauma. The Royal Columbian Hospital continues to have one of the best NICU units in North America and is the one of the few centers in BC that can handle high-risk OB cases that require ICU and/or cardiac care for the mom while also being able to care for the sickest baby. Interestingly, over 60% of the cases performed at RCH are classified as urgent/emergent. Over the last decade, NSQIP data has consistently ranked RCH surgical patients as having the highest acuity amongst the hundreds of North American hospitals participating in the study and over 60% of our cases are non-elective emergency work. Finally, the Royal Columbian Hospital is actively involved in a number of multicenter randomized trials and is constantly expanding its research activities including the hiring of a full-time research assistant for 2019/2020.

Eagle Ridge Hospital is our lower acuity center. There are six operating rooms that provide space for nearly 10,000 surgical cases a year, the majority of which are Surgical Day Care cases. Most of the pediatric cases done by the Department are performed at Eagle Ridge Hospital.

VANCOUVER ISLAND HEALTH AUTHORITY

Sites:

**Victoria General Hospital, Cowichan District Hospital
Royal Jubilee Hospital, Westcoast General**



Hospital

**Saanich Peninsula Hospital, Nanaimo Regional Hospital
Comox Valley Hospital, Campbell River Hospital**

Dr. Tom Ruta

Department Head and Medical Director for Vancouver Island Health Authority

Division Heads:

Dr. Mike Atherstone: Campbell River/Comox Valley Hospital

Dr. Jim Capstick: Nanaimo Regional Hospital/West Coast General Hospital

Dr. Steven Krauss: Cowichan District Hospital/Saanich Peninsula Hospital

Dr. Terry Murphy: Royal Jubilee Hospital/Victoria General Hospital

Dr. Christie Avenant: Family Practice Anesthesia

The health authority's mandate was continue to reduce surgical waiting lists. As a result, there were additional funds available to support this initiative and were principally directed to do more joint and dental surgery. This required additional hiring of nurses, surgeons, AA's and anesthesiologists.

View Royal Surgical Center is a private surgical center that opened in 2017 to help reduce surgical wait lists. The goal is to have 2 rooms running and they will be doing same day cases on ASA 1 and 2 patients.



Dept Highlights

Dr Logan Lee is our Education Representative and has helped coordinate the many students and residents training in the South Island.

Meghan O'Connell, organizes our CME events for the year

Dr Shuen King and Dr Sarah Hall (NRGH) continued to organize simulations for dept members.

Several south island members host a Resident Exam Session annually in Victoria

Many sites host evening journal rounds and these have been successful in helping members get together and discuss topics of interest.

Dr Brent Caton organizes a CARE team from Victoria that travels to Guatemala annually

Dr Peter Duncan was awarded an Emeritus Professor award at UBC

Future

The Department continues grow to meet increased surgical demand and provide innovative ways to improve efficiency and quality of care. It is a very exciting and busy time.

We have had a great year and continue to appreciate the talented people contributing to the care of patients and education of others.

NANAIMO REGIONAL GENERAL HOSPITAL

Dr. Sarah Hall, Site Coordinator

Nanaimo Regional General Hospital (NRGH) has 288 acute-care beds and serves as a regional referral centre for mid and upper Vancouver Island. Residents typically enjoy exposure to interesting ENT and general surgery cases, with frequent awake intubations. Nanaimo is a great place to get exposure to pediatric cases and to consolidate obstetrical anesthesia skills. A wide range of general, urologic, plastic, maxillofacial and orthopedic surgeries is performed with an emphasis on regional and neuraxial techniques. Department members staff a Preadmission Clinic and monthly Morbidity and Mortality rounds are held. Three anesthesiologists are involved in the Interventional Interdisciplinary Pain Program where 7000 patients are seen annually.

2018 marked the year that our most senior member, Bob Gautois hung up his shingle (in theory, as he still works almost as much as a locum!). He recalls the days before capnography and when pulse oximeters were shared between rooms. Bernice Duan joins the Nanaimo team in his place. Hans Babst, Jason Lee, John Riendl, Scott Neilson, Paul Castner, Sarah Hall, Georgia Hirst, Michael Seltenrich, Jim Capstick, Karen Wong, Trevor VanOostrom, Michael Pariser, Theo LeRoux, Mark James and Karl Muendel carry on the battle.

Summary of 2018:

- Dr. Jim Capstick served as Division Head Specialist Anesthesia Geography 2 and Medical Lead Anesthesia NRGH
- The Simulation program continued to be highly successful. The Inter-professional Perioperative Simulation Workshops, for which we have obtained Section 3 accreditation, have proven to be very popular, engaging nurses, physicians (including anesthesiologists, surgeons and ER docs) and RTs. The latest expansion is the initiation of a sim program for PAR staff.

- Our Anesthesia Assistant department has three full time positions. Jessica Barak joins Paul Gear and Sarah Repa and we now have coverage on weekends!
- The Anesthesia Consult Clinic is undergoing a complete redesign under the guidance of Dr. Karen Wong.
- We are working on updating our pre-operative testing to conform with the Choosing Wisely Canada Guidelines.
- ERAS is being implemented.
- Our monthly Journal Club, typically led by the Anesthesia resident rotating through, is held at a different restaurant every month and is a very popular event.



Airway Simulation in OR



Journal Club at Mahle House with Dr. Mihaela Van Idour presenting.

Every year, our department hosts medical students and residents from UBC, across Canada and throughout the world. We look forward to welcoming more students, continuing to be pioneers in the simulation world and to ongoing medical education in 2019.

Pharmacology and Therapeutics

PHARMACOLOGY

As part of the Department of Anesthesiology, Pharmacology & Therapeutics (APT), we are committed to excellence in Pharmacology and Anesthesiology education and research through creativity and dedication. Our present research strength is in areas of neural, cardiovascular, respiratory, ion channels, and clinical pharmacology as well as drug development. We have strong collaborations within the Department in Anesthesiology, Pharmacology and the Therapeutics Initiative as well as outside of the Department.

In addition to research efforts, we have maintained our excellence in teaching at the undergraduate, graduate and postgraduate levels in both pharmacology and therapeutics. The department has been offering degree programs in undergraduate and graduate pharmacology. The PCTH 514 seminar series, led by Drs. Pascal Bernatchez and Issy Laher, continue to provide opportunities for our students to share their research interests and accomplishments with opportunity for faculty and students to be exposed to other related research areas from within and outside the university.

Medical Undergraduate Teaching

Pharmacology-driven educational activities and assessable learning objectives have been incorporated into most weeks of the year 1 and 2 curricula. The Department has increased its engagement of faculty members to give pharmacology lectures. Existing Case Based Learning (CBL) cases are undergoing review for opportunities to add further pharmacology content. We have been working collaboratively to include pharmacology in multi-disciplinary clinical reasoning sessions, and collaborations with complementary theme leads (e.g. patient safety, addictions) have provided further opportunities to reinforce pharmacology principles.

The clinical experiences in years 3 and 4 continue to focus on clinical rotations where pharmacology teaching is integrated into the clinical setting. Further pharmacology teaching is being incorporated into several aspects of the new Transition into Professional Practice (TIPP) course, which is presently being developed.

Graduate Program

The department offers both Ph.D. and M.Sc. degrees in pharmacology and therapeutics. In 2017-2018, 3 new MSc students joined, and 4 students graduated with a degree (1 MSc and 3 PhDs).

Undergraduate Pharmacology

Undergraduate Education-Non-Medical, Bachelor of Science

The Department offers a 4-year B.Sc. and a 5-year B.Sc. Co-op Education program in Honours as well as Major pharmacology. The aim of our programs is to produce a graduate broadly trained in all aspects of pharmacology. The B.Sc. Pharmacology program has been in existence under the Faculty of Science for about three decades. In the first and second years, the students take a basic science program.

The program emphasizes the experimental and laboratory aspects of Pharmacology and students learn both the whole animal and isolated tissue techniques as well as biochemical and chemical procedures. Skills that are stressed include the ability to search for information, design appropriate experiments, carry out experiments individually and as a member of a team, analyze data and, communicate and write effectively.

Since there is room for a maximum of 24 students in third year, all those registered in second year are interviewed by Dr. S. Karim as part of the selection process. Entrance to third year is primarily on the basis of marks and completion of a minimum of 60 credits within the winter terms of year 1 and 2. Students then select Honours or Majors in either the four year or five year (Co-op) program.

Co-op Program

For the co-op program, in addition to classical laboratory-based university instruction, the students will do 12 to 16 months of paid work placement (i.e., 3 to 4 work-terms) in pharmacology research laboratories in pharmaceutical companies or academic institutions.

Work placement starts in May or September after the completion of year 3 and continues through year 4. Students in the honours program will take additional credits in years 2,3, and 5 and conduct a laboratory-based research project for 6 months during year 5 (Sept. to March) within the Department and present an Honours thesis (PCTH 449).

Students participating in the Co-op program register for PCTH 398, 399, and 498, in addition to the normal academic requirements, and pay the Co-op Education Program fee for each course (see Index for Fees-Special Fees). PCTH 499 is optional for students who want to have four work placements.

Over the past few years, we have had our co-op students placed in various pharmaceutical and biotechnology companies in Canada, Japan, Germany, Singapore, Austria, and the United States.

THERAPEUTICS INITIATIVE

Dr. James Wright MD PhD FRCPC
Co-Managing Director

Dr. Ken Bassett, MD MA PhD
Co-Managing Director



The Therapeutics Initiative (TI) was established in 1994 with the mission to provide prescribing physicians and dispensing pharmacists with up-to-date, evidence-based, practical information on prescription drug therapy in British Columbia. It is currently supported by a 5-year grant from the BC Ministry of Health to the University of British Columbia. The grant was first established in 1994 and the current grant ensures funding until March 31, 2023.

Over the years, the TI has substantially enhanced its ability to assess the clinical evidence presented in published articles, meta-analyses by the Cochrane Collaboration and scientific material presented by the pharmaceutical industry. In pace with the extensive assessment of clinical evidence, the TI has also developed effective ways of knowledge translation and dissemination of this evidence to all active players involved in drug therapy: physicians, pharmacists, nurses and policy-makers (Ministry of Health) and is committed to analyzing its own impact.

The TI is composed of 6 working groups that collaborate to assess and disseminate clinical evidence of prescription drugs:

- 1. Drug Assessment Working Group (DAWG):** assesses the clinical evidence of effectiveness and safety of new and existing drug therapies in the province and relate that evidence to the care of individual patients. The DAWG completed 7 therapeutic reviews of single drugs and drug classes last year.
 - Empagliflozin for type 2 diabetes
 - Liraglutide for type 2 diabetes
 - COPD therapeutic class review
 - Trelegy Ellipta (FF/UMEC/VI) for COPD
 - Shingrix vaccine for herpes zoster
 - Lumacaftor-ivacaftor for cystic fibrosis
 - Pharma cannabinoids and herbal cannabis following motor vehicle injury

The DAWG provides problem-based learning opportunities regarding critical appraisal of clinical trials. Over 40 practicing physicians, residents and trainees (graduate, pharmacy and medical students from UBC) attended DAWG meetings last year. They participated in drug assessment projects, where they presented and discussed the findings with the rest of the team. Students visiting from other medical schools also attended DAWG meetings and learned to critically appraise systematic reviews. In addition, international

experts in the field of evidence-based medicine visited the DAWG and shared their knowledge, most notably Professors Kay Dickersin (Director, Center for Clinical Trials and Evidence Synthesis, Johns Hopkins), Dee Mangin (Associate Chair of the Department of Family Medicine, McMaster University), and Lalitha Raman-Wilms, Dean of Pharmacy at the University of Manitoba.

2. PharmacoEpidemiology Group (PEG): conducts original research on utilization of prescription drugs and patient outcomes through analysis of administrative data. This working group also evaluates the effects of the Therapeutics Initiative interventions on drug prescribing in the province. In last year's mandate, PEG completed 3 epidemiological studies and developed a novel monitoring tool for medicines with potential unknown adverse and beneficial effects.

- Major adverse cardiovascular events (MACE), mortality and hospitalization associated with SGLT2 inhibitors versus other diabetes drugs
- Biosimilars: The Effect of a New Coverage Policy for Anti-inflammatory Medications (Infliximab & Etanercept) in Non-Gastrointestinal Diseases
- Biosimilars: The Effect of a New Coverage Policy for Insulin Glargine (Lantus®, Basaglar™)
- Sequence Symmetry Analysis Tool (SSAT) to detect signals of medicines with potential unknown adverse and beneficial effects.

The PEG also developed a training syllabus for economists and analysts, and other interested staff in the Ministry of Health to internally conduct drug assessments. The initial curriculum will initially consist of three modules to be delivered in 2019:

- Module 1: Introduction and Epidemiologic Measures
- Module 2: Confounding, Study Designs and Stratified Analysis
- Module 3: Logistic Regression

3. Quality Prescribing Working Group (QPWG): designs and implements interventions to improve the quality of prescribing in BC through the use of individualized physician prescribing feedback ("portraits") and other educational tools. The QPWG has developed frameworks and processes for the development, implementation and evaluation of the prescribing improvement program. Three prescribing portraits have been undertaken:

- UTI and Antibiotics in Residential Care
- Antipsychotics in Residential Care (CLEAR initiative)
- Antibiotic use for dentists

As a new TI working group, the QPWG has spent considerable time establishing partnerships in order to increase physician engagement and facilitate dissemination of prescribing portraits; partners include:

- BC Patient Safety and Quality Council
- Do Bugs Need Drugs
- Vancouver Division of Family Practice
- Provincial Academic Detailing Service
- College of Dental Surgeon of BC

- BC Centre for Substance Use
- BC Primary Care Research Network

4. Education Working Group (EWG): conducts a range of educational programs for physicians and pharmacists regarding drug therapy. The EWG held more than 25 educational events last year across BC attended by over a thousand healthcare professionals, highlights:

- Drugs, Dinosaurs & Dinner 3D Conference with Northern Health in Tumbler Ridge, BC on May 25-27, 2018
- Journal Pub and hospital rounds in Campbell River, BC on May 29-30, 2018
- Therapeutics Initiative Conference: Using Evidence Practically – offered in collaboration with the Nanaimo Division of Family Practice in Nanaimo, BC on October 25-26, 2018
- Best Evidence for Clinicians: Annual UBC Therapeutics Initiative Course at Surrey Memorial Hospital in Surrey, BC on October 27, 2018
- Practical Deprescribing in Residential Care in Victoria, BC on December 14, 2018

The EWG has also provided teaching and training sessions on evidence-based medicine, systematic review, meta-analysis methodology, and critical appraisal of randomized controlled studies for a diverse medical and pharmacy student body.

- 12 elective medical students coming from BC, Quebec, Alberta, Australia and New Zealand.
- 20 pharmacy practice residents for a 2-week to one-month critical appraisal rotation.

The TI website www.ti.ubc.ca is regularly updated and includes evidence-based information of the TI Working Groups, upcoming educational events and the Therapeutics Letters. With over 73,400 registered users, utilization of the TI website increased steadily throughout the year reaching over 83,000 sessions in March 2019, an increase of 87% compared to March 2018. The TI presence on Twitter also increased exponentially in the last year with the new TI recruits who are prominent on social media. In March 2019, there were 146 tweets, 1889 profile visits, 126 mentions and 149,000 tweet impressions (number of times users saw our tweets on Twitter).

5. Therapeutics Letters Working Group (TLWG): publishes Therapeutics Letters that provide brief practical messages on how to deal with problematic therapeutic issues. The publication process involves a literature review and development of the message by several TI working groups. All issues of the Therapeutics Letter are available on the TI website in English and Spanish. The TLWG published 9 Therapeutics Letters in 2018:

- December: [116] New drug for cystic fibrosis: Regulatory approval, clinical uncertainty?
- November: [115] Cannabinoids for Chronic Pain
- October: [114] Shingrix: A New Vaccine for Shingles
- September: [113] How well do you know your anticholinergic (antimuscarinic) drugs?
- July: [112] Antidepressant Withdrawal Syndrome
- June: [111] Deprescribing Proton Pump Inhibitors
- May: [110] Stimulants for ADHD in children: Revisited
- February: [109] Inhaled long acting β 2 agonists for COPD

- January: [108] Drugs to avoid

Therapeutics Letter 110 entitled “Stimulants for ADHD in children: Revisited” received significant media attention. The Letter warns about increasing use of ADHD stimulants drugs for children in BC and an intriguing relationship between birth month and stimulants use. The Letter, reporting on published evidence produced by the TI, said that “there is convincing evidence that a proportion of boys and girls treated with stimulants in BC and around the world are simply the youngest in their class”, where children born between September and December are much more likely to be prescribed ADHD medications. The findings appeared in stories from many news outlets, most notably the Globe and Mail, Vancouver Sun, CKNW, Victoria CBC, and Vancouver CBC’s program On the Coast. This work by TI researchers was replicated in at least six other countries around the world, with similar findings.

6. Cochrane Hypertension Group (CHG): prepares, maintains and promotes systematic reviews of the effects of healthcare interventions for hypertension. The scope of CHG includes randomized controlled trials of interventions evaluating blood pressure and clinical outcomes for the prevention and treatment of essential hypertension. Part of the international Cochrane Collaboration, the CHG published 4 systematic reviews and 2 protocols in 2018.

- Yang J, Chen J, Yang M, Yu S, Ying L, Liu GJ, Ren Y-I, Wright JM, Liang F-r. Acupuncture for hypertension. Published 13/11/2018 in Issue 11, 2018. DOI: 10.1002/14651858.CD008821.pub2
- Wright JM, Musini VM, Gill R. First-line drugs for hypertension. Published 18/04/2018 in Issue 4, 2018. DOI: 10.1002/14651858.CD001841.pub3
- Chen YJ, Li LJ, Tang WL, Song JY, Qiu R, Li Q, Xue H, Wright JM. First-line drugs inhibiting the renin angiotensin system versus other first-line antihypertensive drug classes for hypertension. Published 14/11/2018 in Issue 11, 2018. DOI: 10.1002/14651858.CD008170.pub3
- Saiz LC, Gorricho J, Garjón J, Celaya MC, Erviti J, Leache L. Blood pressure targets for the treatment of people with hypertension and cardiovascular disease. Published 19/07/2018 in Issue 7, 2018. DOI: 10.1002/14651858.CD010315.pub3
- Schmidt B-M, Durao S, Toews I, Bavuma CM, Meerpohl JJ, Kredt T. Screening strategies for hypertension (Protocol). Published 29/11/2018 in Issue 11, 2018. DOI: 10.1002/14651858.CD013212
- Shawish MI, Bagheri B, Musini VM, Adams SP, Wright JM. Effect of atorvastatin on testosterone levels (Protocol). Published 04/12/2018 in Issue 12, 2018. DOI: 10.1002/14651858.CD013211

The renewal of the grant from the BC Ministry of Health in 2017 was accompanied with a significant increase in funding to support the expansion of TI operations. The strategic plan for 2018 was to set up the infrastructure in order to cope with higher magnitude projects and increase our impact in the province and beyond.

Many new staff and contractual hires with critical appraisal, programming, statistical analysis, project management, communications, and clinical expertise have harmoniously enhanced the productivity of all six working groups of the TI. Notable hires are Drs. Rita McCracken (Family doctor in East Vancouver), Jessica Otte (Family doctor in Nanaimo), and Cait O'Sullivan (Provincial Academic Detailing pharmacist) who have been contributing at expanding the horizons of the TI educational events. Dr. McCracken who also completed a research doctorate degree from UBC with an interest in interventions to improve prescribing was also appointed as co-Chair of the QPWG. One of the TI objectives is to increase the bandwidth of information and maximize outreach to a broader audience of prescribers. Mr. Alan Cassels who has extensive experience in writing on drug policies and evidence-based medicine was hired as the TI Communications Director to help achieve this goal. As the TI organization has witnessed significant growth, Mr. Patrick Salamé also joined as Research Manager to manage finances and streamline daily operations by providing strategic support to the working groups.

In addition, the TI co-Directors appointed a TI Oversight Committee (TI-OC) to provide recommendations to the TI regarding its activities, strategic planning and long-term goals. Members of the TI-OC have complementary expertise and belong to diverse organizations such as the Medical Services Commission, Provincial Health Services Authority, Academic Health Science Network, Pacific Blue Cross, among others. The TI-OC has brought new perspectives for the TI that has favoured the creation of valuable partnerships for the years to come. This great team of minds contributing cohesively to the TI working groups safeguards a promising future for all TI activities.

Publications

- Chan A, Liang L, Tung ACH, Kinkade A, Tejani AM. Is there a reason for the proton pump inhibitor? An assessment of prescribing for residential care patients in British Columbia. *Can J Hosp Pharm* 2018;17(5):295-301. PMID: PMC6209499
- Shaw R, Ni M, Pillar M, Tejani AM. Are antidepressant and antipsychotic drug trials registered? A cross-sectional analysis of registration and reporting of methodologic characteristics. *Account Res.* 2018;25(5):301-309. doi: 10.1080/08989621.2018.1486191. Epub 2018 Jun 25.
- O'Sullivan C, Tejani AM, Finucane T. Guidelines Versus Guidelines. *Ann Intern Med.* 2018;169(12):895–896. doi: 10.7326/L18-0559
- Chen YJ, Li LJ, Tang WL, Song JY, Qiu R, Li Q, Xue H, Wright JM. First-line drugs inhibiting the renin-angiotensin system versus other first-line antihypertensive drug classes for hypertension. *Cochrane Database Syst Rev.* 2018 Nov 14;11:CD008170. doi: 10.1002/14651858.CD008170.pub3.
- Yang J, Chen J, Yang M, Yu S, Ying L, Liu GJ, Ren YL, Wright JM, Liang FR. Acupuncture for hypertension. *Cochrane Database Syst Rev.* 2018 Nov 14;11:CD008821. doi: 10.1002/14651858.CD008821.pub2.
- Wang G, Chen Y, Li L, Tang W, Wright JM. First-line renin-angiotensin system inhibitors vs. other first-line antihypertensive drug classes in hypertensive patients with type 2 diabetes mellitus. *J Hum Hypertens.* 2018 Jul;32(7):494-506. doi: 10.1038/s41371-018-0066-x.
- Wright JM, Musini VM, Gill R. First-line drugs for hypertension. *Cochrane Database Syst Rev.* 2018 Apr 18;4:CD001841. doi: 10.1002/14651858.CD001841.pub3. Review.
- Adams SP, Sekhon SS, Tsang M, Wright JM. Fluvastatin for lowering lipids. *Cochrane Database Syst Rev.* 2018 Mar 6;3:CD012282. doi: 10.1002/14651858.CD012282.pub2. Review.

- Ayele HT, Dormuth CR, Filion KB. Long-Term Use of Proton Pump Inhibitors and Community-Acquired Pneumonia: Adverse Effect or Bias? *J Am Geriatr Soc*. 2018 Dec;66(12):2427-2428. doi: 10.1111/jgs.15575.
- Gamble JM, Traynor RL, Gruzd A, Mai P, Dormuth CR, Sketris IS. Measuring the impact of pharmacoepidemiologic research using altmetrics: A case study of a CNODES drug-safety article. *Pharmacoepidemiol Drug Saf*. 2018 Mar 24. doi: 10.1002/pds.4401. [Epub ahead of print]
- Chahal HS, Gelaye B, Mostofsky E, et al. Physical Exertion Immediately Prior to Placental Abruption: A Case-Crossover Study. *Am J Epidemiol*. 2018 Oct 1;187(10):2073-2079. doi: 10.1093/aje/kwy138.
- McCracken RK, Fung L, Stratis AK, Cottick KR, Dobson S. Family doctors providing primary care to patients with mental illness in a tertiary care facility. *Can Fam Physician*. 2018 Oct;64(10):e440-e445.
- Sancton K, Sloss L, Berkowitz J, Strydom N, McCracken R. Low-acuity presentations to the emergency department: Reasons for and access to other health care providers before presentation. *Can Fam Physician*. 2018 Aug;64(8):e354-e360.

EDUCATION

POST-GRADUATE MEDICAL EDUCATION PROGRAM ANESTHESIA RESIDENCY

Dr. T. Laine Bosma
Program Director

Training Positions

As of December 2018, a total of 55 residents were registered in the 5-year Royal College Physicians & Surgeons program. Twelve of these residents are scheduled to complete their residency during the 2019 calendar year and will be taking their RCPSC examinations in Anesthesiology in the spring of 2019. The number of CaRMs positions has been increased for the 2019 intake to 13. Eleven residents joined the program in 2018. We continued to have a large applicant pool of over 100 well qualified students with a large contingent of UBC students applying.

New Graduates

All ten PGY5 residents were successful in the 2018 Royal College specialty examinations in Anesthesiology. The resident that was unsuccessful in 2017 was also successful in 2018. Our PGY 5 Seminar Series, led by Dr. Ron Ree and Dr. Jason Wilson, continues to be very successful and a model for Royal College exam preparation. The majority of 2018's graduates have found faculty positions at UBC academic hospitals.

Competency By Design

Throughout 2018, the new competency by design curriculum continued to roll out. The original cohort continued to work through the foundations stage, while the second cohort successfully completed Transition to Discipline and started to complete foundations. I can't say enough about how instrumental the entire resident body has been in helping our program to build and develop an excellent CBD program. Furthermore, a very core group of faculty continue to develop and moderate the new program. The commitment by both of these groups has allowed us to take a great residency program and build it into a better program.

We continue to check in with the residents and training sites on a regular basis to ensure the new systems are functioning smoothly. We welcome feedback to continue to modify and improve our CBD program to make it work for our UBC training sites

Accreditation

The UBC Anesthesiology Residency Program is scheduled for an external review in the spring of 2020. Since the last review in 2013 many things have changed: new CBD curriculum, program expansion, new accreditation standards and system. To help guide the program through all of these changes, at the end of 2018 the department undertook to hire a Project Manager.

Resident Selection Committee

A very robust and active sub-committee of the Residency Program Committee (RPC) reviewed all applicants. The Selection Committee was chaired by Trina Montemurro, with committee members representing all of the major BC teaching hospitals. Resident members are also well represented on the committee.

Resident Wellness

The peer mentorship program which was started in 2017 continues to grow and be refined. The initial feedback from residents is that this is a very valuable program and that it would be great to continue to expand the program through all of the years of training.

Academic Program

- **Academic Day** - The full day academic program involving active participation from each of the teaching hospitals was very successful. The current curriculum format, continues to be actively reviewed and updated with each successive year. Updates for the 2018/2019 academic year included two sessions on resident wellness, specifically looking at resiliency and dealing with bad patient outcomes. Another session was organized with Physician Health to address issues regarding the opioid crisis, specifically looking at diversion of opioids, and the risks of people and colleagues with substance use disorder.
- The Residency Program Committee continues to support the autonomy of each participating UBC teaching hospital in delivering their contribution to the residents' educational program. Program content was tailored to match the area of clinical expertise of each site. Specific days on Airway Management (in collaboration with ENT), Regional Anesthesia, Perioperative cardiac ultrasound, and Research continue to take place.
- **Simulation** - as led by Dr. John Veall, simulation continues to be a mainstay of our residency program. Please refer to the simulation report for specific details
- **Journal Club** - an integral part of the academic program. Meetings occur monthly at faculty members' homes or other venues. Dr. Anton Chau has done an excellent job in the coordinator role through 2018. These sessions continue to provide the residents with an excellent educational opportunity to learn about critical appraisal skills.

Clinical Program

The clinical program continues to be a strong element of the UBC Anesthesiology training program. Core training in both core anesthesiology as well as subspecialty anesthesiology is distributed between the primary teaching sites, as well as distributed to the secondary teaching sites. The program continues to work at recruiting new training experiences for residents, with Surrey Memorial Hospital and Kelowna General Hospital increasing their participation in the program. These expansions will be monitored closely. Many of the primary teaching sites continue to have increasing resident experience out of OR/Perioperative Medicine days which have been favorably viewed by residents and faculty. Residents are also on the Code Blue team at VGH and SPH.

In-House Examinations

The residency program continues to participate in the Anesthesia Knowledge Test (AKT) pre, 1, 6, and 24, as well as the American Board of Anesthesiology (ABA) exams. These help benchmark resident's academic performance throughout the residency.

The May and December in-house oral examinations continued with the Royal College format. All residents were examined in one day by faculty volunteer examiners. Each resident received two half-hour exams. Residents generally found the experience stressful but educational.

Residency Program Committee (RPC)

This committee met every 2 months during 2018 and as always was very effective in guiding the activities of the residency training program. Committee members include hospital program coordinators from each site, our Royal College Examiners, members at large, UBC APT Department Head, resident representation from all years, and the program director as chair.

Administration

Ms. Jill Delane continued in her role as the Program Coordinator. Ms. Susan Van Bruggen continues to be an excellent Program Secretary. Both have been invaluable in the administration of the program.

Summary

Overall, this has been a successful year for the UBC Anesthesiology Residency Training Program. This is due to the many hours of hard work on the part of our clinical faculty working with our residents, taking part in the academic program, as well as helping senior residents prepare for the oral exam and to become skilled anesthesiology consultants. In addition, the engagement of the resident body in building and improving the program has been beyond expectation. The goodwill and high level of commitment to residency training is a credit to this department.

**POST-GRADUATE MEDICAL EDUCATION PROGRAM
FAMILY PRACTICE ANESTHESIA**

Dr. John McAlpine
Program Director

The UBC FPA Enhanced Skills program can accommodate 3 residents per year with a mandate to produce family practice anesthesiologists committed to working in rural British Columbia. It is a challenging and demanding 12 month program with rotations in tertiary centers throughout the lower mainland in adult, pediatric, and obstetrical anesthesia, a community rotation in Whitehorse, adult ICU, and an elective block. Through an Enhanced Skills program and administered through the Dept of Family Practice, it naturally has a very close clinical affiliation with the Royal College anesthesia program from which it benefits greatly participating in its academic days and other educational opportunities such as airway, regional and simulation workshops in addition to the shared rotation experiences with the fabulous UBC anesthesia faculty.

Early in the year, the FPA residents attended the “FPA Bootcamp” which is an intensive and innovative conference/simulation training program hosted by the NOSM. It is a week in duration and comprised many hours of simulation sessions and lectures and receives very positive reviews from participants. The UBC FPA program is very grateful to the BC REAP program for supporting the tuition for this resident event.

In November, the annual UBC FPA Refresher Course was held with high attendance from the BC FPA community and increasing attendance from other regions. This conference receives tremendous support from the UBC Anesthesia faculty towards the academic content of lectures and workshops. This teaching contribution has been so greatly appreciated and is key to its success.

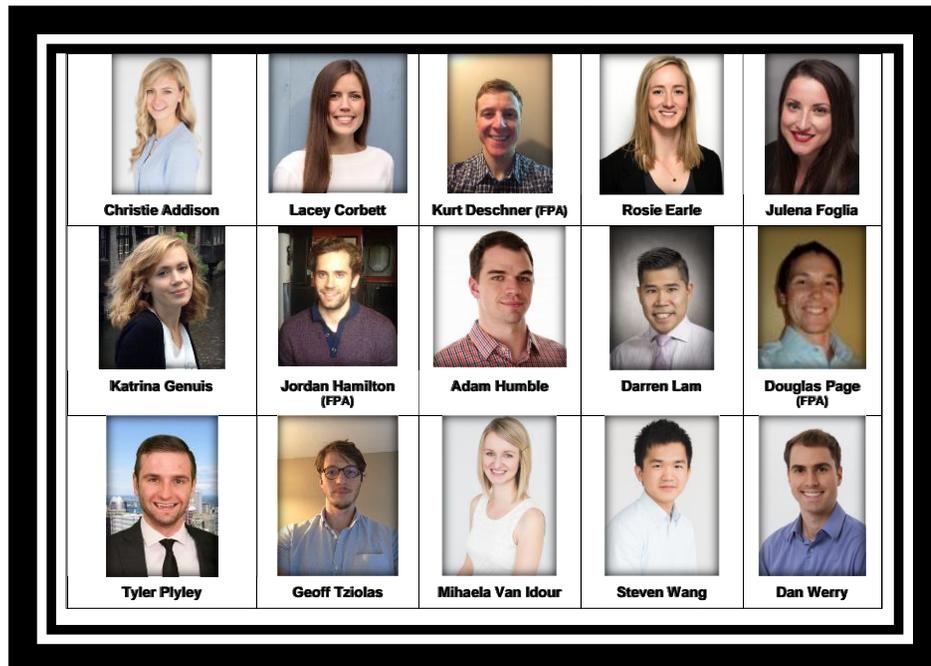
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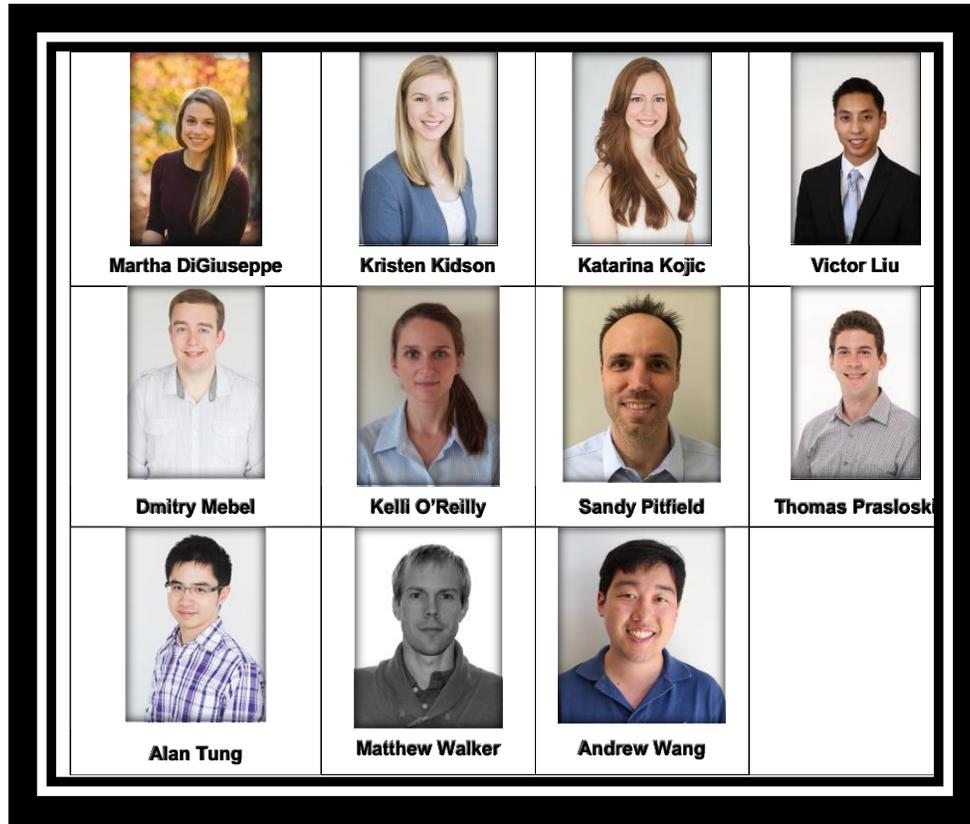
UBC ANESTHESIA RESIDENTS 2017-2018 - PGY 1



UBC ANESTHESIA RESIDENTS 2017-2018 - PGY 2



UBC ANESTHESIA RESIDENTS 2017-2018 - PGY 3



UBC ANESTHESIA RESIDENTS 2017-2018 - PGY 4



UBC ANESTHESIA RESIDENTS 2017-2018- PGY 5

 Navraj Chima	 Aaron Lau	 Pawel Martinka	 Justendra Naidu
 Christopher Nixon-Giles	 Jamie Oentoro	 Marcio Penner	 Kali Romano
 Ryan Truant	 Vishal Varshney	 Hardy Zietsman	

CONTINUING PROFESSIONAL DEVELOPMENT & VISITING PROFESSOR PROGRAM

Dr. Giselle C Villar
Program Director

The goal of the Visiting Professor program is to provide anesthesiologists from around the province stimulating and thought provoking speakers throughout the academic year. Each regional hospital (Vancouver General Hospital, St. Paul's Hospital, Royal Columbian Hospital, BC Children's Hospital, BC Women's Hospital) selects a speaker which best reflects that hospital's interests at that particular time.

Our visiting professor committee consist of: Dr(s). Giselle Villar (Chair and BCWH representative), Stephan Malherbe (BCCH representative), Kevin Rondi (SPH representative), Paula Meyler (RCH representative), Jacquie Trudeau (VGH representative).
Our speakers this academic year were

January 17, 2018 – Obstetric Anesthesia
Dr. Brian Thomas Bateman
What's new in Obstetrics Anesthesia?

February 21, 2018 – Pediatric Anesthesia
Dr. Allan Simpao
Little Kids, Big Data: Applications of Analytics in Anesthesia

November 7, 2018 – Pain Management and Regional Anesthesia
Dr. Philip Peng
Innervation of Hip Joint - Reflect on the Regional Anesthesia Blockade for Hip

April 25, 2018

[Dr. Jean Templeton Hugill Memorial Lecture \(organized by Dr. Stephan Schwarz\)](#)

Dr. Phillip Lirk
Local Anesthetics - Old Drugs with a Bright Future

We continue to video-conference the visiting professor lecture series with multiple sites now having access to our speakers in real time. Sites involved via video-conference link include Lions Gate, Nanaimo, Port Alberni, Prince George, Nanaimo, Vernon and Victoria. Feedback from the program has been very positive. Our video library of speakers continues to grow and is available on our website below.

<http://apt.med.ubc.ca/anesthesiology/video-lectures/>

The UBC department website is linked to the Canadian Anesthesiology Society Continuing Professional Development website so that interested anesthesiologists can access our departmental website and visiting professor videos.

DIVISION REPORT

CARDIAC ANESTHESIA

Dr. Bobby Lee, Head

Resident Training

The UBC anesthesia residents complete a two month cardiac anesthesia rotation at St. Paul's Hospital (SPH), Vancouver General Hospital (VGH), and Royal Columbian Hospital (RCH), where all sites offer the opportunity to gain experience in the surgical contexts of: coronary artery bypass grafts, valve repair/replacement, transcatheter aortic valve implantation. Each site also has their unique training opportunities such as endovascular thoracic aortic aneurysm repair, mechanical assist devices, transplants, and transcatheter mitral valve and tricuspid valve repair outside of the standard experience during such a rotation.

Cardiac Surgery ICU

Penultimate and final year UBC anesthesia residents, ICU fellows, and cardiac anesthesia fellows complete a rotation ranging from 1-3 months in the CSICU, either at VGH or SPH. Given the increasing complexity of cardiac surgery patients over the past 15 years, this has resulted in an excellent learning experience for residents in managing complex patients with a variety of mechanical assist devices such as ECMO and LVAD's as well as challenging medical conditions often seen in the ICU.

TEE/POCUS

For those final year residents with an interest in TEE, a one month rotation has been established at SPH. There is also an opportunity at RCH for a two month rotation to be spent with the cardiologists.

The VGH and SPH sites have recently placed more emphasis on the teaching of POCUS skills to the residents/fellows given that regular POCUS teaching rounds have been established at both sites and staff from both sites have participated in helping teach this skill at the annual UBC Whistler conference. Clearly, this skillset is not isolated to cardiac anesthesia since it overlaps with perioperative medicine but there is ample opportunity to use these skills in the perioperative setting/cardiac surgery ICU.

Fellowship Training

A 1 - 2 year cardiac anesthesia fellowship is offered at both SPH and VGH.

Cardiac Anesthesia Staff Update

There are 5 sites where cardiac surgery/anesthesia is performed in BC though formal resident training in cardiac anesthesia does not occur at all sites: Vancouver General Hospital, St. Paul's Hospital, Royal Columbian Hospital (New Westminster), Royal Jubilee Hospital (Victoria), and Kelowna General Hospital (Kelowna).

UBC City Wide Cardiac Anesthesia Journal Club

The 6th annual UBC City Wide Cardiac Anesthesia Journal Club took place in May/2019, an event which was well attended. Our speaker that evening was Dr. Robert Boone, an interventional cardiologist at St. Paul's Hospital who discussed the two trials that were at different ends of the

spectrum with respect to efficacy of the Mitra Clip procedure in the context of mitral regurgitation and heart failure.

“Cardiovascular Outcomes Assessment of the MitraClip Percutaneous Therapy for Heart Failure Patients with Functional Mitral Regurgitation. CoAPT trial.” JACC 2019; 73:2123-32

“Percutaneous Repair or Medical Treatment for Secondary Mitral Regurgitation MITRA-FR trial.” NEJM 2018; 379: 2297-2306

SITE UPDATES

Victoria/Royal Jubilee Hospital

VGH

The group at VGH continues their involvement in the TRIC-III trial given the extended follow-up until the end of 2019 assessing health outcomes in cardiac surgery patients who received blood transfusions during their hospital admission.

Another trial currently enrolling patients is the DIRECT trial – Dexmedetomidine use in ICU sedation and postoperative recovery in elderly patients post-cardiac surgery. Outcomes include quality of recovery and the incidence of delirium in the postoperative period

SPH

Simulation continues to be utilized in the diverse environments where cardiac anesthesiology is involved. Two primary areas have been identified in the CSICU: critical incidents involving the care of patients undergoing ECMO and the management of post cardiac surgery patients undergoing a cardiac arrest. The sessions have been a great tool in furthering team dynamics and an excellent source of learning for all involved. Simulation involving TAVI procedures also continues.

RESEARCH

Dr. Donald Griesdale
Clinical Research Director (Anesthesiology)

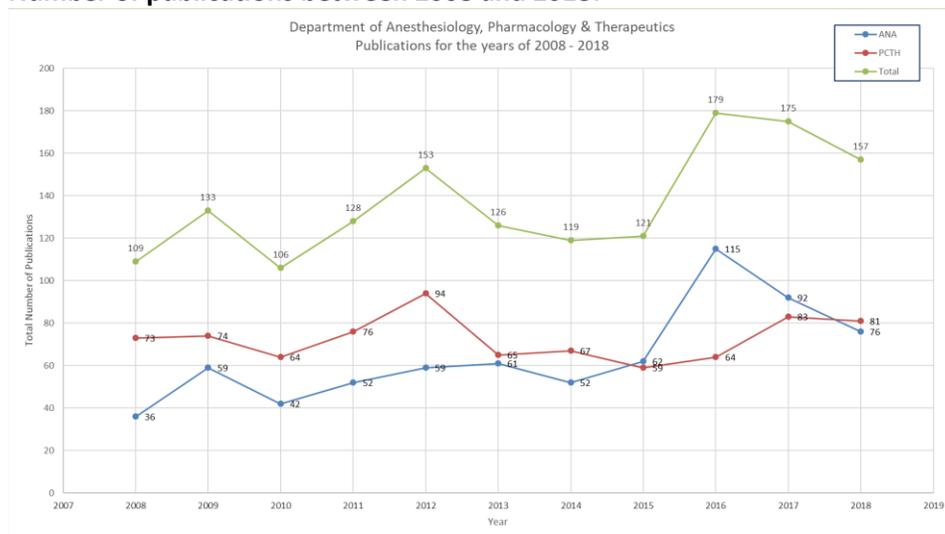


The Department of Anesthesiology, Pharmacology and Therapeutics is composed of basic scientists, clinician scientists and epidemiologists who conduct impactful research in many diverse areas within and between these three pillars. The main research themes of our department include: neurosciences, cardiopulmonary, clinical outcomes and patient safety, and perioperative technology integration. Not surprisingly, there are broad research focuses within these domains. Important areas of basic research include: physiology and pharmacology of the cardiovascular, respiratory and central nervous system. Our clinical research touches all the major domains of anesthesiology: cardiothoracics, critical care, obstetrics, neuroanesthesiology, regional anesthesia, pediatrics, perioperative medicine, patient safety, and clinical monitoring. Finally, there is an important research program in pharmacoepidemiology.

With the strengths of three related but different sections in our department, our diversity enables us to build partnerships between the sections, which allow us to pursue investigations from the bench to the bedside to the population. Furthermore, our department has a long-standing tradition of collaboration with other groups within the UBC Faculty of Medicine (Critical Care, Neurology, Population and Public Health, Psychiatry) and other UBC faculties (Electrical and Computer Engineering).

Peer-Reviewed Publication – 138
Non-Refereed Publication - 5

Number of publications between 2008 and 2018:



GLOBAL OUTREACH

Many department members are engaged global outreach activities. Specific missions w

1. India - Operation Rainbow Canada
2. Guatemala – Health 4 Humanity
3. Guatemala – C.A.R.E. Team Services Society

Thanks to all faculty, clinical fellows and residents who organized and participated in such important outreach activities.

Hyderabad, India Operation Rainbow Canada



BCCH's Dr. Chris Chin and clinical fellows Drs. Gayatri Gopalakrishnan & Richard Lin



ORC Team with local hosts

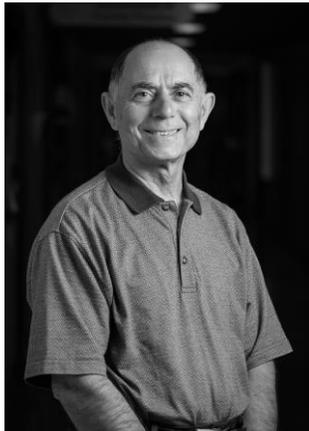


Nice Thank You note from the young patients

**Antigua, Guatemala
Health for Humanity Surgical Mission –**

[Health 4 Humanity](#) (H4H) strives to improve the lives of Guatemalans by organizing multidisciplinary teams of volunteers health care professionals on annual medical assistance trips. Since 2002, the group of nurses, doctors and surgeons from around the world have been travelling at their own expense to, among many other things, repair the cleft lips and palates of infants and children. The Primary Health Care team has performed upwards of 300 surgeries to date.

UBC Anesthesiologists - two of the Members of the Board of Directors of Healthy 4 Humanity



Joe del Vicario



Brent William Caton

Surgical Mission Team – Antigua, Guatemala

Anesthesiologists -

- William Abbott*
- Joe Del Vicario*
- Wendy MacLeod*
- James Prentice*
- Robert Purdy*

- Peter Scoates*
- Tim Sveinbjornson*
- Brent William Caton*
- Donald Young*





CARE Team Surgical Mission July 2018 – Antigua, Guatemala

In 2014 Dr. Brent William Caton founded the CARE Team Service Society, a registered non-profit Society. He has served as a Director and Medical Lead since the inception of CARE. The Society is dedicated to supporting improvements in health, education and living conditions of impoverished people.

DR. JEAN TEMPLETON HUGILL CHAIR IN ANESTHESIA
HUGILL ANESTHESIA RESEARCH CENTRE
Dr. Stephan K W Schwarz, Chair



CHAIR IN ANESTHESIA 2018 HIGHLIGHTS



Welcome to the *Dr. Jean Templeton Hugill Chair in Anesthesia* section of our Department's 2018 Annual Report! As always, I am delighted to summarize below some of the highlights and activities that took place under the aegis of the Chairship in 2018. My principal priority was to continue to foster the interdisciplinary team-based laboratory research in the *Hugill Anesthesia Research Centre (HARC)* while at the same time providing ongoing guidance and support for my younger clinical colleagues' research projects at St. Paul's Hospital. Results appeared in numerous national and international abstract and poster presentations as well as full-length peer-reviewed manuscripts; one of the articles, for the second time since 2016, again won the departmental "Paper of the Year" award. This work, published in the August edition of *Anesthesia & Analgesia*, highlights a new preclinical drug screening assay that has the potential to greatly improve on the discovery of novel analgesics in the present opioid crisis era.

Speaking of awards, HARC graduate student, Desmond Fung, in March became the winner of the inaugural *American Society for Regional Anesthesia and Pain Medicine (ASRA) Graduate Student Award*. He was selected to receive a USD 10,000 award for his project "*Evaluation of Local Anesthesia in Mice Produced by Quaternary Lidocaine Derivatives*." Subsequently, at the annual *APT Research Day* (May 22, 2018), where HARC trainees and faculty made a strong contribution of four papers, two presentations earned first prize in the research competitions: HARC graduate student Timothy Fung's oral presentation won the Pharmacology & Therapeutics research competition, and HARC graduate student Yahya Asiri won the Pharmacology & Therapeutics Graduate Student Poster competition.

As the arguably greatest highlight of 2018, three HARC students graduated with their PhD – Khalid Asseri, Timothy Fung, and Yahya Asiri all successfully defended their theses. I am tremendously proud of these extraordinary young individuals and their amazing work.

2018 also was a year that saw a successful expansion of the interdisciplinary philosophy of our research through the establishment of exciting new strategic collaborations with researchers from other disciplines and units; these include the BC Provincial Toxicology Centre (Dr. A. Shapiro); Animal Care Services, Pathology and Laboratory Medicine, and the Faculty of Land and Food Systems (Drs. C. Schuppli & I. Welch); and the Faculty of Pharmaceutical Sciences (Dr. S.-D. Li). I am very excited about the research that will come out of these liaisons.

It has always been a priority of mine to utilize the *Hugill Chair* position to continue to attempt to build bridges between Anesthesiology and Pharmacology & Therapeutics; as a reflection of this spirit, a goal was to bring in another high-profile speaker for our Department's fourth annual *Hugill Lecture* who could help accomplish just that. Supported by the Dr. Jean Templeton Hugill Endowment, we accordingly hosted on April 25, 2018 Dr. Philipp Lirk from Harvard Medical School, who delivered a state-of-the-art presentation entitled, "*Local Anesthetics – Old Drugs with A Bright Future*".

Lastly, ongoing international outreach efforts included a repeat lecture trip to Vietnam and the hosting of two South Korean Anesthesiologists.