Over the last year...

The Emergency Department Research Division has completed another productive year!

Selected Presentations | 16
Publications in peer reviewed journals | 44
Research Assistants & Student Volunteers | 30
New CIHR Grants | 4

Congratulations to our researchers


**Abu-Laban, RB.** UBC Killam Teaching Award 2015, the highest honour in teaching excellence.


CAN-TBI is a Canada-wide initiative whose main goal is to develop a national traumatic brain injury (TBI) biobank. This will help researchers establish future studies that could lead to better diagnoses and treatments of TBIs. Patient recruitment will begin in April 2016.

Angela Aquino
Research Coordinator
CAN-TBI

Congratulations Continued...


Hohl, CM. (Dahri, K. & Graham, K.) Incidence of clinically relevant medication discrepancies after implementation of an electronic medication reconciliation process. Canadian Association of Emergency Physicians Grant. $5,000. 2015.

Sweet, D. Global Sepsis Award 2015, honours in excellent sepsis awareness for outstanding methods for Quality Improvement, communication and education.

Collaborative Research Policy

The VGH Department of Emergency Medicine has a tradition of producing high quality original research, and collaborating on the research initiatives of other VGH Departments or external groups. This academic mission must be balanced with the demands research places on Emergency Department patient care and teaching of Residents and Medical Students. In addition, simultaneous research projects may conflict with one another and may compete for the same patients as well as for the time and attention of our clerical, nursing, and medical staff.

For these reasons, all potential studies which require signoff by the VGH Department of Emergency Medicine undergo internal review, approval, and prioritization. It is expected that one or more members of the VGH Department of Emergency Medicine will be involved academically (as co-applicant on grants, and co-author on publications) on any significant peer-reviewed or investigator-initiated collaborative project conducted in the VGH Emergency Department. This involvement should commence during the development of the study protocol and the ED should receive appropriate acknowledgement for the role it plays for any such projects.

For further information on our research policy or to discuss a potential project please contact our Research Director (Jeff Brubacher; Jbrubacher@shaw.ca).

Upcoming Research

RAFF-2 Study: This is a randomized, controlled comparison of electrical versus pharmacological cardioversion for Emergency Department patients with Recent-Onset Atrial Fibrillation and Flutter (RAFF). The study led by Dr. Corinne Hohl is looking to improve the early ED management of RAFF patients, ultimately leading to higher rhythm conversion rates and lower admission rates. The aim of the study is to create effective, safe, and efficient pathways for RAFF patient management in Canada.
Upcoming Research Continued...

Troponin Study: Dr. Ka Wai Cheung and her team are developing an accelerated diagnostic protocol for patients with chest pain in the Emergency Department. This is a prospective observational study to assess how small changes in troponin measured 2 hours after ED presentation compares to standard troponin levels taken 6-8 hours after ED presentation in low risk chest pain patients.

Syncope Study: Drs. Paul Huang and Corinne Hohl launched a prospective validation study funded by Cardiac Arrhythmia Network (CANet) to improve the management of syncope in the Canadian health system, beginning with a safe reduction of ED and hospital utilization of syncope patients. The Canadian Syncope Score and Canadian Syncope Arrhythmia Score developed in a multi-site trial is now being validated at 8 sites, including VGH. This score risk stratifies the likelihood of cardiogenic syncope to form guidelines for safe discharge of low risk syncope patients without further unnecessary investigations. It will also form the basis of a related study beginning this summer collaborating with the Department of Cardiology to study extended vs. traditional 48-hour Holter out-patient monitoring. VGH will be involved in this and future studies that aim to have significant healthcare impact beyond successful studies results.

Prehospital Tranexamic Acid use for Traumatic Brain Injury: Dr. John Tallon and his research team is involved in a RCT to determine the efficacy of two dosing regimens of Tranexamic Acid (TXA) initiated prior to hospital arrival and continuing in hospital for 8 hours, on long-term neurologic outcome compared to placebo in patients with moderate to severe TBI who are not in shock. Of the 12 participating North American sites, BC and Toronto are the only Canadian sites. The designated hospitals are Vancouver General and Royal Columbian. The target enrollment is 963 cases with current enrollment at 295 cases from all sites. Vancouver General and Royal Columbian have each successfully enrolled 2 cases.

Research Activities

Adverse Drug Events: In 2013, Dr. Hohl and her research team was funded by CIHR and partnership organizations to develop a better means of documenting Adverse Drug Events (ADEs) in electronic health records by defining a functional minimal dataset for ADEs, and working with stakeholders to integrate ADE reporting into PharmaNet, BC’s medication information system, through local electronic systems.

In November 2014 Bill C-17, a law that requires Canadian healthcare institutions to report serious adverse drug reactions, a subset of ADEs, was passed by the federal government. Our work aligns with this legislation by providing a new framework for integrating ADE reporting into clinical care documentation.

In October 2015, Dr. Hohl’s research team received a grant fund through the CIHR eHealth Innovation and Partnership Program (eHIPP), with partners PHEMI Systems Incorporated and the College of Pharmacists of BC, to build the reporting platform, and pilot its integration into an electronic medical record. The team is developing an evaluation protocol to determine the impact of enabling the ADE reporting interface on health outcomes.
Research Activities Continued...

**Digital Emergency Medicine:** After serving two terms as Director of the eHealth Strategy Office since September 2008, Dr. Kendall Ho is now leading a new Digital Emergency Medicine (DigEM) group within the Department of Emergency in the Faculty of Medicine at UBC. DigEM continues to carry out digital health-focused research and engagement projects within the contexts of primary and community care and emergency medicine.

**Road Safety:** The Cannabis and Motor Vehicle Crashes project, led by Jeff Brubacher, is in the final year of data collection. When finished this study will provide valuable information on the association of cannabis use and motor vehicle crashes. To date, we have enrolled 2850 injured drivers. Our first paper, on the prevalence of alcohol and drug use in injured drivers, was recently published in BMJ Open.

In late 2015, Drs. Brubacher, Chan, and Purssell conducted an online survey to gather feedback and opinions of BC physicians, particularly EM physicians, on reporting medically unfit drivers and on BC’s fitness to drive laws. We received 231 completed responses, of which 46.7% were from EM physicians and 40% from Family physicians. Half of the respondents indicated that they lack the training in assessing driving fitness and have insufficient knowledge about the laws and procedures for reporting unfit drivers. An informational/educational package for physicians regarding fitness to drive and reporting will be produced after we analyze the survey results later this year.

Following our team’s evaluation of BC’s alcohol impaired driving laws, we just received a new CIHR grant to evaluate the effects of 2014 BC’s speed limit changes on crashes and road trauma. That study will utilize data from police reported crashes, auto insurance claims and ambulance dispatch records. Our results will be used to guide speed limit policy in BC and Canada.

Dr Chan together with Cassie Fayowski and Lauren Stewart completed a study of crashes involving elderly drivers. That study, which compared the injury profile and use of healthcare resources in elderly drivers versus younger drivers was presented last October at the Australasian Road Safety Conference.

**Ultrasound Teaching & Research:** The acute onset of flashes and floaters in the eyes is a common presentation to the emergency department. The most emergent etiology is retinal detachment, which requires prompt ophthalmologic assessment. This study, led by Dr. Dan Kim and Dr. Donna Lee is designed to assess the test characteristics of point of care ultrasound performed by a large heterogeneous group of emergency physicians for the diagnosis of retinal detachment. Patients will undergo standard emergency department ocular assessment, after which a participating physician will perform an ocular ultrasound exam targeted at detecting retinal detachment. Data collection is ongoing.

**Research Education:** Riyad Abu-Laban, UBC Department of Emergency Medicine Research Director, led a highly successful 5th annual "NERD Block" (Novel Education in Research & Design) for 15 Royal College EM Residents and Peds EM Fellows with Dr. Quynh Doan in the fall of 2015. This 1 month program involves 34 interactive small group sessions and workshops facilitated by faculty.
Research Activities Continued...

members from the Department of Emergency Medicine and Division of Pediatric Emergency Medicine on all aspects of research and critical appraisal. NERD participants gain foundational knowledge, interact with and learn about the research being done by a wide range of Emergency Medicine faculty members, and develop and advance their own research projects. Since its onset, the NERD Block has gained wide attention, both across UBC and nationally. NERD 2016 will run October September 26th to October 21st, 2016 and any VGH EPs interested in participating are encouraged to contact Dr. Abu-Laban for further information.

NERD Family 2015

Publications


NERD Family 2015

Dr. Riyad Abu-Laban
Research Education

Dr. Abu-Laban received the Killam Teaching Award for the development and success of the Novel Education in Research & Design “NERD Block” Congratulations!

NERD Family 2015

Dr. Ka Wai Cheung
Smoking Cessation and TIA Study


Publications Continued...


Publications Continued...


Publications Continued...


Selected Presentations

1. Bednarczyk J. Incorporating fluid responsiveness into goal-directed therapy – does it affect outcome? A systematic review and meta-analysis. Social Media and Critical Care Conference (SMACC) June 2015, Chicago, IL USA.


4. Brubacher JR. Drug Impaired Driving. Shiga University of Medical Science, November 25, 2015, Shiga, Japan

Dr. Erik Vu and colleagues specialize in pre-hospital care and aeromedical evacuation.

Presentations Continued...

6. Fayowski C, Stewart L, **Chan H & Brubacher J.** Emergency Department Visits of Older Drivers for Motor Vehicle Collisions. University of British Columbia Medical Student Research Forum 2015 (March) – Poster presentation (Winner of the Best Poster in the Population Health Category)


10. **Ho K.** Educational tools to support interprofessional collaboration: International perspectives on educating patient centered care using EHRs. Medinfo August 2015. Sao Paulo, Brazil.


15. **Tallon JM.** Principles and Challenges When Using Available Data Sources for Health Research, as part of “NERD”: Novel Education in Research & Design course, November 9, 2015. Vancouver.

Research Word Search

ED Word Search! The object of the game is to find all 13 hidden research topics that are currently being studied out of the Emergency Department. Do you accept the challenge?


Research Topics:
- Road Safety
- Transient Ischemic Attack
- Subarachnoid Hemorrhage
- Traumatic Brain Injury
- Ultrasound Teaching
- Adverse Drug Events
- Prehospital Care
- Syncope
- Retinal Detachment
- Chest Pain
- Atrial Fibrillation
- Tranexamic Acid
- Sepsis

EM Research Team
Summer 2015 Hike
Research Personnel

Director
Jeff Brubacher (Jbrubacher@shaw.ca)

Coordinator
Vi Ho (Vi.Ho@vch.ca)

Investigators
Riyad Abu-Laban (Research Education)
Jeff Brubacher (Road Safety)
KaWai Cheung (TIA Study)
Kendal Ho (eHealth)
Corinne Hohl (Adverse Drug Reactions)
Roy Purssell (Road Safety)
David Sweet (Sepsis)

Research Associate
Herbert Chan, PhD (Road Safety)

Advisory Committee
Riyad Abu-Laban, MD, MHSc
Jeff Brubacher, MD, MSc
Brian Chung, MD
Corinne Hohl, MD, MHSc
Chad Kim Sing, MD
Roy Purssell, MD

Research Coordinators
Angela Aquino (Traumatic Brain Injury)
Maeve Wickham, MSc (Adverse Drug Events)

Research Assistant
Vahid Mehrnoush (Cannabis & MVCs)

Student & ED Staff Involvement
Our research would not be possible without the involvement and ongoing support from Emergency Department Nurses, Unit Clerks, Admitting Staff and Physicians. We are fortunate to have an amazing team that continues to engage in research while providing top notch patient care.

Students play a valuable role in our research division, and we are grateful for the dedicated and motivated individuals who have donated their time. In turn, students gain exposure to emergency medicine and clinical research.

Study Volunteers

Road Safety Research
Cassie Fayowski
Elizabeth Purssell
Amanda Lee
Sean Wong
Ron Lau
Colby Renschler
Natasha Simula
Roarke Copeland
Steven Pi

Sepsis Study
Amir Mahpour
Sassan Sangsari
Ben Huang
Ana Gomez
Christian Vadeanu
Jenn Hinze
Wilson Lee
Natasha Simula
Josh Frohlich

Acute Headache
Ben Millar
Kevin O’Riordan
Nora Tong
Michelle Wan
Therese Balleza

Smoking Cessation
Amy Tsai
Ian Wong
Jimmy Tsai
Nicole Kloos
Sally Ke
Warren Fingrut

Retinal Detachment
Ross Prager

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