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**INTERDEPARTMENTAL  
DIVISION OF CRITICAL CARE**

Department of Medicine, Surgery, Anaesthesia, and Paediatrics

**ANNUAL REPORT**

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## MESSAGE FROM THE DIVISION DIRECTOR

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Laurent Brochard, MD

I am happy and proud to present the annual IDCCM report for 2017.

We continue to build our collective vision to offer the best educational program and become one of the strongest research groups in critical care for researchers, clinicians and for the benefit of our patients.

I want to thank our Program Director, David Hall and the Program Committee for the extraordinary work they have achieved to really reshape our program. We will continue working hard to adapt the program and curriculum to the emerging needs in our discipline, which also require importing new talents and skills.

I want to deeply thank our Research Leadership, Margaret Herridge and Hannah Wunsch, who, through a series of spectacular and tangible initiatives, are developing a new research environment within IDCCM and I will give a few examples.

The structure of IDCCM is unique with Faculty members working at six different academic hospitals across Toronto collaborating with scientists for improving the care of the critically ill. Collaboration is a priority for us. In 2017, we have initiated the Alliance Days, where our members present and discuss projects and form working groups on specific thematic, such as the NeuroCritical Care group. These days are key opportunities to network and create new connections within our “Toronto critical care virtual campus”.

Collaboration is a priority and you will notice more than 20 new “cross-appointed” members this year coming from different discipline but involved in improving the care of critically ill patients. Promoting young talents is a priority. We have created the Nuts And Bolts of Research sessions to offer some clues about the complexity of clinical research. This is a useful complement to our monthly Clinical Research In Progress sessions attached to our Visiting Professor program or the Physiology Rounds. We have initiated a Scholar Award program and we are proud to have Liz Wilcox as our first IDCCM Scholar. We have reshaped the research Day and the Art Slutsky Day is every year a growing success.

I want to thank all our administrative assistants (including research, education, clinical departments) at the different sites for the complex and important work they all do making all our events possible and running so smoothly.

Promoting diversity is also a priority for us, gender diversity being often the most visible.

I would like to congratulate all members who were awarded with important recognitions in various domains – too numerous to be cited here!

Lastly, I would like to reiterate my gratitude to all of you for giving me the privilege to work in Toronto among such a talented group for serving our Division and our Community.



Laurent Brochard, MD  
Division Director, Interdepartmental Division of Critical Care Medicine  
Department of Medicine, University of Toronto

## **MEMBERS OF THE EXECUTIVE COMMITTEE**

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### **Chair**

Dr. Laurent Brochard, St. Michael's Hospital

### **Department Heads**

Dr. Andrew Baker, St. Michael's Hospital

Dr. Brian Cuthbertson, Sunnybrook Hospital

Dr. Niall Ferguson, University Health Network and Sinai Health System

Dr. Peter Laussen, The Hospital for Sick Children

## **MEMBERS OF THE STEERING COMMITTEE**

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Dr. Andre Carlos Amaral, Sunnybrook Hospital, Staff Intensivist

Dr. Claudia dos Santos, St. Michael's Hospital, Staff Intensivist

Dr. Robert Fowler, Sunnybrook Hospital, Staff Intensivist

Dr. David Hall, IDCCM Program Director Adult Critical Care Medicine Resident & Clinical Fellowships

Dr. Margaret Herridge, IDCCM Research Director

Dr. Tillman Humpl, The Hospital for Sick Children, Interim Paediatric Education Program Director

Dr. Brian Kavanagh, The Hospital for Sick Children, Staff Intensivist

Dr. John Marshall, St. Michael's Hospital, Staff Intensivist

Dr. Sangeeta Mehta, Sinai Health System, Staff Intensivist

Dr. Christopher Parshuram, The Hospital for Sick Children, Paediatric Intensivist Representative

Dr. Dominique Piquette, Sunnybrook Hospital, IDCCM Associate Director

Dr. Gordon Rubinfeld, Sunnybrook Hospital, Staff Intensivist

Dr. Damon Scales, Sunnybrook Hospital, Staff Intensivist

Dr. Jeffrey Singh, University Health Network – Toronto Western Hospital, Staff Intensivist

Dr. Arthur Slutsky, St. Michael's Hospital, IDCCM Ex-chair

Dr. Hannah Wunsch, IDCCM Associate Research Director

## University of Toronto Critical Care Training Programs, 2017

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David Hall, MD, PhD, FRCPC

Stephanie Nardella, BHS (Hons), MPPAL

The University of Toronto is the premier centre for sub-specialty training in Critical Care Medicine. With more than 65 registered trainees, it continues to be the largest Adult Critical Care training program in Canada.

Over the past decade, we have been fortunate in attracting some of the best physicians in the world with diverse specialized backgrounds. Approximately 25% are from Canada, joining our Residency, and clinical fellows from more than 50 countries – with significant representation from the UK, Brazil, India, and Saudi Arabia.

The Center for World University Rankings (CWUR) has ranked the University of Toronto as the second most productive Critical Care research center in the world in 2017. With our 5 principal academic training hospitals and our community hospital partners we produce the highest quality intensivists and leaders in Critical Care Medicine.

### **Our Program**

2016-2017 has been a transition year and as of January 1, 2017, I (David Hall) took over the role of Program Director. I would like to thank Dr. Andrew Steel and Dr. Damon Scales for the hard work and dedication they have provided over the years. I am thrilled to be part of a dynamic and exciting program with such truly incredible trainees.

The introduction of **Competency by Design** (CBD) has brought some new changes to the IDCCM Program. Formative workplace assessments have been introduced, in addition to ITERs, as well as more tailored educational plans structured to meet Critical Care Medicine **Entrustable Professional Activities** (EPAs). We continue to work with the University of Toronto Post MD Education office, as well as the RCPSC to ensure the most efficient and effective onboarding of CMBE, scheduled to launch as of July 2018.

**Competency Based Medical Education** has also been the catalyst for the division of portfolios, allowing for greater efficiency in the areas of *curriculum development, scholarly activity, assessment and mentorship & wellness*. We would like to thank the following faculty for heading these initiatives:

Curriculum Development & Evaluation – **Dr. Dominique Piquette**

Scholarly Activity – **Dr. Dominique Piquette**

Trainee Assessment – **Dr. Christie Lee**

Mentorship & Wellness – **Dr. Shelly Dev**

### **Trauma and Critical Care Training**

The combined Trauma Surgery and Critical Care Fellowship is highly competitive with other programs in Canada and the United States, continuing to draw outstanding surgeons. It represents an important innovation in critical care education to the IDCCM, adding breadth and depth to the program. It also continues to be a very successful collaboration between IDCCM and the Division of Trauma Surgery.

**Dr. David Paskar** joined the Critical Care Residency Program in July 2015. He is now in his final months of Critical Care training after the completion of his Trauma year, and is scheduled to graduate as of June 2017.

**Dr. Markus Ziesmann** is currently training with the Trauma Program after a successful first year with Critical Care. He is scheduled to rejoin the Critical Care Program in July 2018.

**Dr. Jordan Nantais** will be starting with the Critical Care Residency Program as of July 2017 and will complete a year with Trauma following his 2017-18 year with CCM.

### **Art Slutsky Day 2017**

An inaugural Pub evening was held on Monday June 19<sup>th</sup> at the Mill Street Brewery in the Distillery District to kick off Art Slutsky Day 2017 festivities. It was a fun evening and a great celebration in honour of the 15<sup>th</sup> annual Art Slutsky Research Day, which not only pays tribute to **Dr. Arthur Slutsky**, but also celebrates the breadth of academic activity and achievement of Faculty and trainees of the IDCCM Division.

This year, we hosted distinguished speaker, **Dr. Daniel Talmor**, Chair of the Department of Anesthesia and Critical Care at Beth Israel Deaconess Medical Centre, and Edward Lowenstein Professor of Anesthesia at Harvard Medical School.

IDCCM Chair, **Dr. Laurent Brochard**, as well as Faculty Members, **Drs. Eddy Fan, Andre Amaral, Gail Annich** and **Rob Fowler** also provided comprehensive overviews and valuable insights on their current work and research related to the IDCCM and University community.

The Abstract Section received over 45 entries from trainees within or with supervisors in the Division this year. Judges identified the top 9 abstracts, with those authors invited to give an oral presentation. After presentations and deliberation with Visiting Professor, Dr. Danny Talmor and the IDCCM Research Committee the top 2 *Overall Best Abstracts* were awarded to the following:

**Dr. Bhushan Katira** – 1<sup>st</sup> Place

**Dr. Hira Raheel** – 2<sup>nd</sup> Place

A separate group of abstract judges were tasked with identifying Best Abstracts in each of the four (4) categories of *Clinical Practice, Basic & Translational Science, Quality Improvement, and Physiology*. Winners were awarded as follows:

**Dr. Daniel Marinescu** – Clinical Practice

**Dr. Diana Islam** – Basic & Translation Science

**Dr. Pierre-Alexis Lepine** – Quality Improvement

**Dr. Lu Chen** – Physiology

This year the IDCCM Research Executive Committee bestowed a much-deserved honour to **Dr. Laura Hawryluck** for her outstanding contribution to improving the welfare of others through scholarly activity and patient care. She was awarded the 2017 **Humanitarian Award** for her continued dedication to education and outreach in developing communities.

The residents and clinical fellows awarded the *John Granton Award*, for outstanding contribution to Critical Care Education, to **Dr. Andrew Steel** in recognition of his support and significant contribution to education during his term as IDCCM Program Director.

The Education & Residency Program Committee awarded the *Simon Abrahamson Award*, for outstanding academic performance in Critical Care Medicine, to **Dr. Oshri Zaulan**, for his leadership at the Divisional and University level, as well as for his exemplary clinical, teacher, learner and humanitarian work.

The site-specific winners for excellence in teaching were: **Dr. Brian Kavanagh** (Hospital for Sick Children), **Dr. Christie Lee** (Sinai Health Systems), **Dr. Natalie Wong** (St. Michael's Hospital), **Dr. Damon Scales** (Sunnybrook Health Science Centre), **Dr. Andrew Steel** (Toronto General Hospital), **Dr. Alberto Goffi** (Toronto Western Hospital), and **Dr. Alvin Chang** (U of T-affiliated community hospitals, Toronto East General Hospital).

We concluded the year graduating **Drs. Abdulrahman Al-Fares, Abdulaziz Alali, David Cape, Niall Filewod, Anna Geagea, David Katz, Tiffany Lee, Ingrid Morgan** and **Sameer Vakani** from the Critical Care Residency Program. We look forward to following them in their continued career development and success!



## **Canadian Resident Matching System (CaRMS 2017)**

I am pleased to announce that the following physicians have joined in the Adult Critical Care Medicine Residency Program: **Dr. Lior Bibas** (McGill University), **Dr. Jordan Nantais** (Dalhousie University), **Dr. Maude Peretz-Larochelle** (McGill University), **Dr. Jenna Spring** (University of Toronto), **Dr. Alexander White** (University of Toronto), and **Dr. Christopher Yarnell** (University of Toronto).

## **Thank You**

I would like to thank our Chief Residents, **Dr. Brian Buchan** and **Dr. David Paskar** as well as our Critical Care Chief Fellows, **Dr. Carmen Lopez-Soto**, **Dr. Martin Urner** & **Dr. Bruno Ferreyro**. They continue to demonstrate excellent leadership in representing our trainees and are wonderful ambassadors for the IDCCM Resident and Fellowship programs.

## **The Future**

Recent meetings at the Royal College have led to a new set of competencies for Critical Care Medicine. While we are still awaiting the final document, there are likely to be a number of changes required in our current curriculum to support our trainees and ensure they meet these competencies. There will be a greater focus on direct observation of our trainees and timely feedback. There will also be a significant increase in the number of assessments by supervisors that will be used to inform a **Promotions Committee**; all of which will ensure our trainees are ready to transition to practice as leaders in Critical Care Medicine.

## Department of Critical Care Medicine, St. Michael's Hospital

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**Andrew Baker, MD, FRCPC**

St. Michael's Hospital Department of Critical Care has continued to strive for success in areas of education, research, clinical activity, quality and performance. The successes of the Department's members have been recognized in many ways including the awards and appointments they have received in 2017.

### **Our Faculty**

We welcomed Dr. Niall Filewod who joined our Department as a Clinical Associate.

### **Promotions**

Dr. Najma Ahmed was promoted to Professor of Surgery, Dr. Sara Gray was promoted to Associate Professor, and Dr. Warren Lee was promoted to Associate Professor.

### **Education**

The Simon Abrahamson Award for Outstanding Academic Performance in Critical Care Medicine continues to be awarded to CCM fellows in recognition of the excellence and innovation that Dr. Abrahamson has demonstrated in fellow education and mentorship for an extended period of time.

Dr. David Hall and Dr. Simon Abrahamson continued to do an excellent work in their leadership role for the Residency and Fellowship Program, Critical Care Department at St. Michael's Hospital. Dr. Natalie Wong has always been recognized for her excellence in teaching, and this year, she received another two outstanding/excellent teaching awards; a) IDCCM Award for Teaching Excellence at St. Michael's Hospital and b) Outstanding Teacher Award from the General Internal Medicine, Department of Medicine at St Michael's Hospital. Dr. Sara Gray received uniformly rave reviews on her outstanding and very inspired engaging talk on the importance of training in mindfulness, self-compassion and empathy when providing care - "Voices in Our Heads" - which she gave to 2500 Das SMACC delegates at the Berlin Tempodrom.

## **Quality**

Dr. Andrew Baker, David Hall and their group project, Improving Procedural Quality and Safety in the ICU through the Introduction of a Procedural Checklist and Pause: An Inter-professional Quality Improvement Initiative was selected as the first place recipient of the 2017 Spacelabs Innovative Project Award.

## **Research**

Dr. Laurent Brochard was awarded the Canadian Academy of Health Sciences Fellow Award and his international research fellow, Dr. Lu Chen won the Best Poster for Physiology Research at Art Slutsky Day. Dr. Claudia dos Santos received a University of Toronto Clinician Scientist Merit Award. Dr. Art Slutsky received the 2017 Distinguished Lecturer in Respiratory Sciences Award, CIHR Institute of Circulatory and Respiratory Health and the Canadian Thoracic Society and also received the Outstanding Achievements in Intensive Care Medicine Award at the Smart Meeting Anesthesia Resuscitation Intensive Care in Italy. Drs. Andrew Baker, Laurent Brochard, Karen Burns, Claudia Dos Santos, Sara Gray, John Laffey, Warren Lee, John Marshall, David Mazer, Sandro Rizoli and Haibo Zhang were awarded 25 new research awards/grants/funding in 2017.

The physicians in the Critical Care Department have continued their consistent contributions in the realm of research by publishing 166 articles in peer-reviewed journals in the past year. Our department was well represented at the ATS. In order to present their own research and further their knowledge of new findings in similar research fields, our faculty traveled to a variety of conferences and presentations throughout the world. There were a total of 56 local, 38 national and 138 international presentations by our faculty in 2017.

## **Leadership**

Because of his outstanding leadership in Medical Education, Dr. David Hall was appointed Program Director for Adult Critical Care Medicine at the University of Toronto.

## Department of Critical Care Medicine, Sunnybrook Hospital

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**Brian Cuthbertson, MD, ChB, FRCA**

The leadership team for the Trauma, Emergency and Critical Care Program at Sunnybrook Health Sciences Centre changed in 2017 as Dr. Gordon Rubinfeld's tenure came to an end. Dr. Brian Cuthbertson remained the Chief of Critical Care Medicine. Dr. Shelly Dev continued to lead the education programme as our Residency Director and Co-Director with Dr. Cameron Guest of the International Fellowship Program. Dr. Dominique Piquette continued her role as the Associate Director, Education Research & Scholar Development for IDCCM. Dr. Mike Tylee joined our department in July 2017 as a Clinical Associate. Dr. Shannon Goddard has taken on a new role as the Hospitalist in Hematology-Oncology in October 2017.

### **Research**

In research the department enjoyed a number of notable academic accomplishments.

Over the past year, we have developed a new research group, the Acute and Intensive Care Outcomes Research Network (AICORN). This group, led by Drs. Hannah Wunsch, Damon Scales and Robert Fowler, focuses on health services research projects that make use of Ontario population health data, with a particular focus on ICU-related research, including long-term outcomes, trends over time in care of critically ill patients, trauma care, and end-of-life care. The AICORN group meets bi-weekly to discuss progress on specific projects and plan new studies. The group includes postdocs, masters' students, research coordinators, and collaborators throughout the city, as well as other parts of Canada and the US. AICORN will hold its first research retreat in May at Hart House at the University of Toronto to allow for more in-depth discussion of projects and an opportunity for collaborators to come together to exchange ideas. AICORN has received funding support from the Chief's Fund from the Sunnybrook Department of Critical Care Medicine, and is also supported by operating grants from CIHR, NIH and the Canadian Frailty Network.

In 2017, Dr. Brian Cuthbertson's main research focus was on the SuDDICU study and he received \$3.1M from CIHR to conduct the project in Canada. He worked closely with the Australia and UK collaborative group to launch the study in those areas also. He is currently seeking further funding for SuDDICU from CIHR project grant funding. The multi-national METS study (cardio-pulmonary exercise testing in patients before major surgery) is now complete and being submitted for publication after recruiting 1400 patients. Dr. Cuthbertson also launched the CHORAL study of chlorhexidine withdrawal and oral health care intervention which he has applied to CIHR for funding with an interprofessional team of investigators. Dr. Cuthbertson all led the pragmatic trials course at HPME this last year which received excellent student reviews.

Dr. Gordon Rubinfeld sent greetings from Balmy, London (UK, for those who asked why I was sabbaticalling in Southwest Ontario). The artistic, historic, and culinary distractions, not to mention the many visitors from home, have been delightful. He has a small flat in Clerkenwell that costs about the same as his townhouse rents for in Summerhill. He has made some wonderful connections with ICNARC, the NHS, and Ernst and Young and has become very interested in how the ICU quality agenda is implemented and resourced in different health care systems. There is a stimulating group of health services researchers there. There is also a large cohort of former Sunnybrook International Fellows who all seemed to have been stricken with the research bug. It seems that prolonged exposure to Damon Scales has this effect.

Dr. Damon Scales published the results of the ICEPACS RCT (PMID 28988962), a large pragmatic RCT comparing prehospital cooling after cardiac arrest to usual resuscitation and transport. The study showed that prehospital cooling increased delivery of therapeutic hypothermia to patients after hospital arrival, but did not improve overall neurological outcomes. He continued to prepare for the launch of 2 CIHR-funded trials: the PROTEST RCT, which will compare the safety and effectiveness of early versus delayed thromboembolic prophylaxis using anticoagulants in patients with traumatic brain injury, and the PITSTOP RCT, which will evaluate the impact on mortality of prompt antibiotic and/or intravenous fluid administration by paramedics to patients with sepsis. He continued to enrol patients into the vanguard phase of the NEURO-ETT RCT, which will determine the optimal airway management strategy for patients who are weaned to minimal ventilator settings but remain intubated due to underlying neurological injury. Dr. Scales was also the inaugural recipient of the Canadian EMS Research Network - Réseau Canadien de Recherche en Soins Préhospitaliers (CERN-RCRSP) EMS Research Mentorship Award.

In 2017, Dr. Neill Adhikari contributed to several publications and co-chaired a CIHR-funded meeting in December on developing a grant for a trial of Vitamin C in sepsis. He also coordinated the launch of the Toronto-Addis Ababa Academic Collaboration agreement in Critical Care Medicine, with a fellowship scheduled to start in Addis Ababa in 2018. Details of this appeared in the December IDCCM newsletter and states “The Toronto Addis Ababa Academic Collaboration (TAAAC; <http://taaac.com>) was created in 2008 as an educational initiative partnering University of Toronto (U of T) with Addis Ababa University (AAU) in Ethiopia. This initiative focuses on sustainably building postgraduate programme capacity in medical and other graduate programmes. U of T volunteer faculty members teach and co-build residency, fellowship, Masters and PhD programs in Ethiopia with our Ethiopian colleagues. In residency programmes, the volunteers provide clinical supervision and lectures and teach technical skills. Graduates are hired as faculty at AAU and at other Ethiopian universities. By establishing a critical mass of faculty in each needed specialty, TAAAC has contributed to a 90% retention rate of newly graduated medical and academic experts. We plan three annual trips to Tikur Anbessa (Black Lion) Hospital in Addis Ababa. For each trip, a team of 1-2 U of T faculty members and an adult CCM resident/clinical fellow will provide bedside and formal teaching based on a curriculum developed in collaboration between U of T and AAU. IDCCM will also provide support in the form of mentorship, research collaboration and curriculum development. Interested faculty or trainees are welcome to contact Drs. Alberto Goffi or Neill Adhikari.

Over the past year, Dr. Rob Fowler has enjoyed clinical work, teaching and learning in the ICU's at Sunnybrook Hospital, supporting graduate students as the Director of the Clinical Epidemiology and Health Care Research Program at U of T's Institute of Health Policy, Management and Evaluation, and a few academic foci: infection-related critical illness, end-of-life care, and care of critically patients in resource limited settings. He is collaborating with Dr. Nick Daneman and many other members of the Canadian Critical Care Trials Group as part of the BALANCE (Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness) Randomized Control Trial, with sites in Canada, Saudi Arabia, New Zealand and Australia. Working with the newly planted AICORN (Acute and Intensive Care Outcomes Research) Network, they've examined trends in end-of-life and palliative care in Ontario and Canada, and end-of-life care delivered to recently immigrated Canadians. They have also continued to work on ways to improve the care of patients in resource-constrained environments in the context of outbreaks (assisting with practice guidelines with WHO) in addition to working with the Toronto-Addis Ababa Academic Collaboration to explore the feasibility of a clinical research graduate program supported by U of T. Dr Fowler has published in NEJM, JAMA and Lancet this year.

Dr. Hannah Wunsch was active in the Interdepartmental Division of Critical Care Medicine (IDCCM) as the Associate Research Director. As lead for the Visiting Professor Program, she helped to host 7 visiting professors from around the world. She also led the Clinical Research in Progress (CRIP) program, bringing together researchers from across the city monthly for dinner and a discussion of ongoing research projects, and launched the "Nuts and Bolts of Research" series with an afternoon of speakers and discussion in April 12, 2017 attended by 40 individuals from across the city, followed by a grant writing mini symposium in October 19, 2017, attended by 40. She also oversaw the development of a new program to support the research careers of junior faculty with the appointment of the first IDCCM Scholar (Dr. Elizabeth Wilcox), providing academic recognition and operating funds for 2 years.

In her own research, Dr. Wunsch published an important paper on the care of patients with septic shock in JAMA in March, 2017. In collaboration with Dr. Gordon Rubinfeld, Dr. Wunsch and her collaborators assessed the impact of a nationwide shortage of norepinephrine on patients with septic shock in the US. The work highlighted the profound impact the shortage had on care patterns as well as an increase in hospital mortality for septic shock patients associated with the shortage. In other work, Dr. Wunsch and Dr. Hayley Gershengorn (University of Miami) published a study using data from the United Kingdom to examine the important question of physician staffing in ICUs (published in JAMA Internal Medicine). This work demonstrated a possible relationship between the patient-to-intensivist ratio and mortality for critically ill patients. Dr. Wunsch is now actively working on extending this research internationally, with similar studies in Canada, Australia and the US.

In September 2017, Dr. Wunsch received a grant for US\$2.1 million from the National Institute on Drug Abuse at the National Institutes of Health (NIH) to study opioid prescribing after surgery. Dr. Wunsch is the lead Principal Investigator, in collaboration with Dr. Mark Neuman (co-Principal Investigator) in the Department of Anesthesiology at the University of Pennsylvania. The grant involves collaborators at Sunnybrook Hospital (Dr. Avery Nathens) and Li Ka Shing Knowledge Institute (Dr. Duminda Wijeyesundera), as well as other investigators at the University of Pennsylvania, Columbia University and Harvard University. The work involves analysis of Ontario health data, as well as US datasets, to understand the transition from acute to chronic opioid use after surgery, identify risk factors for such transitions and to explore ways to reduce this risk.

During 2017, Dr. Taz Sinuff's most significant achievement was as a co-investigator and methods expert in the CFN Transformative Grant for \$2.7 million for the study Improving Advance Care Planning for Frail Elderly Canadians. This was a highly competitive granting process. Dr. Sinuff co-authored 6 published papers in peer review journals.

Dr. Martin Chapman continues to remain focused on neurocritical care and management of brain injury, is a member of a group of faculty at U of T who teach ENLS and has several ongoing research projects: RESCUE-ASDH - Initiated from the UK, this international RCT is trying to answer the question as to whether employing craniectomy routinely following evacuation of an acute sub-dural hematoma leads to improved outcomes. Sunnybrook will become an active site in 2017 with Martin as a co-investigator. PROPEL - Martin is the site PI on this industry health technology study on feeding tolerance.

In 2017, Dr. Louise Rose, who holds the TD Nursing Professorship in Critical Care Research at Sunnybrook Health Sciences Centre and is also the Research Director of the Provincial Centre of Weaning Excellence at Michael Garron Hospital, was successful in 13 grant competitions totalling \$4,174,872, including five as the nominated principal investigator. This success includes a CIHR project grant to develop core outcome sets for effectiveness trials of interventions to either prevent or treat delirium, and a European Society of Intensive Care Medicine Life Priority grant to identify patient and family centered performance measures focused on actionable processes of care for persistent or chronic critical illness.

Additionally, Dr. Rose is a principal investigator on the CIHR SPOR and project grant funded SUDDICU study (nominated principal investigator, Dr. Brian Cuthbertson). She published 17 manuscripts in 2017 including a Cochrane systematic review on cough augmentation techniques for extubation and weaning of critically ill patients. She has a further four papers in press. These include a 470 patient randomized controlled trial on an innovative case management and care integration intervention for patients with COPD and substantial co-morbidity (presented at ATS and accepted by the European Respiratory Journal), and the largest to-date evaluation of public and private healthcare utilization and costs, including caregiver time, for individuals living at home on mechanical ventilation (accepted by Thorax).

Dr. Barbara Haas continues to focus her research and education efforts on the care of severely injured older adults and older adults with surgical emergencies. In addition to ICES work focused on the geriatric trauma care in Ontario, her team is currently recruiting participants in two studies, one focused on the experiences of older adults within the trauma system and one focused on prognostication of long-term outcomes after critical illness among intensivists and surgeons (Dr. Michael Detsky, Co-PI). She has been invited by the Division of General Surgery to develop resident lectures regarding establishing goals of care for patients with surgical emergencies. Finally, she has contributed to five publications in 2017.

Dr. Bourke Tillmann is continuing his work as a Masters student in the Clinical Epidemiology and Health Care Research Program at IHPME. He is involved in several ongoing research projects focused on the care of the traumatically injured patient including his thesis project examining factors associated with over triage of the trauma patient and the implications of over triage on health care resource utilization, as well as an analysis of the impact of intoxication on interventions in patients who have suffered severe traumatic brain injuries. He is also continuing his research focused on health care resource utilization and is working with Dr. Wunsch using large databases to examine changes in trends of health care utilization overtime.

Dr. Tylee completed a year of clinical training in cardiovascular anaesthesia in 2017, including specific training in advanced perioperative transesophageal echocardiography. He completed the National Board of Echocardiography (NBE) Advanced PTEeXAM, and currently holds testamur status with the NBE (full certification is pending NBE review and is expected early in 2018). He continues in the MSc program at the Institute for Health Policy, Management, and Evaluation, and has completed preparatory work to transfer to the PhD stream in early 2018. The focus of his PhD work is physician-patient communication around high stakes decisions with surgical patients in the ICU.

In 2017, Dr. Lorraine Tremblay won the prestigious Robert Mustard Mentorship Award for outstanding contributions to the training of General Surgery residents at the University of Toronto (as voted by the residents), and was appointed to the Examination Committee of the Royal College of Physicians and Surgeons of Canada. She also continued to serve as the only Canadian on the American Board of Surgery, Trauma, Burns, and Critical Care Examination Committee, and was elected as President-Elect of the Trauma Association of Canada (and will be President from 2018-2020).

The Critical Care Research Department, led by our Research Director, Dr. Neill Adhikari and Research Manager Nicole Marinoff, RN continue to support the IDCCM with their participation in industry and academic trials. Their team contributed to the success of 14 academic and investigator initiated studies resulting in several presentations and publications for the DCCM. For 2017-18, they are collaborating on one industry sponsored study and 10+ academic funded studies. Their group continues to support the Department of Critical Care Medicine through research feasibility review, regulatory submissions, budgets, study implementation, education and research compliance.

The Visiting Professorship Program organized by Dr. Hannah Wunsch and Meredith Malloy continues to be tremendously successful in attracting international experts in Critical Care to the IDCCM. In 2016, we hosted seven Visiting Professors from across North America. Since Dr. Rubinfeld implemented the program in 2010, the IDCCM has hosted over 72 Visiting Professors. The Clinical Research in Progress sessions (CRIP) continue to provide a supportive environment where investigators can bring research projects for critical evaluation and discussion.

### **Education and Quality Improvement**

We pride ourselves on our high quality clinical teaching and in the 2016-2017 academic year, the Department has continued to receive high scores for teaching assessments from both resident and fellowship training attachments.

In a rather fortuitous turn of events over the last year, Dr. Dev found herself leading the conversation on physician wellness. After an essay she wrote for the University of Toronto Faculty of Medicine went viral and gained international attention, Dr. Dev has become a highly sought out speaker on her own challenges in seeking wellness as a physician and her perspective on how to change our medical culture. She holds the IDCCM portfolio for Mentorship for our Critical Care trainees and has recently been appointed as the Mentorship lead for the Peter's-Boyd academy for Undergraduate Medical Students. Dr. Dev continues to work on independent and collaborative multimedia projects, acting as producer and consultant with colleagues across the Faculty of Medicine. Her current projects in production for the New England Journal of Medicine across the IDCCM include Video Laryngoscopy, Lung Ultrasound and Esophageal Balloon Insertion. In partnership with Dr. Andre Amaral and



Dr. Brian Cuthbertson, Dr. Dev continues to develop video-based materials to be used by families of ICU patients as a way of improving the content and quality of communication between these families and ICU staff members. She is also in the midst of developing educational materials for new clinical studies including the CHORAL and SUDDICU trials headed by Dr. Brian Cuthbertson. Also on the radar is the soon to launch newly revamped IDCCM website Dr. Dev has been developing with Dr. Laurent Brochard.

In Quality Improvement the Department continues to collect data on key quality indicators reflecting our performance. A Process of Care Database was developed and validated based on data collected through the iCORE registry, led by Dr. Eddy Fan. We continue to report on early mobility, lung protective ventilation, DVT prophylaxis, delirium screening, sedation management and spontaneous breathing trials. This is now being reported for all units collecting data on iCORE and quality reports are posted on a monthly basis. The current indicators have been revised at an interprofessional meeting and the new dataset will be distributed in 2018 after further refinement of definitions, making the data more appealing to clinicians. Further work continues to expand the database to community hospitals, and Drs. Amaral and Fan have been actively engaged with stakeholders to increase adoption. Scarborough and Rouge hospital, St Joseph's, St. Catherine's and Toronto East are partners that are in various stages of contractual development to contribute to the registry. We continue to present projects and share ideas in an annual multi-professional quality meeting across all of critical care central (QUICK-ICU project) with encouraging feedback, this year we met to discuss and share success stories of QI projects among all partners. This collaborative group also continues to engage online using Basecamp to discuss QI ideas and problems in real-time. In association with the Canadian Critical Care Society, Canadian Association of Critical Care Nurses and Canadian Society of Respiratory Therapists, Dr. Amaral led and published online the Choosing Wisely Campaign items for Critical Care in Canada. Following the IDCCM strategic plan, Drs. Amaral, Dhar, Orla Smith and Vagia Campbell continue to supervise voluntary fellows and residents in a Quality Improvement workshop. Trainees attend a workshop created by Dr. Brian Wong from Department of Medicine and, as a group, work on a quality improvement projects throughout the year. One of the projects from last year, devoted to decreasing blood work, received awards in the UofT QI day. The main QI project at Sunnybrook in 2017 evolved around rounding practices and issues around team presence and workflow. This work will continue in 2018. Dr. Amaral was awarded an EBD (Experience-Based Design) project offered by Sunnybrook QI. We received funds and mentoring from an EBD expert to involve families and patients in a QI project on delirium in the ICU. This EBD award was partnered with a QI fellowship award to Karen Montgomery, PT, at Sunnybrook to explore action items to improve delirium incidence at Sunnybrook. Dr. Amaral, in collaboration with Drs. Ford and Mikkelsen, developed and administered a highly successful QI postgraduate course at the American Thoracic Society. This course will be repeated in 2018 in San Diego.

During the last academic year, Dr. Dominique Piquette has pursued a range of educational research projects aimed at better understanding how changes in the healthcare and medical education systems affect education and learning. She has completed a CIHR-funded pilot study on the competencies acquired by specialty residents during a 4-week ICU rotation. She is leading an ongoing RCPSC-funded project on the implementation of competency-based medical education within the Adult critical care residency program. She has also undertaken a new externally funded project that explores different educational strategies to provide formative feedback to practicing critical care physicians. On a similar topic, she is currently preparing, on behalf of the Canadian Critical Care Society, a national survey on intensivists' current use of assessment activities as part of their continuing professional development. In addition to these projects, she is collaborating with various groups of local and national researchers whose

research interests include organ donation education, competency-based medical education, physician moral distress, and international fellows' transition into Canadian ICU teams. In 2017, she received a medical education research award at Sunnybrook Health Sciences Centre recognizing her contributions to medical education research. Beyond these research endeavors, Dr. Piquette has been a leader within the University of Toronto Adult Critical Care Medicine Residency and Fellowship programs in many areas: oversight of trainees' scholarly activities, planning and evaluation of the Program's transition to CBME, and strategic renewal of the critical care curriculum.

## Department of Critical Care Medicine, The Hospital for Sick Children

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Peter Laussen, MD, BS, FCICM

The clinical activities for the department in 2017 were one of the busiest we have experienced. By the numbers, this included: 2277 admissions to the PICU and CCCU combined, with a total of 13761 patient days; 5232 follow-up visits after transfer from the CCU by our CCRT and an additional 814 new consults by the team; just over 1100 extramural bridge calls for consultation and transfer; and 45 ECMO with over 8000 hours of care. The overall mortality was in line with preceding years at 3.7%. I wish to extend my gratitude for the extraordinary care provided by all staff, always doing what was needed and then some. The quality of care is exceptional and meets all societal or regulatory benchmarks. The Quality, Risk and Safety teams have juggled many competing pressures very well, and we had notable successes, such as sustained hand hygiene audit (moments 1 and 4) above 90%. Vascular Health, Nutrition Health and Respiratory Health teams have made significant strides, and I particularly want to acknowledge the interdisciplinary practices that have been embedded in the unit. We continued to partner with HumanEra at the University to understand human factors within the unit, and are about to embark on a large project mapping the way we round and transfer information across the unit.

Our training program remains very large and my thanks to Tilman Humpl and Melanie Hamilton for the structure and efficient organization of all aspects of the program. This past year, we trained: 35 critical care residents and international fellows, another 82 rotating or elective trainees, and 14 observers to the CCU. My thanks to our outstanding Chief Fellows for the year, Valerie Brule and Oshri Zaulan.

Congratulations to Oshri Zaulan who received an IDCCM Fellows Contribution Award, and to Bhushan Katira and Rishi Lalgudi Ganesan who received Art Slutsky Day Research Awards. Three senior fellows received Restracom support (Bhushan Katira, Nadia Roumeliotis, Haifa Mtaweh). In addition, Bhushan Katira received a Graduate Scholarship award from CHIR, Nadia Roumeliotis a CCCTG Fellowship award, and Rishi Lalgudi Ganesan a c-BMH Integrative Research Training Fellowship.

Under the direction of Dr. Jamie Hutchison, our research team continued to be extremely productive. We expanded our infrastructure to include a more interdisciplinary profile. Our research team members include a research manager, 1 clinical nurse specialist and 1 advanced practice nurse both currently pursuing their PhD, 4 Engineers, data programmers, 2 analysts, research fellows, PhD students, Post graduate students, project managers and several research assistants and summer students. In 2017, we have had 48 publications. Grant awards including \$688,500 CIHR Project Grant Award Principal Applicant and \$485,775 as Co-applicant for Brian

Kavanagh, \$29,866 from SickKids Internal funds and \$200,469 in Research Fellowship awards. There are currently 73 active studies in varying stages with 15 actively recruiting. In addition there are 7 external studies from various departments also approaching for recruitment.

Some of our team members attended the Canadian Critical Care Trials Group (CCCTG) 3 scientific meetings and provided updates on current active studies at our site that are being conducted locally and nationally. Our team hosted the Canadian Critical Care Research Coordinator Group annual workshop here at the RI in November 2017 which had the largest attendance in its history. Members of our research team also attended the Canadian Critical Care Translational Biology Group (CCCTBG) which coincides with the CCCTG meetings.

The department hosted the Terry Hickson Research in Practice Challenge Workshop in 2017. It was an innovative program to enhance the capacity of critical care front line clinicians to participate and engage in research activities. This 2 day workshop welcomed 5 groups to present their proposals following 3 months of mentoring with a member of the research team.

As the year closed out an announcement has been made that after 10 years of extreme productivity and growth under the direction of Dr. Jamie Hutchison the role of Director of Research has been transitioned to Dr. Anne-Marie Guerguerian who looks forward enthusiastically to continue the successfulness of this program.

## **Department of Critical Care Medicine University Health Network and Sinai Health System**

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**Niall Ferguson, MD, MSc, FRCPC**

Critical Care Medicine, University Health Network & Sinai Health System

The Critical Care programme at University Health Network and Mount Sinai Hospital is a complex structure involving the provision of intensive care across 4 physically separate geographic sites and 2 separate hospital organizations. We have over 20 intensivists working in our three Level-3 medical-surgical ICUs (our MSICU group), and also count on the involvement of our colleagues in the Peter Munk Cardiac Centre who provide care for patients in the CardioVascular ICU (CVICU) and Coronary ICU (CICU) at Toronto General Hospital.

### **Personnel**

Over the course of 2017 several important personnel changes occurred within our group.

**New Faculty:**           Dr. Preeti Dhar, Surgeon-Teacher / Quality Improver, UHN  
                                  Dr. Ewan Goligher, Clinician-Scientist, TGH  
                                  Dr. Victoria McCredie, Clinician-Scientist, TWH

We are excited to welcome our new team members and look forward to their future successes.

The executive committee for our group in 2017 was comprised of Drs. Neil Lazar, Jeff Singh, and Stephen Lapinsky serving as Site Directors for Toronto General, Toronto Western, and Mount Sinai, respectively, along with Dr. John Granton as Head, Division of Respiriology, Dr. Geeta Mehta as member-at-large, and Dr. Niall Ferguson, Head of Critical Care Medicine.

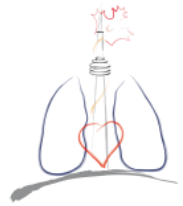
### **Research**

We moved to a new devolved model of research infrastructure in 2017 – with each geographic site managing research coordinator resources and a local research lead for each site – Dr. Elizabeth Wilcox at TWH, Dr. Eddy Fan at TGH and Dr. Michael Detsky at Sinai. We were also delighted that Dr. Elizabeth Wilcox was the inaugural recipient of the IDDCM Scholar Award.

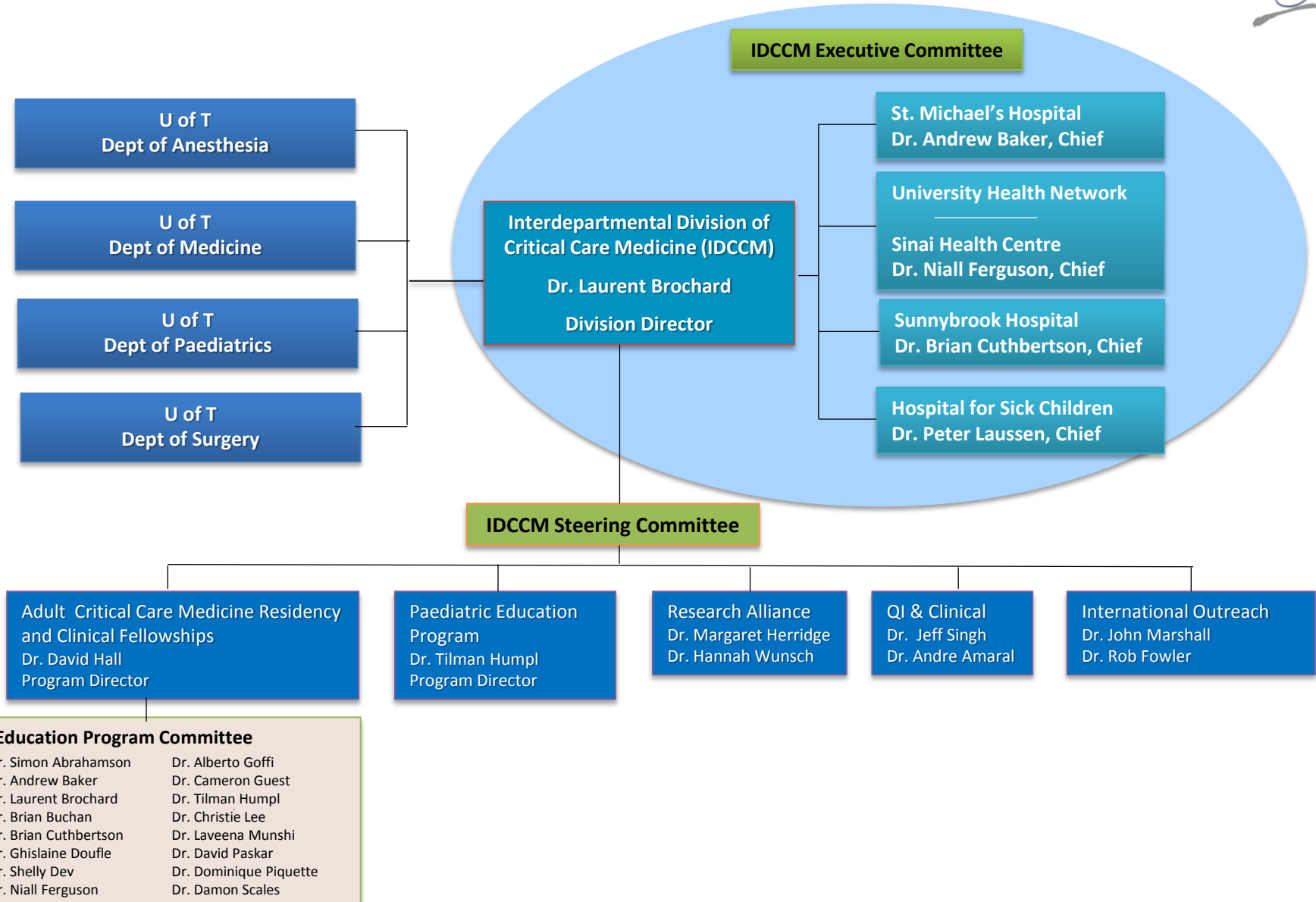
2017 was another excellent year for our research group. Our group of 13 faculty clinician-investigators and scientists published over 130 unique papers in 2017, with about 20% of these being in high impact journals including the New England Journal, JAMA, and ARJCCM. Our grant capture was also strong (see individual reports). Key research programmatic themes arising from within our group include: ARDS & Mechanical Ventilation; Long-Term Outcomes after ICU; Extra-Corporeal Life Support; Diaphragm Dysfunction; Neuro-critical Care; and Critical Care Oncology.

### **Education**

Our site education leads are Dr. Ghislaine Douflé for TGH, Dr. Christie Lee at Sinai, and Dr. Alberto Goffi at TWH – they continue to do a phenomenal job of reinvigorating the educational experience for trainees of all levels at these sites. Dr. Christie Lee completed her first full year as Director of the International Fellowship Director at UHN/SHS – thanks to her leadership we continue to attract and train outstanding clinical fellows from around the world.

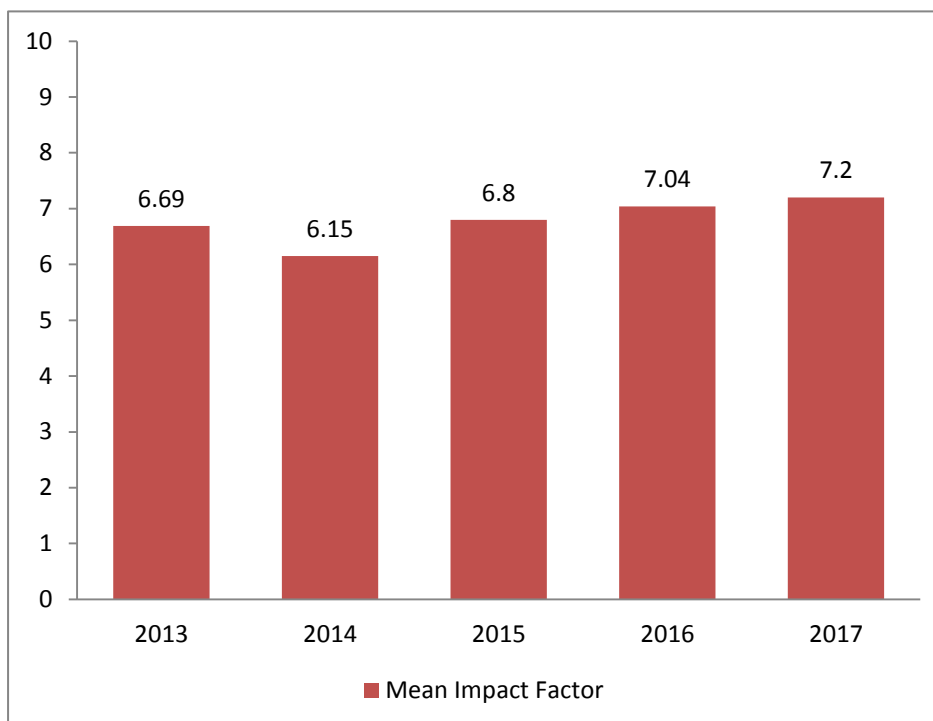
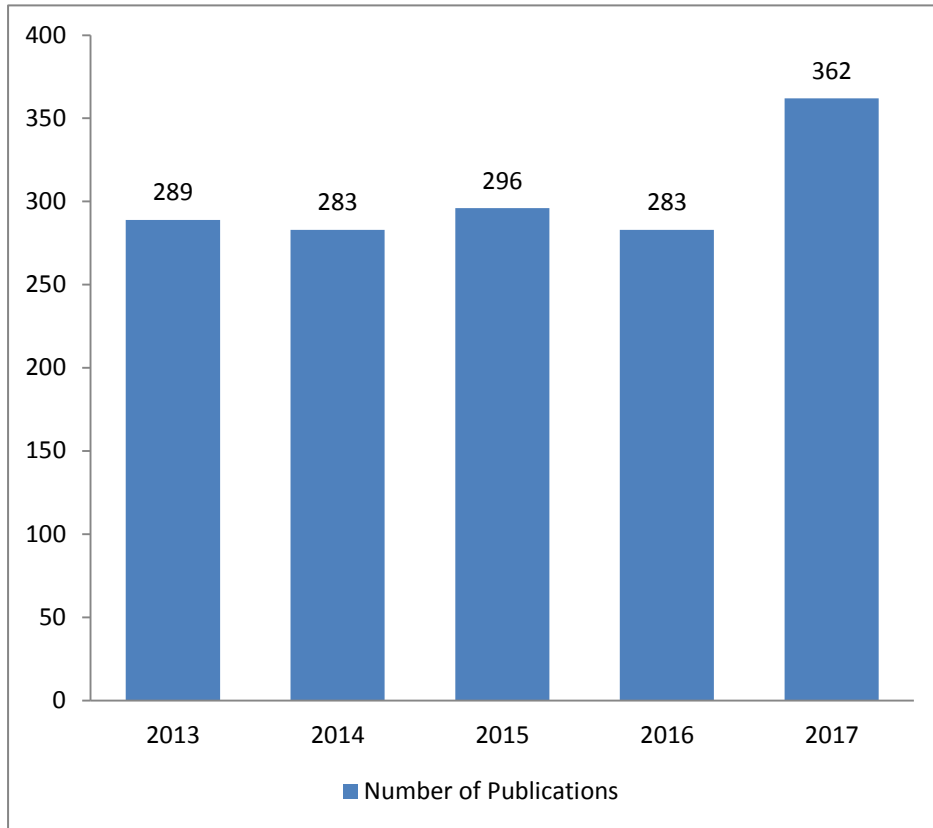


# 2017 U of T IDCCM Organization Chart



# 5 Year Impact Factor

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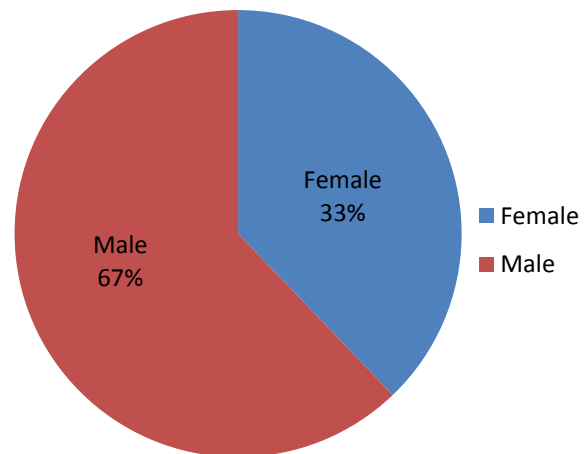
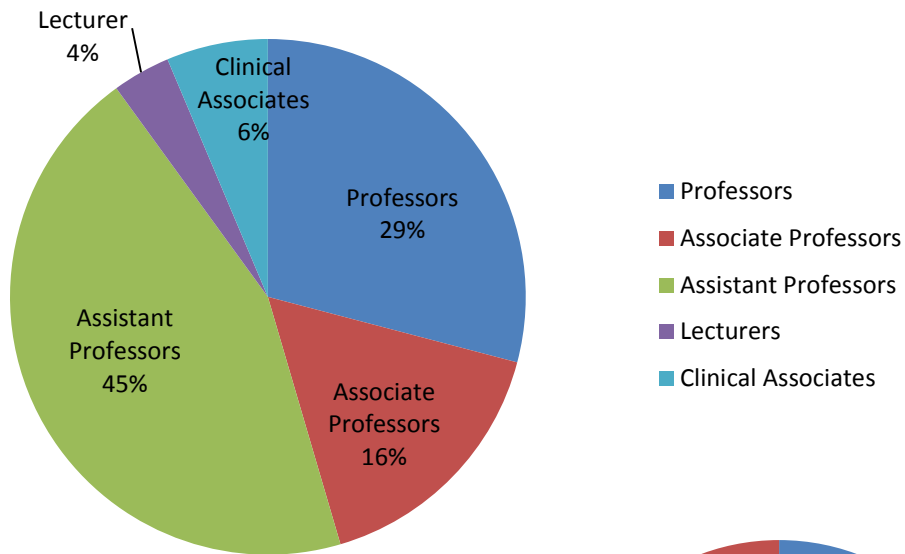


# Publication Analysis

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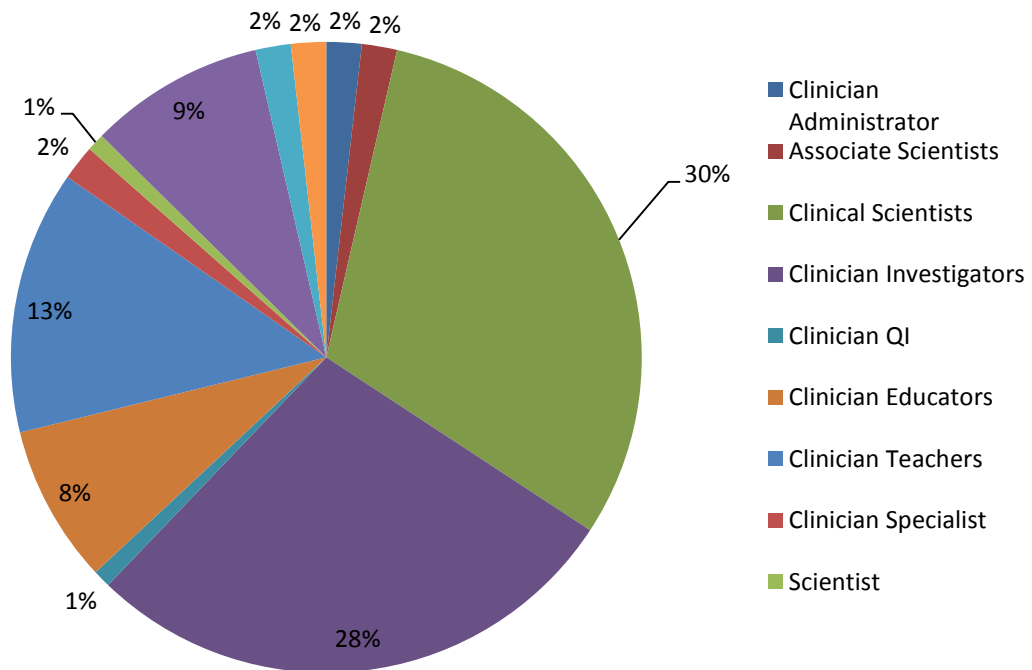
## University Rank Full-Time Faculty

Professors	32
Associate Professors	18
Assistant Professors	48
Lecturers	4
Clinical Associates	7



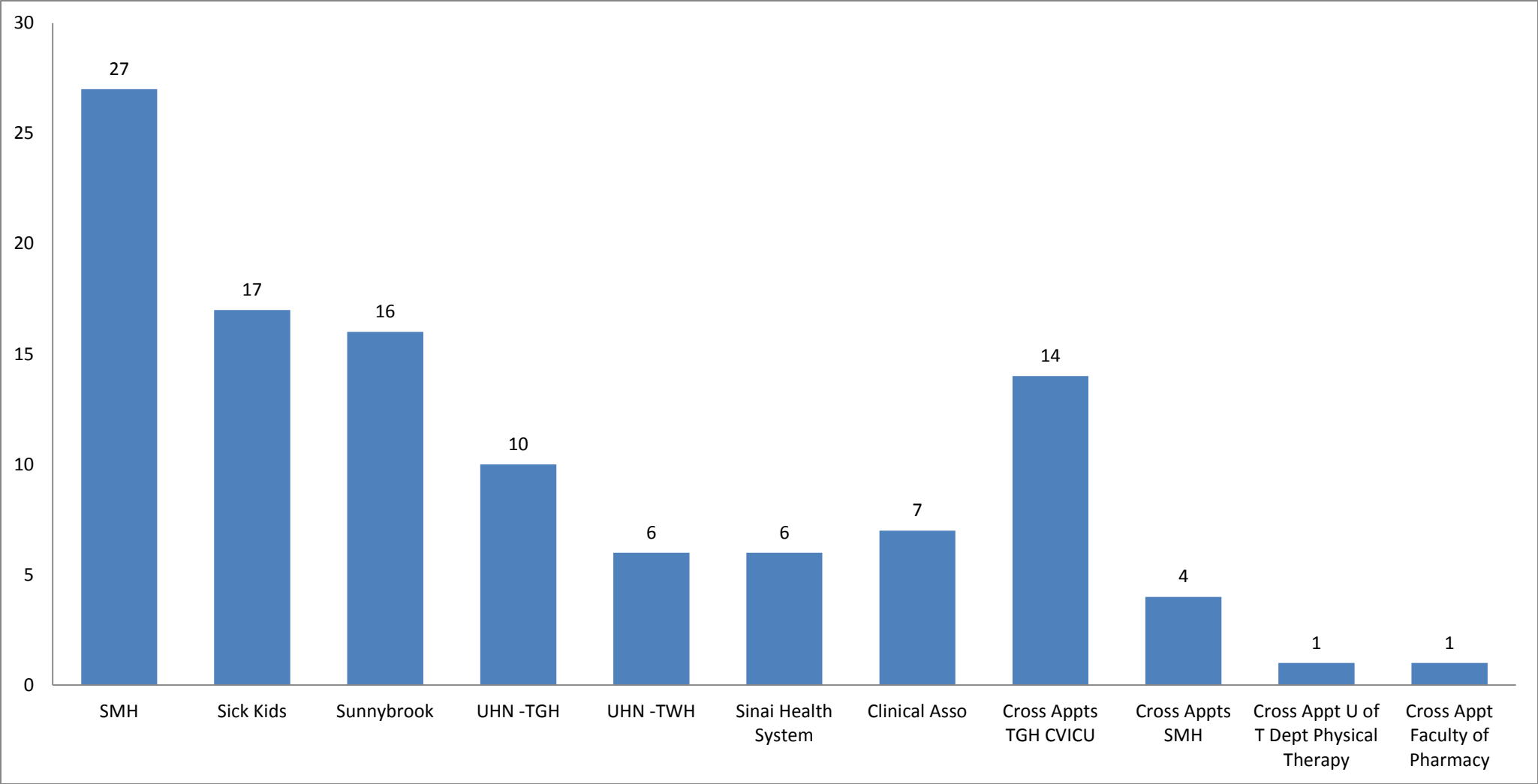
## Job Description Faculty

Clinician Administrator	2
Associate Scientists	2
Clinical Scientists	36
Clinician Investigators	29
Clinician QI	2
Clinician Educators	9
Clinician Specialist	2
Clinician Teachers	13
Scientist	3
Senior Scientists	2
Scientists Track	7
Not Applicable	2



# Overall Interdepartmental Summary

Our interdepartmental division consists of 102 faculty members and 7 clinical associates.



# APPENDICES

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# Appendix I: Faculty List

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## Hospital for Sick Children

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Annich, Gail	Professor	Clinician Investigator
Cox, Peter	Professor	Clinician Administrator
Floh, Alejandro	Assistant Professor	Clinician Investigator
Guerguerian, Anne-Marie	Assistant Professor	Clinician Scientist
Huang, Lennox	Associate Professor	Clinician Specialist
Humpl, Tilman	Associate Professor	Clinician Investigator
Hutchison, Jamie	Professor	Clinician Scientist
Kavanagh, Brian	Professor	Clinician Scientist
Kirsch, Roxanne	Assistant Professor	Clinician Specialist
Kotsakis, Afrothite	Assistant Professor	Clinician Educator
Laussen, Peter	Professor	Clinician Administrator
Mazwi, Mjaye	Assistant Professor	Clinician Specialist
Mema, Briseida	Assistant Professor	Clinician Educator
Moga, Michael-Alice	Assistant Professor	Clinician Specialist
Mtaweh, Haifa	Assistant Professor	Clinician Investigator
Parshuram, Christopher	Professor	Clinician Scientist
Schwartz, Steven	Professor	Clinician Investigator

# Sinai Health System

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Detsky, Michael	Assistant Professor	Clinician Investigator
Goligher, Ewan	Assistant Professor	Clinician Scientist
Lapinsky, Stephen	Professor	Clinician Investigator
Lee, Christie	Assistant Professor	Clinician Teacher
Mehta, Sangeeta	Professor	Clinician Investigator
Munshi, Laveena	Assistant Professor	Clinician Investigator

# St. Michael's Hospital

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Abrahamson, Simon	Associate Professor	Clinician Educator
Ahmed, Najma	Professor	Clinician Educator
Baker, Andrew	Professor	Clinician Scientist
Brochard, Laurent	Professor	Clinician Scientist
Burns, Karen	Associate Professor	Clinician Scientist
Darraah, William	Assistant Professor	Clinician Teacher
Dos Santos, Claudia	Associate Professor	Clinician Scientist
Friedrich, Jan	Associate Professor	Clinician Scientist
Gray, Sara	Assistant Professor	Clinician Teacher
Hall, David	Assistant Professor	Clinician Teacher
Houston, Patricia	Professor	Clinician Scientist
Kataoka, Mark	Assistant Professor	Clinician Teacher
Klein, David	Assistant Professor	Clinician Teacher
Laffey, John	Professor	Clinician Scientist
Lawless, Bernard	Assistant Professor	Clinician Teacher
Lee, Warren	Assistant Professor	Clinician Scientist
Levene, Richard	Assistant Professor	Clinician Teacher
Marshall, John	Professor	Clinician Scientist
Mazer, David	Professor	Clinician Scientist
Pronovost, Antoine	Assistant Professor	Clinician Scientist
Rigamonti, Andrea	Assistant Professor	Clinician Scientist
Rizoli, Sandro	Professor	Clinician Scientist
Sinderby, Christer	Assistant Professor	Scientist
Slutsky, Arthur	Professor	Scientist
Tousignant, Claude	Assistant Professor	Clinician Educator
Wong, Natalie	Assistant Professor	Clinician Teacher
Zhang, Haibo	Professor	Scientist

# Sunnybrook Hospital

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Adhikari, Neill	Assistant Professor	Clinician Scientist
Amaral, Andre	Associate Professor	Clinician Quality & Innovation
Chapman, Martin	Assistant Professor	Clinician Educator
Cuthbertson, Brian	Professor	Clinician Scientist
Dev, Shelly	Assistant Professor	Clinician Teacher
Fowler, Robert	Professor	Clinician Investigator
Guest, Cameron	Associate Professor	-
Haas, Barbara	Assistant Professor	Clinician Scientist
Piquette, Dominique	Assistant Professor	Clinician Educator
Rose, Louise	Associate Professor	Clinician Scientist
Rubinfeld, Gordon	Professor	Clinician Scientist
Scales, Damon	Professor	Clinician Scientist
Sinuff, Tasnim	Associate Professor	Clinician Scientist
Smith, Terry	Assistant Professor	Clinician Teacher
Tremblay, Lorraine	Assistant Professor	-
Wunsch, Hannah	Associate Professor	Clinician Scientist



# University Health Network

## Toronto General Hospital

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Del Sorbo, Lorenzo	Assistant Professor	Clinician Investigator
Dhar, Preeti	Assistant Professor	Clinician Quality
Downar, James	Associate Professor	Clinician Teacher
Fan, Eddy	Assistant Professor	Clinician Scientist
Ferguson, Niall	Professor	Clinician Scientist
Granton, John	Professor	Clinician Investigator
Herridge, Margaret	Professor	Clinician Scientist
Lawler, Patrick	Assistant Professor	Clinician Scientist
Lazar, Neil	Associate Professor	Clinician Educator
Steel, Andrew	Assistant Professor	Clinician Educator

## Toronto Western Hospital

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Demajo, Wilf	Assistant Professor	Clinician Teacher
Goffi, Alberto	Assistant Professor	Clinician Teacher
Hawryluck, Laura	Associate Professor	Clinician Educator
McCredie, Victoria	Assistant Professor	Clinician Scientist
Singh, Jeff	Associate Professor	Clinician Investigator
Wilcox, Elizabeth	Assistant Professor	Clinician Scientist

## Clinical Associates

<b>Name</b>	<b>Hospital</b>	<b>Research Rank</b>
Barrett, Kali	Toronto General Hospital	Scientist Tract
Filewod, Niall	St. Michael's Hospital	Scientist Track
Goddard, Shannon	Sunnybrook Hospital	Scientist Track
Leligdowicz, Aleksandra	Toronto Western Hospital	Scientist Track
Man, Jeffrey	Toronto Western Hospital	Scientist Track
Tillmann, Bourke	Sunnybrook Hospital	Scientist Track
Tylee, Mike	Sunnybrook Hospital	Scientist Track

## Cross-Appointed Faculty

### St. Michael's Hospital

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Batt, Jane	Associate Professor	Clinician Scientist
Beck, Jennifer	Assistant Professor	Associate Scientist
Morrison, Laurie	Professor	Clinician Scientist
Smith, Orla	Adjunct Lecturer	Associate Scientist

### University Health Network - Toronto General Hospital

#### Department of Anesthesia, CVICU

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Ansari, Bilal	Assistant Professor	Clinician Investigator
Dattilo, Kathleen	Assistant Professor	Clinician Investigator
Heggie, Jane	Associate Professor	Clinician Investigator
Jariani, Marjan	Assistant Professor	Clinician Investigator
Karkouti, Keyvan	Professor	Senior Scientist
Luksun, Warren	Lecturer	Clinician Investigator
Mashari, Azad	Lecturer	Clinician Investigator
Meineri, Massimiliano	Associate Professor	Clinician Investigator
Moreno, Jacobo	Assistant Professor	Clinician Investigator
Murphy, Patricia	Professor	Clinician Investigator
Randall, Ian	Assistant Professor	Clinician Investigator
Parotto, Matteo	Assistant Professor	Clinician Investigator
Vegas, Annette	Professor	Clinician Investigator
Wasowicz, Marcin	Associate Professor	Clinician Investigator

### University of Toronto – Department of Physical Therapy

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Reid, Darlene	Professor	Senior Scientist

## University of Toronto – Faculty of Pharmacy

<b>Name</b>	<b>University Rank</b>	<b>Research Rank</b>
Burry, Lisa	Assistant Professor	Clinician Scientist

# **Appendix II: Summary Activity Reports**

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## Peer-Reviewed Publications

### Journal Articles

Eytan D, Bitterman Y, **Annich GM**. VV extracorporeal life support for the Third Millennium: will we need anticoagulation? J Thorac Dis. 2017 Nov. **Senior Responsible Author**

Gaudreault-Tremblay MM, Faqeehi H, Langlois V, Herbert D, Parra D, **Annich GM** et al. Management of severe hyponatremia with a custom continuous renal replacement therapy in an infant with newly diagnosed chronic kidney disease. Kidney International Report. 2017 July. **Coauthor or Collaborator**

Scoville BA, Vulaj V, Mueller BA, **Annich GM**, Wagner DS. Acetaminophen clearance during ex vivo continuous renal replacement therapies. J Artif Organs. 2017. **Coauthor or Collaborator**

**Annich GM**, Zaulan O, Neufeld M, Wagner D, Reynolds M. Thromboprophylaxis in extracorporeal circuits: current pharmacological strategies and future direction. Am J Cardiovasc Drugs. 2017; 17(6): 421-498. **Principal Author**

## Peer-Reviewed Grants

### Funded

2015 Mar - 2017 Jun **Consultant**. Pediatric Implantable Lung. National Institutes of Health (NIH) (USA). 5R01HD015434-30. PI(s): Bartlett RH.. 3,000,000 USD. [Grants]

## Invited Lectures and Presentations

### International

2017 Sept 29 **Moderator**. ECLS: Utilization, Management and Outcomes.

**Invited Speaker**. The circuit of the future.

13<sup>th</sup> International Conference on Pediatric Mechanical Circulatory Support System and Pediatric Cardiopulmonary Perfusion. Rome, Italy.

2017 May 6 - 7 **Moderator**. Not so common, but emerging indications in ECMO.

**Invited Speaker**. What's new in anticoagulation on ECMO.

Euro ELSO 2017 Maastricht, Netherlands.

## **National**

2017 Sept 15 **Invited Speaker.** Patient cases: TMA insights from Critical Care. CET (Clinical Excellence in Thrombotic Microangiopathies) 2017. Toronto, Ontario, Canada.

2017 June 20 **Invited Speaker.** The Future of Circuitry and Anticoagulation in ECLS. Art Sluksky Day. Interdepartmental Critical Care Medicine. Toronto, Ontario, Canada.

## **Local**

2017 July 18 **Invited Speaker.** Management of the acutely deteriorating patient on the ward (CCU and CCRT) Orientation for Clinical Fellows and Subspecialty Residents. The Hospital for Sick Children. Toronto, Ontario, Canada.

**Invited Lectures and Presentations**

**International**

2017 March      **Invited Speaker:** Pediatric Critical Care: Everyday Practice. Pediatric Respiratory & Critical Care Medicine Association. Bangkok, Thailand.

**Provincial**

2017 Feb      **Organizing Committee.** Annual Canadian Critical Care Conference. Whistler, British Columbia, Canada.

**Honours and Awards**

2017      President's Award in Innovating to Drive Impact. The Hospital for Sick Children.



## Peer-Reviewed Publications

### Journal Articles

**Floh AA**, Zafurallah I, MacDonald C, Honjo O, Fan CP, Laussen P. The Advantage of Early Plication in Children Diagnosed with Diaphragm Paresis. J Thoracic and Cardiovascular Surgery. 2017 Jun. **Principal Author**

Burch PT, Ravishankar C, Newburger JW, Lambert LM, Pemberton VL, Granger S, **Floh AA**, Anderson JB, Hill GD, Hill KD, Oster ME, Lewis AB, Schumacher KR, Zyblewski SC, Davies RR, Jacobs JP, Lai WW, Minich LL. Assessment of Growth 6 Years after the Norwood Procedure. J Pediatr. 2017 Jan; 180:270-274. **Coauthor or Collaborator**

### Conference Publications

Shah S, Schwartz SM, Goodwin A, Honjo O, Van Arsdell G, Seed M, Russell J, **Floh AA**. Standardization of Peri-operative Management After Norwood Operation has not Improved 1 Year Outcomes. Annual Scientific Sessions of the American College of Cardiology. 2017. Washington DC, United States. **Senior Responsible Author**

### Book Chapters

Lieppman K, **Floh AA**, Schwartz SM. Developing Techniques: The Future of Monitoring. Pediatric and Congenital Cardiology, cardiac Surgery and Intensive Care. Springer-Verlag Limited. **Coauthor or Collaborator**

**Floh AA**, Jean-St-Michel E, Schwartz SM. The Use of Inotropic Agents in Acute Decompensated Heart Failure. Heart Failure in the Child and Young Adult: From Bench to Bedside. **Principal Author**

**Floh AA**, Krawczeski CD, Schwartz SM. Peri-operative Care of the Child with Congenital Heart Disease. Pediatric Critical Care Medicine: Basic Science and Clinical Evidence. Springer-Verlag. **Principal Author**

## Peer-Reviewed Grants

### Funded

2017 Jul - 2020 Dec **Co-Investigator**. Targeting the central nervous system for the treatment of obesity and metabolic disease in humans. Diabetes Canada Grant. 375,000 CAD. [Clinical Trials]

## Invited Lectures and Presentations

## International

2017 May 22 - 26 **Invited Speaker.** Post-operative Assessment of BCPS and TCPC - Southwest Complex CHD Forum; Follow up of Single Ventricle Patients; Recognition and Treatment of Arrhythmia After Cardiac Surgery; PICU Sedation: Neurological Complications after CHD Surgery; Nutrition in CHD. Children's HeartLink and Sick Kids Team Visit. West China Hospital. Chengdu, China.

## National

2017 Oct 3 **Invited Speaker/ Panelist.** Talk with Experts.  
**Invited Facilitator.** Critical Care Nutrition: Parenteral Nutrition in Children.  
Critical Care Canada Forum. Toronto, Ontario, Canada.

## Local

2017 Dec 5 **Invited Lecturer.** Study Design in Paediatric Critical Care Research. Critical Care Medicine Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Nov 22 **Invited Lecturer.** Acute Fulminant Myocarditis. Cardiac Education Days. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Nov 21 **Invited Lecturer.** A wire study and pacemakers/ Electrocardiogram in a wire. Critical Care Medicine Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Sep 30 **Invited Facilitator.** Pediatric Critical Care Simulation Day. Critical Care Canada Forum. The Hospital for Sick Children. PGCR. Toronto, Ontario, Canada.

2017 Sep 26 **Invited Lecturer.** ECLS for the Cardiac Patient. Critical Care Medicine Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Sep 20 **Invited Lecturer.** ABG's and SvO<sub>2</sub>. Sick Kids cardiology Program. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Sep 14 **Invited Facilitator.** Immersive Reality. Department of Medicine Interprofessional Simulation. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Sep 12 **Invited Facilitator.** Causality, Bias and Confounders. Cardiology Fellows Research Course. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Aug 8 **Invited Lecturer.** How to Build a Scholarly Activity Program (Research/Scholarly Project, Education, Ethics, Q&S). Critical Care Medicine Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Jun 13 **Invited Lecturer.** LCOS in Cardiac Myopathies. Critical Care Medicine Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Mar 8 **Invited Lecturer.** How many ventricles in the repair? (1 or 2 or 1 ½ ventricular report): Assessment and Management. Cardiac Education Days. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Mar 2 **Invited Lecturer.** Interpretation of Paediatrics Cardiac ECGs. CV Anaesthesia Rounds.

The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Mar 1

**Invited Lecturer.** Post-operative Management of Hypoplastic Left Heart Syndrome. Cardiac Education Days. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Mar 1

**Invited Lecturer.** Caring Efficiently: Utilization Management. Clinical Biochemistry Rounds. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Jan 24

**Invited Lecturer.** Single Ventricle Post Stage 1. Cardiology Fellows Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Olasveengen TM, de Caen AR, Mancini ME, Maconochie IK, Aickin R, Atkins DL, Berg RA, Bingham RM, Brooks SC, Castren M, Chung SP, Considien J, Couto TB, Escalante R, Gazmuri RJ, **Guerguerian AM**, Hatanaka T, Koster RW, Kudenchuk PJ, Lang E, Lim SH, Lofgren B, Meaney PA, Montgomery WH, Morley PT, Morrison LJ, Nation KJ, Ng KC, Nadkarni VM, Nishiyama C, Nuthall G, Ong GY, PerkinsGD, Reis AG, Ristagno G, Sakamoto T, Sayre MR, Schexnayder SM, Sierra AF, Singletary EM, Shimizu N, Smyth MA, Stanton D, Tijssen JA, Travers A, Vaillancourt C, Van de Voorde P, Hazinski MF, Nolan JP. 2017 International consensus on cardiopulmonary resuscitation and emergency cardiovascular care science with treatment recommendations summary. *Circulation*. 2017 Dec 5;136(23):e424-e440. Review. Erratum in: *Circulation*. 2017 Dec 19;136(25):e468. **Coauthor or Collaborator**

Eytan D, Goodwin AJ, Greer R, **Guerguerian AM**, Mazwi M, Laussen PC. Distributions and behavior of vital signs in critically ill children by admission diagnosis. *Pediatric Critical Care Medicine*. 2017 Dec 4. **Coauthor or Collaborator**

Wilkinson AA, Dennis M, Taylor MJ, **Guerguerian AM**, Boutis K, Choong K, Campbell C, Fraser D, Hutchison J, Schachar R; Canadian Critical Care Trials Group (CCCTG). Performance monitoring in children following traumatic brain injury compared to typically developing children. *Child Neurology Open*. 2017 Oct 12;4:2329048X17732713. **Coauthor or Collaborator**

Crichton A, Oakley E, Babl FE, Greenham M, Hearps S, Delzoppo C, Beauchamp MH, Hutchison JS, **Guerguerian AM**, Boutis K, Anderson V. Predicting fatigue 12 months after child traumatic brain injury: Predicting fatigue 12 months after child traumatic brain injury: Child factors and postinjury symptoms. *Journal of the International Neuropsychological Society*. 2017 Oct 4:1-13. **Coauthor or Collaborator**

Crichton A, Anderson V, Oakley E, Greenham M, Hearps S, Delzoppo C, Beauchamp MH, Hutchison JS, **Guerguerian AM**, Boutis K, Babl FE. Fatigue following traumatic brain injury in children and adolescents: A longitudinal follow-up 6 to 12 months after injury. *The Journal of Head Trauma Rehabilitation*. 2017 Sep 18. **Coauthor or Collaborator**

Lin YL, **Guerguerian AM**, Tomasi J, Laussen P, Trbovich P. "Usability of data integration and visualization software for multidisciplinary pediatric intensive care: a human factors approach to assessing technology". *BMC Medical Informatics and Decision Making*. 2017 Aug 14;17(1):122. **Coauthor or Collaborator**

Wilkinson AA, Dennis M, Simic N, Taylor MJ, Morgan BR, Frndova H, Choong K, Campbell C, Fraser D, Anderson V, **Guerguerian AM**, Schachar R, Hutchison J; Canadian Critical Care Trials Group (CCCTG), Canadian Critical Care Translational Biology Group (CCCTBG). Brain biomarkers and pre-injury cognition are associated with long-term cognitive outcome in children with traumatic brain injury. *BMC Pediatrics*. 2017 Jul 24;17(1):173. **Coauthor or Collaborator**

Honjo O, Merklinger SL, Poe JB, **Guerguerian AM**, Zhang H, Taylor KL, Van Arsdell GS. Mechanically assisted bidirectional cavopulmonary shunt in neonates and infants: An acute human pilot study. *Journal of Thoracic and Cardiovascular Surgery* 2017 Feb;153(2):441-447. **Coauthor or Collaborator**

Buompadre MC, Andres K, Slater LA, Mohseni-Bod H, **Guerguerian AM**, Branson H, Laughlin S, Armstrong D, Moharir M, deVeber G, Humpl T, Honjo O, Keshavjee S, Ichord R, Pereira V, Dlamini N. Thrombectomy for Acute Stroke in Childhood: A Case Report, Literature Review, and Recommendations. *Pediatric Neurology* 2017 Jan;66: 21-27. **Coauthor or Collaborator**

Kato A, Lo Rito M, Lee KJ, Haller C, **Guerguerian AM**, Sivarajan VB, Honjo O. Impacts of early cardiac catheterization for children with congenital heart disease supported by extracorporeal membrane oxygenation. *Catheterization and Cardiovascular Intervention* 2017 Apr;89(5):898-905. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

- 2015 Dec - 2019 Nov **Co-Investigator.** Canadian traumatic brain injury research consortium (CTRC). Canadian Institutes of Health Research (CIHR). CIHR Team Grant. PI(s): Hutchison J, Turgeon A, Wellington C, Gagnon I, Emery C. Collaborator(s): Archambault P, Baker A, Barlow K, Bayley MT, Beauchamp MH, Chapman MG, Chasse M, Clarke DB, Colantonio A, Cusimano MD, Emeriaud G, English SW, Esser MJ, Fraser DD, Griesdale D, Lacroix J, Lauzier F, Marshall SC, McCredie VA, Mcfadyen BJ, Panenka WJ, Ptito A, Reed N, Winston BW, Yeates KO, Zarychanski R, Zemek R, Zygun DA, Fox-Robichaud AE. 1,924,513 CAD. [Grants]
- 2015 Apr - 2020 Apr **Co-Investigator.** CanROC - Canadian resuscitation outcomes consortium: Toward a national resuscitation clinical research network. Canadian Institutes of Health Research (CIHR). ICRH Community Development Program Grants. PI(s): Morrison LJ, Christenson J, Stiell I. Collaborator(s): Atkinson P, Bhanji F, Brooks S, Cheskes S, Dainty N, de Caen A, Dorian P, Hutchison J, Kirkpatrick W, Lin S, Nascimento B, Osmond H, Parker J, Ramanathan K, Rizoli B, Scales C, Travers H, Vaillancourt C, Verbeek P, Wells A. 1,499,760 CAD. [Grants]
- 2014 Oct - 2018 Sep **Principal Applicant.** Quantifying brain injury on computed tomography in hospitalized children: a prospective trial. Canadian Institutes of Health Research (CIHR). Open operating grant. 325310. Collaborator(s): Kulkarni A, Hutchison J, Laughlin S, Parshuram C, Raybaud C, Bigler E. 617,192 CAD. [Grants]
- 2014 Jul - 2017 Jun **Co-Investigator.** A national biobank and database for patients with traumatic brain injury. Brain Canada. Technology and Platform Application. PI(s): Hutchison J. Collaborator(s): Baker A, Barlow K, Clarke D, Esser M, Green R, Lacroix J, Ptito A, Walley K. 3,000,000 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Nov 11 - 15 **Invited Participant.** American Heart Association Scientific Sessions 2017; Resuscitation Science Symposium 2017. Anaheim, California, United States. November 11-15, 2017.
- 2017 Sep 24 - 27 **Invited Participant.** 28<sup>th</sup> Annual ELSO Conference. Baltimore, Maryland, United States.
- 2017 May 5 **Invited Speaker.** Neuro-resuscitation. Johns Hopkins University 40th Anniversary of the Pediatric Intensive Care Unit. Baltimore, Maryland, United States.
- 2017 Apr 23 - 25 **Invited Speaker.** Discuss the Promotion of Research Publications Get-With-The-Guidelines-Resuscitation. EXHIBIT B.1 – Diagram of research publications; EXHIBIT B.2 - Proposed Ideal Research Publication Promotion  
OUTCOME: Generate three questions each regarding research publication promotion. Clinical Work Group Dallas Meeting. Dallas, Texas, United States.

2017 Mar 17 - 18 **Invited Speaker.** What to do in the first critical hour of a neurological emergency?; Pediatric donation after circulatory determination of death; Current and future status of extracorporeal life support for respiratory failure in children. 12th European Postgraduate Course in Neonatal and Pediatric Intensive Care Medicine. Bern, Switzerland.

### **Provincial**

2017 Jun 15 - 16 **Invited Presenter.** Deconstructing participant co-enrollment in TBI research: the why and how for families, investigators, and sponsors; QBIct. Quantifying brain injury on computed tomography: a prospective trial. Canadian Traumatic Brain Injury Research Consortium (CTRC) Scientific Session III - Auberge du Lac-à-l'Eau, St-Alexis-des-Monts, Quebec.

2017 Jan 26 **Invited Speaker.** Quantifying brain injury on computed tomography: a prospective trial. Canadian Critical Care Trials Group. Lake Louise, Alberta, Canada.

### **National**

2017 Oct 1 - 4 **Moderator.** Session: Delirium.

**Invited Speaker.** Session: The Brain Under Pressure – Resuscitation after Brain Injury. Critical Care Canada Forum. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Coffey M, **Huang L**. A single-centre hospital-wide handoff standardisation report: what is so special about that? *BMJ Qual Saf.* 2017 Apr 21. **Senior Responsible Author**

Luo S, Foreman C, Sano, M, Soto Aguero MJ, Guerguerian A, Kirsch R, Humpl T, **Huang L**, Honjo O. Novel Leg Cannula for Venous Decompression in Peripgeral Extracorporeal Membrane Oxygenation. *Ann Thorac Surg.* 2017. **Coauthor or Collaborator**

### Invited Lectures and Presentations

#### International

- 2017 **Invited Speaker.** Nobody Steps in the Same River Twice. Keynote address International Pediatric Simulation Symposium and Workshops. Boston, USA.
- 2017 **Invited Speaker.** Panel Discussion. Global Network for Simulation in Healthcare. Munich, Germany.
- 2017 **Invited Speaker.** Panel Discussion. Achieving Culture Fundamentals, Solutions for Patient Safety. Chicago, USA.
- 2017 **Invited Speaker.** Panel Discussion. Children's Hospital Association CMO forum, New Orleans 2017

#### National

- 2017 **Invited Speaker.** Keynote HOSA Future Health Professionals Canada. Toronto, Ontario, Canada.

#### Local

- 2017 **Invited Speaker.** Safety from Bedside to Boardroom. Patient Safety Symposium. Hospital for Sick Children. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Lam CZ, Bhamare TA, Gazzaz T, Manson D, **Humpl T**, Seed M. Diagnosis of secondary pulmonary lymphangiectasia in congenital heart disease: a novel role for chest ultrasound and prognostic implications. *Pediatr Radiol*. 2017 Oct; 47(11):1441-1451. **Coauthor or Collaborator**

Krishnan U, Feinstein JA, Adatia I, Austin ED, Mullen MP, Hopper RK, Hanna B, Romer L, Keller RL, Fineman J, Steinhorn R, Kinsella JP, Ivy DD, Rosenzweig EB, Raj U, **Humpl T**, Abman SH. Pediatric Pulmonary Hypertension Network (PPHNet). Evaluation and Management of Pulmonary Hypertension in Children with Bronchopulmonary Dysplasia. *J Pediatr*. 2017 Sep;188:24-34.e1. **Coauthor or Collaborator**

Bin-Hasan S, Khayat A, **Humpl T**, Reyes JT, Al-Saleh S. Resolution of Periodic Breathing in a Child with Idiopathic Pulmonary Arterial Hypertension. *Case Reports in Pediatrics* 2017 Aug 23. **Coauthor or Collaborator**

**Humpl T**, Berger TM, Austin ED, Fasnacht Boillat MS, Bonnet D, Ivey DD, Zuk M, Beghetti M, Schulze-Neick I, Treatment initiation in paediatric pulmonary hypertension: Insights from a multinational registry. *Cardio Young*. 2017 Aug;27(6): 1123-1132. **Principal Author**

Jaquiss RD, **Hump T**, Canter CE, Morales DL, Rosenthal DN, Fraser CD Jr. Postapproval Outcomes: The Berlin Heart EXCOR Pediatric in North America. *ASAIO J*. 2017 Mar/Apr;63(2):193-197. **Coauthor or Collaborator**

Laskine-Holland ML, Kahr WH, Crawford-Lean L, **Humpl T**, Honjo O, Foreman C, Jain M, O'Leary JD. The association between cyanosis and thromboelastometry ROTEM in children with congenital heart defects: A retrospective cohort study. *Anesth Analg* 2017 Jan; 124(1):23-29. **Coauthor or Collaborator**

Buompadre MC, Andres K, Slater LA, Mohseni-Bod H, Guerguerian AM, Branson H, Laughlin S, Armstrong D, Moharir M, DeVeber G, **Humpl T**, Honjo O, Keshavjee S, Ichord R, Pereira V, Dlamini N. Thrombectomy for Acute Stroke in Childhood: A Case Report, Literature Review and Recommendation. *Pediatr Neurol*. 2017 Jan; 66: 21-27. **Coauthor or Collaborator**

### Book Chapters

VanderPluym C, Prophan P, **Humpl T**. Anti-Coagulation Management. In: Lorts A, Schweiger M, Conway J (Eds.), *Pediatric Ventricular Devices*. International Society for Heart and Lung Transplantation; 2017. 129-141. **Senior Responsible Author**



## Peer-Reviewed Grants

### Funded

- 2013 - present      **Co-Principal Investigator.** Long-term Cardio-Respiratory Outcomes of Extremely Pre-term Infants: A Workshop to Guide Development of a Current Canadian Study. PI(s): Katz S. 24,973 CAD. [Grants]
- 2008 - present      **Principal Investigator.** Berlin Heart EXCOR® Pediatric Ventricular Assist Device: Pediatric Clinical IDE Study, Multi-centre study in the United States and Canada. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Oct      **Invited Speaker.** How to treat severe circulatory failure in PAH. 3<sup>rd</sup> European Conference on Neonatal and Paediatric Pulmonary Vascular Disease. Groningen, Netherlands.
- 2017 Jul      **Invited Speaker.** CGMP Treatment. 7<sup>th</sup> World Congress of Pediatric Cardiology & Cardiac Surgery. Barcelona, Spain.

## Peer-Reviewed Publications

### Journal Articles

Moler FW, Silverstein FS, Holubkov R, Slomine BS, Christensen JR, Nadkarni VM, Meert KL, Clark AE, Browning B, Pemberton VL, Page K, Shankaran S, **Hutchison JS**, Newth CJ, Bennett KS, Berger JT, Topjian A, Pineda JA, Koch JD, Schleien CL, Dalton HJ, Ofori-Amanfo G, Goodman DM, Fink EL, McQuillen P, Zimmerman JJ, Thomas NJ, van der Jagt EW, Porter MB, Meyer MT, Harrison R, Pham N, Schwarz AJ, Nowak JE, Alten J, Wheeler DS, Bhalala US, Lidsky K, Lloyd E, Mathur M, Shah S, Wu T, Theodorou AA, Sanders RC Jr, Dean JM, THAPCA Trial Investigators. Therapeutic Hypothermia after In-Hospital Cardiac Arrest in Children. *N Engl J Med*. 2017. 376(4): 318-29.

**Coauthor or Collaborator**

Crichton A, Anderson V, Oakley E, Greenham M, Hearps S, Delzoppo C, Beauchamp MH, **Hutchison JS**, Guerguerian AM, Boutis K, Babl FE. Biomarker and quality of Life in Children with Traumatic Brain Injury group. Fatigue Following Traumatic Brain Injury in CHildren and Adolescents: A Longitudinal Follow- Up 6-12 Months After Injury. *Journal of Head Trauma Rehabilitation*. 2017. **Coauthor or Collaborator**

Wilkinson AA, Dennis M, Simic N, Taylor MJ, Morgan BR, Frndova H, Choong K, Campbell C, Fraser D, Anderson V, Guerguerian AM, Schachar R, **Hutchison JS**. Brain biomarkers and pre-injury cognition are associated with long-term cognitive outcome in children with traumatic brain injury. *BMC Pediatrics*. 2017 17(1):173. **Senior Responsible Author**

Fink EL, Kochanek PM, Tasker RC, Beca J, Bell MJ, Clark RSB, **Hutchison JS**, Vavilala MS, Fabio A, Angus DC, Watson RS. International Survey of Critically Ill Children With Acute Neurologic Insults: The Prevalence of Acute Critical Neurological Disease in Children: A Global Epidemiological Assessment Study. *Pediatric Critical Care Medicine*. 2017.18: 330-42. **Coauthor or Collaborator**

Ball IM, Burry L, Dodek P, **Hutchison JS**, Leigh JP, McCredie V, Murthy S, Rochweg B, Cook D, Canadian Critical Care Trials Group, Canadian Critical Care Translational Biology Group. The Young Investigator Retreat of the Canadian Critical Care Trials Group: mentorship and self-discovery. *Canadian Journal of Anaesthesia*. 2017. 1-7. **Coauthor or Collaborator**

Crichton A, Oakley E, Babi FE, Greenham M, Hearps S, Delzoppo C, Beauchamp MH, **Hutchison JS**, Guerguerian AM, Boutis K, Anderson V. Predicting Fatigue 12 Months after Child Traumatic Brain Injury: Child Factors and Post Injury Symptoms. *Journal of the International Neuropsychological Society*. 2017.(23): 1-13. **Coauthor or Collaborator**

Wilkinson A, Dennis M, Taylor M, Guerguerian AM, Boutis K, Choong K, Campbell C, Fraser D, **Hutchison JS**, Schachar R, Canadian Critical Care Trials Group (CCCTG). Performance Monitoring in Children Following Traumatic Brain Injury Compared to Typically Developing Children. *Child Neurology Open*. 2017. 4:1-8. **Coauthor or Collaborator**

Crichton A, Anderson V, Oakley E, Greenham M, Hearps S, Delzoppo C, Beauchamp M, **Hutchison JS**, Guerguerian AM, Boutis K, Babl FE. Prediction of Multidimensional Fatigue After Childhood Brain Injury. *J Head Trauma Rehabil*. 2017. 32(2):107-116. **Coauthor or Collaborator**

Wilkinson AA, Dennis M, Taylor MJ, Guerguerian AM, Boutis K Choong K, Campbell C, Fraser D, **Hutchison JS**, Schachar R. Comparing hypotheses of performance monitoring typically-developing children and in children following traumatic brain injury. Child Neurology Open. 2017. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

- 2016 Jul - 2020 Jun **Co-Investigator.** SQUEEZE Trial: A trial to determine whether septic shock reversal is quicker in pediatric patients randomized to an early goal directed fluid sparing strategy vs. usual care. CIHR. PI(s): Parker M. Collaborator(s): Fox-Robichaud A, Kam A, Joffe A, Schonfield D, Fraser D, Gilfoyle E, Thompson G, Sangha S, Burzynski J, Choong K, Boutis K, Thabane L, Schwartz L, Tucci M, Weiss MJ, Liaw P, Sawyer S. 1,941,831 CAD. [Grants]
- 2015 Dec - 2019 Nov **Principal Investigator.** Canadian Traumatic Brain Injury Research Consortium (CTRC). Canadian Institutes of Health Research (CIHR). Team Grant. 1,999,513 CAD. [Grants]
- 2015 Jul - 2019 Jun **Principal Investigator.** CanTBI: A national biobank and database for patients with traumatic brain injury. Brain Canada. Brain Canada Technology and Platform Application. Collaborator(s): Baker A, Barlow K, Clarke D, Esser M, Green R, Lacroix J, Ptito A, Walley K. 3,000,000 CAD. [Grants]
- 2015 Jan - 2019 Dec **Co-Investigator.** The Canadian Critical Care Trials Group. Canadian Institutes of Health Research (CIHR). PI(s): Burns K. Collaborator(s): Choong K, Cook D, Fowler R, Gilfoyle E, Lamontagne F, Marshall J, McIntyre L, Meade M, Muscadere J, Seely, A, Sinuff T, Turgeon A, Hall R, Herridge M, Tucci M.3,744,942 CAD. [Grants]
- 2014 Oc t - 2018 Sep **Co-Investigator.** Quantifying brain injury on computed tomography in hospitalized children: a prospective trial. Canadian Institutes of Health Research (CIHR). Open operating grant. PI(s): Guerguerian AM. 600,000 CAD. [Grants]
- 2014 Sept - 2019 Aug **Co-Investigator.** The Canadian Critical Care Trials Group (CCCTG). CIHR. PI(s): Hebert P. Collaborator(s): Turgeon A, Seely A, Martin C, Cook D, Foster D, Gilfoyle E, Lamontagne F, Marshall J, Muscedere J, Burns K, McIntyre L, Herridge M, Tucci M, Meade M, Hall R, Fowler R, Sinuff T. 3,903,704 CAD. [Grants]
- 2013 Ju l- 2018 Jun **Co-Investigator.** Approaches and decisions for Acute pediatric TBI (ADAPT). National Institutes of Health (NIH). PI(s): Bell M.16,147,544 CAD. [Grants]

2013 Jan - 2018 Mar

**Site Investigator.** ABC PICU Study - Age of Blood in Children in Pediatric Intensive Care Units Inclusion - Exclusion Criteria. Canadian Institutes of Health Research (CIHR) PI(s): Tucci M. [Grants]

## **Invited Lectures and Presentations**

### **International**

2017 **Invited Speaker.** A National Biobank and Database for Patients with Traumatic Brain Injury (CanTBI). 7th Annual Traumatic Brain Injury Conference. Canadian Traumatic brain injury Research Consortium (CTRC). Washington, United States.

### **Provincial**

2017 **Invited Speaker.** A National Biobank and Database for Patients with Traumatic Brain Injury (CanTBI). Canadian Traumatic brain injury Research Consortium (CTRC). Montreal, Canada.

2017 **Invited Speaker.** A National Biobank and Database for Patients with Traumatic Brain Injury (CanTBI); Inhaled Nitric Oxide (iNO) to improve return of spontaneous circulation and for neuroprotection following cardiac arrest. Canadian Critical Care Trials Group. Lake Louise, Alberta, Canada.

2017 **Invited Speaker.** A National Biobank and Database for Patients with Traumatic Brain Injury (CanTBI). Canadian Critical Care Translational Biology Group (CCCTBG). Montreal, Canada.

## Peer-Reviewed Publications

### Journal Articles

Katira BH, Kuebler WM, **Kavanagh BP**. Inspiratory preload obliteration may injure lungs via cyclical "on-off" vascular flow. *Intensive Care Med*. 2017 Dec 21. **Senior Responsible Author**

Katira BH, Giesinger RE, Engelberts D, Zabini D, Kornecki A, Otulakowski G, Yoshida T, Kuebler WM, McNamara PJ, Connelly KA, **Kavanagh BP**. Adverse Heart-Lung Interactions in Ventilator-induced Lung Injury. *Am J Respir Crit Care Med*. 2017 Dec 1;196(11):1411-1421. **Senior Responsible Author**

Laffey JG, Misak C, **Kavanagh BP**. Acute respiratory distress syndrome. *BMJ*. 2017 Nov 16;359:j5055. **Senior Responsible Author**

Cereda M, Xin Y, Hamedani H, Bellani G, Kadlecsek S, Clapp J, Guerra L, Meeder N, Rajaei J, Tustison NJ, Gee JC, **Kavanagh BP**, Rizi RR. Tidal changes on CT and progression of ARDS. *Thorax*. 2017 Nov;72(11):981-989. **Coauthor or Collaborator**

Yoshida T, Nakahashi S, Nakamura MAM, Koyama Y, Roldan R, Torsani V, DeSantis RR, Gomes S, Uchiyama A, Amato MBP, **Kavanagh BP**, Fujino Y. Volume-controlled Ventilation Does Not Prevent Injurious Inflation during Spontaneous Effort. *Am J Respir Crit Care Med*. 2017 Sep 1;196(5):590-601. **Coauthor or Collaborator**

Yoshida T, Engelberts D, Otulakowski G, Katira B, Post M, Ferguson ND, Brochard L, Amato MBP, **Kavanagh BP**. Continuous Negative Abdominal Pressure Recruits Lungs at Lower Distending Pressures. *Am J Respir Crit Care Med*. 2017 Jul 25. **Senior Responsible Author**

Otulakowski G, Engelberts D, Arima H, Hirate H, Bayir H, Post M, **Kavanagh BP**.  $\alpha$ -Tocopherol transfer protein mediates protective hypercapnia in murine ventilator-induced lung injury. *Thorax*. 2017 Jun;72(6):538-549. **Senior Responsible Author**

Laffey JG, **Kavanagh BP**. Fifty Years of Research in ARDS. Insight into Acute Respiratory Distress Syndrome. From Models to Patients. *Am J Respir Crit Care Med*. 2017 Jul 1;196(1):18-28. **Senior Responsible Author**

Yoshida T, Fujino Y, Amato MB, **Kavanagh BP**. Fifty Years of Research in ARDS. Spontaneous Breathing during Mechanical Ventilation. Risks, Mechanisms, and Management. *Am J Respir Crit Care Med*. 2017 Apr 15;195(8):985-992. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

2017 - 2022 **Co-Investigator**. Heart-Lung Interactions in Ventilator-Induced Lung Injury. Restracompetition - Hospital for Sick Children. PI(s): Bhushan K. 250,000 CAD. [Grants]

2017 - 2022 **Co-Investigator**. Structural and Functional MRI in Preclinical Models of Bronchopulmonary Dysplasia. Canadian Institutes of Health Research (CIHR). 487,775 CAD. PI(s): Santyr G. [Grants]

- 2017 - 2022 **Principal Investigator.** Acute Lung Injury – Directions from Therapeutic Hypercapnia. Canadian Institutes of Health Research (CIHR). Collaborator(s): Post M.
- 2015 - 2017 **Co-Investigator.** Diaphragm Activity and Function During Mechanical Ventilation. Ontario Thoracic Society. PI(s): Ferguson N, Goligher E. 100,000 CAD. [Grants]
- 2015 - 2017 **Co-Investigator.** Physiology of Negative Pressure Ventilation. Canadian Institutes of Health Research (CIHR). PI(s): Yoshida T. 100,000 CAD. [Grants]
- 2014 Apr - 2019 Mar **Principal Applicant.** Ventilator-Induced Lung Injury: Linking gene activation, physiology and outcome. Canadian Institutes of Health Research (CIHR). Collaborator(s): Post M, Santyr G, Amato M. 718,000 CAD. [Operating Grant]
- 2013 - 2018 **Co-Investigator.** Linking Ventilator-induced diaphragm Dysfunction and Weaning Failure to Diaphragm Inactivity During Mechanical Ventilation: A Physiological Clinical Research Program. Canadian Institutes of Health Research (CIHR). PI(s): Goligher E. 275,000 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Oct **Invited Speaker.** ARDS: It Has Been a Fun Ride but Have We Really Made a Difference? Anesthesiology 2017. American Society of Anesthesiologists Annual Meeting. Boston, USA.
- 2017 Oct **Invited Speaker.** Ventilator Induced Lung Injury in Children; How to Avoid It. 7th Hedenstierna Laboratory Master Class Symposium. Uppsala, Sweden.
- 2017 Sep **Chair.** Spontaneous breathing: the good, the bad and the ugly; Let's talk tech: what new technology do we need in ventilation?; Sepsis, the controversy; Muscle mass preservation. 30th ESICM Annual Congress, Vienna, Austria.
- 2017 May **Invited Speaker.** We should use more guidelines to manage our patients (pro/con debate – CON); Monitoring Alveolar Recruitment: By respiratory mechanics and gas exchange. 28th SMART Congress. Milan, Italy.
- 2017 May **Invited Speaker.** Protocolized care – strengths and concerns. Risky Business London Conference,. London, UK.
- 2017 May **Invited Speaker.** Clinical Practice Guidelines, Con: Genius abhors a consensus. American Thoracic Society International Conference. Washington, DC, USA.
- 2017 Mar **Invited Speaker.** Respiratory Basics: The effects of hypercapnia; Early Resuscitation in Sepsis: Should we protocolize all this?; A Critical Look at Evidence-Based Medicine: Protocols are misunderstood; Diaphragm and Respiratory Muscle Function (moderator); Spontaneous breathing during mechanical ventilation is not that bad (CON); Perioperative Optimization: Protective ventilation; Lung Recruitment in ARDS: Selective recruitment with abdominal pressure. 37th International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium.

2017 Feb **Invited Speaker.** The History of ARDS.50th Anniversary of Dept of Anesthesiology & Intensive Care Medicine, Nagoya City University Graduate School of Medical Sciences, Nagoya, Japan.

**National**

2017 Oct **Moderator.** 50 years of ARDS...Theory & Therapy: Negative pressure; Plenary RCT- AC Bryan Symposium – Physiology in Critical Care; DCD Hearts – Resuscitating the Heart after Death. Critical Care Canada Forum, Toronto, Ontario, Canada.

2017 Jun **Moderator.** Research in anesthesia – why clinicians should support it; Consensus in Medicine and Science. Canadian Anesthesiologists Society. Niagara Falls, Ontario, Canada.

2017 Apr **Invited Speaker.** Ventilator-induced lung injury. Mechanical Ventilation: From Physiology to Clinical Practice, Interdepartmental Division of Critical Care Medicine, University of Toronto, Toronto, Ontario, Canada.

## Peer Reviewed Publications

### Journal Articles

Lin JJ, Banwell BL, Berg RA, Dlugos DJ, Ichord RN, Kilbaugh TJ, **Kirsch RE**, Kirschen MP, Licht DJ, Massey SL, Naim MY, Rintoul NE, Topijian AA, Abend NS. Electrographic Seizures in Children and Neonates Undergoing Extracorporeal Membrane Oxygenation. *Pediatr Crit Care Med*. 2017 Mar;18(3):249-257.

**Coauthor or Collaborator**

Mazwi ML, Henner N, **Kirsch RE**. The role of palliative care in critical congenital heart disease. *Seminars in Perinatology*. 2017 March;41(2):128-132. **Senior Responsible Author**

Morrison WE, **Kirsch RE**. Pushing the ECMO Envelope for Children with Genetic Conditions. *Pediatr Crit Care Med*. 2017;18(9):896-897. **Senior Responsible Author**

Propst E, Zawawi F, **Kirsch RE**, Honjo O. Direct tracheobronchopexy via left lateral thoracotomy for severe tracheobronchomalacia. *International Journal of Pediatric Otorhinolaryngology*. 2017;103:32-35. **Coauthor or Collaborator**

**Kirsch RE**, Coronado J, Roeleveld PP, Tweddell J, Mott AM, Roth SJ. The Burdens of Offering: Ethical and Practical Considerations. *World Journal for Pediatric and Congenital Heart Surgery*; 2017 Nov;8(6):715-720. **Principal Author**

**Kirsch RE**, Munson D. Ethical and end of life considerations for neonates requiring ECMO support. *Seminars in Perinatology*; 2018 Jan;1-9. <https://doi.org/10.1053/j.semperi.2017.12.009>. **Principal Author**

### Editorials, Reviews, Chapters

**Kirsch RE**, Clark J. The Ethics of ECLS. *In: Extracorporeal Life Support: The ELSO Red Book*. Brogan TV, Lequier L, Lorusso R, MacLaren G, Peek G (Eds). Fifth Edition. Ann Arbor, ELSO 2017, pp 781-794. **Principal Author**

**Kirsch RE**, Schwartz S. Medical Management of Neonates and Children with Cardiovascular Disease. *In: Extracorporeal Life Support: The ELSO Red Book*. Brogan TV, Lequier L, Lorusso R, MacLaren G, Peek G (Eds). Fifth Edition. Ann Arbor, ELSO 2017, pp 367-374. **Principal Author**

Scheel J, Ploutz M, Blume E, **Kirsch R#**. End of Life Care in Paediatric VAD Patients. *In: ISHLT Monograph Series Volume 11: Paediatric Ventricular Assist Devices*. Lorts A, Schweiger M, Conway J (Eds). Birmingham, AB:UAB Printing, 2017, pp 172-177. **Senior Responsible Author**

Kumar K, **Kirsch RE**, Hornik C. Cardiac Physiology for Intensivists. *In: Critical Heart Disease in Infants and Children*. Ungerleider R, Nelson McMillan K, Meliones JN, Jacobs JP, Cooper DS (Eds). Third Edition. Philadelphia, Mosby Elsevier, 2017. **Coauthor or Collaborator**



## Invited Lectures and Presentations

### International

2017 Nov 11 **Invited Speaker.** How Recent Innovations Could Impact Career Planning for Early Career Pediatric Cardiologists – Integration of Care in Pediatric Cardiology. Innovations in Pediatric Cardiology, American Heart Association Scientific Sessions. Anaheim, CA, USA.

2017 Jul 16 - 20 **Invited Speaker.** What can we learn from adolescent palliative care? - Advance Care Planning in ACHD: Preparing Patient and Providers; Do we really have nothing more to offer and who decides - Wellbeing and Ethical Dilemmas Cardiac Intensive Care; Counseling and - how do you answer the question 'Doctor, what would you do if it were your child?' - Fetal & Neurodevelopment. 7th World Congress of Pediatric Cardiology and Cardiac Surgery. Barcelona, Spain

2017 Jun 4 **Invited Speaker.** How Long is Too Long When No Recovery and No Transplant? 27th Annual Specialist Education in Extracorporeal Membrane Oxygenation. Aurora, CO, USA.

2017 Feb 28 **Invited Speaker.** How Long is Too Long When No Recovery and No Transplant? 33rd Annual CNHS ECMO Symposium. Keystone, CO, USA.

### National

2017 Oct 3 - 4 **Invited Speaker.** How Long to Wait for Recovery? - ECMO - Multi Organ Implications.

**Moderator.** Prognosis, Limits, and Exceptional Circumstances.

Critical Care Canada Forum. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

**Laussen PC.** Landmark lecture on cardiac intensive care and anesthesia: continuum and conundrums. *Cardiol Young.* 2017 Dec;27(10):1966-1973. **Principal Author**

Haenecour A, Seto W, Urbain CM, Stephens D, **Laussen PC**, Balit CR. Prolonged Dexmedetomidine infusion and drug withdrawal in critically ill children. *J Pediatr Pharmacol Ther.* 2017 Nov-Dec;22(6):453-460. **Coauthor or Collaborator**

MacLaren G, Fortenberry J, Tibboel D, **Laussen PC.** Universal follow-up after extracorporeal membrane oxygenation: baby steps toward establishing a standard of care. *Pediatric Critical Care Medicine.* 2017 Nov;18(11):1070-1072. **Senior Responsible Author**

Eytan D, Goodwin AJ, Greer R, Guerguerian AM, Mazwi M, **Laussen PC.** Distributions and behavior of vital signs in critically ill children by admission diagnosis. *Pediatric Critical Care Medicine.* 2017. **Senior Responsible Author**

Floh AA, Zafurallah I, MacDonald C, Honjo O, Fan CS, **Laussen PC.** The advantage of early plication in children diagnosed with diaphragm paresis. *J Thorac Cardiovasc Surg.* 2017 Nov;154(5):1715-1721. **Senior Responsible Author**

MacLaren G, Law E, **Laussen PC.** Long-term morbidity and mortality in children after cardiac extracorporeal membrane oxygenation. *Pediatric Critical Care Medicine.* 2017 Aug;18(8):811-812. **Senior Responsible Author**

Lin YL, Guerguerian AM, Tomasi J, **Laussen P,** Trbovich P. Usability of data integration and visualization software for multidisciplinary pediatric intensive care: a human factors approach to assessing technology. *BMC Medical Informatics and Decision Making.* 2017 Aug;17(1):122. **Coauthor or Collaborator**

Kussman BD, **Laussen PC,** Benni PB, McGowan FX Jr, McElhinney DB. Cerebral oxygen saturation in children with congenital heart disease and chronic hypoxemia. *Anesthesia and Analgesia.* 2017 Jul;125(1):234-240. **Coauthor or Collaborator**

Eytan D, Goodwin AJ, Greer R, Guerguerian AM, **Laussen PC.** Heart rate and blood pressure centile curves and distributions by age of hospitalized critically ill children. *Frontiers in Pediatrics.* 2017 Mar;17(5):52. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

2018 Jan - 2020 Jan **Co-Applicant.** Development of MyHeartPass. Hospital for Sick Children. Labatt Heart Centre Innovation Fund. 23,866 CAD. [Grants]

2015 Jul - 2017 Jun **Principal Applicant.** Validating a hemodynamic early warning system in pediatric critical care. University of Toronto. Department of Anesthesia Merit Award. 60,000 CAD. [Grants]

2015 Apr - 2017 Mar **Principal Site Investigator.** Risk Assessment Using Noninvasive Measurements in Postoperative Pediatric Patients. NIH - National Heart, Lung, and Blood Institute. Small Business Innovation Research Program. 2,000,000 USD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Dec 12 **Invited Speaker.** Application of AI in Medicine: Decision Support and Hospital Monitoring". Artificial Intelligence in Medicine (AIMed). Laguna Beach, California, USA.
- 2017 Oct 11 -12 **Invited Speaker.** Is Modern and Efficient Monitoring Affordable and Universal? A Metaphysical Analysis; ECPR; Low Cardiac Output: Syndrome or State. 5<sup>th</sup> European Conference on Paediatric and Neonatal Cardiac Intensive Care (EPNCIC). Marbella, Spain.
- 2017 Jul 16 - 21 **Invited Speaker.** Pediatric Intensive Care and Anesthesia: Continuums and Conundrums; Deep Blue, Chess and ICU: Can the Machine Beat the Intensivist?; Low Cardiac Output Syndrome in Neonates with Congenital Heart Disease; Data Generation and Interpretation in the Cardiac ICU
- Moderator.** Focused Learning Sessions/Intensive Care & Anesthesia; Innovation. 7<sup>th</sup> World Congress of Pediatric Cardiology & Cardiac Surgery. Barcelona, Spain.
- 2017 Jun 1 **Invited Speaker.** The Ins, Outs and Bottlenecks of Time Series Data: A Solution Through Translational Engineering in Critical Care. Tom B. Rice Summit – Transforming Pediatric Critical Care: How Data Analytics Will Change Your Practice. Milwaukee, Wisconsin, USA.
- 2017 May 10 - 11 **Chair.** The Future – Artificial Intelligence, Virtual Reality and Robotics.
- Invited Speaker.** NASCARS, Simulation and Animation.
- Paediatrics Day - Risky Business 2017. London, United Kingdom.
- 2017 Apr 22 **Keynote Speaker.** Reducing Modifiable Risk in Critical Care: The Promise of Harnessing Physiologic Data Streams. 16<sup>th</sup> Annual UT-ORNL-KBRIN Bioinformatics Summit 2017. Burns, TN, USA.
- 2017 Mar 16 - 18 **Invited Speaker.** Postnatal management of the decompensating neonate with CHD; ECLS in infants with congenital heart disease". 12<sup>th</sup> European Postgraduate Course in Neonatal and Pediatric Intensive Care; Case Presentation: Do I follow the PCICS pharmacotherapy consensus statement; CPR in acquired and congenital heart disease. 12<sup>th</sup> European Postgraduate Course in Neonatal and Pediatric Intensive Care. Bern, Switzerland.
- 2017 Feb 25 - 26 **Keynote Speaker.** Risk Management and Forecasting in Critical Care; Cardiopulmonary Interactions", Mechanical Ventilation workshop  
26th Annual Prof. M.S. Ramakrishnan Memorial Oration Lecture. Chennai, India.

## National

2017 Oct 3

**Invited Speaker.** Preventing Adverse Events – Just Try Harder? OpenPediatrics – Pediatric Critical Care Coming of Age. “Predicting and Preventing – Proof of Concept”. Critical Care Canada Forum 2017. Toronto, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Eytan D, Goodwin AJ, Greer R, Guerguerian AM, **Mazwi ML**, Laussen PC. Distributions and Behavior of Vital Signs in Critically Ill Children by Admission Diagnosis. *Pediatr Crit Care Med*. 2017 Dec;17. **Coauthor or Collaborator**

**Mazwi ML**, Henner N, Kirsch R. The role of palliative care in critical congenital heart disease. *Semin Perinatol*. 2017 Mar; 41(2):128-132. **Principal Author**

Casadonte JR, **Mazwi ML**, Gambetta KE, Palac HL, McBride ME, Eltayeb OM, Monge MC, Backer CL, Costello JM. Risk Factors for Cardiac Arrest or mechanical Circulatory Support in Children with Fulminant Myocarditis. *Pediatr Cardiol*. 2017 Jan;38(1):128-134. **Coauthor or Collaborator**

**Invited Lectures and Presentations**

**International**

- 2017 Dec **Invited Speaker**. Novel Techniques for Research Discovery in Critical Care Medicine Session: Necessity is the Mother of Invention. PCICS 13<sup>th</sup> International Meeting. Washington DC, USA.
- 2017 Nov **Invited Speaker**. Engineering Care for Preventive Medicine. Chicago Heart Innovation Forum. Chicago, Illinois, USA.
- 2017 Nov **Invited Member**. Scientific Committee for Cardiovascular disease in the young, American Heart Association (AHA) Scientific Sessions. Anaheim, California, USA.
- 2017 Mar **Invited Speaker**. How computational medicine is helping me predict and prevent cardiac arrest. NeoHeart Conference. San Diego, California, USA.
- 2017 **Invited Speaker**. Clinical Research in the era of data science. PCICS International Meeting. Miami, Florida, USA.

## Peer-Reviewed Publication

### Journal Articles

Taylor KL, Parshuram CS, Ferri S, **Mema B**. A description of the “event manager” role in resuscitations: A qualitative study of interview and focus groups of resuscitation participants. *Journal of Critical Care* 39:254-258. 2017. **Senior Responsible Author**

### Peer-Reviewed Grants

- 2016 - 2017 **Collaborator**. InCURS: Intensive Care Units Residents Scheduling Study  
Canadian Institutes of Health Research. PI(s): Parshuram CS. 100,000 CAD. [Project Grant]
- 2016 - 2017 **Co-Investigator**. Programmatic Assessment in the Workplace: A Realist Exploration Of  
Contexts, Mechanisms, and Outcomes in Critical Care Medicine  
Royal College of Physician and Surgeons of Canada. PI(s): Piquette D. 55,000.00 CAD.  
[Grants]
- 2016 - 2017 **Co-Investigator**. Organ and Tissue Donation Competency Based Medical Educational  
Program For Ontario Critical Care Medical Residents.  
Trillium Gift of Life Network. PI(s): Sarthee A. 99,000.00 CAD. [Grants]
- 2015 - 2017 **Principal Investigator**. In search of the optimal bronchoscopy training platform: Evaluating  
the use of a novel, low cost, virtual tool for pre-training novice learners. Perioperative  
Services Innovation Projects, Hospital for Sick Children.  
9,000 CAD. [Grants]
- 2014 - 2017 **Collaborator**. RESPECT: A tool to improve patient care quality and safety & facilitate team  
learning. Canadian Institutes of Health Research (CIHR). Catalyst Grant: eHealth  
Innovations. PI(s): Parshuran C. Collaborator(s): Dryden-Palmer V, Tijssen N. \$90,821 CAD.  
[Grants]

### Invited Lectures and Presentations

#### International

- 2017 Aug **Invited Speaker**. Presentation: Learning path in bronchoscopy simulation before transition to  
real-life: do trainees maximize their learning. International Association of Medical Education  
(AMEE). Helsinki, Finland.
- 2017 Feb **Invited Speaker**. Workshop: Procedural teaching: beyond see one, do one (with Moga MA).  
International Medical Simulation in Healthcare. Orlando, Florida, USA.

## Provincial

- 2017 Oct **Invited Speaker.** Learning path in bronchoscopy simulation before transition to real-life: do trainees maximize their learning. International Conference Residency Education (ICRE). Quebec City, Quebec, Canada.
- 2017 May **Invited Speaker.** Workshop: Workplace based assessment in CBME (with Lee C, Piquette D). Canadian Conference Medical Education. Winnipeg, Manitoba, Canada.

## National

- 2017 Dec **Invited Speaker.** Workshop: Is there a valid tool in simulation or do I have to develop one to assess competence of my trainee?; Virtual reality simulators: Using them to the max. ( with Kawamura A, Piquette D). SIM One 2017. Mississauga, Ontario, Canada.
- 2017 Nov **Invited Speaker.** Workshop: Virtual reality simulators: Using them to the max. ( with Kawamura A, Piquette D). SIM One 2017. Mississauga, Ontario, Canada.
- 2017 Nov **Invited Speaker.** Curricular design and improvement: a roadmap to strategic curriculum development; Education strategies on engaging communication and conflict within an interprofessional team. 6th Annual Sunnybrook Education Conference: Reinventing Learning: The Science Behind Teaching and Learning. Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.
- 2017 Oct **Invited Speaker.** From Rehearsal to Premier. Canadian Critical Care Form (CCCF), Toronto, Ontario, Canada.
- 2017 May **Invited Speaker.** Workshop: Center for Faculty Development - Stepping Stones Programme - Feedback; Checking in (with Kawamura A). University of Toronto. Toronto, Ontario, Canada.
- 2017 May **Invited Speaker.** Workshop: Center for Faculty Development - Education Scholars Programme – Teaching Dossier (with Dev S). University of Toronto. Toronto, Ontario, Canada.
- 2017 Apr **Invited Speaker.** Workshop: Center for Faculty Development – Education Scholars Programme – Learner Assessment (with Mori B). University of Toronto. Toronto, Ontario, Canada.

## Local

- 2017 May **Invited Speaker.** Workshop: Continuous Renal Replacement Therapy (with Harvey E, Hyslop C). PCCM Fellows Academic Day. Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Mar **Invited Speaker.** Workshop: Central Venous Lines; From learning theories to building curricula for US training. Emergency Medicine Faculty Procedural Teaching Day. Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Mar **Invited Speaker.** From learning theories to building curricula for US training. Emergency Medicine POCUS Rounds. Hospital for Sick Children. Toronto, Ontario, Canada.

- 2017 Mar **Invited Speaker.** Movement in Brain Death. PCCM Fellows Academic Day. Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Jan **Invited Speaker.** Simulation Scenario – Tumor Lysis Syndrome. Acute Care Resuscitation Program. Hospital for Sick Children. Toronto, Ontario, Canada.



**Peer-Reviewed Publications**

**Journal Articles**

McBride ME, Schinasi DA, **Moga MA**, Tripathy S, Calhoun A. Death of a Simulated Pediatric Patient: Toward a More Robust Theoretical Framework. *Simulation in healthcare: journal of the Society for Simulation in Healthcare*. 2017 Dec;12(6):393-401. **Coauthor or Collaborator**

Meza J, Jaquiss R, Anderson B, **Moga MA**, Kirklin J, Sarris G, Williams W, McCrindle B. Current practices in the timing of Stage-2-Palliation: A survey of the CHSS and ECHSA. *World J Pediatr Congenit Heart Surg*. 2017 Mar; 8(2):135-141. **Coauthor or Collaborator**

**Invited Lectures and Presentations**

**International**

2017 **Invited Speaker.** Procedural Teaching: Beyond See One, Do One. International Meeting on Simulation in Healthcare. Orlando, Florida, USA.

2017 **Invited Speaker.** Hot Debriefing after Resuscitations in a Pediatric Cardiac Intensive Care Unit. Human Factors and Ergonomics in Health Care. New Orleans, Louisiana, USA.

**National**

2017 **Invited Speaker.** Safety Culture: What, Why and How. Critical Care Canada Forum, Toronto, Ontario, Canada.

**Local**

2017 Dec 14 **Invited Speaker.** PAH, Cardiac Arrest ECPR Cannulation. Critical Care Medicine Immersive Reality Session – Simulation (Hi-Fidelity). Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Dec 13 **Invited Speaker.** Resuscitation Quality. Advanced Cardiac Practitioner Education Series, Nursing Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Oct 18 **Invited Speaker.** High Fidelity Simulation. ECLS Physician ECMO Training Day. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Oct 11 **Invited Speaker.** ECMO Troubleshooting and Weaning. Demonstration, Simulation (Medium Fidelity), ECLS Physician ECMO Training Day. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 Aug 17 **Invited Speaker.** ECPR, Hemorrhagic Shock and Air Entrainment on VA ECMO. Critical Care Medicine Immersive Reality Session - Simulation (Hi-Fidelity). Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.

- 2017 Aug 10 **Invited Speaker.** Troubleshooting the Cyanotic Newborn. Pediatric Anesthesia Fellows Seminar. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Aug 10 **Invited Speaker.** VF in Open Chest Patient, Family Presence in VT Arrest. Critical Care Medicine Immersive Reality Session – Simulation (Hi-Fidelity). Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Jul 18 **Invited Speaker.** Basic Cardiology. Critical Care Medicine Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Jun 13 **Invited Speaker.** Complex Cardiac Kids – 4D Codes. Code Blue Team Leaders Training. Simulation Centre. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Jun 8 **Invited Speaker.** TBI and raised ICP. Critical Care Medicine Immersive Reality Session - Simulation (Hi-Fidelity), Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Jun 1 **Invited Speaker.** Difficult airway. Blocked EVD-raised ICP. Critical Care Medicine Immersive Reality Session - Simulation (Hi-Fidelity). Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 May 9 **Invited Speaker.** Decision Making (Lecture & Exercise). Critical Care Medicine Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Apr 20 **Invited Speaker.** Sepsis on VA ECMO, Hemorrhagic Shock on VA ECMO. Critical Care Medicine Immersive Reality Session - Simulation (Hi-Fidelity). Multidisciplinary Medical Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Apr 18 **Invited Speaker.** Cardiac Venous-Arterial ECMO: Practical Aspects. Cardiology Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Apr 4 **Invited Speaker.** Cardiac Venous-Arterial ECMO: Theory & Data. Cardiology Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Mar 15 **Invited Speaker.** Heterotaxy Syndrome/Atrial Isomerism: What Does it Really Mean? Defining the Complexities. Cardiology Fellows Teaching. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Feb 23 **Invited Speaker.** Cardiac Anatomy and Physiology-Make it Simple. Pediatric Anesthesia Fellow Seminar. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Feb 14 **Invited Speaker.** Management of Post-Operative Complete Heart Block. Critical Care Fellows Training Program, Simulation/OSCE Day. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017 Feb 9 **Invited Speaker.** Cardiac Physiology vs Anatomy: Keeping It Simple. Cardiovascular Surgery Anaesthesia Rounds. The Hospital for Sick Children. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Manuscripts

**Mtaweh H**, Taira L, Floh A, Parshuram C. Indirect Calorimetry: History, Technology, and Application. 2017. **Principal Author**

### Invited Lectures and Presentations

#### Local

- 2017            **Invited Speaker.** PICU Resident Lecture Series. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017            **Invited Speaker.** Pediatric Resident Simulation Scenarios. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017            **Invited Speaker.** Critical Care Response Team Educator. The Hospital for Sick Children. Toronto, Ontario, Canada.
- 2017            **Invited Speaker.** Critical Care Fellowship Education Series. The Hospital for Sick Children. Toronto, Ontario, Canada.

### Honours and Awards

- 2017            Canada Graduate Scholarship – Master’s (\$17,500 over 1 year). Canadian Institutes of Health Research and University of Toronto. Mentor: Dr C Parshuram

## Peer-Reviewed Publications

### Journal Articles

Amin R, **Parshuram CS**, Kelso J, Lim A, Mateos D, Mitchell I, Patel H, Roy M, Syed F, Troini R, Wensley D, Rose L. Caregiver knowledge and skills to safely care for pediatric tracheostomy ventilation at home. *Pediatric Pulmonology*. 2017;52(12): 1610-1615. **Coauthor or Collaborator**

Mouzaki M, Schwartz SM, Mtaweh H, La Rotta G, Mah K, Herridge J, Van Arsdell G, **Parshuram CS**, Floh AA. Can Vco<sub>2</sub>-Based Estimates of Resting Energy Expenditure Replace the Need for Indirect Calorimetry in Critically Ill Children?. *Journal of Parenteral and Enteral Nutrition*. 2017;41(4): 619-624. **Coauthor or Collaborator**

Andersen LW, Vognsen M, Topjian A, Brown L, Berg RA, Nadkarni VM, Kirkegaard H, Donnino MW; American Heart Association's Get With The Guidelines-Resuscitation Investigators. Pediatric In-Hospital Acute Respiratory Compromise: A Report from the American Heart Association's Get With the Guidelines-Resuscitation Registry. *Pediatric Critical Care Medicine*. 2017;18(9): 838-849. **Coauthor or Collaborator**

Raizman JE, Taylor K, **Parshuram CS**, Colantonio DA. Milrinone therapeutic drug monitoring in a pediatric population: Development and validation of a quantitative liquid chromatography-tandem mass spectrometry method. *Clinical Chimica Acta*. 2017; 468: 71-75. **Coauthor or Collaborator**

Slater MB, Gruneir A, Rochon PA, Howard AW, Koren G, **Parshuram CS**. Identifying High-Risk Medications Associated with Acute Kidney Injury in Critically Ill Patients: A Pharmacoepidemiologic Evaluation. *Pediatric Drugs*. 2017;19: 59-67. **Senior Responsible Author**

**Parshuram CS**, Dryden-Palmer K. Early warning tools may assist in the identification of clinical deterioration in the new-born nursery. *Evidence Based Nursing*. 2017;20(1):16-17. **Principal Author**

Taylor KL, **Parshuram CS**, Ferri S, Mema B. A description of the "event manager" role in resuscitations: A qualitative study of interviews and focus groups of resuscitation participants. *Journal of Critical Care*. 2017;39: 254-258. **Coauthor or Collaborator**

Gaetani M, Frndova H, Seto W, **Parshuram CS**. Concurrent intravenous drug administration to critically ill children: Evaluation of frequency and compatibility. *Journal of Critical Care*. 2017; 41: 198–203. **Senior Responsible Author**

Slater MB, **Parshuram CS**. Science and Acute Kidney Injury: Exploring the Rhetoric of Standardization. *Pediatric Critical Care Medicine*. 2017;18(7):730. **Senior Responsible Author**

**Parshuram CS**, Al-Abdwani R, Williams C. Incidence and Outcomes of Unplanned Extubation in Critically Ill Children: An 11 Year Experience. *Journal of Critical Care*. 2017. **Principal Author**.

Mtaweh H, **Parshuram CS**. Indirect Calorimetry: History, Technology, and Application. *Frontiers Pediatrics*. 2017. **Senior Responsible Author**

Jayaram N, Chan ML, Tang F, **Parshuram CS**, Chan PS. Frequency of medical emergency team activation prior to pediatric cardiopulmonary resuscitation. *Resuscitation*. 2017;115: 110-115. **Coauthor or Collaborator**

Stremler R, Haddad S, Pullenayegum E, **Parshuram CS**. Psychological Outcomes in Parents of Critically Ill Hospitalized Children. *Journal of Pediatric Nursing*. 2017;34: 36-43. **Senior Responsible Author**

Gawronski O, **Parshuram CS**, Cecchetti C, Tiozzo E, Ciofi degli Atti ML, Dall'Oglio I, Scarselletta G, Offidani C, Raponi M, Latour JM. A qualitative study exploring factors influencing escalation of care of deteriorating children in a children's hospital. *BMJ Paediatrics*. 2017. **Coauthor or Collaborator**

Larson C, Dryden-Palmer K, Gibbons C, **Parshuram CS**. Moral Distress in PICU and Neonatal ICU Practitioners: A Cross-Sectional Evaluation. *Pediatric Critical Care Medicine*. 2017;8: e318-e326. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

- 2016 - 2019 **Principal Investigator**. InCURS: Intensive Care Unit Residents Scheduling Study. Canadian Institutes of Health Research. PI(s): Piquette D. Collaborator(s): Amaral AC, Willan A, Mema B, Walsh C, Scales D, Tomlinson G, Frierich J, Frank J, Kirpalani K, Imrie K, Sen M, Ayas N, Ferguson N, Baker R, Brydges R, Bagshaw S, Karachi T, Stelfox T. 100,000 CAD. [Grants]
- 2014 - 2018 **Principal Investigator**. Quantifying brain injury on computed tomography in hospitalized children: A prospective trial. Canadian Institutes of Health Research (CIHR). Collaborator(s): Kulkarni A, Hutchison J, Laughlin S, Raybaud C, Bigler E. 600,000 CAD. [Grants]
- 2014 - 2017 **Principal Investigator**. RESPECT: A tool to improve patient care quality and safety & facilitate team learning. Canadian Institutes of Health Research. Collaborator(s): Mema B, Nadkarni V, Tijssen J. 90,821 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 **Invited Speaker**. Mechanisms: Graphical Presentation, Integral or Over-rated?; EPOCH Outcomes: ICU Admission: Late, Timely, and Planned; Next: snippets, soundbytes EPOCH sub studies & other work; Introducing the Bedside Paediatric Early Warning System; EPOCH: A Large Randomized Trial of BedsidePEWS in Hospitals. International Bedside PEWS Day International BedsidePEWS Day. St. Mary's Hospital. London, England, United Kingdom.
- 2017 **Invited Speaker**. Evaluating Processes of Care and Outcomes of Children in Hospital (EPOCH) a Cluster Randomized Trial of the Bedside Pediatric Early Warning System. 13th International Conference on Rapid Response Systems and Medical Emergency Teams. Chicago, Illinois, USA.
- 2017 **Invited Speaker**. Beyond Resiliency Training: Organizational Strategies to Alleviate Burnout and Increase Wellness in Academic Medicine. University of Texas (UT) System symposium. Houston, Texas, USA.

### Provincial

2017 **Invited Speaker.** InCURS: Intensive Care Unit Resident Scheduling (with Piquette D): EPOCH. CCCTG. Lake Louise, Alberta, Calgary, Canada

### **National**

2017 **Invited Speaker.** Passion and Science. Comprehensive Research Experience for Medical Students (CREMS) Summer Seminar. University of Toronto. Toronto, Ontario, Canada.

2017 **Invited Speaker.** Bedside Pediatric Early Warning System (BedsidePEWS). Canadian Patient Safety Institutes Webinar. Toronto, Ontario, Canada.

### **Local**

2017 **Invited Speaker.** The Survey - Easily the most difficult to design. PCCM Education Program. The Hospital for Sick Children. Toronto, Ontario, Canada.

2017 **Invited Speaker.** BedsidePEWS - A Documentation Based System of Care., Department of Pediatrics. The Hospital for Sick Children. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Musa NL, Hjortdal V, Zheleva B, Murni IK, Sano S, **Schwartz SM**, Staveski SL. The Global Burden of Paediatric Heart Disease. *Cardiol Young*. 2017 Dec; 27(S6):S3-S8. **Coauthor or Collaborator**

Chen CK, Manlhiot C, Mital S, **Schwartz SM**, Van Arsdell GS, Caldarone C, McCrindle BW, Dipchand AI. Prelisting predictions of early postoperative survival in infant heart transplantation using classification and regression tree analysis. *Pediatric Transplantation*. 2017 November 29. **Coauthor or Collaborator**

Romans RA, **Schwartz SM**, Costello JM, Chanani NK, Prodhan P, Gazit AZ, Smith AH, Cooper DS, Alten J, Mistry KP, Zhang W, Donohue JE, Gaeis M. Epidemiology of Noninvasive Ventilation in Pediatric Cardiac ICUs. *Pediatric Critical Care Medicine*. 2017 July. **Coauthor or Collaborator**

Gaeis M, Werho DK, Zhang W, Donohue JE, Tabbutt S, Ghanayem NS, Scheurer MA, Costello JM, Gaynor JW, Pasquali SK, Dimick JB, Banerjee M, **Schwartz SM**. Duration of Postoperative Mechanical Ventilation as a Quality Metric for Pediatric Cardiac Surgical Programs. *The Society of Thoracic Surgeons*. 2017 June 6. **Senior Responsible Author**

**Schwartz SM**. What predicts risk and what defines outcomes in congenital heart disease? *The Journal of Thoracic and Cardiovascular Surgery*. 2017 March. **Principal Author**

## Peer-Reviewed Grants

### Funded

2017 - 2023 **Co-Principal Investigator**. Pediatric Heart Network - The Hospital for Sick Children, Toronto. NIH NHLBI. PI(s): McCrindle BW, Mital S. [Grants]

2015 - 2021 **Co-Investigator**. Cardiovascular Physiology and Brain Development in Newborns with Congenital Heart Disease. Canadian Institutes of Health Research (CIHR). PI(s): Miller S, Seed M. Collaborator(s): Blaser S, Brant RF, Chau V, Hickey EJ, Kingdom JC, Ly LG, MacGowan CK, Sled JG. 1,008,289 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Oct **Visiting Professor.** Looking after Hypoplastic Left Heart Syndrome – Antenatal care to Stage 1; Cardiopulmonary Interactions; Steroids and Paediatric Cardiac Surgery – What is the evidence?; Paediatric Intensive Care – Past, Present and Future Directions; Management of Post-Operative Cardiac Surgical Patients; Post-operative Cardiac Surgery Extracorporeal Membrane Oxygenation (ECMO): Medical and Nursing Care; Safety Culture in the ICU: Frequent Mishaps/ Mistakes and How to Prevent them; Endocrinological Issues in the Cardiac ICU; Physiology of the Functionally Univentricular Heart; Pulmonary Hypertension Pre and Post-Operative Cardiac Surgery; Risk and Outcomes in Congenital Heart Disease; Non-invasive ventilation in the Paediatric Cardiac ICU. HMDP Visiting Experts. Singapore.
- 2017 Oct **Chair.** The Neonate with Congenital Heart Disease; Transdisciplinary session: Current Management of Single Ventricle Patients.
- Invited Speaker.** Physiology of the Left and Right Heart in Various Conditions; ECLS in Single Ventricle Physiology, ECLS (ECMO and Assistive Devices); Pro-Cons: Use of Dobutamine in Paediatric Cardiac Patients in the 21<sup>st</sup> Century – Useful or Useless? (Con).
- 5<sup>th</sup> European Conference on Paediatric and Neonatal Cardiac Intensive Care. Marbella, Spain.
- 2017 Jul **Invited Speaker.** Pharmaceutical vasodilation and vasoconstriction of the systemic and pulmonary circulation; Weekly Performance Rounds – Managing Threat and Error After Cardiac Surgery. 7th World Congress of Pediatric Cardiology and Cardiac Surgery. Barcelona, Spain.
- 2017 Apr **Invited Speaker.** Non-Invasive Ventilation for Children in cardiac Surgery; Case Presentations in Paediatric CCU Cardiorespiratory Management; Cardiopulmonary Interactions in Perioperative Paediatric Heart Disease; Intensive Care Management of Acute and Chronic Heart Failure in Children: It's not Just About the Inotropes. National Training Program for Complex Congenital Heart Disease. Fuwai Hospital. Beijing, China.
- 2017 Apr **Visiting Professor.** Intensive Care Management of Acute and Chronic Heart Failure in Children: It's not Just About the Inotropes. Our Lady's Children's Hospital. Dublin, Ireland.

### National

- 2017 Oct **Invited Speaker.** When Cyanosis is the Norm. Critical Care Canada Forum. Toronto, Ontario, Canada.



## Peer-Reviewed Publications

### Journal Articles

**Detsky ME**, Harhay MO, Bayard DF, Delman AM, Buehler AE, Kent SA, Ciuffetelli IV, Cooney E, Gabler NB, Ratcliffe SJ, Mikkelsen ME, Halpern SD. Six-Month Morbidity and Mortality among ICU Patients Receiving Life-Sustaining Therapy: A Prospective Cohort Study. *Ann Am Thorac Soc*. 2017 Jun 16. **Principal Author**

**Detsky ME**, Harhay MO, Bayard DF, Delman AM, Buehler AE, Kent SA, Ciuffetelli IV, Cooney E, Gabler NB, Ratcliffe SJ, Mikkelsen ME, Halpern SD. Discriminative Accuracy of Physician and Nurse Predictions for Survival and Functional Outcomes 6 Months After an ICU Admission. *JAMA*. 2017 Jun 6;317(21):2187-2195. **Principal Author**

Burry L, Scales D, Williamson D, Foster J, Mehta S, Guenette M, Fan E, **Detsky M**, Azad A, Bernard F, Rose L. Feasibility of melatonin for prevention of delirium in critically ill patients: a protocol for a multicentre, randomised, placebo-controlled study. *BMJ Open*. 2017 Mar 30;7(3):e015420. **Coauthor or Collaborator**

### Non-Peer Reviewed Publications

#### Case Reports

Chan T, Shannon PT, **Detsky ME**. An unexpected but underestimated case of disseminated toxoplasmosis. 2017 Nov 20. **Senior Responsible Author**

#### Letters to Editor

Goligher EC, **Detsky ME**, Sklar MC, Campbell VT, Greco P, Amaral AC, Ferguson ND, Brochard LJ. Rethinking Inspiratory Pressure Augmentation in Spontaneous Breathing Trials. *Chest*. 2017 Jun 1;151(6):1399-1400. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

- |                     |  |
|---------------------|--|
| 2017 Dec - 2019 Nov | <b>Co-Investigator</b> . Improving ICU-to-Ward Transfers of Care: Evaluation of a KT Tool Kit and ICU Transfer Tool. Clinical Frailty Network. PI(s): Bagshaw S, Stelfox T. 264,148 CAD. [Grants]              |
| 2017 Dec - 2019 Nov | <b>Co-Investigator</b> . Critical Care Outcomes in Hematology Malignancy and Stem Cell Transplant. CIHR. PI(s): Munshi L, Mehta S. 199,745.5 CAD. [Grants]   |
| 2016 Jul - 2021 Jun | <b>Co-Investigator</b> . Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): A Randomized Controlled Clinical Trial. CIHR. PI(s): Daneman N, Fowler R. 2,010,635 CAD. [Grants]. |
| 2016 Jan - 2019 Dec | <b>Consultant</b> . Prognosticating Outcomes and Nudging Decisions with Electronic Records in the ICU. Donaghue Foundation. PI(s): Halpern S. Collaborator(s): Courtright K, Singh J. 600,000 USD. [Grants].   |

## Non-Peer Reviewed Grants

### Funded

2016 Jul - 2021 Jun      **Co-Investigator.** Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): A Randomized Controlled Clinical Trial. CIHR, Project Grant . PI(s): Daneman N, Fowler R. 2,010,635 CAD [Grants].

### Invited Lectures and Presentations

#### International

2017 May 21      **Invited Speaker.** ICU physician and nurse predictions of 6 month mortality and functional outcomes. American Thoracic Society, Washington, District of Columbia, USA.

#### Provincial

2017 Nov 28      **Invited Speaker.** Predicting patient centered outcomes in the critically ill. Critical Care Outreach Session (via webcast). Kelowna, British Columbia, Canada.

#### National

2017 Oct 4      **Invited Speaker.** Acute Prognosis? Canadian Critical Care Canada. Toronto, Ontario, Canada.

2017 Mar 19      **Invited Speaker.** Predicting patient centered outcomes in the critically ill. Critical Care Medicine Grand Rounds. St. Michael's Hospital. Toronto, Ontario, Canada.

### Peer-Reviewed Publications

#### Journal Articles

Rittayamai N, Beloncle F, **Goligher EC**, Chen L, Mancebo J, Richard JM, Brochard L. Effect of inspiratory synchronization during pressure-controlled ventilation on lung distension and inspiratory effort. *Ann Intensive Care*. 2017;7(1):100. **Coauthor or Collaborator**

Walkey AJ, **Goligher EC**, Del Sorbo L, Hodgson C, Adhikari NK, Wunsch H, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, Fan E. Low Tidal Volume versus Non-Volume-Limited Strategies for Patients with Acute Respiratory Distress Syndrome: A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017;14(Supplement\_4):S304-S311. **Coauthor or Collaborator**

Del Sorbo L, **Goligher EC**, McAuley DF, Rubenfeld GD, Brochard LJ, Gattinoni L, Slutsky AS, Fan E. Mechanical Ventilation in Adults with Acute Respiratory Distress Syndrome. Summary of the Experimental Evidence for the Clinical Practice Guideline. *Ann Am Thorac Soc*. 2017 Oct;14(Supplement\_4):S261-S270. **Coauthor or Collaborator**

**Goligher EC**, Munshi L, Adhikari NKJ, Meade MO, Hodgson C, Wunsch H, Uleryk E, Gajic O, Amato MPB, Ferguson ND, Rubenfeld GD, Fan E. High Frequency Oscillation for Adult Patients with Acute Respiratory Distress Syndrome: A Systematic Review and Meta-analysis. *Ann Am Thorac Soc*. 2017;14(Supplement\_4):S304-S311. **Principal Author**

**Goligher EC**, Hodgson C, Adhikari NKJ, Meade MO, Wunsch H, Uleryk E, Gajic O, Amato MPB, Ferguson ND, Rubenfeld GD, Fan E. Lung Recruitment Maneuvers for Adult Patients with Acute Respiratory Distress Syndrome: A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017;14(Supplement\_4):S304-S311. **Principal Author**

Tanaka T, Basoudan N, Melo LT, Wickerson L, Brochard LJ, **Goligher EC**, Reid WD. Deoxygenation of inspiratory muscles during cycling, hyperpnoea and loaded breathing in health and disease: a systematic review. *Clin Physiol Funct Imaging*. 2017. **Coauthor or Collaborator**

Duan EH, Adhikari NK, D'Aragnon F, Cook DJ, Mehta S, Alhazzani W, **Goligher EC**, Charbonney E, Arabi YM, Karachi T, Turgeon AF, Hand L, Zhou Q, Austin P, Friedrich J, Lamontagne F, Lauzier F, Patel R, Muscedere J, Hall R, Aslanian P, Piraino T, Albert M, Bagshaw SM, Jacka M, Wood G, Henderson W, Dorscheid D, Ferguson ND, Meade MO; Canadian Critical Care Trials Group. Management of ARDS and Refractory Hypoxemia: A Multicenter Observational Study. *Ann Am Thorac Soc*. 2017. **Coauthor or Collaborator**

Fan E, Del Sorbo L, **Goligher EC**, Hodgson CL, Munshi L, Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard LJ; American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine.. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017;195(9):1253-1263. **Coauthor or Collaborator**

**Goligher EC**, Amato MPB, Slutsky AS. Applying Precision Medicine to Trial Design Using Physiology: Extracorporeal CO<sub>2</sub> Removal for ARDS. *Am J Respir Crit Care Med*. 2017;196(5):558-568. **Principal Author**

**Goligher EC**, Ely WE, Sulmasy DP, Bakker J, Raphael J, Volandes AE, Patel BM, Payne K, Hosie A, Churchill L, White DB, Downar J. Physician-Assisted Suicide and Euthanasia in the Intensive Care Unit: A Dialogue on the Core Ethical Issues. *Crit Care Med*. 2017;45(2):149-155. **Principal Author**

Sklar MC, Burns K, Rittayamai N, Lanys A, Rauseo M, Chen L, Dres M, Chen GQ, **Goligher EC**, Adhikari NKJ, Brochard LJ, Friedrich JO. Effort to Breathe with Various Spontaneous Breathing Trial Techniques: A Physiological Meta-Analysis. *Am J Respir Crit Care Med* 2017;195(2):1477-1485. **Coauthor or Collaborator**

Bellani G, Laffey JG, Pham T, Madotto F, Fan E, Brochard L, Esteban A, Gattinoni L, Bumbasirevic V, Piquilloud L, van Haren F, Larsson A, McAuley DF, Bauer PR, Arabi YM, Ranieri M, Antonelli M, Rubenfeld GD, Thompson BT, Wrigge H, Slutsky AS, Pesenti A; LUNG SAFE Investigators; ESICM Trials Group. Noninvasive Ventilation of Patients with Acute Respiratory Distress Syndrome. Insights from the LUNG SAFE Study. *Am J Respir Crit Care Med*. 2017;195(1):67-77. **Coauthor or Collaborator**

## Reviews

Dres M, **Goligher EC**, Heunks LMA, Brochard LJ. Critical illness-associated diaphragm weakness. *Intensive Care Med*. 2017. **Coauthor or Collaborator**

Sklar M, Fan E, **Goligher EC**. High Frequency Oscillation: Past, Present, and Future. *Chest*. 2017. **Senior Responsible Author**

Sahetya SK, **Goligher EC**, Brower RG. Fifty Years of Research in ARDS. Setting Positive End-expiratory Pressure in the Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017;195(11):1429-1438. **Coauthor or Collaborator**

## Editorials & Commentary

**Goligher EC**. Synchrony and the Art of Mechanical Ventilation. *Anesthesiology*. 2017; 127:915-917. **Principal Author**

**Goligher EC**. Six questions about physician-assisted death from a conscientious objector. *Linacre Q*. 2017;84(2):105-107. **Principal Author**

**Goligher EC**, Slutsky AS. Not just oxygen? Mechanisms of benefit from high flow nasal cannula in acute hypoxemic respiratory failure. *Am J Respir Crit Care Med* 2017;195(9):1128-1131. **Principal Author**

Martin-Loeches I, Bos LD, **Goligher EC**. Will all ARDS patients be receiving mechanical ventilation in 2035? *Pro. Intensive Care Med*. 2017;43(4):568-569. **Senior Responsible Author**

## Letters to the Editor

**Goligher EC**. Reply to: Precision Medicine for Extracorporeal CO<sub>2</sub> removal for ARDS: Physiological Considerations. *Am J Respir Crit Care Med*. 2017. **Principal Author**

Liao L, **Goligher EC**. Conscientious Objection in Health Care. *N Engl J Med*. 2017;377(1):96. **Senior Responsible Author**

**Goligher EC**, Detsky ME, Sklar MC, Campbell VT, Greco P, Amaral AC, Ferguson ND, Brochard LJ. Rethinking Inspiratory Pressure Augmentation in Spontaneous Breathing Trials. *Chest*. 2017;151(6):1399-1400. **Principal Author**

**Goligher EC**, Ely EW. The authors reply. *Crit Care Med*. 2017;45(6):e628-e629. **Principal Author**

## Peer-Reviewed Grants

### Funded

- 2017      **Co-Principal Investigator.** Optimizing protective mechanical ventilation by artificial intelligence-based modelling: a strategy for achieving precision ventilation. University of Toronto. EMH Seed Competition. 60,000 CAD. [Grants]
- 2017      **Principal Investigator:** Mechanisms and Long-term Impact of Diaphragm Weakness in ARDS: An Ancillary Study of the Rose Trial. 65,000 CAD. [Grants]

### Invited Lectures and Presentations

#### International

- 2017 May 12      **Invited Speaker.** Preventing ventilator-induced diaphragm dysfunction. SMART Conference, Milan, Italy.
- 2017 May 10      **Invited Speaker.** Respiratory Muscle Dysfunction in the ICU: Mechanisms and Impact. Department of Anesthesia and Intensive Care, Università Degli Studi di Brescia, Brescia, Italy.
- 2017 Mar 22 - 24      **Invited Speaker.** How to design the next ICU trial: physiological responsiveness should be included; Who Would Benefit from PEEP in 2017?; Tutorial: Respiratory Monitoring; Weaning: Diaphragm Ultrasound Can Help. International Symposium on Intensive Care and Emergency Medicine. Brussels, Belgium.

#### National

- 2017      **Invited Speaker.** Predicting the Physiological Response to Extracorporeal CO<sub>2</sub> Removal: Implications for Treatment and Trial Design. Critical Care Physiology Rounds. Interdepartmental Division of Critical Care Medicine. University of Toronto, Toronto, Canada.
- 2017 Oct 4      **Invited Speaker.** Myotrauma and Muscle-Protective Ventilation. Critical Care Canada Forum. Toronto, Ontario, Canada.

#### Local

- 2017 Jan 6      **Invited Speaker.** Ventilator-Induced Diaphragm Dysfunction: Mechanisms and Impact. Respiratory Research Rounds. University Health Network. Toronto, Ontario, Canada.

### Honours and Awards

- 2017      Society of Critical Care Medicine Discovery Research Grant

## Peer-Reviewed Publications

### Journal Articles

Aoyama K, D'Souza R, Inada E, **Lapinsky SE**, Fowler RA. Measurement properties of comorbidity indices in maternal health research: a systematic review. BMC Pregnancy Childbirth. 2017 Nov;17(1):372. **Coauthor or Collaborator**

Dresser LD, Bell CM, Steinberg M, Ferguson ND, **Lapinsky SE**, Lazar N, Murphy P, Singh JM, Morris AM. Use of a structured panel process to define antimicrobial prescribing appropriateness in critical care. J Antimicrob Chemother. 2017 Sep;Sept 26. **Coauthor or Collaborator**

**Lapinsky SE**. Management of Acute Respiratory Failure in Pregnancy. Seminar Respir Crit Care Med. 2017;38:201-207. **Principal Author**

### Non-Peer Reviewed Publications

#### Editorials

**Lapinsky SE**. Maternal Critical Care. Obstetric Medicine. 2017 Jun. **Principal Author**

#### Letters to Editor

Sklar MC, **Lapinsky SE**. Video Laryngoscope vs. Direct Laryngoscopy in the ICU: Are We Asking the Right Question? Critical Care. 2017;21(1):112. **Senior Responsible Author**

Sklar MC, **Lapinsky SE**. Post-Intubation Hypotension in the Critically-Ill: An (Un)necessary Evil? Journal of Trauma. 2017. **Senior Responsible Author**

### Book Chapters

**Lapinsky SE**. Critical Care Medicine in Pregnancy. In: Parillo JE, Dellinger RP, editor(s). Critical Care Medicine. 5th. (United States): Elsevier; 2017. **Principal Author**

Nelson-Piercy C, **Lapinsky SE**. Respiratory disease in pregnancy. In: Arulkumaran S, Denny L, Doumouchtsis S, Ledger W, editor(s). Oxford Textbook of Obstetrics and Gynaecology. Oxford (United Kingdom): Oxford University Press; 2017. **Senior Responsible Author**

**Lapinsky SE**. Care of the critically ill pregnant patient. 2017. In: Parsons PE, Wiener-Kronish JP, Stapleton R, Berra L, MD (Eds), Critical Care Secrets 6th Ed, Elsevier, St. Louis. **Principal Author**

Viau-Lapointe J, **Lapinsky SE**. Management of ventilation. In: Einav, Weiniger, Landau, editor(s). Principles and practice of maternal critical care. Springer Nature; 2017. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

- 2017 Jul - 2018 Jun **Principal Investigator.** Mechanical ventilation in pregnancy. CHEST Foundation Research Grant in Women's Lung Health, Research Grant in Women's Lung Health. Collaborator(s): Viau-Lapointe J, D'Souza R, Rose L. 9,711 CAD. [Grants].
- 2017 Jul - 2018 Jun **Principal Investigator.** Mechanical ventilation in obstetric patients. Ontario Thoracic Society, OTS Grant-in-Aid Award. Collaborator(s): Viau-Lapointe J, D'Souza R, Rose L. 46,321 CAD. [Grants].
- 2014 Jan - 2017 Dec **Co-Investigator.** STandard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury (STARRT-AKI). Canadian Institutes of Health Research (CIHR). PI(s): Wald R. 221,000 CAD. [Grants].

## Invited Lectures and Presentations

### International

#### National

- 2017 Oct **Invited Lecturer.** Perimortem Cesarean section. American College of Chest Physicians. Toronto, Ontario, Canada.
- 2017 Oct **Chair.** Care of the Critically ill Pregnant Patient.
- Invited Speaker.** Update on asthma in pregnancy.
- American College of Chest Physicians. Toronto, Ontario, Canada.
- 2017 May **Invited Speaker.** Fetal outcome in critically ill pregnant women: can delivery improve outcome; Is acute respiratory failure during pregnancy different to the general population?; Cardiac arrest during pregnancy: what is the evidence? 11th Congreso Nacional de Medicina Critica y Cuidado Intensivo. Medellin, Colombia.
- 2017 Jun 30 **Invited Discussant:** Electronic Journal Club. TXA for PPH. What has WOMAN taught us? Osler Healthcare. Australia.
- 2017 Mar 19 **Invited Speaker.** Mechanical ventilation in pregnancy. International Society for Obstetric Medicine, Cape Town, South Africa.

## Peer-Reviewed Publications

### Journal Articles

Downar J, McNaughton N, Abdelhalim T, Wong N, Lapointe-Shaw L, Seccareccia D, Miller K, Dev S, Ridley J, **Lee C**, Richardson L, McDonald-Blumer H, Knickle K. Standardized patient simulation versus didactic teaching alone for improving residents' communication skills when discussing goals of care and resuscitation: A randomized controlled trial. Palliative Medicine. 2017 Jun 15;31(2). **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

- 2017 Jun - 2019 Jun **Co-Investigator.** Programmatic Assessment in the Workplace: A Realist Exploration of Contexts, Mechanisms, and Outcomes in Critical Care Medicine. Royal College of Physicians and Surgeons of Canada, Medical Education Research Grant. PI(s): Dominique P. Collaborator(s): Brydges R, Mema B, Ng S, Tavares W. 49,945 CAD. [Grants].
- 2017 Jun - 2019 Jun **Co-Investigator.** Formative Assessment for Practicing Critical Care Physicians: Best Strategy to Maximize Engagement and Learning. McMaster University Continuing Health Science Education Program (CHSE), Research and Innovation Fund. PI(s): Ulic D. Collaborator(s): Piquette D, Fox-Robichaud A, Perri D, Karachi T, Tavares W. 15,000 CAD. [Grants]
- 2016 Jul - 2017 Jun **Co-Principal Investigator.** Management of Pain, agitation and delirium in neurotrauma patients: a cohort study. Respirology Petit Block Grant. PI(s): Burry L. 10,000 CAD. [Grants]

## Invited Lectures and Presentations

### Provincial

- 2017 May 2 **Invited Lecturer.** CBME IN PRACTICE: Foreseeable Challenges, Potential Solutions. Canadian Conference on Medical Education - Rethinking Teaching and learning. College of Family Physicians of Canada Mainpro+ Group Learning. Winnipeg, Manitoba, Canada.

### National

- 2017 Oct 10 **Invited Speaker.** Asthma: The forgotten hypercapnic respiratory failure (with Lepine PA). Interdepartmental Division of Critical Care Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.
- 2017 Oct 1 - 3 **Facilitator.** Critical Care Canada Forum. Critical Care Canada Forum. Toronto, Ontario, Canada.



- 2017 Jun 5      **Invited Speaker.** Lung Cancer and OSA. Interviewer: Wei Lee. Patient and Public Education. OMNI TV Interview - Lung Cancer and OSA Patient and Public Education. OMNI TV. Toronto, Ontario, Canada.
- 2017 May 14      **Invited Speaker.** Mechanical Ventilation - An Introduction. Surgical Foundations Lecture. Toronto, Ontario, Canada.
- 2017 May 9      **Chair.** Education Session (with Piquette D).. Oral Viva by U of T Adult Critical Care Medicine Training Program. Toronto, Ontario, Canada.
- 2017 Apr 28      **Invited Speaker.** Outcomes in Critical Care Oncology: What matters? Toronto, Ontario, Canada.

### **Local**

- 2017 Sep 29      **Invited Speaker.** Shock and Resuscitation. Mount Sinai Hospital, Department of Medicine, University of Toronto, Toronto, Ontario, Canada.

### **Honours and Awards**

- 2017      IDCCM Teaching Excellence, Critical Care Medicine, Department of Medicine, Faculty of Medicine. University of Toronto. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Deotare U, Merman E, Pincus D, Kraguljac AP, Croucher D, Kumar V, Ibrahimova N, Minden MD, Lee C, **Mehta S**. The utility and safety of fiberoptic bronchoscopy for critically ill acute leukemia patients. *Can J Anaesth*. 2017 Dec 18. **Senior Responsible Author**

Azoulay E, Vincent JL, Angus DC, Arabi YM, Brochard L, Brett SJ, Citerio G, Cook DJ, Curtis JR, DosSantos CC, Ely EW, Hall J, Halpern SD, Hart N, Hopkins RO, Iwashyna TJ, Jaber S, Latronico N, **Mehta S**, Needham DM, Nelson J, Puntillo K, Quintel M, Rowan K, Rubenfeld G, Van den Berghe G, Van der Hoeven J, Wunsch H, Herridge M. Recovery after critical illness: putting the puzzle together—a consensus of 29. *Crit Care*. 2017 Dec 5;21(1):296-x. **Coauthor or Collaborator**

Azoulay E, Pickkers P, Soares M, Perner A, Rello J, Bauer PR, van de Louw A, Hemelaar P, Lemiale V, Taccone FS, Martin Loeches I, Meyhoff TS, Salluh J, Schellongowski P, Rusinova K, Terzi N, **Mehta S**, Antonelli M, Kouatchet A, Barratt-Due A, Valkonen M, Landburg PP, Bruneel F, Bukan RB, Pène F, Metaxa V, Moreau AS, Souppart V, Burghi G, Girault C, Silva UVA, Montini L, Barbier F, Nielsen LB, Gaborit B, Mokart D, Chevret S; Efraim investigators and the Nine-I study group. Acute hypoxemic respiratory failure in immunocompromised patients: the Efraim multinational prospective cohort study. *Intensive Care Med*. 2017 Dec;43(12):1808-1819. **Coauthor or Collaborator**

Chiu AW, Contreras S, **Mehta S**, Korman J, Perreault MM, Williamson DR, Burry L. Iatrogenic opioid withdrawal in critically ill pediatric and adult patients: Frequency, neurobiology, risk factors, and a review of current assessment tools. *Ann Pharmacother*. 2017 Dec;51(12):1099-1111. **Coauthor or Collaborator**

Burry LD, Williamson DR, **Mehta S**, Perreault MM, Mantas I, Mallick R, Fergusson DA, Smith O, Fan E, Dupuis S, Herridge M, Rose L. Delirium and exposure to psychoactive medications in critically ill adults: A multi-centre observational study. *J Crit Care*. 2017 Dec;42:268-274. **Coauthor or Collaborator**

Duan E, Adhikari N, D'Aragnon F, Al-Hazzani W, Hand L, Zhou Q, Cook D, **Mehta S**, Goligher E, Charbonney E, Arabi Y, Piraino T, Karachi T, Friedrich J, Patel R, Dorscheid D, Henderson W, Bagshaw S, Jacka M, Aslanian P, Albert M, Turgeon A, Lauzier F, Laufer B, Muscedere J, Lamontagne F, Hall R, Meyer J, Wood G, Ferguson N, Meade M, on behalf of the Canadian Critical Care Trials Group. Epidemiology and management of ARDS and refractory hypoxemia: a multicenter observational study. *Ann Am Thorac Soc*. 2017 Dec;14(12):1818-1826. **Coauthor or Collaborator**

**Mehta S**, Spies C, Shehabi Y. Ten tips for ICU sedation. *Intensive Care Med*. 2017 Nov 18. **Principal Author**  
Marhong J, DeBacker J, Fan E, **Mehta S**. Sedation and mobilization during veno-venous Extracorporeal Membrane Oxygenation (VV-ECMO) for Acute Respiratory Distress Syndrome: An International Survey. *Critical Care Medicine*. 2017 Nov;45(11):1893-1899. **Senior Responsible Author**

DeBacker J, Tamberg E, O'Neill L, Munshi L, Burry L, Fan E, **Mehta S**. Sedation and Analgesia practice in extra-corporeal membrane oxygenation (ECMO)-treated patients with acute respiratory distress syndrome (ARDS): a retrospective study. *American Society for Artificial Internal Organs Journal (ASAIO J)*. 2017 Oct 18. 2017 Oct 18. **Senior Responsible Author**

Guenette M, Burry L, Cheung A, Farquharson T, Traille M, Mantas I, **Mehta S**, Rose L. Psychotropic Drug Use in Physically Restrained, Critically Ill Adults Receiving Mechanical Ventilation. *Psychotropic drug use in*

physically restrained, mechanically ventilated, critically ill adults: A prospective observational study. *Am J Crit Care*. 2017 Sep;26(5):380-387 **Coauthor or Collaborator**

Latronico N, Herridge M, Hopkins RO, Angus D, Hart N, Hermans G, Iwashyna J, Arabi Y, Citerio G, Ely EW, Hall J, **Mehta S**, Puntillo K, Van den Hoeven J, Wunsch H, Cook D, Dos Santos C, Rubenfeld G, Vincent JL, Van den Berghe G, Azoulay E, Needham DM. The ICM research agenda on intensive care unit acquired weakness. *Intensive Care Med*. 2017 Sep;43(9):1270-1281. **Coauthor or Collaborator**

Rochweg B, Brochard L, Elliott MW, Hess D, Hill NS, Nava S, Navalesi P Members Of The Steering Committee, Antonelli M, Brozek J, Conti G, Ferrer M, Guntupalli K, Jaber S, Keenan S, Mancebo J, **Mehta S**, Raouf S, Members Of The Task Force. 2017 Aug 31;50(2). Official ERS/ATS clinical practice guidelines: noninvasive ventilation for acute respiratory failure. *Eur Respir J*. 2017 Aug 31;50(2). **Coauthor or Collaborator**

Rochweg B, Millen T, Austin P, D'Aragnon F, Jaeschke R, Masse M, **Mehta S**, Lamontagne F, Meade M, Guyatt G, Cook DJ on behalf of the Canadian Critical Care Trials Group. Fluids in Sepsis and Septic Shock (FISSH): protocol for a pilot randomised controlled trial. *BMJ Open*. 2017 Jul 20;7(7). e017602. doi: 10.1136/bmjopen-2017-017602. **Coauthor or Collaborator**.

(Journal Articles) Del Sorbo L, Vendramin A, Mehta S. High flow oxygen therapy for acute hypoxemic respiratory failure in adult critically ill patients. *Minerva Anestesiol*. 2017 Apr;83(4):402-411. **Senior Responsible Author**

Burry L, Scales D, Williamson D, Foster J, **Mehta S**, Guenette M, Fan E, Detsky M, Azad A, Bernard F, Rose L. Feasibility of melatonin for prevention of delirium in critically ill patients: A multi-centre, randomized, placebo-controlled study. *BMJ Open*. 2017 Mar 30;7(3):e015420. **Coauthor or Collaborator**

Arabi YM, Aldawood AS, Al-Dorzi HM, Tamim HM, Haddad SH, Jones G, McIntyre L, Solaiman O, Sakkijha MH, Sadat M, Afesh L, Kumar A, Bagshaw SM, **Mehta S**, for the PermiT trial group. Permissive underfeeding or standard enteral feeding in high and low nutritional risk critically ill adults. *Am J Respir Crit Care Med*. 2017 Mar 1;195(5):652-662. **Senior Responsible Author**

Ball IM, Bagshaw S, Burns K, Cook D, Day A, Dodek P, Kutsogiannis J, **Mehta S**, Muscedere J, Stelfox T, Turgeon A, Wells G, Stiell I. Hospital outcomes of very elderly critically ill medical and surgical patients: A Multi-Center Prospective Cohort Study. *Can J Anesthesia*. 2017 Mar;64(3):260-269. **Coauthor or Collaborator**

Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, Kumar A, Sevransky JE, Sprung CL, Nunnally ME, Rochweg B, Rubenfeld GD, Angus DC, Annane D, Beale RJ, Bellingham GJ, Bernard GR, Chiche JD, Coopersmith C, De Backer DP, French CJ, Fujishima S, Gerlach H, Hidalgo JL, Hollenberg SM, Jones AE, Karnad DR, Kleinpell RM, Koh Y, Lisboa TC, Machado FR, Marini JJ, Marshall JC, Mazuski JE, McIntyre LA, McLean AS, **Mehta S**, Moreno RP, Myburgh J, Navalesi P, Nishida O, Osborn TM, Perner A, Plunkett CM, Ranieri M, Schorr CA, Seckel MA, Seymour CW, Shieh L, Shukri KA, Simpson SQ, Singer M, Thompson BT, Townsend SR, Van der Poll T, Vincent JL, Wiersinga WJ, Zimmerman JL, Dellinger RP. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock:2016. *Crit Care Med*. 2017 Mar;45(3):486-552. **Coauthor or Collaborator**

Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, Kumar A, Sevransky JE, Sprung CL, Nunnally ME, Rochweg B, Rubenfeld GD, Angus DC, Annane D, Beale RJ, Bellingham GJ, Bernard GR, Chiche JD, Coopersmith C, De Backer DP, French CJ, Fujishima S, Gerlach H, Hidalgo JL, Hollenberg SM, Jones AE, Karnad DR, Kleinpell RM, Koh Y, Lisboa TC, Machado FR, Marini JJ, Marshall JC, Mazuski JE, McIntyre LA, McLean AS, **Mehta S**, Moreno RP, Myburgh J, Navalesi P, Nishida O, Osborn TM, Perner A, Plunkett CM, Ranieri M, Schorr CA, Seckel MA, Seymour CW, Shieh L, Shukri KA, Simpson SQ, Singer M, Thompson BT, Townsend SR, Van der Poll T, Vincent JL, Wiersinga WJ, Zimmerman JL, Dellinger RP. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016. *Intensive Care Med*. 2017 Mar;43(3):304-377. **Coauthor or Collaborator**

**Mehta S**, Burns K, Machado F, Fox-Robichaud A, Cook D, Calfee C, Ware L, Burnham E, Kissoon N, Marshall JC, Mancebo J, Finfer S, Hartog C, Reinhart K, Maitland K, Stapleton RD, Kwizera A, Amin P, Abroug F, Smith O, Laake JH, Shrestha GS, Herridge M. Gender Parity in Critical Care Medicine. *Am J Respir Crit Care Med*. 2017 Feb. **Principal Author**

Murray MJ, DeBlock H, Erstad B, Gray A, Jacobi J, Jordan C, McGee W, McManus C, Meade M, Nix S, Patterson A, Sands MK, Pino R, Tescher A, Arbour R, Rochweg B, Murray CF, **Mehta S**. Clinical practice guidelines for sustained neuromuscular blockade in the adult critically ill patient. *Am J Health Syst Pharm*. 2017 Jan 15;74(2):76-78. **Co-Principal Author**

Girard TD, Al-Hazzani W, Kress JP, Ouellette DR, Schmidt GA, Truwit JD, Burns SM, Epstein S, Esteban A, Fan E, Ferrer M, Fraser GL, Gong M, Hough C, **Mehta S**, Nanchal R, Patel S, Pawlik A, Sessler CN, Strøm T, Schweickert W, Wilson KC, Morris PE. An Official American Thoracic Society/American College of Chest Physicians Clinical Practice Guideline: Liberation from Mechanical Ventilation in Critically Ill Adults. Rehabilitation Protocols, Ventilator Liberation Protocols, and Cuff Leak Tests. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):120-133. **Coauthor or Collaborator**

Schmidt GA, Girard TD, Kress JP, Morris PE, Ouellette DR, Al-Hazzani W, Burns SM, Epstein S, Esteban A, Fan E, Ferrer M, Fraser GL, Gong M, Hough C, **Mehta S**, Nanchal R, Patel S, Pawlik A, Sessler CN, Strøm T, Schweickert W, Wilson KC and Truwit JD. Liberation from Mechanical Ventilation: Executive Summary of an Official American Thoracic Society / American College of Chest Physicians Clinical Practice Guideline. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):115-119. **Coauthor or Collaborator**

Liu J, Bell C, Campbell V, De Backer J, Tamberg E, Lee C, Kiss A, **Mehta S**. Noninvasive ventilation in patients with hematologic malignancy: A retrospective review. *J Intensive Care Med*. 2017 Jan 1. 2017 Jan 1:885066617690725. **Senior Responsible Author**

Jakab M, Day AZ, Kraguljac A, Brown M, **Mehta S**. Family presence in the ICU during bedside procedures. *J Intensive Care Med*. 2017 Jan 1. **Senior Responsible Author**

Schmidt GA, Girard TD, Kress JP, Morris PE, Ouellette DR, Al-Hazzani W, Burns SM, Epstein S, Esteban A, Fan E, Ferrer M, Fraser GL, Gong M, Hough C, **Mehta S**, Nanchal R, Patel S, Pawlik A, Sessler CN, Strøm T, Schweickert W, Wilson KC and Truwit JD. Liberation from Mechanical Ventilation: Executive Summary of an Official American Thoracic Society / American College of Chest Physicians Clinical Practice Guideline. Executive Summary. *Chest*. 2017 Jan;151(1):160-165. **Coauthor or Collaborator**

Ouellette DR, Patel S, Girard TD, Morris PE, Schmidt GA, Truwit JD, Al-Hazzani, Burns S, Epstein S, Esteban A, Fan E, Ferrer M, Fraser GL, Gong M, Hough C, **Mehta S**, Nanchal R, Pawlik A, Schweickert W, Sessler CN, Strøm T, Kress JP. Liberation from Mechanical Ventilation: An Official American Thoracic Society / American College of Chest Physicians Clinical Practice Guideline. Spontaneous Breathing Trials, Protocols Minimizing Sedation, and Non-invasive Ventilation immediately after Extubation. *Chest*. 2017 Jan;151(1):166-180. **Coauthor or Collaborator**

Liu J, Bell C, Campbell V, De Backer J, Tamberg E, Lee C, Kiss A, **Mehta S**. Noninvasive ventilation in patients with hematologic malignancy: A retrospective review. *J Intensive Care Med*. 2017 Jan 1. **Senior Responsible Author**

Burry L, Dryden L, Rose L, Williamson DR, Adhikari NKJ, Turgeon AF, Golan E, Dewhurst N, Fergusson DA, Hutton B, **Mehta S**. Sedation for moderate-to-severe traumatic brain injury in adults: a network meta-analysis. *Cochrane Database Syst Rev*. 2017(4):Art. No.: CD012639. **Senior Responsible Author**

## Editorials

Jones PM, Bryson GL, Backman S, Mehta S, Grocott HP. Statistical reporting and table construction guidelines for publication in the Canadian Journal of Anesthesia. Can J Anaesth. 2017 Dec 5. **Coauthor or Collaborator**

## Non-Peer Reviewed Publications

### Editorials

S, Povoia P. Long term physical morbidity in ARDS survivors. Intensive Care Med. 2017 Jan;43(1):101-103. **Principal Author**

### Letters to Editor

Arabi YM, Tamim HM, **Mehta S**. Reply to letter to the editor titled "Is less really more with respect to permissive underfeeding in critical illness? Am J Respir Crit Care Med. 2017 Mar 1;195(5):692-693. **Senior Responsible Author**

## Online Resources

**Mehta S**. 5 Strategies to Ensure Gender Parity in Critical Care Medicine. Editorial about my manuscript published in Am J of Respir and Crit Care Medicine. 2017 Mar 8. **Principal Author**  
Available from: <https://healthmanagement.org/c/icu/post/5-strategies-to-ensure-gender-parity-in-critical-care-medicine>.

## Peer-Reviewed Grants

### Funded

2014 - present	<b>Co-Investigator</b> . LibeRation from MEchanical VEntilAtion and ScrEening Frequency Trial: The RELEASE Trial. Ontario Thoracic Society, Grant-In-Aid. PI(s): Burns K. 50,000 CAD. [Grants]
2017 Jul - 2020 Jun	<b>Co-Investigator</b> . REVISE: Re-Evaluating the Inhibition of Stress Erosions: Gastrointestinal Bleeding in the ICU. Canadian Institute of Health Research, Project Scheme. PI(s): Guyatt G. 1,935,832 CAD. [Clinical Trials]
2017 Jun - 2019 May	<b>Co-Principal Investigator</b> . Critical Care Outcomes in Hematologic Malignancy and Stem Cell Transplant. The Leukemia & Lymphoma Society of Canada. 199,742 CAD. [Grants]
2017 Jun - 2019 May	<b>Principal Investigator</b> . Critical Care Outcomes in Hematologic Malignancy and Stem Cell Transplant. MSH UHN AMO 2017/18 - 2018/19 Innovation Fund. 182,871 CAD. [Grants]
2017 Feb - 2018 Jan	<b>Principal Investigator</b> . Low-Flow vs. High-Flow Nasal Cannula for Hypoxemic Immunocompromised Patients During Diagnostic Bronchoscopy: A Randomized Controlled Trial. Godfrey S. Pettit Division of Respiriology Block Term Grant. Collaborator(s): Munshi L, Al-Fares A, Ferreyro B, Del Sorbo L, Ryan C. 10,000 CAD. [Grants]

- 2016 Jul - 2019 Jul **Co-Investigator.** PROSPECT: Probiotics to Prevent Severe Pneumonia and Endotracheal Colonization Trial. Canadian Institutes of Health Research (CIHR). PI(s): Johnstone J. 1,272,893 CAD. [Grants]
- 2016 Jun - 2017 May **Senior Investigator.** Management of pain, agitation, and delirium in critically ill patients with traumatic brain injury: a prospective cohort study. Godfrey S Pettit Division of Respiriology Block Term Grant. PI(s): Lee C. 10,000 CAD. [Grants]
- 2016 Apr - 2019 Mar **Co-Investigator.** PROSPECT: Probiotics: Prevention of Severe Pneumonia and Endotracheal Colonization Trial. Physicians' Services Incorporated. PI(s): Cook D. 250,000 CAD. [Grants]
- 2016 Jan - 2017 Dec **Co-Investigator.** Sedation and delirium in the ICU: network meta-analyses. CIHR Knowledge Synthesis Grant. PI(s): Burry L. 90,000 CAD. [Grants]
- 2014 - 2017 **Co-Investigator.** Screening elderly patients for inclusion in a weaning trial: the SENIOR trial. Technology Evaluation in the Elderly, 2013 Catalyst Research. PI(s): Burns K. 99,894 CAD. [Grants]
- 2014 - 2017 **Co-Investigator.** Frequency of Screening And SBT Technique Trial: The FAST Trial. CIHR Operating Grant. PI(s): Burns K. 212,067.6 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Nov 8 - 10 **Invited Speaker.** Women in Critical care: how to improve gender diversity; Early rehabilitation in the ICU: is there room for it? XIII World Congress of Intensive and Critical Care Medicine, and XXII Brazilian Congress of Intensive Care Medicine, Rio De Janeiro, Brazil.
- 2017 Sep 26 - 27 **Invited Speaker.** Pharmacological prevention: Role of antipsychotics revisited; Gender diversity in Intensive Care.
- Session Co-Chair.** Don't lose your mind!
- European Society of Intensive Care Medicine (ESICM) LIVES 2017, Vienna, Austria.
- 2017 May 21 **Facilitator.** CRITICAL CARE: SIRS, QSOFA, SEPSIS -- WHAT'S IN A NAME? American Thoracic Society Meeting, Washington, District of Columbia, United States.

### National

- 2017 Apr 27 **Invited Speaker.** Sedation for Mechanical Ventilation. Mechanical Ventilation – from physiology to clinical practice. CCCF and nterdepartmental Division of Critical Care Medicine, University of Toronto. Toronto, Ontario, Canada.

## Honours and Awards

- 2017 Jul - 2020 Jun Clinician Scientist Salary Support. University Of Toronto, Ontario, Canada. (Distinction).

## Peer Reviewed Publications

### Journal Articles

Turner CJ, Haas B, Lee C, Brar S, Detsky M, **Munshi L**. Improving Communication Between Surgery and Critical Care: Beyond the Handover. *American Journal of Critical Care*. 2017 Dec. **Senior Responsible Author**

Gutierrez C, McEvoy C, Mead E, Stephens R, **Munshi L**, Detsky M, Pastores S, Nates J. Management of the Critically Ill Adult Chimeric Antigen Receptor (CAR)-T Cell Treated Patient: A Critical Care Perspective. *Critical Care Medicine*. 2017 Dec. **Coauthor or Collaborator**

Sklar M, Mohammed A, Orchanian-Cheff A, Del Sorbo L, Mehta S, **Munshi L**. The impact of high flow nasal oxygen in the immunocompromised critically ill: A systematic review and meta-analysis. *Respiratory Care*. 2017 Dec. **Senior Responsible Author**

Ferreyro B, **Munshi L**, Detsky M, Minden M, Cheung A, Burry L, Lee C. Acute promyelocytic leukemia in the Intensive Care Unit: A retrospective analysis. *Leukemia Research*. 2017 Nov. **Coauthor or Collaborator**

**Munshi L**, Kiss A, Cypel M, Keshavjee S, Ferguson N, Fan E. Oxygen Thresholds and Mortality During Extracorporeal Life Support in Adult Patients. *Critical Care Medicine*. 2017 Dec. **Principal Author**

Marhong JD, DeBacker J, Viau-Lapointe J, **Munshi L**, Del Sorbo L, Burry L, Fan E, Metha S. Sedation and Mobilization during Venovenous Extracorporeal Membrane Oxygenation (VV-ECMO) for Acute Respiratory Failure: An International Survey. *Critical Care Medicine*. 2017 Nov. **Coauthor or Collaborator**

**Munshi L**, del Sorbo L, Mancebo J, Ranieri M, Pesenti A, Fan E. Prone positioning for acute respiratory distress syndrome: systematic review and meta-analysis. *Annals of the American Thoracic Society*. 2017 Oct. **Principal Author**

DeBacker J, Tamberg E, **Munshi L**, Fan E, Burry L, Mehta S. Sedation practice in extracorporeal membrane oxygenation treated patients with acute respiratory distress syndrome: a retrospective study. *American Society of Artificial Internal Organs*. 2017 Oct. **Coauthor or Collaborator**

Fan E, Del Sorbo L, Goligher E, Hodgson C, **Munshi L**, Walkey A, Adhikari N, Amato M, Branson R, Brower R, Ferguson N, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade M, McAuley D, Pesenti A, Ranieri VM, Rubinfeld G, Rubin E, Seckel M, Slutsky A, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard L; on behalf of the ATS, ESICM, and SCCM. An Official ATS/ESICM/SCCM Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome/ *American Journal of Respiratory and Critical Care Medicine*. 2017 May. **Coauthor or Collaborator**

**Munshi L**, Adhikari N. Inhaled nitric oxide and acute kidney injury: new insights from observational data. *Critical Care*. 2017 Mar. **Principal Author**

**Munshi L**, Kobayashi T, DeBacker J, Doobay R, Telesnicki T, Lo V, Cote N, Cypel M, Keshavjee S, Ferguson ND, Fan E. Intensive care physiotherapy during extracorporeal membrane oxygenation for acute respiratory distress syndrome. *Annals of the American Thoracic Society*. 2017 Feb;14(2):246-253. **Principal Author**

**Munshi L**, Gershengorn H, Fan E, Wunsch H, Ferguson N, Stukel T, Rubenfeld G. Adjuvants to mechanical ventilation for acute respiratory distress syndrome. *Annals of the American Thoracic Society*. 2017 Jan;14(1):94-102. **Principal Author**

### Book Chapters

**Munshi L**, Mensa J. Neurologic infectious complications in the immunocompromised patient. In: *International Society of Heart and Lung Transplant Infectious Disease Reference Guide*. 1. 2017. **Principal Author**

### Peer Reviewed Grants

#### Funded

- 2017 - 2019 **Principal Investigator**. Critical Care Outcomes in Hematologic Malignancy and Stem Cell Transplant. Leukemia and Lymphoma Society of Canada. Collaborator(s): Mehta S. 199,742.50 CAD. [Grants].
- 2017 - 2018 **Co-Principal Investigator**. High flow nasal cannula during fiberoptic bronchoscopy in patients with hematologic malignancies. Godfrey Pettit Block. PI(s): Mehta S. 10,000 CAD. [Grants].
- 2015 - 2018 **Co-Principal Investigator**. Predictors of Apnea and Their Relationship to Time to Death Following Withdrawal of Life Sustaining Therapies. Physician Services Incorporated Award. PI(s): Singh J. 37,025.00 CAD. [Grants]
- 2015 - 2017 **Co-Principal Investigator**. Measurement of Extravascular Lung Water to Detect and Predict Primary Graft Dysfunction Following Bilateral Lung Transplant. Ontario Thoracic Society. PI(s): Cypel M, Granton J. 48,038 CAD. [Grants].

### Invited Lectures and Presentations

#### National

2017 Oct **Invited Speaker**. Oxygen. Canadian Critical Care Forum. Toronto, Ontario, Canada.

### Honours and Awards

2017 May Best Poster Presentation, Oncologic Critical Care Research Network (ONCCRNNet)



**Peer-Reviewed Publication**

**Journal Articles**

Kruisselbrink R1, Chan V, Cibinel GA, **Abrahamson S**, Goffi A. I-AIM (Indication, Acquisition, Interpretation, Medical Decision-making) Framework for Point of Care Lung Ultrasound. *Anesthesiology*. 2017 Sep;127(3):568-582. **Coauthor or Collaborator**

**Peer-Reviewed Publications**

**Journal Articles**

Chesney TR1, Pang G, **Ahmed N.** Caring for Older Surgical Patients: Contemporary Attitudes, Knowledge, Practices, and Needs of General Surgeons and Residents. Ann Surg. 2017 Jun 26. **Senior Responsible Author**

Richards R, McLeod R, Latter D, Keshavjee S, Rotstein O, Fehlings MG, **Ahmed N,** Nathens A, Rutka J. Toward late career transitioning: a proposal for academic surgeons. Can J Surg. 2017 Sep;60(5):355-358. **Coauthor or Collaborator**

**Peer-Reviewed Grants**

**Funded**

2016 - 2017 **Co-Investigator.** Investigating Organizational Drivers of Resident Fatigue. St. Michael's Hospital Innovation AFP Funds. Collaborator(s): Maggie J, Dang K, Covington S. 21,972 CAD. [Grants]

**Invited Lectures and Presentations**

**National**

- 2017 Sept 15 **Invited Speaker.** Trauma Evaluation and Management. University of Toronto. Toronto, Ontario, Canada.
- 2017 Jul 14 **Invited Speaker.** Trauma Evaluation and Management. University of Toronto. Toronto, Ontario, Canada.
- 2017 July 10 **Invited Speaker.** Recognizing and initiating early management for critically ill surgical patients: Surgical Considerations Transition to Practice Seminars. Prep Camp. Department of Surgery, University of Toronto. Toronto, Ontario, Canada.
- 2017 May 19 **Invited Speaker.** Trauma Evaluation and Management. University of Toronto. Toronto, Ontario, Canada.
- 2017 Feb 24 **Invited Speaker.** Resident Duty Hours: beyond duty hours, Education Scholars Symposium. Department of Surgery. University of Toronto. Toronto, Ontario, Canada.

**Local**

2017 Mar 29 **Invited Speaker.** Damage Control Surgery: Trauma Rounds. St. Michael's Hospital. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Zhang H, **Baker A**. Recombinant human ACE2: acting out angiotensin II in ARDS therapy. *Crit Care*. 2017 Dec 13;21(1):305. **Senior Responsible Author**

Hunt C, Michalak A, Ouchterlony D, Marshall S, Masanic C, Vaidyanath C, Bhalerao S, Cusimano MD, Quon D, Fischer L, **Baker A**. Common Data Elements for Concussion in Tertiary Care: Phase One in Ontario. *Canadian Journal of Neurological Sciences*. 2017 Aug 30. **Senior Responsible Author**

Bell JD, Rhind SG, Di Battista AP, Macdonald RL, **Baker A**. Biomarkers of glycocalyx injury are associated with delayed cerebral ischemia following aneurysmal subarachnoid hemorrhage: A case series supporting a new hypothesis. *Neurocrit Care*. 2017 Jun;26(3):339-347. **Senior Responsible Author**

Park E, Park K, Liu E, Jiang R, Zhang J, **Baker A**. Bone-Marrow-Derived Endothelial Progenitor Cell Treatment in a Model of Lateral Fluid Percussion Injury in Rats: Evaluation of Acute and Subacute Outcome Measures. *J Neurotrauma*. 2017 May 24. **Senior Responsible Author**

Chen L, Chen GQ, Shore K1, Shklar O, Martins C, Devenyi B, Lindsay P, McPhail H, Lanys A, Soliman I, Tuma M, Kim M, Porretta K, Greco P, Every H, Hayes C, **Baker A**, Friedrich JO, Brochard L. Implementing a bedside assessment of respiratory mechanics in patients with acute respiratory distress syndrome. *Crit Care*. 2017 Apr 4;21(1):84. **Coauthor or Collaborator**

Rizoli SB, Jaja BN, Di Battista AP, Rhind SG, Neto AC, da Costa L, Inaba K, da Luz LT, Nascimento B, Perez A, **Baker A**, de Oliveira Manoel AL. Catecholamines as outcome markers in isolated traumatic brain injury: the COMA-TBI study. *Crit Care*. 2017 Feb 23;21(1):37. **Coauthor or Collaborator**

Park E, Liu Elaine, Shemie SD, **Baker A**. Relating clinical and electrophysiological parameters in death determination in a laboratory model of progressive hypoxemia. *Neurocrit Care*. 27 February 2017. **Senior Responsible Author**

Murphy A, Manoel AL, Macdonald RL, **Baker A**, Lee TY, Marotta T, Montanera W, Aviv R, Bharatha A. Changes in cerebral perfusion with induced hypertension in aneurysmal subarachnoid hemorrhage: A pilot and feasibility study. *Neurocrit Care*. 27 Feb 2017. **Coauthor or Collaborator**

McCredie VA, Ferguson ND, Pinto RL, Adhikari NK, Fowler RA, Chapman MG, Burrell A, **Baker A**, Cook DJ, Meade MO, Scales DC; Canadian Critical Care Trials Group. Airway management strategies for brain-injured patients meeting standard criteria to consider extubation: a prospective cohort study. *Ann Am Thorac Soc*. 2017 Jan;14(1):85-93. **Coauthor or Collaborator**

McCredie VA, Piva S, Santos M, Xiong W, Manoel AL, Rigamonti A, Hare GMT, Chapman MG, **Baker AJ**. The impact of red blood cell transfusion on cerebral tissue oxygen saturation in severe traumatic brain injury. *Neurocrit Care* (2017) 26:247–255. **Senior Responsible Author**

D'Aragon F, Dhanani S., Akhtar A, Arsenault E, **Baker A**, Ball I, Boyd JG, Burns K, Chasse M, Cook DJ, Frenette AF, Guyatt GH, Hand LE, Healey A, Keenan S, Kramer A, Kusogianni DJ, Lamontagne F, Lize J-F, Masse MH, Ribic C, Rochbert B, and Meade MO. The Canada-DONATE Study Protocol: A Prospective National Observational Study of the Medical Management of Deceased Organ Donors. *BMJ*. 2017. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

- 2017 - 2018 **Co-Investigator.** Multicenter Implementation of the 3 Wishes Project. Co-PI(s): Cook D, Vanstone M. Collaborator(s): Smith O, Toledo F, Woods A, Boyle A, V Dhingra V, Foster D, Leblanc A. Greenwall Foundation. 397,000 CAD. [Grants]
- 2017 - 2018 **Principal Investigator.** Ontario Brain Institute. Concussion Ontario Network: Neuroinformatics to Enhance Clinical-care and Translation (CONNECT). 91,733 CAD. [Grants]

### Invited Lectures and Presentations

#### International

- 2017 May **Invited Speaker.** Brain Blast Injuries. Tianjin Medical University, China.

#### National

- 2017 Oct 4 **Invited Speaker.** DCD heart donation. CCCF. Toronto, Ontario, Canada.
- 2017 Sept 15 **Invited Speaker.** How financial professionals can work effectively with clinicians. Health Care Financial Management. Ontario Hospital Association. Toronto, Ontario, Canada.
- 2017 May 24 **Invited Speaker.** Traumatic brain injury and brain protection. Neuroanesthesia. University of Toronto. Toronto, Ontario, Canada.

#### Local

- 24 May 2017 **Invited Speaker.** Understanding the Healing Brain Conference. St. Michael's Hospital Head Injury Clinic. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Guérin C, Beuret P, Constantin JM, Bellani G, Garcia-Olivares P, Roca O, Meertens JH, Maia PA, Becher T, Peterson J, Larsson A, Gurjar M, Hajje Z, Kovari F, Assiri AH, Mainas E, Hasan MS, Morocho-Tutillo DR, Baboi L, Chrétien JM, François G, Ayzac L, Chen L, **Brochard L**, Mercat A; investigators of the APRONET Study Group, the REVA Network, the Réseau recherche de la Société Française d'Anesthésie-Réanimation (SFAR-recherche) and the ESICM Trials Group. A prospective international observational prevalence study on prone positioning of ARDS patients: the APRONET (ARDS Prone Position Network) study. *Intensive Care Med.* 2017 Dec 7. **Coauthor or Collaborator**

Rittayamai N, Beloncle F, Goligher EC, Chen L, Mancebo J, Richard JM, **Brochard L**. Effect of inspiratory synchronization during pressure-controlled ventilation on lung distension and inspiratory effort. *Ann Intensive Care.* 2017 Oct 6;7(1):100. **Senior Responsible Author**

Tanaka T, Basoudan N, Melo LT, Wickerson L, **Brochard L**, Goligher EC, Reid WD. Deoxygenation of inspiratory muscles during cycling, hyperpnoea and loaded breathing in health and disease: a systematic review. *Clin Physiol Funct Imaging.* 2017 Sep 22. **Coauthor or Collaborator**

Akoumianaki E, Dousse N, Lyazidi A, Lefebvre JC, Graf S, Cordioli RL, Rey N, Richard JM, **Brochard L**. Can proportional ventilation modes facilitate exercise in critically ill patients? A physiological cross-over study : Pressure support versus proportional ventilation during lower limb exercise in ventilated critically ill patients. *Ann Intensive Care.* 2017;7(1):64. **Senior Responsible Author**

Laffey JG, Madotto F, Bellani G, Pham T, Fan E, **Brochard L**, Amin P, Arabi Y, Bajwa EK, Bruhn A, Cerny V, Clarkson K, Heunks L, Kurahashi K, Laake JH, Lorente JA, McNamee L, Nin N, Palo JE, Piquilloud L, Qiu H, Jiménez JIS, Esteban A, McAuley DF, van Haren F, Ranieri M, Rubenfeld G, Wrigge H, Slutsky AS, Pesenti A; LUNG SAFE Investigators and the ESICM Trials Group. Geo-economic variations in epidemiology, patterns of care, and outcomes in patients with acute respiratory distress syndrome: insights from the LUNG SAFE prospective cohort study. *Lancet Respir Med.* 2017 Jun 14. **Coauthor or Collaborator**

Sklar MC, Burns K, Rittayamai N, Lanys A, Rauseo M, Chen L, Dres M, Chen GQ, Goligher EC, Adhikari NK, , **Brochard L**, Friedrich JO. Effort To Breathe With Various Spontaneous Breathing Trial Techniques. A Physiological Meta-analysis. *Am J Respir Crit Care Med.* 2017 Jun 1;195(11):1477-1485. **Senior Responsible Author**

Burns KEA, Soliman I, Adhikari NKJ, Zwein A, Wong JTY, Gomez-Builes C, Pellegrini JA, Chen L, Rittayamai N, Sklar M, **Brochard L**, Friedrich JO. Trials directly comparing alternative spontaneous breathing trial techniques: a systematic review and meta-analysis. *Crit Care.* 2017 Jun 1;21(1):127. **Coauthor or Collaborator.**

Doorduyn J, Nollet JL, Roesthuis LH, van Hees HW, **Brochard L**, Sinderby CA, van der Hoeven JG, Heunks LM. Partial Neuromuscular Blockade During Partial Ventilatory Support in Sedated Patients with High Tidal Volumes. *Am J Respir Crit Care Med.* 2017 Apr 15;195(8):1033-1042. **Coauthor or Collaborator**

Chen L, Chen GQ, Shore K, Shklar O, Martins C, Devenyi B, Lindsay P, McPhail H, Lanys A, Soliman I, Tuma M, Kim M, Porretta K, Greco P, Every H, Hayes C, Baker A, Friedrich JO, **Brochard L**. Implementing a bedside assessment of respiratory mechanics in patients with acute respiratory distress syndrome. *Crit Care.* 2017 Apr 4;21(1):84. **Senior Responsible Author**

Jolliet P, Ouanes-Besbes L, Abroug F, Ben Khelil J, Besbes M, Garnero A, Arnal JM, Daviaud F, Chiche JD, Lortat-Jacob B, Diehl JL, Lerolle N, Mercat A, Razazi K, Brun-Buisson C, Durand-Zaleski I, Texereau J, **Brochard L**, E.C.H.O. trial investigators. A Multicenter Randomized Trial Assessing the Efficacy of Helium/Oxygen in Severe Exacerbations of Chronic Obstructive Pulmonary Disease. *Am J Respir Crit Care Med*. 2017 Apr 1;195(7):871-880. **Coauthor or Collaborator**

Béduneau G, Pham T, Schortgen F, Piquilloud L, Zogheib E, Jonas M, Grelon F, Runge I, Terzi N, Grangé S, Barberet G, Guitard PG, Frat JP, Constan A, Chretien JM, Mancebo J, Mercat A, Richard JM, **Brochard L**, Weaning according New Definition (WIND) study group on behalf of Réseau Européen de recherche en Ventilation Artificielle (REVA) network. Epidemiology of Weaning Outcome According to a New Definition. The WIND Study. *Am J Respir Crit Care Med*. 2017 Mar 15;195(6):772-783. **Coauthor or Collaborator**

**Brochard L**, Slutsky A, Pesenti A. Mechanical Ventilation to Minimize Progression of Lung Injury in Acute Respiratory Failure. *Am J Respir Crit Care Med*. 2017 Feb 15;195(4):438-442. **Principal Author**

Adler D, **Brochard L**. Reply: Selection Bias in Study Participants with Acute Hypercapnic Respiratory Failure. *Am J Respir Crit Care Med*. 2017 Feb 8. **Senior Responsible Author**

Nin N, Muriel A, Peñuelas O, **Brochard L**, Lorente JA, Ferguson ND, Raymondos K, Ríos F, Violi DA, Thille AW, González M, Villagomez AJ, Hurtado J, Davies AR, Du B, Maggiore SM, Soto L, D'Empaire G, Matamis D, Abroug F, Moreno RP, Soares MA, Arabi Y, Sandi F, Jibaja M, Amin P, Koh Y, Kuiper MA, Bülow HH, Zeggwagh AA, Anzueto A, Sznajder JI, Esteban A; VENTILA Group. Severe hypercapnia and outcome of mechanically ventilated patients with moderate or severe acute respiratory distress syndrome. *Intensive Care Med*. 2017 Feb;43(2):200-208. **Coauthor or Collaborator**

Beloncle F, Piquilloud L, Rittayamai N, Sinderby C, Rozé H, **Brochard L**. A diaphragmatic electrical activity-based optimization strategy during pressure support ventilation improves synchronization but does not impact work of breathing. *Crit Care*. 2017 Jan 31;21(1):21. **Senior Responsible Author**

Dres M, Dubé BP, Mayaux J, Delemazure J, Reuter D, **Brochard L**, Similowski T, Demoule A. Coexistence and Impact of Limb Muscle and Diaphragm Weakness at Time of Liberation From Mechanical Ventilation in Medical ICU Patients. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):57-66. **Coauthor or Collaborator**

Bellani G, Laffey JG, Pham T, Madotto F, Fan E, **Brochard L**, Esteban A, Gattinoni L, Bumbasirevic V, Piquilloud L, van Haren F, Larsson A, McAuley DF, Bauer PR, Arabi YM, Ranieri M Md, Antonelli M, Rubenfeld GD, Thompson BT, Wrigge H, Slutsky AS, Pesenti A, LUNG SAFE Investigators and the ESICM Trials Group. Non-invasive Ventilation of Patients with ARDS: Insights from the LUNG SAFE Study. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):67-77. **Coauthor or Collaborator**

de Prost N, Pham T, Carteaux G, Mekontso Dessap A, Brun-Buisson C, Fan E, Bellani G, Laffey J, Mercat A, **Brochard L**, Maître B; LUNG SAFE investigators; ESICM trials group; REVA network. Etiologies, diagnostic work-up and outcomes of acute respiratory distress syndrome with no common risk factor: a prospective multicenter study. *Ann Intensive Care*. 2017;7(1):69. **Coauthor or Collaborator**

## Research Letters to Editors

Thille AW, Córdoba-Izquierdo A, Maître B, Boyer L, **Brochard L**, Drouot X. High prevalence of sleep apnea syndrome in patients admitted to ICU for acute hypercapnic respiratory failure: a preliminary study. *Intensive Care Med*. 2017 Nov 20. [Epub ahead of print] No abstract available. **Coauthor or Collaborator**

Vivier E, Roche-Campo F, **Brochard L**, Mekontso Dessap A. Determinants of diaphragm thickening fraction during mechanical ventilation: an ancillary study of a randomised trial. *Eur Respir J*. 2017 Sep 20;50(3). No abstract available. **Coauthor or Collaborator**

Goligher EC, Detsky ME, Sklar MC, Campbell VT, Greco P, Amaral AC, Ferguson ND, **Brochard L**. Rethinking Inspiratory Pressure Augmentation in Spontaneous Breathing Trials Chest. 2017 Jun;151(6):1399-1400. **Senior Responsible Author**

## Editorials

Vincent JL, **Brochard L**. Do we need randomized clinical trials in extracorporeal respiratory support? We are not sure. Intensive Care Med. 2017 Dec;43(12):1869-1871. **Senior Responsible Author**

Li HL, Chen L, **Brochard L**. Protecting lungs during spontaneous breathing: what can we do? J Thorac Dis. 2017 Sep;9(9):2777-2781. **Senior Responsible Author**

Papazian L, **Brochard L**. Free Access to Costly Medical Resources: Provision of Extracorporeal Membrane Oxygenation for Profound Respiratory Failure in the French Health Care System. Ann Am Thorac Soc. 2017 Jun;14(6):842-843. **Senior Responsible Author**

**Brochard L**. AJRCCM: 100-Year Anniversary. Critical Care Medicine: A Young, Indispensable, and Adaptive Discipline. Am J Respir Crit Care Med. 2017 May 1;195(9):1090-1092. **Principal Author**

Wedzicha JA, **Brochard L**, Martinez FD, Martinez FJ, Donaldson G. AJRCCM: 100-Year Anniversary. The Long View and the Fast Lane. Am J Respir Crit Care Med. 2017 May 1;195(9):1081-1085. **Coauthor or Collaborator**

**Brochard L**. Ventilation-induced lung injury exists in spontaneously breathing patients with acute respiratory failure: Yes. Intensive Care Med. 2017 Feb;43(2):250-252. **Senior Responsible Author**

## Reviews

Azoulay E, Vincent JL, Angus DC, Arabi YM, **Brochard L**, Brett SJ, Citerio G, Cook DJ, Curtis JR, Dos Santos CC, Ely EW, Hall J, Halpern SD, Hart N, Hopkins RO, Iwashyna TJ, Jaber S, Latronico N, Mehta S, Needham DM, Nelson J, Puntillo K, Quintel M, Rowan K, Rubenfeld G, Van den Berghe G, Van der Hoeven J, Wunsch H, Herridge M. Recovery after critical illness: putting the puzzle together-a consensus of 29. Crit Care. 2017 Dec 5;21(1):296. **Coauthor or Collaborator**

Del Sorbo L, Goligher EC, McAuley DF, Rubenfeld GD, **Brochard L**, Gattinoni L, Slutsky AS, Fan E. Mechanical Ventilation in Adults with Acute Respiratory Distress Syndrome. Summary of the Experimental Evidence for the Clinical Practice Guideline. Ann Am Thorac Soc. 2017 Oct;14(Supplement\_4):S261-S270. **Coauthor or Collaborator**

Dres M, Goligher EC, Heunks LMA, **Brochard L**. Critical illness-associated diaphragm weakness. Intensive Care Med. 2017 Oct;43(10):1441-1452. **Senior Responsible Author**

Chiumello D, **Brochard L**, Marini JJ, Slutsky AS, Mancebo J, Ranieri VM, Thompson BT, Papazian L, Schultz MJ, Amato M, Gattinoni L, Mercat A, Pesenti A, Talmor D, Vincent JL. 13. Respiratory support in patients with acute respiratory distress syndrome: an expert opinion. Crit Care. 2017 Sep 12;21(1):240. Review. **Coauthor or Collaborator**

Pham T, **Brochard L**, Slutsky AS. Mechanical Ventilation: State of the Art. Mayo Clin Proc. 2017 Sep;92(9):1382-1400. **Coauthor or Collaborator**

Rochweg B, **Brochard L**, Elliott MW, Hess D, Hill NS, Nava S, Navalesi P Members Of The Steering Committee, Antonelli M, Brozek J, Conti G, Ferrer M, Guntupalli K, Jaber S, Keenan S, Mancebo J, Mehta S, Raouf S Members Of The Task Force. Official ERS/ATS clinical practice guidelines: noninvasive ventilation for acute respiratory failure. Eur Respir J. 2017 Aug 31;50(2). **Coauthor or Collaborator**

Grieco DL, Chen L, **Brochard L**. Transpulmonary pressure: importance and limits. *Ann Transl Med*. 2017 Jul;5(14):285. **Senior Responsible Author**.

Brodie D, Curtis JR, Vincent JL, Bakker J, Brown CE, Creteur J, Papazian L, Sladen RN, Ranieri VM; participants in the Round Table Conference. Treatment limitations in the era of ECMO. *Lancet Respir Med*. 2017 Jul 10. **Coauthor or Collaborator**

Fan E, Del Sorbo L, Goligher EC, Hodgson CL, Munshi L, Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, **Brochard L**; American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017 May 1;195(9):1253-1263. **Coauthor or Collaborator**

**Brochard L**, Slutsky A, Pesenti A. Response to Patel et al, and Al-Qadi and Erb. *Am J Respir Crit Care Med*. 2017 May 1. No abstract available. **Principal Author**

Henderson WR, Chen L, Amato MB, **Brochard L**. Fifty Years of Research in ARDS. *Respiratory Mechanics in Acute Respiratory Distress Syndrome*. *Am J Respir Crit Care Med*. 2017 Mar 17. **Senior Responsible Author**

**Brochard L**. Ventilation-induced lung injury exists in spontaneously breathing patients with acute respiratory failure: Yes. *Intensive Care Med*. 2017 Feb;43(2):250-252. **Principal Author**

Grieco DL, Chen L, Dres M, **Brochard L**. Should we use driving pressure to set tidal volume? *Curr Opin Crit Care*. 2017 Feb 1;23(1):38-44. **Senior Responsible Author**

## Book Chapters

Dres M, **Brochard L**. Acute Respiratory Distress Syndrome: Noninvasive Ventilatory Support in Acute Respiratory Distress Syndrome. Davide Chiumello, editor. Springer. 2017. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

2017 Decr - present **Principal Investigator**. Breathing effort in ARDS (BEARDS). Collaborator(s): Pham T, Dres M, Telias I, Mauri T, Mancebo J, Bellani G, Goligher E, Blanch L, Heunks L, Slutsky A. 35,000 USD. [SCCM Discovery Research Grant]

2016 Jul - present **Collaborator**. Rehabilitation Aimed at Muscle Performance (RAMP). PI: Reid, Darlene. Collaborator(s): Brochard L, Brooks D, Herridge M, Singer L, Goligher E, Mathur S, Patterson K, Sheel AW. CFI 75,000 CAD. RI 75,000 CAD. CFI (maintenance) \$22,500 CAD.[Grants]

2016 Jun - present **Collaborator**. A New, Minimally-Invasive Device to Improve Arterial CO<sub>2</sub> in Mechanically-Ventilated Patients (Through-Flow). SMH Foundation's Translational Innovation Fund. PI: Sinderby, Christer. Collaborator(s): Brochard L. 75,000 CAD. [Grants]

2015 Jan - present **Principal Investigator**. Gas eXchange eXtracorporeaL (XXL) Techniques Study. UHN/MSH AFP Innovation Fund. Brochard L, Collaborator(s): Fan, Eddy. 130,950 CAD. [Grants]



- 2015 - present **Principal Investigator.** Low-flow extracorporeal carbon dioxide (CO<sub>2</sub>) removal in patients with moderate acute respiratory distress syndrome (ARDS) to enhance lung protective ventilation (SUPERNOVA). European Society of Intensive Care Medicine (ESICM). Brochard L . Collaborator(s): Friedrich J, Hall D, Sklar M, Dres M, Pham T, Sandhu G, Salway K, Smith O. 15,000 CAD. [Grants]
- 2015 - 2020 **Co-Investigator.** The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research. Collaborator(s): Brochard L, Adhikari N, Singh JM, Wilcox ME, Baker A, Mainprize T, Turgeon A, McCredie V, Zygun D, Seely AJ, Brochard L, Griesdale D, Bosma K, Charbonney E, Meade M, Nathens A, Rubinfeld GD, Fowler RA, Alali A, Chapman M, Cuthbertson BH. 880,404 CAD. [Grants]
- 2015 Apr - 2017 Mar **Principal Investigator.** Randomized cross-over physiologic study of High Flow nasal oxygEN cannula versus non-invasive ventilation in cystic fibrosis: The HIFEN study. Canadian Cystic Fibrosis Foundation. Cystic Fibrosis Canada Grant ID: #3050. Brochard L . 97,925 CAD. [Grants]
- 2015 Mar - 2020 Mar **Co-Investigator.** Operative versus Non-operative Treatment of Acute Unstable Chest Wall Injuries: A Multi-Centred Randomized Controlled Trial. PI: Schemitsch E, Dehghan N, Mckee M, Nauth A. Collaborator(s): Brochard L, Baker A, Friedrich J, Hameed S, Hoch J, Isaranuwachai W, Jenkinson R, Mamdani M, Marshall J, Nathens A, Pollard B, Rizoli S, Slobogean G, Thorpe K, Whelan D, CIHR. 682,546 CAD [Grants]
- 2014 Sept - 2021 Sep **Co-Investigator.** Mechanisms and Therapies fo ARDS. PI: Zhang H, Slutsky A. Co-Investigator(s): Brochard L CIHR. 2,588,884 CAD [Grants]

## Non-Peer Reviewed Grants

### Funded

- 2014 Jan - 2018 Dec **Principal Investigator.** Start-Up Operating Funds (Annually). St. Michael's Hospital. 200,000 CAD. [Contracts]
- 2014 - 2016 **Principal Investigator.** Randomized cross-over physiologic study of High Flow nasal oxygEN cannula versus non-invasive ventilation in cystic fibrosis: The HIFEN study. Fisher and Paykel. 20,000 CAD. [Industrial Grants]

## Presentations and Special Lectures

### International

- 2017 Dec 9 **Invited Speaker.** Les questions non resolues de SDRA;  
**Moderator.** Oxygenotherapie haut debit: nouvelles frontieres  
24th JAVA. Faculte de Medecine de Creteil. France.

- 2017 Dec 6 - 7 **Invited Speaker.** PaO<sub>2</sub>/FiO<sub>2</sub> in clinical Practice; Lung mechanics: the equation of motion at the bedside; Lung protective strategies: A practical approach; Respiratory Management; Pressure vs Volume targeted mechanical ventilation. 23rd Postgraduate Refresher Course - Cardiovascular and Respiratory Physiology Applied to Intensive Care Medicine. Hospital Erasme, Brussels, Belgium.
- 2017 Dec 1 - 2 **Invited Speaker.** Nouveautés dans le SDRA; Meet des experts: Prise en charge d'une décompensation de BPCO; L'oxygène nasal à fort débit. SDRA. Tunisia.
- 2017 Oct 5 - 9 **Invited Speaker.** Mechanical Ventilation in Patients with Dynamic Hyperinflation; Influence of controlled and spontaneous ventilation on intrathoracic pressure. Associação De Medicina Intensiva Brasileira (AMIB) & European Society of Intensive Care Medicine (ESICM). World Trade Centre/Sheraton (WTC). Sao Paulo, Brazil.
- 2017 Sept 24 - 27 **Invited Speaker.** Weaning from Mechanical Ventilation; P-SILI (c/o Fisher-Paykel); How do I manage the difficult to wean patient; The role of the Edi signal for intensive care patients from admission to discharge (c/o Maquet/Getinge); Monitoring diaphragmatic (dis)function by ultrasound.
- Chair.** PLUG Scientific Committee; Breathing: Is spontaneous better?; Acute Respiratory Failure Monitoring.
- European Society of Intensive Care Medicine (ESICM) Annual Congress. Austria Centre, Vienna, Austria.
- 2017 Sept 9 **Invited Speaker.** International Symposium of Mechanical Ventilation: Disfuncion diagramática en UIC; Aplicación clínica de las mediciones de la Mecánica Respiratoria. Lima, Peru.
- 2017 Jul 12 - 16 **Invited Speaker.** How to Use Waveforms to Assess Patient-Ventilator Interactions; Steroids: Is There Still a Role for Them in ARDS?; The future of the Ventilatory Care of the ARDS Patient? Critical Care Conference. Special Topics in Multidisciplinary Care: Acute Respiratory Failure and Mechanical Ventilation. Rebouças Convention Center. Sao Paulo, Brazil.
- 2017 Jun 2 **Invited Speaker.** Early use of assisted models in ARDS: Patient-SILI or diaphragm protective; Patient-ventilator interaction in ARDS. Scientific Symposium. Amsterdam, Netherlands.
- 2017 May 8 - 12 **Invited Speaker.** Lunch Session: Spontaneous Breathing in ARDS: Between ECMO and Weaning - Patient-ventilator interaction and weaning; High Flow Oxygen Therapy - High flow oxygen therapy: for which patients?; PRO-CON Debate: Invasive ventilation: Is it beneficial in ARDS (PRO- LB / Con - M. Antonelli); Smart Tutorials - Weaning from mechanical ventilation. 28 SMART. Milan, Italy.
- 2017 Mar 28 **Invited Speaker.** Webconference: Nouvelle classification du sevrage – Discussion d'un cas Clinique. Du de Ventilation Artificielle. Université d'Angers. Angers, France.
- 2017 Mar 21 - 23 **Invited Speaker.** We should monitor respiratory muscle pressure; A patient with hypercapnic respiratory failure (Clinical vignettes); Monitoring the diaphragm: why?; Weaning in real life: the WIND Study; Ventilation actually prevents injury.
- Moderator:** Driving Pressure & Power – Standard Presentation; High-flow oxygen therapy and non-invasive ventilation (Standard Presentation).

**Chair:** Transpulmonary pressure – the bedside lung protective tool (Sponsored by Hamilton Medical).

37<sup>th</sup> ISICEM, Brussels, Belgium.

- 2017 Mar 19 **Invited Speaker.** Desinging clinical trials in critical care: promise and limitations; Study design in ECMO: limits of O<sub>1</sub>, CO<sub>2</sub> and pressures without ECMO?. Round Table Conference. Brussels, Belgium.
- 2017 Feb 16 **Chair.** Presentation of Studies IV with Dr. Thomas Mueller. 3rd Annual Int'l ECMONet Scientific Meeting. Barcelona, Spain.
- 2017 Feb 3 - 4 **Invited Speaker.** Ventilation: Improving patient ventilator interactions by giving control to the patients; Learn from the Master with Dr. Shirish Prayag: Difficult to ventilate ARDS patient, How do I do it; Synchrony during assisted ventilation. Critical Care Conference, Kochi, India.
- 2017 Jan 11 **Invited Speaker.** Synthèse; Vers une nouvelle definition du sevrage; Sommeil et ventilation mecanique: comment mieux faire?; Etat des lieux en Réanimation; Epidemiologie du SDRA; Meet the experts; Comment optimiser le réglage de la PEP?; Comment optimiser le réglage de la PEP?. Reanimation SRLF. Paris, France.
- 2017 Jan 9 **Invited Speaker.** Réglage des modes assistés (VAC, AI); Volume contrôlé – Pression contrôlée : exercice sur simulateur; Bases physiologiques de la ventilation en pression positive;SDRA:Cas clinique interactif. DU de Ventilation Artificielle, Universite d' Angers. Angers, France.

## Provincial

- 2017 Nov 17 **Invited Speaker.** Ventilation en ARDS. Symposium de soins intensifs. Espace Jardin, Pavillon Alphonse-Desjardins, Universite Laval, 2325, rue de l'Universite. Quebec City, Quebec, Canada.

## National

- 2017 Nov 2 **Invited Speaker.** Respiratory Mechanics during Mechanical Ventilation. Research Rounds, Critical Care Department Medicine, Hospital for Sick Children, Toronto, Ontario, Canada.
- 2017 Oct 12 **Invited Speaker.** Asking the right question. Terry Hickson Research in Practice Challenge. Critical Care Department Medicine, Hospital for Sick Children, Toronto, Ontario, Canada.
- 2017 Oct 1 - 4 **Invited Speaker.** Esophageal Manometry; Transpulmonary Pressure; Best SBT - Physiologic Meta-Analysis.
- Moderator.** Physiology and Mechanical Ventilation with Takeshi Y; Minimizing Impact of Ventilation with Niall F.
- Chair.** Optiflow TM Nasal High Flow Across the care continuum c/o Fisher&Paykel) with Brian K.
- Panelist.** Extra Corporeal CO<sub>2</sub> Removal (ECCO<sub>2</sub>) c/o Baxter Corporation
- Critical Care Canada Forum. Toronto, Ontario, Canada.

- 2017 June 16 **Invited Speaker.** Biomaterials, Tissue Injury and Repair (BTR).Institute for Biomedical Engineering, Science and Technology (iBEST). Toronto, Ontario. Canada.
- 2017 May 31 - Jun 1 **Invited Speaker.** Toronto, Ontario, Canada. Patient Ventilator Asynchrony; Weaning from mechanical ventilation. Canadian Critical Care Review Program (CCCR).
- 30 May 2017 **Invited Speaker.** Respiratory Mechanics: State of the Art in Physiology: Why does it matter and how to measure it? U of T Critical Care Physiology Rounds. Toronto, Ontario, Canada.
- 2017 Apr 26 - 28 **Course Director & Invited Speaker.** Physiology Principles - Equation of motion: pressures, volumes and flow; Patient-ventilator synchrony; Interactive session on simulator: respiratory mechanics during volume and pressure ventilation; Modes of Ventilation - Determinants of inspiratory effort under mechanical ventilation; Proportional assist ventilation; Testing the ability to be separated from mechanical ventilation; Monitoring (IV): Patient-ventilator dyssynchrony; Diseases, Syndromes, and Clinical Recommendations - Interactive case presentation: COPD. Presenter(s): with Del Sorbo, L. Mechanical Ventilation Course with CCCF. Toronto, Ontario, Canada.
- 2017 Apr 12 **Invited Speaker.** What a high impact journal looks for in a research article.Nuts And Bolts Of Research (NABOR). St. Michael's Hospita – Li Ka Shing Knowledge Institute. Toronto, Ontario, Canada.
- 2017 Jan 31 **Invited Speaker.** From Ventilator to Ventilation-induced injury.U of T IDCCM Tuesday Rounds. Toronto, Ontario, Canada.

## Local

- 2017 Dec 18 **Invited Speaker.** Centre of Excellence in Mechanical Ventilation Retreat. Our Journey – CoEMV. St. Michael's Hospital, Department of Medicine. Toronto, Ontario, Canada.
- 2017 Dec 11 **Invited Speaker.** Toronto Ventilation Study Group – Mechanisms Of Associated Injury (MOAI). Airway Closure during CPR. St. Michael's Hospital, Department of Medicine. Toronto, Ontario, Canada.
- 2017 Nov 24 **Invited Speaker.** Supernova in SMH and beyond. SMH Critical Care Medicine Department Rounds. Toronto, Ontario, Canada.
- 2017 Feb 24 **Invited Speaker.** ARDS: What to do with the spontaneously breathing patient?. SMH Critical Care Medicine Department Rounds. Toronto, Ontario, Canada.
- 2017 Feb 13 **Invited Speaker.** ARDS: Are we using oxygen wisely? SMH RT Education Day, Toronto, Ontario, Canada.
- 2017 Jan 24 **Invited Speaker.** Are we using oxygen wisely? SMH RT Education Day, Toronto, Ontario, Canada.

## Honours and Awards

- 2017 Canadian Academy of Health Sciences Fellow Award. Ottawa, Ontario, Canada. (Distinction).

**Peer-Reviewed Publications**

**Journal Articles**

**Burns KEA**, Devlin J, Hill N. Patient and Family Engagement in Designing and Implementing a Weaning Trial: A Novel Research Paradigm in Critical Care. *Chest*. 2017 Jul 4. pii: S0012-3692(17)31204-7. **Principal Author**

Smith OM, Chant C, **Burns KEA**, Kaur M, Ashraf S, Dos Santos C, Hwang SW, Friedrich JO. Characteristics, Clinical Course, and Outcomes of Homeless and Non-Homeless Patients Admitted to ICU: A Matched Cohort Study. *PLoS One* 2017 Jun 12;12(6):e0179207. **Coauthor or Collaborator**

Rose L, McGinlay M, Amin R, **Burns KEA**, Connelly B, Hart N, Jouvett P, Katz S, Leasa D, Mawdsley C, McAuley D, Schultz M, Blackwood B. Variation in the Definition of Prolonged Mechanical Ventilation: A Scoping Review. *Respir Care*. 2017 Jun 13. pii: respcare.05485. **Coauthor or Collaborator**

**Burns KE**, Soliman I, Adhikari NKJ, Zwein A, Wong JTY, Gomez-Builes C, Pelligrini JA, Chen L, Rittayamai N, Sklar M, Brochard LJ, Friedrich JO. Trials directly comparing alternative spontaneous breathing trial techniques: a systematic review and meta-analysis. *Crit Care*. 2017 Jun 1;21(1):127. **Principal Author**

Turgeon AF, Lauzier F, Zarychanski R, Fergusson DA, Léger C, McIntyre LA, Bernard F, Rigamonti A, **Burns KEA**, Griesdale DE, Green R, Scales DC, Meade MO, Savard M, Shemilt M, Paquet J, Gariépy JL, Lavoie A, Reddy K, Jichici D, Pagliarello G, Zygun D, Moore L; TBI-Prognosis Study Team and the Canadian Critical Care Trials Group. Prognostication in critically ill patients with severe traumatic brain injury: the TBI-Prognosis multicentre feasibility study. *BMJ Open*. 2017 Apr 17;7(4):e013779. **Coauthor or Collaborator**

Mehta S, **Burns KEA**, Machado FR, Fox-Robichaud AE, Cook DJ, Calfee CS, Ware LB, Burnham EL, Stapleton RD, Mancebo J, Kissoon N, Finfer S, Reinhart K, Amin P, Maitland K, Kwizera A, Shrestha GS, Abroug F, Smith O, Marshall J, Herridge MS. Diversity Matters – Gender Parity in Critical Care. *Amer J Respir Crit Care Med*. 2017 Feb 27. **Coauthor or Collaborator**

Hill AD, Fowler RA, **Burns KEA**, Rose L, Pinto RL, Scales DC. Long-term Outcomes and Health Care Utilization Following Prolonged Mechanical Ventilation. *Ann Am Thorac Soc*. 2017 Mar;14:355-62. **Coauthor or Collaborator**

Ball IM, Bagshaw SM, **Burns KEA**, Cook DJ, Day AG, Dodek PM, Kutsogiannis DJ, Mehta S, Muscedere JG, Turgeon AF, Stelfox HT, Wells GA, Stiell IG. Outcomes of elderly critically ill medical and surgical patients: a multicentre cohort study. *Can J Anaesth*. 2017 Mar;64:260-9.

**Coauthor or Collaborator**

**Burns KEA**, Prats CJ, Maione M, Lanceta M, Zubrinich C Md, Jeffs L PhD, Smith OM; Canadian Critical Care Trials Group. A Multicenter Study of Surrogate Decision-Makers Experiences in Being Approached for Consent for Patient Participation in Research. *Ann Am Thorac Soc*. 2017 Feb;14:238-45. **Principal Author**

**Burns KEA**, Rizvi L, Charteris A, Laskey SP, Bhatti SB, Chokar K, Choong KLM. Stakeholder Engagement in Patient Care and Clinical Research: Views of Visitors to Adult and Pediatric Intensive Care Units. *J Intensive Care Med*. 2017 Jan 1. **Principal Author**

## Peer-Reviewed Grants

### Funded

- 2017 - 2021 **Co-Investigator.** CYCLE: An international, multi-centre, randomized clinical trial of early in-bed cycling for mechanically ventilated patients. CIHR. 1,980,584.00 CAD. [Grants]
- 2017 - 2021 **Co-Investigator.** The SuDDICU study- A study of the impact of preventative and therapeutic antibiotics on antibiotic resistance and outcome in the critically ill in intensive care. SPOR Innovative Clinical Trials. CIHR. 3,995,000 CAD. [Grants]
- 2017 - 2021 **Co-Investigator.** CIHR Understanding Decision-Making in Organ Donation. A national study. CIHR. 669,375.00 CAD. [Grants]

## Presentations and Special Lectures

### International

- 2017 Sept 13 **Invited Speaker.** Screening and Identifying SBT Candidates. European Respiratory Society. Milan, Italy.

### Provincial

- 2017 June 14 **Invited Speaker.** The FAST Trial. CCCTG Meeting. Mount St Alexis. Quebec, Canada.
- 2017 Jan 24 - 25 **Invited Speaker.** Variation in Research Ethics Board Contracts and Approval Processes; Screening Frequency Trials: Update of Completed Trials. CCCTG. Lake Louise, Alberta, Canada.

### National

- 2017 Oct 4 **Invited Speaker.** An International Study of Mechanical Ventilation Discontinuation Practices. CCCTG Meeting. Toronto, Ontario, Canada.
- 2017 Oct 4 **Invited Speaker.** The Best SBT Technique (Clinical Meta-Analysis). Critical Care Canada Forum. Toronto, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Charbonney E, Wilcox E, Shan Y, Perez d'Empaire P, Duggal A, Rubenfeld G, Liles C, **Dos Santos C**. Systemic angiotensin-1/2 dysregulation following cardiopulmonary bypass in adults. *Future Science*. 2017. 0072(10.4155): eISSN 2056-5623. **Senior Responsible Author**

Smith OM, Chant C, Burns KEA, Kaur M, Ashraf S, **DosSantos CC**, Hwang SW, Friedrich JO. Characteristics, clinical course, and outcomes of homeless and non-homeless patients admitted to ICU: A retrospective cohort study. *PLoS One*. 2017 Jun 12;12(6):e0179207. **Coauthor or Collaborator**

Philip AM, Wang Y, Mauro A, El-Rass S, Marshall JC, Lee WL, Slutsky AS, **dosSantos CC**, Wen XY. Development of a zebrafish sepsis model for high-throughput drug discovery. *Mol Med*. 2017 Jun 7;23. **Coauthor or Collaborator**

**Peer-Reviewed Publications**

**Journal Articles**

**Publications**

Duan EH, Adhikari NKJ, D'Aragon F, Cook DJ, Mehta S, Alhazzani W, Goligher E, Charbonney E, Arabi YM, Karachi T, Turgeon AF, Hand L, Zhou Q, Austin P, **Friedrich JO**, Lamontagne F, Lauzier F, Patel R, Muscedere J, Hall R, Aslanian P, Piraino T, Albert M, Bagshaw SM, Jacka M, Wood G, Henderson W, Dorscheid D, Ferguson ND, Meade MO, Canadian Critical Care Trials Group. Management of Acute Respiratory Distress Syndrome and Refractory Hypoxemia. A Multicenter Observational Study. *Ann Am Thorac Soc.* 2017 Dec 1;14(12):1818-1826. **Coauthor or Collaborator**

Manyevitch R, Protas M, Scarpiello S, Deliso M, Bass B, Nanajian A, Chang M, Thompson SM, Khoury N, Gonnella R, Trotz M, Moore DB, Harms E, Perry G, Clunes L, Ortiz A, **Friedrich JO**, Murray IVJ. Evaluation Of Metabolic And Synaptic Dysfunction Hypotheses Of Alzheimer's Disease (Ad): A Meta-Analysis Of Csf Markers. *Curr Alzheimer Res.* 2017 Sep 21.. **Coauthor or Collaborator**

Mazine A, **Friedrich JO**, Nedadur R, Verma S, Ouzounian M, Jüni P, Puskas JD, Yanagawa B. Systematic review and meta-analysis of chordal replacement versus leaflet resection for posterior mitral leaflet prolapse. *J Thorac Cardiovasc Surg.* 2017 Aug 24. **Coauthor or Collaborator**

Wilcox ME, Lim AS, McAndrews MP, Wennberg RA, Pinto RL, Black SE, Walczak KD, **Friedrich JO**, Taglione MS, Rubenfeld GD. A study protocol for an observational cohort investigating COGNITIVE outcomes and WELLness in survivors of critical illness: the COGWELL study. *BMJ Open.* 2017 Jul 13;7(7):e015600. **Coauthor or Collaborator**

Tam DY, Vo TX, Wijeyesundera HC, Ko DT, Rocha RV, **Friedrich JO**, Fremes SE. Transcatheter Versus Surgical Aortic Valve Replacement for Aortic Stenosis in Low-Intermediate Risk Patients: A Meta-Analysis. *Can J Cardiol.* 2017 Jun 15. **Coauthor or Collaborator**

Smith OM, Chant C, Burns KEA, Kaur M, Ashraf S, DosSantos CC, Hwang SW, **Friedrich JO**. Characteristics, clinical course, and outcomes of homeless and non-homeless patients admitted to ICU: A retrospective cohort study. *PLoS One.* 2017 Jun 12;12(6):e0179207. **Senior Responsible Author**

Sklar MC, Burns K, Rittayamai N, Lanys A, Rauseo M, Chen L, Dres M, Chen GQ, Goligher EC, Adhikari NKJ, Brochard L, **Friedrich JO**. Effort to Breathe with Various Spontaneous Breathing Trial Techniques. A Physiologic Meta-analysis. *Am J Respir Crit Care Med.* 2017 Jun 1;195(11):1477-1485. **Senior Responsible Author**

Burns KEA, Soliman I, Adhikari NKJ, Zwein A, Wong JTY, Gomez-Builes C, Pellegrini JA, Chen L, Rittayamai N, Sklar M, Brochard LJ, **Friedrich JO**. Trials directly comparing alternative spontaneous breathing trial techniques: a systematic review and meta-analysis. *Crit Care.* 2017 Jun 1;21(1):127. **Senior Responsible Author**

Yanagawa B, Verma S, Jüni P, Tam DY, Mazine A, Puskas JD, **Friedrich JO**. A systematic review and meta-analysis of in situ versus composite bilateral internal thoracic artery grafting. *J Thorac Cardiovasc Surg.* 2017 May 1;153(5):1108-1116.e16. **Senior Responsible Author.**



Huang HW, Sun XM, Shi ZH, Chen GQ, Chen L, **Friedrich JO**, Zhou JX. Effect of High-Flow Nasal Cannula Oxygen Therapy Versus Conventional Oxygen Therapy and Noninvasive Ventilation on Reintubation Rate in Adult Patients After Extubation: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *J Intensive Care Med.* 2017 Apr 21;885066617705118. **Coauthor or Collaborator**

Yanagawa B, Verma S, Mazine A, Tam DY, Jüni P, Puskas JD, Murugavel S, **Friedrich JO**. Impact of total arterial revascularization on long term survival: A systematic review and meta-analysis of 130,305 patients. *Int J Cardiol.* 2017 Apr 15;233:29-36. **Senior Responsible Author**

Chen L, Chen GQ, Shore K, Shklar O, Martins C, Devenyi B, Lindsay P, McPhail H, Lanys A, Soliman I, Tuma M, Kim M, Porretta K, Greco P, Every H, Hayes C, Baker A, **Friedrich JO**, Brochard L. Implementing a bedside assessment of respiratory mechanics in patients with acute respiratory distress syndrome. *Crit Care.* 2017 Apr 4;21(1):84. **Coauthor or Collaborator**

Verma S, Goldenberg RM, Bhatt DL, Farkouh ME, Quan A, Teoh H, Connelly KA, Leiter LA, **Friedrich JO**. Dipeptidyl peptidase-4 inhibitors and the risk of heart failure: a systematic review and meta-analysis. *CMAJ Open.* 2017 Feb 24;5(1):E152-E177. **Senior Responsible Author**

## **Presentations and Special Lectures**

### **International**

2017 May 21 **Invited Speaker.** The ratio of measured to predicted compliance: A new parameter for assessing impairment in mechanics and prognosis in acute respiratory distress syndrome; Determinants of depressive symptoms at one year after intensive care unit (ICU) discharge in survivors of  $\geq$  seven days of mechanical ventilation: Results from the RECOVER Program. American Thoracic Society, Washington, District of Columbia, United States.

### **National**

2017 Oct 2 - 4 **Moderator.** Minimizing Impact of Ventilation; Acute Kidney Injury.

**Invited Speaker.** Critical Illness and Homelessness.

Critical Care Canada Forum. Toronto, Ontario, Canada.

2017 Jun **Invited Speaker.** Acute Renal Failure and Renal Replacement Therapy in ICU. Canadian Critical Care Review. Toronto, Ontario, Canada.

### **Provincial**

2017 Feb 28 **Invited Speaker.** Modeling Mortality as an Outcome in Critical Care Trials. International Forum for Acute Care Trialists (InFACT). Outcome Measures Working Group. Whistler, British Columbia, Canada.

### **Local**

2017 Feb 17 **Invited Speaker.** Continuous Dosing of Antibiotics. Department of Critical Care. St. Michael's Hospital. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Multimedia

**Gray S.** Optimizing Critical care in your ED. Emergency Medicine News. March 2017; 39(3):26-27. Online at: [http://journals.lww.com/em-news/Fulltext/2017/03000/News\\_Ten\\_Ways\\_to\\_Optimize\\_Critical\\_Care\\_in\\_the\\_ED.21.aspx](http://journals.lww.com/em-news/Fulltext/2017/03000/News_Ten_Ways_to_Optimize_Critical_Care_in_the_ED.21.aspx).

### Principal Author

## Peer-Reviewed Grants

### Funded

2017 July **Principal Investigator.** Are we ready for a gunman in the ED? A qualitative study of staff perceptions of personal health risks, workplace safety, and individual and institutional readiness to respond to Code Silver. SMH AFP Innovation Fund. Collaborator(s): Seaton B, McGowan S, Dainty K. 30,416.07 CAD. [Grants]

## Presentations and Special Lectures

### International

2017 Nov 27 **Invited Speaker.** Failing Better. Grand Rounds, Bellevue Hospital (NYU). New York, United States.

2017 Oct 4 **Invited Speaker.** Failing Better. FIX NYC. New York, United States.

2017 Jun 26 - 29 **Invited Speaker.** Panel on Cardiac Arrest and Resus Care; Plenary on Self-compassion; Hardcore ICU Workshop on Neuroprognostication Post Cardiac Arrest. SMACC Berlin. Berlin, Germany.

2017 Jan 10 **Invited Speaker.** Airway Disasters; Diagnosing Alcohol Withdrawal. Resuscitate NYC. New York, United States.

### Provincial

2017 Mar 1 **Invited Speaker.** Ventilators and BiPAP. U of T EM Whistler conference. British Columbia, Canada.

2017 Feb 28 **Invited Speaker.** Plenary on Failing Better. U of T EM Whistler conference. British Columbia, Canada.

## **National**

- 2017 Oct 2      **Facilitator.** Monitoring Session. CCCF. Toronto, Ontario, Canada.
- 2017 Sep 14    **Visiting Professor.** Failing Better Grand Rounds. Queens University. Kingston, Ontario, Canada
- 2017 Sep 7      **Invited Speaker.** Failing Better. UHN EM Conference. Toronto, Ontario, Canada.
- 2017 May 4      **Invited Speaker.** Failing Up. Emergency Medicine Update. Toronto, Ontario, Canada.
- 2017 May 3      **Invited Speaker.** 5 Mistakes to Avoid When Ventilating your ED Patient. Emergency Medicine Update. Toronto, Ontario, Canada.
- 2017 Jan 4      **Invited Speaker.** Failure. U of T EM Residents Ice Cream Rounds. Emergency Medicine. Toronto, Ontario, Canada.

## **Local**

- 2017 Dec 13    **Invited Speaker.** Physician Wellness. Grand Rounds. St. Michael's Hospital. Emergency Department. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Romaschin AD, Obiezu-Forster CV, Shoji J, **Klein DJ**. Novel Insights into the Direct Removal of Endotoxin by Polymyxin Hemoperfusion. *Blood Purification*. 2017 Jun;44:193-197. **Senior Responsible Author**

### Presentations and Special Lectures

#### International

2017 Mar **Invited Speaker**. Rationale for the Observation Phase of the PROMOTE Trial. Lyric Pharmaceuticals, Spain.

#### National

2017 Jun **Invited Speaker**. Ontario Medical Student Association Leadership Symposium. OMA. Toronto, Ontario, Canada.

2017 Mar **Invited Speaker**. The Future of Primary Care in Ontario. Ontario Medical Association. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Nagendran M, McAuley DF, Kruger PS, **Laffey JG**, Papazian L, Truwit JD, Thompson BT, Clarke M, Gordon AC. Statin therapy for acute respiratory distress syndrome: an individual patient data meta-analysis of randomised clinical trials *Intensive Care Med.* 2017 May;43(5):663-671. **Coauthor or Collaborator**

Bluth T, Teichmann R, Kiss T, Bobek I, Canet J, Cinnella G, De Baerdemaeker L, Gregoretti C, Hedenstierna G, Hemmes SN, Hiesmayr M, Hollmann MW, Jaber S, **Laffey JG**, Licker MJ, Markstaller K, Matot I, Müller G, Mills GH, Mulier JP, Putensen C, Rossaint R, Schmitt J, Senturk M, Serpa Neto A, Severgnini P, Sprung J, Vidal Melo MF, Wrigge H, Schultz MJ, Pelosi P, Gama de Abreu M; PROBESE investigators.; and the PROtective VEntilation Network (PROVEnet).; Clinical Trial Network of the European Society of Anaesthesiology (ESA). Protective intraoperative ventilation with higher versus lower levels of positive end-expiratory pressure in obese patients (PROBESE): study protocol for a randomized controlled trial. *Trials.* 2017 Apr 28;18(1):202. **Coauthor or Collaborator**

Vargas M, Pastore A, Aloj F, **Laffey JG**, Servillo G. A comparison of videolaryngoscopes for tracheal intubation in predicted difficult airway: a feasibility study. *BMC Anaes.* 2017 Feb 20;17(1):25. **Coauthor or Collaborator**

**Laffey JG**, Pham T, Bellani G. Continued under recognition of ARDS after the Berlin Definition: what is the solution? *Curr Opin Critical Care.* 2017 Feb;23(1):10-17. **Principal Author**

Curley GF, Jerkic M, Dixon S, Hogan G, O'Toole D, Devaney J, **Laffey JG**. Cryopreserved, xeno-free human umbilical cord mesenchymal stromal cells reduce lung injury severity and bacterial burden in rodent E. coli induced Acute Respiratory Distress Syndrome. *Critical Care Med.* 2017 Feb;45(2):e202-e212. **Senior Responsible Author**

### Peer-Reviewed Grants

#### Funded

2017 Jan - 2019 Dec **Collaborator.** Development of a fuzzy logic-based depth of anesthesia decision support system [ANESTH\_DSS]. Enterprise Ireland. Commercialization Grant Award. PI(s): O'Laighin, G. 364,759.53 EUR. [Grants]

## Peer-Reviewed Publications

### Journal Articles

Philip AM, Wang Y, Mauro A, El-Rass S, Marshall JC, **Lee WL**, Slutsky AS, dosSantos CC, Wen XY. Development of a zebrafish sepsis model for high-throughput drug discovery. *Mol Med*. 2017 Jun 7;23.

#### Coauthor or Collaborator

Fung KY, Wang C, Nyegaard S, Heit B, Fairn GD, **Lee WL**. SR-BI Mediated Transcytosis of HDL in Brain Microvascular Endothelial Cells Is Independent of Caveolin, Clathrin, and PDZK1. *Front Physiol*. 2017 Oct 30;8:841. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

2017 Sep - 2018 Aug **Principal Applicant.** Lung ultrasound for the targeted delivery of drugs and genes to the lung. Ontario Center of Excellence (OCE) VIP1. 65,800 CAD. [Grants]

2017 Jan - 2017 Jul **Principal Applicant.** Determining optimal ultrasound exposure conditions for ultrasound-microbubble-based gene delivery to lung epithelial and endothelial cells in vitro (ENGAGE grant). Natural Sciences and Engineering Research Council of Canada (NSERC). 25,000 CAD. [Grants]

## Presentations and Special Lectures

### International

2017 **Invited Speaker.** LDL transcytosis is distinct from endocytic degradation and selective lipid uptake but requires JNK. (poster). Gordon Conference on Atherosclerosis. Newry, Maine, United States.

2017 **Invited Speaker.** The contribution of endothelial activation and permeability to mortality in severe viral infections. 17 Congress of the European Shock Society, Institut Pasteur, Paris, France.

### National

2017 Apr 18 **Invited Speaker.** From Virchow to Brown and Goldstein - the contribution of endothelial permeability to the pathogenesis of disease. CCIR SEMINAR SERIES. Western University. London, Ontario, Canada.

2017 Jan 28 **Invited Speaker.** Plugging a hole as a novel therapeutic strategy – the contribution of leaky blood vessels to death. CALAS. Toronto, Ontario, Canada.

- 2017 **Invited Speaker.** A barrier that is not meant to be broken- new insights into the role of the lung endothelium in lung injury (keynote speaker). IMS SCIENTIFIC DAY. Toronto, Ontario, Canada.
- 2017 **Invited Speaker.** Pro-Con Debate: Be it resolved that Clinical Research is more important than Basic Science research at driving clinical practice. Ontario Thoracic Society. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Sebastián UU, Ricardo AVA, Alvarez BC, Cubides A, Luna AF, Arroyo-Parejo M, Acuña CE, Quintero AV, Villareal OC, Pinillos OS, Vieda E, Bello M, Peña S, Dueñas-Castell C, Rodriguez GMV, Ranero JLM, López RLM, Olaya SG, Vergara JC, Tandazo A, Ospina JPS, Leyton Soto IM, Fowler RA, **Marshall JC**; LACCTIN group. Zika virus-induced neurological critical illness in Latin America: Severe Guillain-Barre Syndrome and encephalitis. *J Crit Care.* 2017 Dec;42:275-281. **Coauthor or Collaborator**

Joy P, **Marshall JC**, Tessier PA, Massé C, Page N, Frenette AJ, Khazoom F, Le Guillan S, Berthiaume Y, Charbonney E. S100A8/A9 and sRAGE kinetic after polytrauma; an explorative observational study. *Scand J Trauma Resusc Emerg Med.* 2017 Nov 17; 25:114. **Coauthor or Collaborator**

Bloos F, Rüddel H, Thomas-Rüddel D, Schwarzkopf D, Pausch C, Harbarth S, Schreiber T, Gründling M, **Marshall J**, Simon P, Levy MM, Weiss M, Weyland A, Gerlach H, Schürholz T, Engel C, Matthäus-Krämer C, Scheer C, Bach F, Riessen R, Poidinger B, Dey K, Weiler N, Meier-Hellmann A, Häberle HH, Wöbker G, Kaisers UX, Reinhart K; MEDUSA study group. Effect of a multifaceted educational intervention for anti-infectious measures on sepsis mortality: a cluster randomized trial. *Intensive Care Med.* 2017 Nov;43(11):1602-1612. **Coauthor or Collaborator**

Jung JJ, Pinto R, Zarychanski R, Cook DJ, Jovet P, **Marshall JC**, Kumar A, Long J, Rodin R, Fowler RA; Canadian Critical Care Trials Group H1N1 Collaborative. 2009-2010 Influenza A(H1N1)-related critical illness among Aboriginal and non-Aboriginal Canadians. *PLoS One.* 2017 Oct 19;12(10):e0184013. **Coauthor or Collaborator**

**Marshall JC.** Steroids Redux: Targeting the Mineralocorticoid Axis in Sepsis. *Crit Care Med.* 2017 Sep;45(9):1582-1583. **Principal Author**

Perner A, Gordon AC, Angus DC, Lamontagne F, Machado F, Russell JA, Timsit JF, **Marshall JC**, Myburgh J, Shankar-Hari M, Singer M. The intensive care medicine research agenda on septic shock. *Intensive Care Med.* 2017 Sep;43(9):1294-1305. **Coauthor or Collaborator**

Wong HR, **Marshall JC.** Leveraging Transcriptomics to Disentangle Sepsis Heterogeneity. *Am J Respir Crit Care Med.* 2017 Aug 1;196(3):258-260. **Coauthor or Collaborator**

Mehta S, Burns KE, Machado FR, Fox-Robichaud AE, Cook DJ, Calfee CS, Ware LB, Burnham EL, Kisson N, **Marshall JC**, Mancebo J, Finfer S, Hartog C, Reinhart K, Maitland K, Stapleton RD, Kwizera A, Amin P, Abroug F, Smith O, Laake JH, Shrestha GS, Herridge MS. Gender Parity in Critical Care Medicine. *Am J Respir Crit Care Med.* 2017 Aug 15;196(4):425-429. **Coauthor or Collaborator**

Philip AM, Wang Y, Mauro A, El-Rass S, **Marshall JC**, Lee WL, Slutsky AS, dosSantos CC, Wen XY. Development of a zebrafish sepsis model for high-throughput drug discovery. *Mol Med.* 2017 Jun 7;23. **Coauthor or Collaborator**

Maslove DM, Lamontagne F, **Marshall JC**, Heyland DK. A path to precision in the ICU. *Crit Care.* 2017 Apr 3;21(1):79. **Coauthor or Collaborator**



Perner A, Rhodes A, Venkatesh B, Angus DC, Martin-Loeches I, Preiser JC, Vincent JL, **Marshall J**, Reinhart K, Joannidis M, Opal SM. Sepsis: frontiers in supportive care, organisation and research. *Intensive Care Med.* 2017 Apr;43(4):496-508. **Coauthor or Collaborator**

Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, Kumar A, Sevransky JE, Sprung CL, Nunnally ME, Rochweg B, Rubenfeld GD, Angus DC, Annane D, Beale RJ, Bellingham GJ, Bernard GR, Chiche JD, Coopersmith C, De Backer DP, French CJ, Fujishima S, Gerlach H, Hidalgo JL, Hollenberg SM, Jones AE, Karnad DR, Kleinpell RM, Koh Y, Lisboa TC, Machado FR, Marini JJ, **Marshall JC**, Mazuski JE, McIntyre LA, McLean AS, Mehta S, Moreno RP, Myburgh J, Navalesi P, Nishida O, Osborn TM, Perner A, Plunkett CM, Ranieri M, Schorr CA, Seckel MA, Seymour CW, Shieh L, Shukri KA, Simpson SQ, Singer M, Thompson BT, Townsend SR, Van der Poll T, Vincent JL, Wiersinga WJ, Zimmerman JL, Dellinger RP. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016. *Intensive Care Med.* 2017 Mar;43(3):304-377. **Coauthor or Collaborator**

Sakr Y, Rubatto Birri PN, Koffis K, Nanchal R, Shah B, Kluge S, Schroeder ME, **Marshall JC**, Vincent JL, Intensive Care Over Nations Investigators. Higher Fluid Balance Increases the Risk of Death From Sepsis: Results From a Large International Audit. *Crit Care Med.* 2017 Mar;45(3):386-394. **Coauthor or Collaborator**

Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, Kumar A, Sevransky JE, Sprung CL, Nunnally ME, Rochweg B, Rubenfeld GD, Angus DC, Annane D, Beale RJ, Bellingham GJ, Bernard GR, Chiche JD, Coopersmith C, De Backer DP, French CJ, Fujishima S, Gerlach H, Hidalgo JL, Hollenberg SM, Jones AE, Karnad DR, Kleinpell RM, Koh Y, Lisboa TC, Machado FR, Marini JJ, **Marshall JC**, Mazuski JE, McIntyre LA, McLean AS, Mehta S, Moreno RP, Myburgh J, Navalesi P, Nishida O, Osborn TM, Perner A, Plunkett CM, Ranieri M, Schorr CA, Seckel MA, Seymour CW, Shieh L, Shukri KA, Simpson SQ, Singer M, Thompson BT, Townsend SR, Van der Poll T, Vincent JL, Wiersinga WJ, Zimmerman JL, Dellinger RP. Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016. *Crit Care Med.* 2017 Mar;45(3):486-552. **Coauthor or Collaborator**

Silversides JA, Major E, Ferguson AJ, Mann EE, McAuley DF, **Marshall JC**, Blackwood B, Fan E. Conservative fluid management or deresuscitation for patients with sepsis or acute respiratory distress syndrome following the resuscitation phase of critical illness: a systematic review and meta-analysis. *Intensive Care Med.* 2017 Feb;43(2):155-170. **Coauthor or Collaborator**

**Marshall JC**, Bosco L, Adhikari NK, Connolly B, Diaz JV, Dorman T, Fowler RA, Meyfroidt G, Nakagawa S, Pelosi P, Vincent JL, Vollman K, Zimmerman J. What is an intensive care unit? A report of the task force of the World Federation of Societies of Intensive and Critical Care Medicine. *J Crit Care.* 2017 Feb 1;37:270-276. **Principal Author**

**Marshall JC**. Global Collaboration in Acute Care Clinical Research: Opportunities, Challenges, and Needs. *Crit Care Med.* 2017 Feb 1;45(2):311-320. **Principal Author**

**Marshall JC**. Clinical trials in surgical infection. *Br. J. Surg.* 2017 Jan;104(2):e11-e13. **Principal Author**

Lamontagne F, **Marshall JC**, Adhikari NKJ. Permissive hypotension during shock resuscitation: equipoise in all patients? *Intensive Care Med.* 2018 Jan;44(1):87-90. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

- 2017 Jun - 2018 Jun **Co-Investigator.** Determining the mechanisms by which active deresuscitation in stable critically ill patients may modulate clinical outcomes. British Journal of Anaesthesia / Royal College of Anaesthetists. PI(s): Silversides J. Collaborator(s): McAuley D, Blackwood B. 49,731 GBP. [Grants]
- 2017 May - 2018 Mar **Co-Investigator.** The SuDDICU study- A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. CIHR SPOR Competition on Innovative Clinical Trial Designs. PI(s): Cuthbertson B. 100,000 CAD. [Grants]
- 2017 May - 2018 Oct **Principal Investigator.** The Antimicrobial Resistance in Intensive Care (AMRIC) Network: A global surveillance network to monitor the role of the ICU environment in the emergence of AMR; Phase I. 75,000 CAD. [Grants]
- 2017 May - 2018 Mar **Co-Investigator.** Permissive hypotension to reduce organ injury - The OVATION-65 trial . Canadian Institutes of Health Research. PI(s): Lamontagne F. 15,000 CAD. [Grants]
- 2017 Apr - 2021 Feb **Co-Investigator..** Core Outcome Set Development for Effectiveness Trials of Interventions to Prevent or Treat Delirium (Del-COrS). Canadian Institutes of Health Research. PI(s): Rose, L. 271,576 CAD. [Grants]
- 2017 Apr - 2021 Feb **Co-Investigator.** The SuDDICU study- A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. Canadian Institutes of Health Research (CIHR), Operating Grant: SPOR Innovative Clinical Trial Multi-Year Grant. PI(s): Cuthbertson B. Collaborator(s): Garber G, Misak C, Rose L, Murthy S, McGeer A, Quach-Thanh C, Richards L, Billot L, Brochard L, Burns K, Campbell M, Coburn B, Dale C, Daneman N, Ferguson N, Fowler R, Gordon A, Grimshaw J, Hebert P, Johnston, B, Myburgh J. 2,999,929 CAD. [Clinical Trials]
- 2017 Apr - 2021 Feb **Co-Investigator.** REVISE: Re-Evaluating the Inhibition of Stress Erosions in the ICU. Canadian Institutes of Health Research. PI(s): Gordon G. \$1,935,832. [Grants]
- 2017 Apr - 2018 Mar **Co-Investigator.** Cellular Immunotherapy for Septic Shock (CISS): A Phase II Trial. Canadian Institutes of Health Research. PI(s): McIntyre L. 100,000 CAD. [Grants]
- 2017 - 2022 **Co-Investigator.** Role of XAF1 and MAP kinase-activated protein kinase-2 in necrosome signaling. Canadian Institutes of Health Research. PI(s): Sad S. 835,570 CAD. [Grants]
- 2017 – 2021 **Co-Investigator.** Developing a framework for the ethical design and conduct of pragmatic trials to improve the quality and value of health care systems and practices Canadian Institutes of Health Research. PI(s): Taljaard M. 780,300 CAD. [Grants]
- 2017 - 2020. **Co-Investigator.** Heparin anticoagulation to improve outcomes in septic shock: The HALO International Phase II Trial. Canadian Institutes of Health Research PI(s): Zarychanski R. 631,125 CAD. [Grants]

## Presentations and Special Lectures

### International

- 2017 Nov 8 - 11 **Invited Speaker.** Vasoactive medications: What has changed?; Critical care research: Should we work in networks?; Abdominal infection in the critically ill. The basis for surgical decision-making; Deresuscitation: How aggressive should we be? XIII World Congress of Intensive and Critical Care Medicine. Rio de Janeiro, Brazil.
- 2017 Oct 25 **Invited Speaker.** Fluids, resuscitation targets, vasopressors: What has changed? American College of Surgeons Clinical Congress 2017. San Diego, California.
- 2017 Sep 11 - 13 **Invited Speaker.** The caspase-8 survivalosome; Modulating immune responses in the elderly. Sepsis 2017. Paris, France.
- 2017 Sep 7 - 8 **Invited Speaker.** The gut as a target to modulate inflammation; Identifying responders to treatment. Sepsis Update 2017. Weimar Germany.
- 2017 May 26 - 28 **Invited Speaker.** The gut hypothesis of critical illness: A subjective history in five acts; Acute pancreatitis. A Gut Reaction. College of Intensive Care Medicine 2017. Sydney, Australia.
- 2017 May 25 **Invited Speaker.** Global collaboration in acute care research. BASIC Research Course. Sydney Australia.
- 2017 May 25 **Invited Speaker.** From Hippocrates to Sepsis 3.0. Westmead Hospital, Sydney, Australia.
- 2017 May 21 **Invited Speaker.** Conceptualizing sepsis research: Where do the translational signals point? American Thoracic Society International Conference 2017. Washington DC, United States.
- 2017 May 11 - 13 **Invited Speaker.** Global collaboration in acute care research; Should we deresuscitate?; Abdominal trauma: Observer or operate?; Endotoxemia in critical illness: Harmful or beneficial?; InFACT: Current activities. 15th XV International Symposium of Medical Emergency and Critical Care Patient. Santiago, Chile.
- 2017 May 4 - 5 **Invited Speaker.** Humane endpoints for pre-clinical studies. 2017 Wiggers-Bernard Conference: Pre-clinical modeling in sepsis. Vienna, Austria.
- 2017 Apr 27 - 28 **Invited Speaker.** Global collaboration in critical care research; Reducing antibiotic exposure: The role of source control; Abdominal trauma: Observe or operate?; Should we deresuscitate?; Nosocomial infection: The role of the hospital environment. 14th Critical Care Symposium. Manchester, UK.
- 2017 Mar 21 - 24 **Invited Speaker.** De-escalation: How aggressive?; Is endotoxemia harmful or beneficial?; Precision: Integrating Evidence, inference, and experience; Abdominal trauma: Observe or operate?; Large pragmatic trials; The gut hypothesis of acute illness: A history; Global research collaboration. 37th International Symposium of Intensive Care and Emergency Medicine. Brussels, Belgium.

2017 Jan 21 - 25 **Invited Speaker.** Plenary Lecture: Global collaboration in acute care research: Opportunities, challenges, and prospects; Putting the personal in personalized medicine: Understanding capabilities and potential benefits. Society of Critical Care Medicine 46th Annual Congress. Honolulu, Hawaii.

## **National**

2017 Oct 27 **Invited Speaker.** The caspase-8 survivalosome: Linking activation and cell death in the neutrophil. Symposium on Inflammation in Health and Disease, Ottawa Center for Infection, Immunity, and Inflammation. Ottawa, Canada.

2017 Oct 14 **Invited Speaker.** From Hippocrates to Sepsis 3.0. Acute Care Update. St. Joseph's Hospital. Toronto, Ontario, Canada.

2017 Oct 2 - 4 **Invited Speaker.** Michael Ward Memorial Lecture: The Gut Hypothesis of Critical Illness: A subjective history in 5 acts. Critical Care Canada Forum. Toronto, Ontario, Canada.

2017 Oct 1 **Invited Speaker.** 20 years of sepsis research. Critical Care Canada Forum, Residents' Day. Toronto, Ontario, Canada.

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## Peer-Reviewed Publications

### Journal Articles

Kei T, Mistry N, Tsui AK, Liu E, Rogers S, Doctor A, Wilson DF, Desjardins JF, Connelly K, **Mazer CD**, Hare GM. Experimental assessment of oxygen homeostasis during acute hemodilution: the integrated role of hemoglobin concentration and blood pressure. *Intensive Care Med Exp*. 2017 Dec;5(1):12. **Coauthor or Collaborator**

**Mazer CD**, Whitlock RP, Fergusson DA, Hall J, Belley-Cote E, Connolly K, Khanykin B, Gregory AJ, de Médicis É, McGuinness S, Royse A, Carrier FM, Young PJ, Villar JC, Grocott HP, Seeberger MD, Fremes S, Lellouche F, Syed S, Byrne K, Bagshaw SM, Hwang NC, Mehta C, Painter TW, Royse C, Verma S, Hare GMT, Cohen A, Thorpe KE, Jüni P, Shehata N; TRICS Investigators and Perioperative Anesthesia Clinical Trials Group. Restrictive or Liberal Red-Cell Transfusion for Cardiac Surgery. *N Engl J Med*. 2017 Nov 30;377(22):2133-2144. **Principal Author**

Barron CC, Lalu MM, Stewart DJ, Fergusson D, Yang H, Moher D, Liu P, **Mazer CD**, Devereaux PJ, McIntyre L; Canadian Perioperative Anesthesia Clinical Trials Group. Assessment of safety and efficacy of mesenchymal stromal cell therapy in preclinical models of acute myocardial infarction: a systematic review protocol. *Syst Rev* 2017 Nov 7;6(1):226. **Coauthor or Collaborator**

Yanagawa B, Verma S, **Mazer CD**. Subclinical Valve Thrombosis in Sutureless Bioprosthetic Valves. *J Am Heart Assoc*. 2017 Aug 21;6(8): e006862. **Senior Responsible Author**

Lecker I, Wang DS, Kaneshwaran K, **Mazer CD**, Orser BA. High Concentrations of Tranexamic Acid Inhibit Ionotropic Glutamate Receptors. *Anesthesiology*. 2017 Jul;127(1):89-97. **Coauthor or Collaborator**

Bracey A, Shander A, Aronson S, Boucher BA, Calcaterra D, Chu MWA, Culbertson R, Jabr K, Kehlet H, Lattouf O, Malaisrie SC, **Mazer CD**, Oberhoffer MM, Ozawa S, Price T, Rosengart T, Spiess BD, Turchetti G. The Use of Topical Hemostatic Agents in Cardiothoracic Surgery. *Ann Thorac Surg*. 2017 Jul;104(1):353-60. **Coauthor or Collaborator**

Bartoszko J, Vorobeichik L, Jayarajah M, Karkouti K, Klein AA, Lamy A, **Mazer CD**, Murphy M, Richards T, Englesakis M, Myles PS, Wijeyesundera DN. Defining clinically important perioperative blood loss and transfusion for the Standardised Endpoints for Perioperative Medicine (StEP) collaborative: a protocol for a scoping review. *BMJ Open*. 2017 Jun 30;7(6):e016743. **Coauthor or Collaborator**

Chan V, Chu MWA, Leong-Poi H, Latter DA, Hall J, Thorpe KE, de Varennes BE, Quan A, Tsang W, Dhingra N, Yared K, Teoh H, Chu FV, Chan KL, Mesana TG, Connelly KA, Ruel M, Jüni P, **Mazer CD**, Verma S. Randomised trial of mitral valve repair with leaflet resection versus leaflet preservation on functional mitral stenosis (The CAMRA CardioLink-2 Trial). *BMJ Open*. 2017 May 30;7(5):e015032. **Coauthor or Collaborator**

Mehta RH, Leimberger JD, van Diepen S, Meza J, Wang A, Jankowich R, Harrison RW, Hay D, Fremes S, Duncan A, Soltész EG, Luber J, Park S, Argenziano M, Murphy E, Marcel R, Kalavrouziotis D, Nagpal D, Bozinovski J, Toller W, Heringlake M, Goodman SG, Levy JH, Harrington RA, Anstrom KJ, Alexander JH; LEVO-CTS Investigators. Levosimendan in Patients with Left Ventricular Dysfunction Undergoing Cardiac Surgery. *N Engl J Med* 2017. May 25;376(21):2032-2042. **Coauthor or Collaborator**

Wang DS, **Mazer CD**, Orser BA. Tranexamic Acid in Patients undergoing Coronary-Artery Surgery. *N Engl J Med*. 2017 May 11;376(19):1891-2. **Coauthor or Collaborator**

Levin DN, Dulberg Z, Chan AW, Hare GM, **Mazer CD**, Hong A. A randomized-controlled trial of nabilone for the prevention of acute postoperative nausea and vomiting in elective surgery. *Can J Anaesth*. 2017 Apr;64(4):385-95. **Coauthor or Collaborator**

Cahill LS, Gazdzinski LM, Tsui AK, Zhou YQ, Portnoy S, Liu E, **Mazer CD**, Hare GM, Kassner A, Sled JG. Functional and anatomical evidence of cerebral tissue hypoxia in young sickle cell anemia mice. *J Cereb Blood Flow Metab*. 2017 Mar;37(3):994-1005. **Coauthor or Collaborator**

Karangelis D, Mazine A, Roubelakis A, Alexiou C, Fragoulis S, **Mazer CD**, Yanagawa B, Latter D, Bonneau D. What is the role of sutureless aortic valves in today's armamentarium? *Expert Rev Cardiovasc Ther*. 2017 Feb;15(2):83-91. **Coauthor or Collaborator**

Lee M, Curley GF, Mustard M, **Mazer CD**. The Swan-Ganz Catheter Remains a Critically Important Component of Monitoring in Cardiovascular Critical Care. *Can J Cardiol*. 2017 Jan;33(1):142-7. **Senior Responsible Author**

Steinhart BD, Levy P, Vandenberghe H, Moe G, Yan AT, Cohen A, Thorpe KE, McGowan M, **Mazer CD**. A randomized control trial using a validated prediction model for diagnosing acute heart failure in undifferentiated dyspneic emergency department patients - Results of the Gaspar Study. *J Card Fail*. 2017 Feb;23(2):145-52. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

- 2016 - 2020 **Co-Investigator**. Post-surgical enhanced monitoring for cardiac arrhythmias and atrial fibrillation (SEARCH-AF): heart and Stroke Foundation of Canada. [Grants]
- 2016 - 2020 **Co-Investigator**. Post-surgical enhanced monitoring for cardiac arrhythmias and atrial fibrillation (SEARCH-AF): A randomized controlled trial. Bristol Myers-Squibb, Boehringer-Ingelheim. [Grants]
- 2016 - 2017 **Co-Investigator**. Effects of Empagliflozin on cardiac structure, function, and circulating biomarkers in patients with Type 2 diabetes: EMPA-HEART Trial. Boehringer Ingelheim. [Grants]

## Presentations and Special Lectures

### International

- 2017 Nov 18 **Invited Speaker**. Transfusion Thresholds: Critically Ill versus Elective Surgical Patients; How To Strike The Balance Between Transfusion and Anemia. Joint Meeting of the Asian Society of Cardiothoracic Anesthesiologists, Hong Kong College of Anaesthesiologists, and the Society of Anesthetists of Hong Kong, Hong Kong, China.
- 2017 Nov 17 **Invited Speaker**. Transfusion Triggers in Cardiac Surgery Trial Outcome Data. 27th Annual Congress of the Association of Thoracic and Cardiovascular Surgeons of Asia, Melbourne Australia.

- 2017 Nov 13 **Invited Speaker.** What is the Right Transfusion Trigger? Conservative? Liberal?; Meet the Trialists – TRICS III. Scientific Sessions of the American Heart Association Meeting, Anaheim. California, United States.
- 2017 Nov 12 **Invited Speaker.** TRICS III - an International Multicenter Randomized Trial of Transfusion Triggers in Cardiac Surgery. Scientific Sessions of the American Heart Association Meeting. Anaheim, California, United States.
- 2017 Nov 8 **Invited Speaker.** Management of Patients Receiving Anticoagulant/Antithrombotic Medications. International Congress of the Israeli Society of Anesthesiologists, Tel Aviv, Israel.
- 2017 Oct 4 - 6 **Invited Speaker.** Goal-Directed Therapy: Liberal or Restrictive transfusion; Age of Red Cells: Does Younger Age Really Matter?; New Oral Anticoagulants and Antiplatelet Drugs in Cardiac Surgery 16th International Congress of Cardiothoracic and Vascular Anesthesia, Rio de Janeiro, Brazil.
- 2017 Sept 26 **Invited Speaker.** Transfusion Management for Perioperative High Risk Patients; Liberal or Restrictive Transfusion in Perioperative ICU 30th Annual Congress of the European Society of Intensive Care Medicine, Vienna, Austria.
- 2017 Jun 08 **Invited Speaker.** Progress and interim results of the TRICS-III trial. 4th Collaborative Clinical Trials in Anaesthesia, Monash University Prato Centre, Prato, Italy.
- 2017 Mar 30 **Invited Speaker.** Transfusion Controversies in Cardiac Surgery. Department of Cardiothoracic Surgery, Changzheng Hospital, Second Military Medical University, Shanghai, China.
- 2017 Mar 29. **Invited Speaker.** Patient Blood Management. International Perioperative Blood Protection Symposium, DeltaHealth Hospital, Shanghai, China.
- 2017 Mar 28 **Invited Speaker.** Current Issues in Cardiac Anesthesia and Cardiac Surgery. Department of Cardiac Surgery, Renji Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, China.
- 2017 Mar 8 **Invited Speaker.** Transfusion Controversies in Cardiac Surgery. The 5th International Symposium on Patient Blood Management, Naharia, Israel.

## Peer-Reviewed Publications

### Journal Articles

Simões RL, Dorigatti AE, Silveira HJV, Calderan TRA, **Rizoli S**, Fraga GP. Trauma Leagues-A Novel Option to Attract Medical Students to a Surgical Career. *World J Surg.* 2017 Sep 14. **Coauthor or Collaborator**

Taylor JR 3rd, Fox EE, Holcomb JB, **Rizoli S**, Inaba K, Schreiber MA, Brasel K, Scalea TM, Wade CE, Bulger E, Cotton BA. The hyperfibrinolytic phenotype is the most lethal and resource intense presentation of fibrinolysis in massive transfusion patients. *J Trauma Acute Care Surg.* 2017 Sep 13. **Coauthor or Collaborator**

Coccolini F, Montori G, Catena F, Kluger Y, Biffi W, Moore EE, Reva V, Bing C, Bala M, Fugazzola P, Bahouth H, Marzi I, Velmahos G, Ivatury R, Soreide K, Horer T, Ten Broek R, Pereira BM, Fraga GP, Inaba K, Kashuk J, Parry N, Masiakos PT, Mylonas KS, Kirkpatrick A, Abu-Zidan F, Gomes CA, Benatti SV, Naidoo N, Salvetti F, Maccatrozzo S, Agnoletti V, Gamberini E, Solaini L, Costanzo A, Celotti A, Tomasoni M, Khokha V, Arvieux C, Napolitano L, Handolin L, Pisano M, Magnone S, Spain DA, de Moya M, Davis KA, De Angelis N, Leppaniemi A, Ferrada P, Latifi R, Navarro DC, Otomo Y, Coimbra R, Maier RV, Moore F, **Rizoli S**, Sakakushev B, Galante JM, Chiara O, Cimbanassi S, Mefire AC, Weber D, Ceresoli M, Peitzman AB, Wehlie L, Sartelli M, Di Saverio S, Ansaloni L. Splenic trauma: WSES classification and guidelines for adult and pediatric patients. *World J Emerg Surg.* 2017 Aug 18;12:40. **Coauthor or Collaborator**

Coccolini F, Montori G, Ceresoli M, Catena F, Moore EE, Ivatury R, Biffi W, Peitzman A, Coimbra R, Rizoli S, Kluger Y, Abu-Zidan FM, Sartelli M, De Moya M, Velmahos G, Fraga GP, Pereira BM, Leppaniemi A, Boermeester MA, Kirkpatrick AW, Maier R, Bala M, Sakakushev B, Khokha V, Malbrain M, Agnoletti V, Martin-Loeches I, Sugrue M, Di Saverio S, Griffiths E, Soreide K, Mazuski JE, May AK, Montravers P, Melotti RM, Pisano M, Salvetti F, Marchesi G, Valetti TM, Scalea T, Chiara O, Kashuk JL, Ansaloni L. The role of open abdomen in non-trauma patient: WSES Consensus Paper. *World J Emerg Surg.* 2017 Aug 14; 12:39. **Coauthor or Collaborator**

Wood B, Nascimento B, **Rizoli S**, Sholzberg M, McFarlan A, Phillips A, Ackery AD. The Anticoagulated trauma patient in the age of the direct oral anticoagulants: a Canadian perspective. *Scand J Trauma Resusc Emerg Med.* 2017 Aug 2; 25(1):76. **Coauthor or Collaborator**

Sartelli M, Labricciosa FM, Barbadoro P, Pagani L, Ansaloni L, Brink AJ, Carlet J, Khanna A, Chichom-Mefire A, Coccolini F, Di Saverio S, May AK, Viale P, Watkins RR, Scudeller L, Abbo LM, Abu-Zidan FM, Adesunkanmi AK, Al-Dahir S, Al-Hasan MN, Alis H, Alves C, Araujo da Silva AR, Augustin G, Bala M, Barie PS, Beltrán MA, Bhangu A, Bouchra B, Brecher SM, Caínzos MA, Camacho-Ortiz A, Catani M, Chandy SJ, Jusoh AC, Cherry-Bukowiec JR, Chiara O, Colak E, Cornely OA, Cui Y, Demetrashvili Z, De Simone B, De Waele JJ, Dhingra S, Di Marzo F, Dogjani A, Dorj G, Dortet L, Duane TM, Elmangory MM, Enani MA, Ferrada P, Esteban Foianini J, Gachabayov M, Gandhi C, Ghnnam WM, Giamarellou H, Gkiokas G, Gomi H, Goranovic T, Griffiths EA, Guerra Gronerth RI, Haidamus Monteiro JC, Hardcastle TC, Hecker A, Hodonou AM, Ioannidis O, Isik A, Iskandar KA, Kafil HS, Kanj SS, Kaplan LJ, Kapoor G, Karamarkovic AR, Kenig J, Kerschaefer I, Khamis F, Khokha V, Kiguba R, Kim HB, Ko WC, Koike K, Kozlovska I, Kumar A, Lagunes L, Latifi R, Lee JG, Lee YR, Leppaniemi A, Li Y, Liang SY, Lowman W, Machain GM, Maegele M, Major P, Malama S, Manzano-Nunez R, Marinis A, Martinez Casas I, Marwah S, Maseda E, McFarlane ME, Memish Z, Mertz D, Mesina C, Mishra SK, Moore EE, Munyika A, Mylonakis E, Napolitano L, Negoï I, Nestorovic MD, Nicolau DP, Omari AH, Ordóñez CA, Paiva JA, Pant ND, Parreira JG, Pędzwiatr M, Pereira BM, Ponce-de-Leon A, Poulakou G, Preller J, Pulcini C, Pupelis G, Quiodettis M, Rawson TM, Reis T, Rems M, **Rizoli S**, Roberts J, Pereira NR, Rodríguez-Baño J, Sakakushev B, Sanders J, Santos N, Sato N, Sawyer RG,



Scarpelini S, Scoccia L, Shafiq N, Shelat V, Sifri CD, Siribumrungwong B, Søreide K, Soto R, de Souza HP, Talving P, Trung NT, Tessier JM, Tumbarello M, Ulrych J, Uranues S, Van Goor H, Vereczkei A, Wagenlehner F, Xiao Y, Yuan KC, Wechsler-Fördös A, Zahar JR, Zakrisson TL, Zuckerbraun B, Zuidema WP, Catena F. The Global Alliance for Infections in Surgery: defining a model for antimicrobial stewardship-results from an international cross-sectional survey. *World J Emerg Surg.* 2017 Aug 1; 12:34. **Coauthor or Collaborator**

McCully BH, Connelly CR, Fair KA, Holcomb JB, Fox EE, Wade CE, Bulger EM, Schreiber MA; PROPPR Study Group. Onset of Coagulation Function Recovery Is Delayed in Severely Injured Trauma Patients with Venous Thromboembolism. *J Am Coll Surg.* 2017 Jul;225(1):42-51. **Coauthor or Collaborator**

Mador B, Nascimento B, Hollands S, **Rizoli S**. Blood transfusion and coagulopathy in geriatric trauma patients. *J Trauma Resusc Emerg Med.* 2017 Mar 29;25(1):33. **Senior Responsible Author**

Hylands M, Toma A, Beaudoin N, Frenette AJ, D'Aragon F, Belley-Côté E, Hylander M, Lauzier F, Siemieniuk RA, Charbonney E, Kwong J, Laake JH, Guyatt G, Vandvik PO, Rochweg B, Green R, Ball I, Scales D, Murthy S, **Rizoli S**, Asfar P, Lamontagne F. Vasopressor use following traumatic injury: protocol for a systematic review. *BMJ Open.* 2017 Feb 28;7(2):e014166. **Coauthor or Collaborator**

**Rizoli SB**, Jaja BN, Di Battista AP, Rhind SG, Neto AC, da Costa L, Inaba K, da Luz LT, Nascimento B, Perez A, Baker AJ, de Oliveira Manoel AL. Catecholamines as outcome markers in isolated traumatic brain injury: the COMA-TBI study. *Crit Care.* 2017 Feb 23;21(1):37. **Principal Author**

Coccolini F, Stahel PF, Montori G, Biffl W, Horer TM, Catena F, Kluger Y, Moore EE, Peitzman AB, Ivatury R, Coimbra R, Fraga GP, Pereira B, **Rizoli S**, Kirkpatrick A, Leppaniemi A, Manfredi R, Magnone S, Chiara O, Solaini L, Ceresoli M, Allievi N, Arvieux C, Velmahos G, Balogh Z, Naidoo N, Weber D, Abu-Zidan F, Sartelli M, Ansaloni L. Pelvic trauma: WES classification and guidelines. *World J Emerg Surg.* 2017 Jan 18;12:5 **Coauthor or Collaborator**

Nolan B, Tien H, Sawadsky B, **Rizoli S**, McFarlan A, Phillips A, Ackery A. Comparison of Helicopter Emergency Medical Services Transport Types and Delays on Patient Outcomes at Two Level I Trauma Centers. *Prehosp Emerg Care.* 2017 Jan. **Coauthor or Collaborator**

Chia TL, Chesney TR, Isa D, Mnatzakanian G, Colak E, Belmont C, Hirpara D, Veigas PV, Acuna SA, **Rizoli S**, Rezende-Neto J. Thrombocytosis in splenic trauma: In-hospital course and association with venous thromboembolism. *Injury.* 2017 Jan;48(1):142-147. **Coauthor or Collaborator**

da Costa LGV, Carmona MJC, Malbousson LM, **Rizoli S**, Rocha-Filho JA, Cardoso RG, Auler-Junior JO. Independent early predictors of mortality in poly-trauma patients: a prospective, observational, longitudinal study. *Clinics* 2017; 72(8):461-468. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

2017 - 2018 **Co-Investigator.** Remote ischemic conditioning as a treatment for traumatic brain injury: a prospective randomized controlled trial. CIMVHR

## Presentations and Special Lectures

### International

- 2017 Oct 5 **Invited Speaker.** What is new in the management and pathophysiology of the coagulopathy of trauma; complications in managing the open abdomen; managing quality improvement programs in trauma centres. Paulista Congress of Trauma Surgery of the SBAIT-SP. Sao Paulo, Brazil.
- 2017 Sept 15 **Invited Speaker.** Valproic acid treatment changes the transcriptome of the injured brain to enhance neuronal protection. AAST 76th Annual Meeting, Baltimore, USA.
- 2017 July 28 **Invited Speaker.** Resuscitation in trauma: indicators and goals for a service of excellence; Case discussion: pelvic trauma; Case discussion: blood transfusion. III International Symposium of Trauma. Sao Paulo, Brazil.

## **National**

- 2017 Aug 18 **Invited Speaker.** Betablockers in traumatic brain injury; Traumatic brain injury: who needs a repeat Ct scan? Trauma Conference International. Toronto, Ontario, Canada.
- 2017 Jun 24 **Invited Speaker.** Pathophysiology and management of coagulopathy in traumatic brain injury. 2017 Canadian Anesthesiologists Society Annual Meeting. Niagara Falls, Ontario, Canada.
- 2017 Jun 2 **Invited Speaker.** 2017 Research Symposium Chair. UofT Visiting Professor in Trauma Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.
- 2017 Apr 21 **Invited Speaker.** Coagulopathy of Trauma. Plenary Opening Session of the Joint  
**Chair.** Telemedicine and Trauma Team Training Session  
Meeting Australasian Trauma Society and Trauma Association of Canada. Trauma 2017. Melbourne, Australia.

## Peer-Reviewed Publications

### Journal Articles

Mortamet G, Larouche A, Ducharme-Crevier L, Fléchelles O, Constantin G, Essouri S, Pellerin-Leblanc AA, Beck J, **Sinderby C**, Jouvett P, Emeriaud G. Patient-ventilator asynchrony during conventional mechanical ventilation in children. *Ann Intensive Care*. 2017 Dec 20;7(1):122. **Coauthor or Collaborator**

Iyer NP, Dickson J, Ruiz ME, Chatburn R, Beck J, **Sinderby C**, Rodriguez RJ. Neural breathing pattern in newborn infants pre- and postextubation. *Acta Paediatr*. 2017 Aug 22. **Coauthor or Collaborator**

Doorduyn J, Nollet JL, Roesthuis LH, van Hees HW, Brochard LJ, **Sinderby C**, van der Hoeven JG, Heunks LM. Partial Neuromuscular Blockade during Partial Ventilatory Support in Sedated Patients with High Tidal Volumes. *Am J Respir Crit Care Med*. 2017 Apr 15;195(8):1033-1042. **Coauthor or Collaborator**

Brander L, Moerer O, Hedenstierna G, Beck J, Takala J, Slutsky AS, **Sinderby C**. Neural control of ventilation prevents both over-distension and de-recruitment of experimentally injured lungs. *Respir Physiol Neurobiol*. 2017 Mar 1;237:57-67. **Senior Responsible Author**

**Sinderby C**, Demoule A, Similowski T. How to compare clinical outcome of complementary modes of mechanical ventilation? *Intensive Care Med*. 2017 Feb 1;43(2):293-295. **Principal Author**

Beloncle F, Piquilloud L, Rittayamai N, **Sinderby C**, Rozé H, Brochard L. A diaphragmatic electrical activity-based optimization strategy during pressure support ventilation improves synchronization but does not impact work of breathing. *Crit Care*. 2017 Jan 31;21(1):21. **Coauthor or Collaborator**

## Presentations and Special Lectures

### International

2017 Jun 2 **Invited Speaker**. The Future of Mechanical Ventilation. VU University Medical Center, Amsterdam, Netherlands.

### Provincial

2017 Sept 22 **Invited Speaker**. New technology in neutrally controlled ventilation. PALISI Network. First meeting of the international consortium on mechanical ventilation in children. Montreal, Quebec

### National

2017 Apr 28 **Invited Speaker**. Neurally Adjusted Ventilatory Assist. Canada Critical Care Forum. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Bellani G, Laffey JG, Pham T, Madotto F, Fan E, Brochard L, Esteban A, Gattinoni L, Bumbasirevic V, Piquilloud L, van Haren F, Larsson A, McAuley DF, Bauer PR, Arabi YM, Ranieri M, Antonelli M, Rubenfeld GD, Thompson BT, Wrigge H, **Slutsky AS**, Pesenti A; LUNG SAFE Investigators; ESICM Trials Group. Noninvasive Ventilation of Patients with Acute Respiratory Distress Syndrome. Insights from the LUNG SAFE Study. *American Journal of Respiratory and Critical Care Medicine*. Jan 2017; 195(1): pp 67-77 **Coauthor or Collaborator**

Mao P, Li J, Huang Y, Wu S, Pang X, He W, Liu X, Slutsky AS, Zhang H, Li Y. miR-19b Mediates lung epithelial-mesenchymal transition via PTEN in response to mechanical stretch. *American Journal of Respiratory Cell and Molecular Biology*. Jan 2017; 56(1): pp 11-19. **Coauthor or Collaborator**

Brochard L, **Slutsky AS**, Pesenti A. Mechanical Ventilation to Minimize Progression of Lung Injury in Acute Respiratory Failure. *American Journal of Respiratory and Critical Care Medicine*. 2017; 195(4): pp 438-442. **Coauthor or Collaborator**

Kapur R, Kim M, Aslam R, McVey MJ, Tabuchi A, Luo A, Liu J, Li Y, Shanmugabhavananthan S, Speck ER, Zufferey A, Yousef G, Zhang H, Rondina MT, Weyrich AS, Porcelijn L, Kuebler WM, **Slutsky AS**, Semple JW. T Regulatory Cells and Dendritic Cells Protect Against Transfusion-Related Acute Lung Injury via IL-10. *Blood*. 2017; 129(18): pp 2557-2569. **Coauthor or Collaborator**

Villar J, **Slutsky AS**. GOLDEN anniversary of the acute respiratory distress syndrome: still much work to do!. *Current Opinion in Critical Care*. 2017; 23(1): pp 4-9. **Senior Responsible Author**

Brander L, Moerer O, Hedenstierna G, Beck J, Takala J, **Slutsky AS**, Sinderby C. Neural control of ventilation prevents both over-distension and de-recruitment of experimentally injured lungs. *Respiratory Physiology and Neurobiology*. 2017; 237: pp 57-67. **Coauthor or Collaborator**

Fan E, Brodie D, **Slutsky AS**. Fifty Years of Research in ARDS. Mechanical Ventilation during Extracorporeal Support for Acute Respiratory Distress Syndrome. For Now, a Necessary Evil. *American Journal of Respiratory and Critical Care Medicine*. 2017; 195(9): pp 1137-1139. **Senior Responsible Author**

Fan E, Del Sorbo L, Goligher EC, Hodgson CL, Munshi , Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, **Slutsky AS**, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard LJ, American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *American Journal of Respiratory and Critical Care Medicine*. 2017; 195(9): pp 1253-1263. **Coauthor or Collaborator**

Goligher EC , **Slutsky AS**. Not Just Oxygen? Mechanisms of Benefit from High-Flow Nasal Cannula in Hypoxemic Respiratory Failure. *American Journal of Respiratory and Critical Care Medicine*. 2017.195(9): pp 1128-1131. **Senior Responsible Author**

Philip AM, Wang Y, Mauro A, El-Rass S, Marshall JC, Lee WL, **Slutsky AS**, dosSantos CC, Wen XY. Development of a zebrafish sepsis model for high-throughput drug discovery. *Molecular Medicine*. 2017: 23: pp 134-148. **Coauthor or Collaborator**

Garc'eda-Laorden MI, Lorente JA, Flores C, **Slutsky AS**, Villar J. Biomarkers for the acute respiratory distress syndrome: how to make the diagnosis more precise. *Annals of Translational Medicine*. 2017: 5(14): pp 283. **Coauthor or Collaborator**

Laffey JG, Madotto F, Bellani G, Pham T, Fan E, Brochard L, Amin P, Arabi Y, Bajwa EK, Bruhn A, Cerny V, Clarkson K, Heunks L, Kurahashi K, Laake JH, Lorente JA, McNamee L, Nin N, Palo JE, Piquilloud L, Qiu H, Jimenez JIS, Esteban A, McAuley DF, van Haren F, Ranieri M, Rubenfeld G, Wrigge H, **Slutsky AS**, Pesenti A, On behalf of the LUNG SAFE Investigators and the ESICM Trials Group. Geo-economic variations in epidemiology, patterns of care and outcome in patients with Acute Respiratory Distress Syndrome: Insights from the LUNG SAFE prospective cohort study. *Lancet Respiratory Medicine*. 2017: 5(8): pp 627-638. **Coauthor or Collaborator**

Chiumello D, Brochard L, Marini JJ, **Slutsky AS**, Mancebo J, Ranieri VM, Thompson BT, Papazian L, Schultz MJ, Amato M, Gattinoni L, Mercat A, Pesenti A, Talmor D, Vincent JL. Respiratory support in patients with acute respiratory distress syndrome: an expert opinion. *Critical Care*. 2017: 21(1): pp 240. **Coauthor or Collaborator**

Goligher EC, Amato MBP, **Slutsky AS**. Applying Precision Medicine to Trial Design Using Physiology: Extracorporeal CO<sub>2</sub> Removal for ARDS. *American Journal of Respiratory and Critical Care Medicine*: 2017: 196(5): pp 558-568. **Senior Responsible Author**

Meade MO, Young D, Hanna S, Zhou Q, Bachman TE, Bollen C, **Slutsky AS**, Lamb SE, Adhikari NK, Mentzelopoulos SD, Cook DJ, Sud S, Brower RG, Thompson BT, Shah S, Stenzler A, Guyatt G, Ferguson ND: Severity of Hypoxemia and Effect of High Frequency Oscillatory Ventilation in ARDS. *American Journal of Respiratory and Critical Care Medicine*. 2017. 196(6): pp 727-733. **Coauthor or Collaborator**

Pham T, Brochard LJ, **Slutsky AS**. Mechanical Ventilation: State of the Art. *Mayo Clinic Proceedings*: 2017: 92(9): pp 1382-1400. **Senior Responsible Author**

Brodie D, Curtis JR, Vincent JL, Bakker J, Brown CE, Creteur J, Papazian L, Sladen RN, Ranieri VM; participants in the Round Table Conference: Treatment limitations in the era of ECMO. *The Lancet Respiratory Medicine*. 2017: 5(10): pp 769-770. **Coauthor or Collaborator**

Del Sorbo L, Goligher EC, McAuley DF, Rubenfeld GD, Brochard LJ, Gattinoni L, **Slutsky AS**, Fan E. Mechanical Ventilation in Adults with Acute Respiratory Distress Syndrome. Summary of the Experimental Evidence for the Clinical Practice Guideline. *Annals of the American Thoracic Society*. 2017: 14(4): pp S261-S270. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

2015 - 2022 **Principal Investigator**. Mechanisms and Therapies of ARDS. Co-PI: Zhang H: Canadian Institutes of Health Research - Foundation Scheme. 2,588,884 CAD. [Grants]

2014 - 2019 **Principal Investigator**. CIHR Health Researcher of the Year Prize Grant. Canadian Institutes of Health Research (CIHR). 500,000 CAD. [Grants]

## Presentations and Special Lectures

### International

- 2017 Dec 15 - 16 **Invited Speaker.** Future of Lung Protection; How to write a scientific paper. Visiting Professor: Guangzhou University, Guangzhou, China.
- 2017 Nov 3 - 4 **Invited Speaker.** Neuromuscular blocking agents: How might they attenuate VILI. 6th International Marburger ARDS/ECMO Symposium, Marburg, Germany.
- 2017 Sep 25 - 28 **Invited Speaker.** Extracorporeal respiratory support: Some words of caution...; Driving pressure really adds something to our current practice: PRO. ESICM LIVES 2017, Vienna, Austria.
- 2017 Sep 19 **Invited Speaker.** Mechanical Ventilation: From Vesalius to VILI. John Hedley-Whyte Lecture. Boston, United States.
- 2017 Jun 27 - 30 **Invited Speaker.** Designing future trials on ECMO/ECCO2R in ARDS: How can enrichment strategies help?; How to identify the patients most likely to respond to ECCO2R? TCS-ECMO: International Congress, Paris, France.
- 2017 May 22 - 24 **Invited Speaker.** A Half Century of ARDS: Progress and Setbacks. ATS Meeting, Washington, DC.
- 2017 Mar 21 - 24 **Invited Speaker.** The future of lung protective ventilation; Ventilation with zero tidal volume is the answer; High frequency ventilation: what did we do wrong?; Zero tidal volume ventilation is the answer. 37th International Symposium on Intensive Care and Emergency Medicine, Brussels.
- 2017 Mar 21 **Invited Speaker.** The future of mechanical ventilation. Brussels mechanical ventilation course, Brussels, Belgium.
- 2017 Mar 19 **Invited Speaker.** A predictive enrichment strategy for ECCO2R studies: How do we pick the right patients? Round Table on ECLS, Brussels, Belgium.
- 2017 May 12 **Invited Speaker.** Why are recruitment maneuvers relevant? By Respiratory mechanics and gas exchange; Award Lecture: Reflections on a career in critical care medicine. SMART Meeting, Milan, Italy.
- 2017 Jan 20 - 21 **Invited Speaker.** Acute respiratory distress syndrome (ARDS): Maintaining Gas Exchange while limiting iatrogenia. A delicate balance. Barcelona Lung Conference. Barcelona, Spain.
- 2017 Jan 17 **Invited Speaker.** Link between Mechanical Ventilation and Multiple Organ Dysfunction. A Celebration of Cardiopulmonary Physiology from the Nobel Prize to the Modern Era - NYU Langone Medical Center. New York, United States.
- 2017 Jan 13 **Invited Speaker.** Why did HFOV (open lung plus very low tidal volume) fail? Rethinking Respiratory Intensive Care. SMART Meeting, Frankfurt, Germany.

### Provincial

- 2017 Apr 28 **Invited Speaker.** Award Lecture: Lung Protective Ventilation: What Is It and Why Is It Important? Canadian Respiratory Conference 2017 (CIHR-ICRH/CTS), Montreal, Quebec.

### National

2017 Oct 1 - 4      **Invited Speaker.** Critical Care Canada Forum. Toronto, Ontario, Canada.

### **Honours and Awards**

- 2017 May      Outstanding Achievements in Intensive Care Medicine Award, Smart Meeting Anesthesia Resuscitation Intensive Care. Milan, Italy.
- 2017          Distinguished Lecturer in Respiratory Sciences Award, Canadian Institutes of Health Research (CIHR) Institute of Circulatory and Respiratory Health (ICRH) and the Canadian Thoracic Society (CTS).

## Peer-Reviewed Publications

### Journal Articles

Downar J, McNaughton N, Abdelhalim T, **Wong N**, Lapointe-Shaw L, Seccareccia D, Miller K, Dev S, Ridley J, Lee C, Richardson L, McDonald-Blumer H, Knickle K. Standardized patient simulation versus didactic teaching alone for improving residents' communication skills when discussing goals of care and resuscitation: A randomized controlled trial. *Palliative Medicine*. 2017 Feb;31(2):130-139. Impact Factor 3.685. **Coauthor or Collaborator**

## Presentations and Special Lectures

### National

2017 Mar 27 **Invited Speaker**. How to create a successful in-hospital resuscitation program. Resuscitation Symposium at Lakeridge, Lakeridge Health Oshawa. Oshawa, Ontario.

## Honours and Awards

2017 June IDCCM Award for Teaching Excellence, St. Michael's Hospital.



## Peer-Reviewed Publications

### Journal Articles

Yu FP, Islam D, Sikora J, Dworski S, Gurka' J, Lopez-Vasquez L, Liu M, Kuebler WM, Levade T, **Zhang H**, Medin JA. Chronic lung injury and impaired pulmonary function in a mouse model of acid ceramidase deficiency. *Am J Physiol Lung Cell Mol Physiol*. 2017 Nov 22. **Coauthor or Collaborator**

Liu YY, Chiang CH, Hung SC, Chian CF, Tsai CL, Chen WC, **Zhang H**. Hypoxia-preconditioned mesenchymal stem cells ameliorate ischemia/reperfusion-induced lung injury. *PLoS One*. 2017 Nov 8;12(11):e0187637. **Senior Responsible Author**

Kapur R, Kim M, Aslam R, McVey MJ, Tabuchi A, Luo A, Liu J, Li Y, Shanmugabhavanathan S, Speck ER, Zufferey A, Yousef G, **Zhang H**, Rondina MT, Weyrich AS, Porcelijn L, Kuebler WM, Slutsky AS, Semple JW. T Regulatory Cells and Dendritic Cells Protect Against Transfusion-Related Acute Lung Injury via IL-10. *Blood*. 2017 May 4;129(18):2557-2569. **Coauthor or Collaborator**

EI-Rass S, Eisa-Beygi S, Khong E, Brand-Arzamendi K, Mauro A, **Zhang H**, Clark KJ, Ekker SC, Wen XY. Disruption of *pdgfra* alters endocardial and myocardial fusion during zebrafish cardiac assembly. *Biol Open*. 2017 Mar 15;6(3):348-357. **Coauthor or Collaborator**

Mao P, Li J, Huang Y, Wu S, Pang X, He W, Liu X, Slutsky AS, **Zhang H**, Li Y. miR19b mediates lung epithelial mesenchymal transition via PTEN in response to mechanical stretch. *American Journal of Respiratory and Cellular Molecular Biology*. 2017;56:11-19. **Coauthor or Collaborator**

**Zhang H**, Baker A. Recombinant human ACE2: acing out angiotensin II in ARDS therapy. *Crit Care* 2017;21:305 PMID 29237475. **Principal Author**

## Peer-Reviewed Grants

### Funded

- |                     |  |
|---------------------|--|
| 2017 Jan - 2019 Dec | Zhujiang Oversea Talent Project, Respiratory Medicine, Ministry of Science and Technology, Government of Guangdong, China. |
| 2016 Jan - 2018 Dec | Zhujiang Oversea Talent Project, Respiratory Medicine, Ministry of Science and Technology, Government of Guangdong, China. |

## Presentations and Special Lectures

### International

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|-----------------|---|
| 2017 Nov 9 - 12 | <b>Invited Speaker.</b> Infection and Immunity in ARDS: today and tomorrow. National Conference on Quality Control in Critical Care Medicine 2017. Hilton Nanjing Riverside, China. |
|-----------------|---|

- 2017 Jun 14 - 17 **Invited Speaker.** Two sides of the same coin: Mesenchymal stromal cells in experimental lung injury. International Society of Stem Cell Research (ISSCR) 2017 Annual Meeting. Boston, United States.
- 2017 May 25 - 28 **Invited Speaker.** Repair and regeneration in lung injury: where we stand. 2017 Chinese Society of Critical Care Medicine Annual Conference. Xian, China.
- 2017 Apr 24 - 25 **Invited Speaker.** Visiting professorship. Department of Critical Care Medicine, Universitair Ziekenhuis Brussel Vrije Universiteit Brussel, Belgium.
- 2017 Mar 10 - 12 **Invited Speaker.** Endogenous and exogenous progenitor cells in lung repair and regeneration. Third International Forum on Shock and Sepsis, International Federation of Shock Societies. Guangzhou, China.
- 2017 Feb 7 - 9 **Invited Speaker.** Visiting Professorship, Department of Critical Care Medicine, Southeast University, Nanjing, China.

### **Local**

- 2017 Sep 29 **Chair.** Generation of a three-dimensional lung organoid for human lung development and disease modelling from human pluripotent stem cells. iBEST Visiting Lecturer Series. Keenan Research Centre for Biomedical Science. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Duan EH, **Adhikari NKJ**, D'Aragon F, Cook DJ, Mehta S, Alhazzani W, Goligher E, Charbonney E, Arabi YM, Karachi T, Turgeon AF, Hand L, Zhou Q, Austin P, Friedrich J, Lamontagne F, Lauzier F, Patel R, Muscedere J, Hall R, Aslanian P, Piraino T, Albert M, Bagshaw SM, Jacka M, Wood G, Henderson W, Dorscheid D, Ferguson ND, Meade MO, Canadian Critical Care Trials Group. Management of Acute Respiratory Distress Syndrome and Refractory Hypoxemia. A Multicenter Observational Study. *Ann Am Thorac Soc*. 2017 Dec 1;14(12):1818-1826. **Coauthor or Collaborator**

Mer M, Schultz MJ, **Adhikari NKJ**, European Society of Intensive Care Medicine (ESICM) Global Intensive Care Working Group and the Mahidol–Oxford Research Unit (MORU), Bangkok, Thailand. Core elements of general supportive care for patients with sepsis and septic shock in resource-limited settings. *Intensive Care Med*. 2017 Nov 1;43(11):1690-1694. **Senior Responsible Author**

Lamontagne F, Fowler RA, **Adhikari NKJ**, Murthy S, Brett-Major DM, Jacobs M, Uyeki TM, Vallenias C, Norris SL, Fischer WA Nd, Fletcher TE, Levine AC, Reed P, Bausch DG, Gove S, Hall A, Shepherd S, Siemieniuk RA, Lamah MC, Kamara R, Nakyeyune P, Soka MJ, Edwin A, Hazzan AA, Jacob ST, Elkarsany MM, Adachi T, Benhadj L, Clément C, Crozier I, Garcia A, Hoffman SJ, Guyatt GH. Evidence-based guidelines for supportive care of patients with Ebola virus disease. *Lancet*. 2017 Oct 17. **Coauthor or Collaborator**

Munshi L, Del Sorbo L, **Adhikari NKJ**, Hodgson CL, Wunsch H, Meade MO, Uleryk E, Mancebo J, Pesenti A, Ranieri VM, Fan E. Prone Position for Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Suppl 4):S280-S288. **Coauthor or Collaborator**

Goligher EC, Hodgson CL, Adhikari **NKJ**, Meade MO, Wunsch H, Uleryk E, Gajic O, Amato MPB, Ferguson ND, Rubenfeld GD, Fan E. Lung Recruitment Maneuvers for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Suppl 4):S304-S311. **Coauthor or Collaborator**

Walkey AJ, Del Sorbo L, Hodgson CL, **Adhikari NKJ**, Wunsch H, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, Fan E. Higher PEEP versus Lower PEEP Strategies for Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Suppl 4):S297-S303. **Coauthor or Collaborator**

Walkey AJ, Goligher EC, Del Sorbo L, Hodgson CL, i, Wunsch H, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, Fan E. Low Tidal Volume versus Non-Volume-Limited Strategies for Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Suppl 4):S271-S279. **Coauthor or Collaborator**

Meade MO, Young D, Hanna S, Zhou Q, Bachman TE, Bollen C, Slutsky AS, Lamb SE, **Adhikari NKJ**, Mentzelopoulos SD, Cook DJ, Sud S, Brower RG, Thompson BT, Shah S, Stenzler A, Guyatt G, Ferguson ND. Severity of Hypoxemia and Effect of High-Frequency Oscillatory Ventilation in Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017 Sep 15;196(6):727-733. **Coauthor or Collaborator**

Lauzier F, **Adhikari NKJ**, Seely A, Koo KKY, Belley-Côté EP, Burns KEA, Cook DJ, D’Aragon F, Rochweg B, Kho ME, Oczkowski SJW, Duan EH, Meade MO, Day AG, Lamontagne F, for ACCADEMY (Academy of Critical Care – Development, Evaluation, and Methodology). Protocol adherence for continuously titrated interventions in randomized trials: an overview of the current methodology and case study. *BMC Med Res Methodol.* 2017 Jul 17;17(1):106. **Coauthor or Collaborator**

Kelly JM, Rubenfeld GD, Masson N, Min A, **Adhikari NKJ**. Using Selective Serotonin Reuptake Inhibitors and Serotonin-Norepinephrine Reuptake Inhibitors in Critical Care: A Systematic Review of the Evidence for Benefit or Harm. *Crit Care Med.* 2017 Jun 1;45(6):e607-e616. **Senior Responsible Author**

Burns KEA, Soliman I, **Adhikari NKJ**, Zwein A, Wong JTY, Gomez-Builes C, Pellegrini JA, Chen L, Rittayamai N, Sklar M, Brochard LJ, Friedrich JO. Trials directly comparing alternative spontaneous breathing trial techniques: a systematic review and meta-analysis. *Crit Care.* 2017 Jun 1;21(1):127. **Coauthor or Collaborator**

Sklar MC, Burns K, Rittayamai N, Lanys A, Rauseo M, Chen L, Dres M, Chen GQ, Goligher EC, **Adhikari NKJ**, Brochard L, Friedrich JO. Effort to Breathe with Various Spontaneous Breathing Trial Techniques. A Physiologic Meta-analysis. *Am J Respir Crit Care Med.* 2017 Jun 1;195(11):1477-1485. **Coauthor or Collaborator**

Lamontagne F, Marshall JC, **Adhikari NKJ**. Permissive hypotension during shock resuscitation: equipoise in all patients? *Intensive Care Med.* 2017 May 27. **Senior Responsible Author**

Schultz MJ, Dunser MW, Dondorp AM, **Adhikari NKJ**, Iyer S, Kwizera A, Lubell Y, Papali A, Pisani L, Riviello BD, Angus DC, Azevedo LC, Baker T, Diaz JV, Festic E, Haniffa R, Jawa R, Jacob ST, Kisson N, Lodha R, Martin-Loeches I, Lundeg G, Misango D, Mer M, Mohanty S, Murthy S, Musa N, Nakibuuka J, Serpa Neto A, Nguyen Thi Hoang M, Nguyen Thien B, Pattnaik R, Phua J, Preller J, Povoas P, Ranjit S, Talmor D, Thevanayagam J, Thwaites CL, Global Intensive Care Working Group of the European Society of Intensive Care Medicine. Current challenges in the management of sepsis in ICUs in resource-poor settings and suggestions for the future. *Intensive Care Med.* 2017 May 1;43(5):612-624. **Coauthor or Collaborator**

Fan E, Del Sorbo L, Goligher EC, Hodgson CL, Munshi L, Walkey AJ, **Adhikari NKJ**, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard LJ, American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med.* 2017 May 1;195(9):1253-1263. **Coauthor or Collaborator**

Downar J, Goldman R, Pinto R, Englesakis M, **Adhikari NKJ**. The “surprise question” for predicting death in seriously ill patients: a systematic review and meta-analysis. *CMAJ.* 2017 Apr 3;189(13):E484-E493. **Senior Responsible Author**

Leligdowicz A, Bhagwanjee S, Diaz JV, Xiong W, Marshall JC, Fowler RA, **Adhikari NKJ**, Acute Care for Africa Research and Training (ACART) Group and the International Forum of Acute Care Trialists (InFACT). Development of an intensive care unit resource assessment survey for the care of critically ill patients in resource-limited settings. *J Crit Care.* 2017 Apr 1;38:172-176 (Trainee publication, Leligdowicz A). **Senior Responsible Author**

Kerlin MP, **Adhikari NKJ**, Rose L, Wilcox ME, Bellamy CJ, Costa DK, Gershengorn HB, Halpern SD, Kahn JM, Lane-Fall MB, Wallace DJ, Weiss CH, Wunsch H, Cooke CR, ATS Ad Hoc Committee on ICU Organization. An Official American Thoracic Society Systematic Review: The Effect of Nighttime Intensivist Staffing on Mortality and Length of Stay among Intensive Care Unit Patients. *Am J Respir Crit Care Med.* 2017 Feb 1;195(3):383-393. **Coauthor or Collaborator**

McCredie VA, Alali AS, Scales DC, **Adhikari NKJ**, Rubenfeld GD, Cuthbertson BH, Nathens AB. Effect of Early Versus Late Tracheostomy or Prolonged Intubation in Critically Ill Patients with Acute Brain Injury: A Systematic Review and Meta-Analysis. *Neurocrit Care*. 2017 Feb 1;26(1):14-25. **Coauthor or Collaborator**

Marshall JC, Bosco L, **Adhikari NKJ**, Connolly B, Diaz JV, Dorman T, Fowler RA, Meyfroidt G, Nakagawa S, Pelosi P, Vincent JL, Vollman K, Zimmerman J. What is an intensive care unit? A report of the task force of the World Federation of Societies of Intensive and Critical Care Medicine. *J Crit Care*. 2017 Feb 1;37:270-276. **Coauthor or Collaborator**

Rose L, **Adhikari NKJ**, Leasa D, Fergusson DA, McKim D. Cough augmentation techniques for extubation or weaning critically ill patients from mechanical ventilation. *Cochrane Database Syst Rev*. 2017 Jan 11;1:CD011833. **Coauthor or Collaborator**

McCredie VA, Ferguson ND, Pinto RL, **Adhikari NKJ**, Fowler RA, Chapman MG, Burrell A, Baker AJ, Cook DJ, Meade MO, Scales DC, Canadian Critical Care Trials Group. Airway Management Strategies for Brain-injured Patients Meeting Standard Criteria to Consider Extubation. A Prospective Cohort Study. *Ann Am Thorac Soc*. 2017 Jan 1;14(1):85-93. **Coauthor or Collaborator**

### Book Chapters

Ortiz-Diaz E, Preller J, **Adhikari NKJ**. Delirium. In: Suzuki R, Kashyap R, Barwise A., et al, editor(s). CERTAIN-Checklist for Early Recognition and Treatment of Acute Illness and Injury Booklet. 3.0. CERTAIN Global Study Group ([www.icertain.org](http://www.icertain.org)); 2017. **Senior Responsible Author**

Bonneton B, Dunser M, **Adhikari NKJ**. Gastrointestinal bleeding. In: Suzuki R, Kashyap R, Barwise A., et al, editor(s). CERTAIN-Checklist for Early Recognition and Treatment of Acute Illness and Injury Booklet. 3.0. CERTAIN Global Study Group ([www.icertain.org](http://www.icertain.org)); 2017. **Senior Responsible Author**

### Editorials

Gordon SB, Buist AS, Hopewell P, Pinkerton K, Sly P, West TE, Moschovis P, Accinelli RA, Cruz AA, **Adhikari NKJ**, International Health Committee of the American Thoracic Society. How Do We “Help the World Breathe”? *Am J Respir Crit Care Med*. 2017 Nov 1;196(9):1100-1102. **Senior Responsible Author**

Munshi L, **Adhikari NKJ**. Inhaled nitric oxide and acute kidney injury: new insights from observational data. *Crit Care*. 2017 Mar 31;21(1):83. **Senior Responsible Author**

### Letters to Editors

Downar J, Goldman R, Pinto R, Englesakis M, **Adhikari NKJ**. Response to: “About the ‘surprise question’”. *CMAJ*. 2017 Jun 12;189(23):E808. **Senior Responsible Author**

### Peer-Reviewed Grants

#### Funded

2017 May - 2018 Apr **Co-Principal Investigator**. Permissive hypotension to reduce organ injury - The OVATION-65 trial. Canadian Institutes of Health Research (CIHR). Planning and Dissemination Grant. PI(s): Lamontagne F Collaborator(s): Battista MC, Cook D, Heyland D, Marshall J, Rouleau JL. 15,000 CAD. [Grants]

- 2015 Oct - 2019 Mar **Co-Principal Investigator.** Establishing Feasibility & Safety of Providing Critical Care for Patients with Ebola through design of a simulated Ebola Treatment Centre. Canadian Institutes of Health Research (CIHR). Innovative Ebola Research Grants. PI(s): Fowler R. Collaborator(s): Bah E, Chan A, Clement C, Christian M, Hajek J, Hall T, Lamah M, Lamontagne F, Marshall J, Mishra S, Murthy S, Piquette D, Simor A, Vanderschuren A. 249,973 CAD. [Grants]
- 2015 Oct - 2019 Mar **Co-Investigator.** Delivery of supportive care during an Ebola outbreak: defining minimal requirements and identifying barriers and facilitators towards creating international guidelines. Canadian Institutes of Health Research (CIHR). Innovative Ebola Research Grants. PI(s): Lamontagne F. Collaborator(s): Bah E, Chan A, Clement C, Couturier F, Fowler R, Guyatt G, Hudon C, Lamah M, Mishra S, Murthy S. 247,570 CAD. [Grants]
- 2015 Oct - 2018 Mar **Co-Investigator.** Gone, but not forgotten: A prospective cohort study to characterize the health effects of post-Ebola syndrome on survivors of Ebola Virus Disease in West Africa. Canadian Institutes of Health Research (CIHR). Innovative Ebola Research Grants. PI(s): Chan A. Collaborator(s): Fowler R, Mishra S, Glynn J, Hajek J, Lamontagne F, Murthy S, Vanderschuren A. 250,000 CAD. [Grants]
- 2015 Jul - 2020 Jun **Co-Investigator.** The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research (CIHR). Operating Grant. PI(s): Scales D, Ferguson N, Collaborator(s): Alali A, Baker A, Bosma K, Brochard L, Chapman M, Charbonney E, Cuthbertson B, Fowler R, Griesdale D, Mainprize T, McCredie V, Meade M, Nathens A, Rubinfeld G, Seely A, Singh J, Turgeon A, Wilcox E, Zygun D. 880,404 CAD. [Grants]
- 2015 Jul - 2019 Jun **Co-Investigator.** STandard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury (STARRT-AKI). Canadian Institutes of Health Research (CIHR). Operating Grant. PI(s): Wald R, Bagshaw S. Collaborator(s): Bellomo R, Burns K, Cailhier J, Chawla L, Dodek P, Friedrich J, Garg A, Herridge M, Hiremath S, Lamontagne F, Lapinsky S, Manns B, Mazer D, McGuinness S, Mcintyre L, Muscedere J, Ostermann M, Palevsky P, Pettilä V, Smith O, Soth M, Stelfox H, Thorpe K, Turgeon A, Weir M, Wilcox, E. 1,177,472 CAD. [Grants]
- 2015 May - 2017 Apr **Principal Investigator.** An Acute Kidney Injury Follow-up Clinic to Improve Care Continuity and Outcomes: A Pilot Randomized Controlled Trial. Sunnybrook Health Sciences Centre (Toronto, ON). 2014-2015 Sunnybrook AFP Innovation Fund. Collaborator(s): Zahirieh A. 39,805 CAD. [Grants]
- 2015 Apr - 2019 Mar **Co-Investigator.** STandard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury (STARRT-AKI). Canadian Institutes of Health Research (CIHR). Operating Grant: Industry-partnered Collaborative Research. PI(s): Wald R, Bagshaw, S. 220,995 CAD. [Grants]
- 2015 Apr - 2019 Mar **Co-Investigator.** STandard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury (STARRT-AKI). Baxter Healthcare Corporation. Operating Grant: Industry-partnered Collaborative Research. PI(s): Wald R, Bagshaw S. 883,976 CAD. [Grants]

## Presentations and Special Lectures

### International

2017 May 21 **Chair.** Global health careers in pulmonary and critical care medicine. American Thoracic Society. Washington, District of Columbia, United States.

2017 May 18 **Invited Speaker.** Challenges and opportunities for sepsis research in resource-limited settings. University of Maryland Critical Care Project. Baltimore, Maryland, United States.

### Provincial

2017 Feb 27 **Invited Speaker.** BASIC Research Program. InFACT winter meeting. Whistler, British Columbia, Canada.

### National

2017 Jun 8 **Invited Speaker.** Con: Temperature management after cardiac arrest: To cool, not to cool. Or just too cool? Critical Challenges Conference 2017. Toronto, Ontario, Canada.

## Peer Reviewed Publications

### Journal Articles

D'Empaire PP, **Amaral AC**. What every intensivist should know about handovers in the intensive care unit. Rev Bras Ter Intensiva. 2017 Apr 1;29(2):121-123. **Senior Responsible Author**

Fan E, Zakhary B, **Amaral AC**, McCannon J, Girard TD, Morris PE, Truwit JD, Wilson KC, Thomson CC. Liberation from Mechanical Ventilation in Critically Ill Adults. An Official ATS/ACCP Clinical Practice Guideline. Ann Am Thorac Soc. 2017 Mar 1;14(3):441-443. **Coauthor or Collaborator**

### Letters to Editor

Goligher EC, Detsky ME, Sklar MC, Campbell VT, Greco P, **Amaral AC**, Ferguson ND, Brochard LJ. Rethinking Inspiratory Pressure Augmentation in Spontaneous Breathing Trials. Chest. 2017 Jun 1;151(6):1399-1400. **Coauthor or Collaborator**

Ferreyro BL, Angriman F, **Amaral AC**, Scales DC. Prediction of Occult Cancer Among Adult Patients With Acute Venous Thromboembolic Disease. Chest. 2017 Mar 1;151(3):727-728. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

2016 - 2017 **Co-Investigator**. A prospective audit of blood test ordering practices in Hamilton-area Intensive Care Units – part of the RUBIC research program (Reducing Unnecessary Blood tests In the Critically Ill). 2016/17 AFP Innovation Grant. 2016-17 HAHSO Innovation Grant competition. PI: Rochweg, Bram. 78,965.66 CAD. [Grants]

## Presentations and Special Lectures

### International

2017 Nov 8 - 11 **Invited Speaker**. Using Rapid Response Teams to Identify Targets for Quality Improvement; Handovers: Friend or foe; How to reduce the burnout?; Communications: the secret to success; Can the team mental model improve the workplace? The XIII World Congress of Intensive and Critical Care Medicine and the XXII Brazilian Congress of Intensive Care Medicine. Rio de Janeiro, Brazil.

2017 May **Invited Speaker**. Breakout Session: Implementing the ABCDE Bundle; QI Evaluation: Show Me the Data! How to Measure Implementation and Patient-Centered Outcomes; . QI Team Reports and Debrief. American Thoracic Society 2017 International conference. Washington, District of Columbia, United States.



## **National**

2017 Nov 14

**Invited Speaker.** Families as Part of the Team to Improve Quality of Care.  
Trillium Health Partners. Mississauga, Ontario, Canada.

2017 Oct 2

**Invited Speaker.** What do we really do during inter-professional rounds? Critical Care  
Canada Forum. Toronto, Ontario, Canada.

**Peer-Reviewed Publication**

**Journal Articles**

McCredie VA, Ferguson ND, Pinto RL, Adhikari NK, Fowler RA, **Chapman MG**, Burrell A, Baker AJ, Cook DJ, Meade MO, Scales DC; Canadian Critical Care Trials Group. Airway Management Strategies for Brain-injured Patients Meeting Standard Criteria to Consider Extubation. A Prospective Cohort Study. Ann Am Thorac Soc. 2017 Jan;14(1):85-93. **Coauthor or Collaborator**

McCredie VA, Piva S, Santos M, Xiong W, de Oliveira Manoel AL, Rigamonti A, Hare GM, **Chapman MG**, Baker AJ. The Impact of Red Blood Cell Transfusion on Cerebral Tissue Oxygen Saturation in Severe Traumatic Brain Injury. Neurocrit Care. 2017 Apr;26(2):247-255. **Coauthor or Collaborator**

**Peer Reviewed Grants**

**Funded**

- 2015 Jul - 2020 Jun      **Collaborator.** The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research. Operating Grant. PI: Scales D. Collaborator(s): Adhikari NK, Alali A, Baker A, Bosma K, Brochard L, Chapman M, Charbonney E, Cuthbertson B, Fowler R, Griesdale D, Mainprize T, McCredie V, Meade M, Nathens A, Rubenfeld G, Seely A, Singh J, Turgeon A, Wilco ME, Zygun D. 880,404 CAD. [Grants]
- 2014 Dec - 2019 Nov      **Co-Investigator.** Canadian Traumatic Brain Injury Research Consortium. CIHR. 2,000,000 CAD. [Grants]

**Presentations and Special Lectures**

**National**

- 2017      **Invited Speaker.** Chest XR Interpretation. Critical Care Nursing - Critical Challenges Conference. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

**Cuthbertson BH**, Goddard S. Benefits and harms of early rehabilitation. Intensive Care Med. 2017 Dec;43(12):1878-1880. **Principal Author**

Murthy S, Pathan N, **Cuthbertson BH**. Selective digestive decontamination in critically ill children: A survey of Canadian providers. J Crit Care. 2017 Feb 20;39:169-171. **Senior Responsible Author**

McCredie VA, Alali AS, Scales DC, Adhikari NK, Rubenfeld GD, **Cuthbertson BH**, Nathens AB. Effect of Early Versus Late Tracheostomy or Prolonged Intubation in Critically Ill Patients with Acute Brain Injury: A Systematic Review and Meta-Analysis. Neurocrit Care. 2017 Feb;26(1):14-25. **Coauthor or Collaborator**

Bean S, Shin P, Henry B, **Cuthbertson BH**. Second Medical Opinions in End-of-Life Disputes in Critical Care: An Ethics-Based Approach. Healthc Q. 2017;20(2):23-26. **Senior Responsible Author**

**Peer-Reviewed Grants**

**Funded**

- 2017 Oct - 2021 Oct **Principal Investigator**. The SuDDICU study – A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. Canadian Institutes of Health Research. SPOR Innovative Clinical Trial Multi-year Grants. Collaborator(s): Murthy S, Garber GE, Misak C, Rose L et al.. \$100,000.00 CAD. [Operating Grants]
- 2017 Oct - 2021 Oct **Principal Investigator**. The SuDDICU study – A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. Canadian Institutes of Health Research. Collaborator(s): Murthy S, Garber GE, Misak C, Rose L et al. 100,000 CAD. [Operating Grants]
- 2015 Jul - 2020 Jun **Co-Investigator**. The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research. Operating Grant. PI(s): Scales D, Ferguson N. Collaborator(s): Adhikari N, Alali A, Baker A, Bosma K, Brochard L, Chapman M, Charbonney E, Fowler R, Griesdale D, Mainprize T, McCredie V, Meade M, Nathens A, Rubenfeld G, Seely A, Singh J, Turgeon A, Wilcox ME, Zygun D. 880,404 CAD. [Grants]
- 2015 Jan - 2019 Jan **Chief International Investigator**. SuDDICU study. Health Research Council of New Zealand. PI(s): Young, Paul. Collaborator(s): MacArthur C, Seaton H. 1,200,000 NZD. [Grants]
- 2015 Jan - 2019 Jan **Chief International Investigator**. SuDDICU study. Australian National Health and Medical Research Council. PI(s): Seppelt I. Collaborator(s): Finfer S, Jan S, Marshall A, Myburgh J, Young P. 3,960,000 AUD. [Grants]
- 2014 Apr - 2017 Mar **Co-Investigator**. Using the Six-Minute Walk Test to Predict Quality of Recovery and Disability-Free Survival Following Major Noncardiac Surgery. Australian and New

Zealand College of Anaesthetists. PI(s): Myles P. Collaborator(s): Pearse R, Shulman M, Wallace S, Wijesundera, D. 130,420 AUD. [Grants]

2013 Jul - 2016 Jun **Principal Investigator.** The METS ( Measurement of Exercise Tolerance before Surgery) Study: An International Multicentre Prospective Cohort Study of Cardiopulmonary Exercise Testing For Improving Preoperative Risk Stratification for Major Non-Cardiac Surgery. Heart and Stroke Foundation of Ontario (The) (HSFO). Grant in Aid. 144,000 CAD. [Grants]

## Presentations and Special Lectures

### International

2017 July **Keynote Speaker.** Improving patient outcomes – harder than we thought. ICU and the Road to Recovery. ICU Physiotherapy & Multidisciplinary Symposium 2017.

**Invited Speaker.** The new world order: which rescue therapies?; Tracheostomy: friend or foe? Mechanical Ventilation: Different Strategies for Different Lungs 11<sup>th</sup> Alfred ICU Advanced Mechanical Ventilation Conference 2017.

Monash University. Victoria, Australia.

### Provincial

2017 June **Invited Speaker.** The CCCTBG Spring 2017 Scientific Meeting. SuDDICU – Update on Project Underway. The Critical Care Trials Group. Montreal, Quebec, Canada.

### National

2017 Oct 1-3 **Invited Speaker.** Improving Long-Term Outcomes: Early Rehabilitation - All Good?; Plenary: End of Life Care and Immigration Status in Ontario; Session 8 - Two Decades of Big Lessons.

**Moderator.** We Will Improve Outcome in Sepsis If We...

Critical Care Canada Forum. Toronto, Ontario, Canada.

2017 April **Chair.** Oral Presentations. Department of Anesthesia Shields Day. University of Toronto. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Saun TJ, Odorizzi S, Yeung C, Johnson M, Bandiera G, **Dev S**. A Peer-Reviewed Instructional Video is as Effective as a Standard Recorded Didactic Lecture in Medical Trainees Performing Chest Tube Insertion: A Randomized Controlled Trial. *Journal of Surgical Education*. 2017 May;74(3):437-442. **Senior Responsible Author**

Downar J, McNaughton N, Abdelhalim T, Wong N, Lapointe-Shaw L, Seccareccia D, Miller K, **Dev S**, Ridley J, Lee C, Richardson L, McDonald-Blumer H, Knickle K. Standardized patient simulation versus didactic teaching alone for improving resident' communication skills when discussing goals of care and resuscitation: A randomized controlled trial. *Palliative Medicine*. 2017 Feb;31(2):130-139. **Coauthor or Collaborator**

### Essay

**Shelly Dev**. How Therapy Revealed the Ills of Residency. *University of Toronto Faculty of Medicine Alumni Magazine*. 2017 Apr 10. Available from: <https://www.medicine.utoronto.ca/news/uoftmed-alum-how-therapy-revealed-ills-residency>. **Principal Author**

### Magazine interview

Heidi Singer. Unvarnished Truth. *UofTMed*. 2017 May. Available from: <http://uoftmedmagazine.utoronto.ca/>. **Interviewee**

## Peer Reviewed Grants

### Funded

- 2017 Jun - 2021 Jun **Consultant/Producer**. PITSTOP: Paramedic Initiated Treatment of Sepsis Targeting Out-of-Hospital Patients. Canadian Institutes of Health Research (CIHR). NCT03068741. PI(s): Scales D. [Clinical Trials]
- 2017 May - 2019 Oct **Consultant/Producer**. Selective Decontamination of the Digestive Tract in Intensive Care Unit Patients (SuDDICU-ANZ). The George Institute. NCT02389036. PI(s): Cuthbertson B. [Clinical Trials]

## Presentations and Special Lectures

### National

- 2017 Nov 13 **Keynote Speaker**. Professionalism and Wellness in Residency. Faculty Development Day, Department of Anaesthesiology, University of Toronto. Toronto, Ontario, Canada.
- 2017 Nov 1 **Invited Speaker**. Critical Care: A Case-Based Update. Canadian Society of Internal Medicine. Toronto, Ontario, Canada.

- 2017 Oct 30 - 31 **Invited Speaker.** Forging Your Own Path: Leveraging Individual Strengths and Interests to Craft a Rewarding Career; Take it Outside: Incorporating Multimedia into Your Teaching. CHEST Annual Meeting. Toronto, Ontario, Canada.
- 2017 Oct 26 **Keynote Speaker.** Medical Leaders Skills Session: Wellness in the Workplace. Trillium Health Partners. Toronto, Ontario, Canada.
- 2017 Oct 24 **Invited Panel Member.** Joy in Work. Health Quality Transformations 2017. Health Quality Ontario. Toronto, Ontario, Canada.
- 2017 Oct 3 **Invited Speaker.** Achieving Maximal Stickiness: Making Your Teaching Moments Memorable. Critical Care Canada Forum. Toronto, Ontario, Canada.
- 2017 Oct 3 **Invited Speaker.** Rapid Response is Stuck in the Elevator: Managing Your Critically Ill Patient on the Ward. Postgraduate Year 2 Academic Half Day, Department of Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.
- 2017 Sep 16 **Keynote Speaker.** Beyond Medicine: The Human Touch, Life of Professionals. Candian Association of Radiation Oncology, Annual Scientific Meeting. Toronto, Ontario, Canada.
- 2017 Aug 30 **Invited Speaker.** Little Brother is Watching: Role Models, Professionalism and The Hidden Curriculum. Postgraduate Year 3 Academic Half Day, Department of Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.
- 2017 Jul 27 **Invited Speaker.** The Shock Doctrine: A Physiologic Journey. Postgraduate Year 1 Academic Half Day, Department of Medicine, Faculty of Medicine, University of Toronto. Toronto, Ontario, Canada.
- 2017 Jun 23 **Keynote Speaker.** Is Wellness in Residency Attainable? Department of Otolaryngology Annual Resident Retreat. Toronto, Ontario, Canada.
- 2017 Jun 22 **Keynote Speaker.** Wellness in the Workplace. Health Quality Ontario. Toronto, Ontario, Canada.
- 2017 May 30 **Developer/Facilitator.** The Teaching Dossier: An Educator's Tale. Education Scholar's Program, Centre for Faculty Development. Toronto, Ontario, Canada. Presenter(s): Mema B.
- 2017 May 30 **Invited Speaker.** Telling Our Stories: Healing the Healers. University of Toronto Physician Health Symposium. Toronto, Ontario, Canada.
- 2017 May 2 **Invited Speaker.** Story Slam: "Straight from the Mouths of Babes". Department of Medicine, University of Toronto. Toronto, Ontario, Canada.
- 2017 Mar 14 **Invited Speaker.** Medicine and the Pursuit of Wellness. Interdepartmental Division of Critical Care Medicine, University of Toronto. Toronto, Ontario, Canada.
- 2017 Mar 8 **Invited Speaker.** Making Learning Stick. Students As Teachers, University of Toronto Faculty of Medicine. Toronto, Ontario, Canada.
- 2017 Jan 10 **Invited Speaker.** Unforgettable: Making Learning Stick. Toronto East General Hospital, Department of Continuing Medical Education. Toronto, Ontario, Canada.

## Local

2017 Sep 26

**Invited Speaker.** In Search of Civility. Schulich Heart Program, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journals

Arabi YM, Mandourah Y, Al-Hameed F, Sindi AA, Al Mekhlafi GA, Hussein MA, Jose J, Pinto R, Al-Omari A, Kharaba A, Almotairi A, Al Khatib K, Alraddadi B, Shalhoub S, Abdulmomen A, Qushmaq I, Mady A, Solaiman O, Al-Aithan AM, Al-Raddadi R, Ragab A, Balkhy HH, Al Harthy A, Deeb AM Msn Ccrc, Al Mutairi H, Al-Dawood A, Merson L, Hayden FG, **Fowler RA**, Saudi Critical Care Trial group. Corticosteroid Therapy for Critically Ill Patients with the Middle East Respiratory Syndrome. *Am J Respir Crit Care Med*. 2017 Nov 21. doi: 10.1164/rccm.201706-1172OC. **Senior Responsible Author**

Fischer WA, Vetter P, Bausch DG, Burgess T, Davey RT, **Fowler RA**, Hayden FG, Jahrling PB, Kalil AC, Mayers DL, Mehta AK, Uyeki TM, Jacobs M. Ebola virus disease: an update on post-exposure prophylaxis. *Lancet Infect Dis*. 15 Nov 2017. **Coauthor or Collaborator**

Jung JJ, Pinto R, Zarychanski R, Cook DJ, Jouviet P, Marshall JC, Kumar A, Long J, Rodin R, Fowler RA, Canadian Critical Care Trials Group H1N1 Collaborative. 2009-2010 Influenza A(H1N1)-related critical illness among Aboriginal and non-Aboriginal Canadians. *PLoS One*. 2017 Oct 19;12(10):e0184013. **Senior Responsible Author**

Yarnell CJ, Fu L, Manuel D, Tanuseputro P, Stukel T, Pinto R, Scales DC, Laupacis A, **Fowler RA**. Association Between Immigrant Status and End-of-Life Care in Ontario, Canada. *JAMA*. 2 Oct 2017. **Senior Responsible Author**

Stelfox HT, Leigh JP, Dodek PM, Turgeon AF, Forster AJ, Lamontagne F, **Fowler RA**, Soo A, Bagshaw SM. A multi-center prospective cohort study of patient transfers from the intensive care unit to the hospital ward. *Intensive Care Med*. 2017 Oct;43(10):1485-1494. **Coauthor or Collaborator**

Arabi YM, Al-Omari A, Mandourah Y, Al-Hameed F, Sindi AA, Alraddadi B, Shalhoub S, Almotairi A, Al Khatib K, Abdulmomen A, Qushmaq I, Mady A, Solaiman O, Al-Aithan AM, Al-Raddadi R, Ragab A, Al Mekhlafi GA, Al Harthy A, Kharaba A, Ahmadi MA, Sadat M, Mutairi HA, Qasim EA, Jose J, Nasim M, Al-Dawood A, Merson L, **Fowler RA**, Hayden FG, Balkhy HH; Saudi Critical Care Trial Group. Critically Ill Patients With the Middle East Respiratory Syndrome: A Multicenter Retrospective Cohort Study. *Crit Care Med*. 2017 Aug 3. **Coauthor or Collaborator**

You JJ, Aleksova N, Ducharme A, MacIver J, Mielniczuk L, **Fowler RA**, Demers C, Clarke B, Parent MC, Toma M, Strachan PH, Farand P, Isaac D, Zieroth S, Swinton M, Jiang X, Day AG, Heyland DK, Ross HJ. Barriers to Goals of Care Discussions With Patients Who Have Advanced Heart Failure: Results of a Multicenter Survey of Hospital-Based Cardiology Clinicians. *J Card Fail*. 2017 Jun 23. **Coauthor or Collaborator**

Mason SA, Nathens AB, Byrne J, Gonzalez A, **Fowler RA**, Karanicolas P, Moineddin R, Jeschke MG. Trends in the epidemiology of major burn injury among hospitalized patients: A population-based analysis. *Journal of Trauma and Acute Care Surgery*. 2017 May 22. **Coauthor or Collaborator**

Mason SA, Nathens AB, Byrne JP, Ellis J, **Fowler RA**, Gonzalez A, Karanicolas PJ, Moineddin R, Jeschke MG. Burn center care reduces acute health care utilization after discharge: A population-based analysis of 1,895 survivors of major burn injury. *J Am Coll Surg*. 2017 Jun 28. **Coauthor or Collaborator**



Rishu AH, Marinoff N, Julien L, Dumitrascu M, Marten N, Eggertson S, Willems S, Ruddell S, Lane D, Light B, Stelfox HT, Jouvett P, Hall R, Reynolds S, Daneman N, **Fowler RA**, Canadian Critical Care Trials Group. Time required to initiate outbreak and pandemic observational research. *J Crit Care*. 2017;40:7-10. **Senior Responsible Author**

Aoyama K, D'Souza R, Inada E, Lapinsky SE, **Fowler RA**. Measurement properties of comorbidity indices in maternal health research: a systematic review. *BMC Pregnancy Childbirth*. 2017. 13;17(1):372. **Senior Responsible Author**

Lamontagne F, **Fowler RA**, Adhikari NK, Murthy S, Brett-Major DM, Jacobs M, Uyeki TM, Vallenias C, Norris SL, Fischer WA Nd, Fletcher TE, Levine AC, Reed P, Bausch DG, Gove S, Hall A, Shepherd S, Siemieniuk RA, Lamah MC, Kamara R, Nakyeyune P, Soka MJ, Edwin A, Hazzan AA, Jacob ST, Elkarsany MM, Adachi T, Benhadj L, Clément C, Crozier I, Garcia A, Hoffman SJ, Guyatt GH. Evidence-based guidelines for supportive care of patients with Ebola virus disease. *Lancet*. 2017. **Coauthor or Collaborator**

Ugarte SU, Arenas ARV, Alvarez BC, Cubides A, Luna AF, Arroyo-Parejo M, Acuña CE, Quintero AV, Villareal OC, Pinillos OS, Vieda E, Bello M, Peña S, Dueñas-Castell C, Rodriguez GMV, Ranero JLM, López RLM, Olaya SG, Vergara JC, Tandazo A, Ospina JPS, Leyton Soto IM, **Fowler RA**, Marshall JC, LACCTIN group. Zika virus-induced neurological critical illness in Latin America: Severe Guillain-Barre Syndrome and encephalitis. *J Crit Care*. 2017;42:275-281. **Coauthor or Collaborator**

Valiani S, Rigal R, Stelfox HT, Muscedere J, Martin CM, Dodek P, Lamontagne F, **Fowler RA**, Gheshmy A, Cook DJ, Forster AJ, Hébert PC. An environmental scan of quality indicators in critical care. *CMAJ Open*. 2017;5(2):E488-E495. **Coauthor or Collaborator**

Arabi Y, Balkhy HH, Hayden FG, Bouchama A, Luke T, Baillie JK, Al-Omari A, Hajeer AH, Senga M, Denison MR, Nguyen-Van-Tam J, Shindo N, Bermingham A, Chappell JD, Van Kerkhove MD, **Fowler RA**. Infection with the Middle East Respiratory Syndrome Coronavirus (MERS-CoV). *N Engl J Med* 2017; 376:584-594. **Senior Responsible Author**

Mason SA, Nathens AB, Byrne JP, **Fowler RA**, Gonzalez A, Karanicolas PJ, Moineddin R, Jeschke MG. The accuracy of burn diagnosis codes in health administrative data: A validation study. *Burns*. 2017. **Coauthor or Collaborator**

## Letters

**Fowler RA**, Rishu A, Marinoff N, Julien L, Dumitrascu M, Marten N, Eggertson S, Willems S, Ruddell S, Lane D, Light B, Stelfox H, Jouvett P, Hall R, Reynolds S, Daneman N. Global research preparedness for outbreak-related critical illness. *J Crit Care*. 2017 Apr 1. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

2017 - 2021

**Co-Investigator**. Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): A Randomized Controlled Clinical Trial. Health Research Council of New Zealand. PI(s): McArthur C. Collaborator(s): Daneman N, Pake, R, Freebairn R, Henderson S, McGuinness S, Morpeth S, Roberts S, Young S, Webb S.

- 2016 - 2021 **Principal Investigator.** Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): A Randomized Controlled Clinical Trial. CIHR. Daneman N. Collaborator(s): Aslanian P, Bagshaw S, Bestman-Smith J, Carignan A, Coburn B, Conly J, Cook D, Detsky M, Dodek P, Elsayed S, Evans G, Hall R, Johnston B, Kumar A, Lamontagne F, Lauzier F, Leung V, Marshall J, Martin C, McIntyre L, Morris A, Muscedere J, Reynolds S, Sligl W, Stelfox H, Taggart L, Toye B, Wilcox ME. CIHR. 2,010,635 CAD. [Grants]
- 2016 - 2018 **Co-Investigator**BALANCE of the microbiome. Physicians' Services Ontario. PI(s): Daneman N. 165,500 CAD. [Grants]
- 2016 - 2018 **Supervisor.** Level of training and end-of-life predictions: a prospective study of resident and attending physicians prognosis agreement and accuracy.Resident: Yarnell C. Physicians' Services Incorporated Resident Research Award (Ontario). 19,000 CAD. [Grants]
- 2016 - 2017 **Co-Investigator.** Thromboprophylaxis After Significant Traumatic Brain Injury: A Randomized Controlled Trial. CIHR. PI(s): Pirouzmand F, Scales D. Collaborator(s): English S, Fourney D, Geerts W, Griesdale D, Jabehdar M, Kramer A, Kutsogiannis D, Macdonald R, Machnowska M, Mansouri A, Midha R, O'Kelly C, Patel C, Pronovost A. CIHR. 100,000 CAD. [Grants]
- 2016 - 2017 **Co-Investigator.** PROACT: Using Rapid Response Teams as a Proactive Intervention to Improve End-of-Life Care. PI(s): Rubinfeld G. Collaborator(s): Torabi S, Smith K, Pinto R, Chapman M. Ontario Ministry of Health and Long-term Care Alternate Funding Plan Innovation Fund. 99,837 CAD. [Grants]
- 2015 - 2017 **Principal Investigator.** Regional and temporal variations in incidence, prevalence and outcomes of critical illness among pregnant and post-partum women and newborns in Canada. CIHR Clinical Investigation. Collaborator(s): Aoyama K, Hladunewich M, Lapinsky S, Ray J, Scales D, Seaward P, Shah P. 46,416 CAD. [Grants]
- 2014 - 2019 **Principal Investigator.** CIHR-ICRH Community Development Program Grants - Critical Care Clinical Trials. The Canadian Critical Care Trials Group. Collaborator(s): Hebert P, Burns K, Choong K, cook D, Gilfoyle E, Lamontagne F, Marshall J, McIntyre L, Meade M, Muscedere J, Seely A, Sinuff T, Turgeon A. 1,500,000 CAD. [Grants]
- 2014 - 2018 **Co-Principal Investigator.** Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE): a Pilot Randomized Clinical Trial. Ontario Ministry of Health and Long-term Care Alternate Funding Plan Innovation Fund. Collaborator(s): Daneman N. 81,892 CAD. [Grants]
- 2012 - 2017 **Principal Investigator.** Technology evaluation in the elderly network (TECH VALUE NET). Networks Centres of Excellence (NCE). Cash /in-kind contributions total an additional 21,409,646 from other partners. PI NCE Inception: Heyland DK. Collaborator(s): 44 Network Investigators across Canada. 23,888,157 CAD. [Grants]
- 2009 - present **Co-Investigator.** Realities, Expectations and Attitudes to Life Support Technologies in Intensive Care for Octogenarians: The REALISTIC 80 Study. CIHR. Collaborator(s): Bagshaw S, Burns K, Cook D, Day A, Dodek P, Gafni A, Garland A, Ozak JF, Kutsogiannis D, McIntyre L, Muscedere J, Rocker G, Rockwood K, Skrobik Y, Stelfox H, Turgeon A. 298,209 CAD. [Grants]

2009 - present **Co-Investigator.** Towards RECOVER: Long-Term Outcomes and Needs Assessment in ICU Survivors of Prolonged Mechanical Ventilation and their Caregivers. CIHR. PI(s): Cameron J, Herridge M. Collaborator(s): Sutherland M, Abbey S, Adhikari N, Batt J, Cook D, Dos Santos C, Ferguson N, Flannery J, Friedrich J, Leung G, Marshall J, Matte An, Meggison H, Mehta S, Moody A, Rubenfeld G, Rudkowski J, Scales D, Sinuff T, Slutsky A, Tansey C, Tomlinson G. CIHR. 206,918 CAD. [Grants]

2009 - present **Co-Principal Investigator.** Improving Continuity of Care for Critically-III and At-Risk Patients. AFP Innovation Fund Ontario. Collaborator(s): Scales, D. 60,200 CAD. [Grants]

## Presentations and Special Lectures

### International

2017 Oct 23 - 24 **Invited Speaker.** The Research Process: Clinical Trials; Observational Studies, The Research Question and the Research Process: an Overview. Toronto-Addis Ababa Academic Collaboration. Addis Ababa University. Ethiopia.

2017 Oct 17 **Invited Speaker.** The BALANCE TRIAL and the Canadian Critical Care Trials Group. The Saudi Critical Care Trials Group Meeting. Riyadh, Saudi Arabia.

2017 Oct 16 **Invited Speaker.** End-of-Life Care. Shared Experiences, Common Challenges. Prince Sultan Military Medical City. Riyadh, Saudi Arabia.

2017 Oct 15 - 16 **Invited Speaker.** The BALANCE TRIAL. King Faisal Specialist Hospital and Research Centre; King Abdulaziz Medical City, Ministry of National Guard, Health Affairs. Jeddah, Saudi Arabia.

2017 May 21 **Invited Speaker.** Global Health Careers in Pulmonary and Critical Care Medicine – the WHO Consulting Model. The American Thoracic Society. Washington DC, USA.

2017 Jan 4 **Invited Speaker.** Intensive Care Medicine: Caring for Critically Ill Patients When There is No ICU. University of Pittsburgh Medical Centre Department of Critical Care Medicine Grand Rounds. Pittsburgh, USA.

### Provincial

2017 June 12 **Invited Speaker.** Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE) Trial Start-up Meeting. Presenter(s): Rishu A, Daneman N. Lac a l'eau Claire, Quebec.

2017 June 12 **Invited Speaker.** Bacteremia Antibiotic Length Actually Needed for Clinical Effectiveness (BALANCE) Update. Canadian Critical Care Trials Group. Presenter(s): Rishu A, Daneman N. Lac a l'eau Claire, Quebec, June 12 2017.

2017 Feb 11 **Invited Speaker.** Critical Illness Knows No Boundaries. 15e Congrès Annuel Société des intensivistes du Québec. Présentation Allen Spanier. Montreal, Canada.

### National

2017 Oct 5 **Invited Speaker.** Fire-side Chat with faculty from various disciplines. University of Toronto Department of Medicine Post Graduate Year 1 Scholarly Talk. Presenter(s): Wong B, Ginsburg S. Toronto, Ontario, Canada.

- 2017 Oct 2 - 4 **Invite Speaker.** Bayesian Analyses: exploiting your bias; End of Life Care and Immigration Status in Ontario. Critical Care Canada Forum. Toronto, Ontario, Canada.
- 2017 June 20 **Invited Speaker.** Critical Care Sans Frontieres. Interdepartmental Division of Critical Care Medicine Research Day. University of Toronto. Toronto, Ontario, Canada.
- 2017 May 24 **Invited Speaker.** The West Africa Ebola Experience. Dignitas International. Toronto, Ontario, Canada.
- 2017 Apr 12 **Moderator.** Nuts and Bolts of Research. Li Ka Shing Knowledge Institute. Toronto, Ontario, Canada.
- 2017 Apr 7 **Invited Speaker.** Too much of a good thing. Department of Critical Care Medicine Grand Rounds.St. Michael's Hospital. Toronto, Ontario, Canada.
- 2017 Feb 2017 **Invited Speaker.** Caring for Patients When there is No ICU. University of Toronto Medicine Global Health Elective Series. Toronto, Ontario, Canada.

### **Local**

- 2017 May 31 **Invite Speaker.** Where you are born, where you die. Department of Critical Care Medicine Grand Rounds. Sunnybrook Hospital. Toronto, Ontario, Canada.

### **Honours and Awards**

- 2017 Mentorship Award, Sunnybrook Health Sciences Centre Department of Medicine
- 2017 Mid-Career Achievement Award, American Thoracic Society
- 2017 Teasdale-Corti Humanitarian Award, Royal College of Physicians and Surgeons of Canada

**Peer-Reviewed Publications**

**Journal Articles**

Cheung A, **Haas B**, Ringer TJ, McFarlan A, Wong CL. The Canadian Study of Health and Aging Clinical Frailty Scale Predicts Adverse Outcomes Among Geriatric Trauma Patients. J Am Coll Surg. 2017 Sep 6. S1072-7515(17)31770-2. **Coauthor or Collaborator**

Wong CL, Al Atia R, McFarlan A, Lee HY, Valiaveetil C, **Haas B**. Sustainability of a proactive geriatric trauma consultation service. Can J Surg. 2017 Feb;60(1):14-18. **Senior Responsible Author**

Wong CL, von Maltzahn M, McFarlan A, Huang A, Lee L, **Haas B**. Leading best practices: Emerging cross-specialty collaborative care models. CGS Journal of CME. 2017; 7(1). **Senior Responsible Author**

**Peer-Reviewed Grants**

**Funded**

2016 - 2017 **Principal Investigator.** The changing face of trauma care: a comprehensive evaluation of the impact of severe injury on elderly patients. CIHR. 92,500 CAD. [Grants]

**Presentations and Special Lectures**

**National**

2017 Nov 29 **Invited Speaker.** Doctor's Talk - Geriatric Trauma in Ontario.St. John's Rehab Hospital. Toronto, Ontario, Canada.

**Local**

2017 Dec 6 **Invited Speaker.** Using a Qualitative Approach to Identify Opportunities for QI in Daily Practice. Sunnybrook Education Research Rounds. Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.

## Peer-Reviewed Grants

### Funded

- 2017 Oct - 2018 Oct **Primary Supervisor.** Transitioning into the ICU team - The experience of International Medical Graduates (IMGs) during a North American Fellowship Training Program in Critical Care. PI: Mecklenburg A. Collaborator(s): Najeeb U, Rose L, Lingard L. [Grants]Research salary support x 12 months for PA; Research Funds. Deutsche Forschungsgemeinschaft [German Research Foundation]. 3000 Euros. [Grants]
- 2017 Sep - 2018 Sep **Co-Investigator.** End of Life Skills & Professionalism for Critical Care Residents in Training (ESPRIT) study. PI(s): Shaikh S, Karachi T. Collaborator(s): Arora S, Meade M, Centofanti J, Downar J, Boyle A, Woods A, Cook D. The Physicians' Services Incorporated Foundation - Resident Research Grant. 9,460 CAD. [Grants]
- 2017 Jul - 2019 Jan **Co-Investigator.** Formative Assessment for Practicing Critical Care Physicians: Best Strategy to Maximize Engagement and Learning. PI(s): Ulic D. Collaborator(s): Fox-Robichaud A, Perri D, Karachi T, Tavares W, Lee C. McMaster University Continuing Health Science Education Research and Innovation Fund. 15,000 CAD. [Grants]
- 2016 Jul - 2019 May **Principal Investigator.** Programmatic Assessment in the Workplace: A Realist Exploration of Contexts, Mechanisms, and Outcomes in Critical Care Medicine. Collaborator(s): Brydges R, Lee C, Mema B, Ng S, Tavera W. RCPSC - Medical Education Research Grant. 49,945 CAD. [Grants]
- 2016 Jul - 2017 Jul **Principal Investigator.** InCURS: Intensive Care Unit Residents Scheduling Study. PI(s): Parshuram C. Collaborator(s): Scales D, H Stelfox H, Amaral AC, Walsh C, et al. CIHR - Project Grant - Bridge Money. 100,000 CAD. [Grants]
- 2016 Jun - 2017 Jun **Principal Investigator.** Overnight Hospital Supervision of Housestaff In Training in Intensive Care Units. Collaborator(s): Katz D, Detsky M. MSH Innovation in Education Grant. 5000 CAD. [Grants]
- 2016 May - 2017 May **Principal Investigator.** Evaluation of a new program of workplace-based formative assessment for critical care medicine trainees. Chief Fund of Department of Critical Care Medicine. Sunnybrook Health Sciences Centre. 12,500 CAD. [Grants]

## Presentations and Special Lectures

### International

- 2017 Aug 29 **Invited Speaker.** From Apprenticeship to CBME: Four epidemics, one remedy? Association of Medical Education in Europe (AMEE) 2017. Helsinki, Finland.

## Provincial

- 2017 May 2 **Attendee.** CBME in Practice: Foreseeable Challenges, Potential Solutions, Workshop. Canadian Conference on Medical Education. Winnipeg, Manitoba, Canada.
- 2017 Jan 25 **Invited Speaker.** INCURS: Intensive Care Unit Resident Schedule Study. The Canadian Critical Care Trial Group Spring Meeting. Presenter(s): Parshuram C. Lake Louise, Alberta, Canada.

## National

- 2017 Dec 7 **Invited Speaker.** Do residents learn during a 4-week ICU rotation? Sickkids Critical Care Research Rounds. Toronto, Ontario, Canada.
- 2017 Dec 1 **Invited Speaker.** Virtual Reality simulators for skills training: Using them to the max; Is there a valid tool in simulation or do I need to develop one to assess competency of my trainee?. Workshop at the Sim-One Expo. Toronto, Ontario, Canada.
- 2017 Nov 25 **Panelist.** Career Panel: Clinical Educator. University of Toronto Internal of Medicine PGY2 Resident Annual Retreat. Niagara-on-the-lake, Ontario, Canada.
- 2017 Oct 3 **Invited Speaker.** Continuous Professional (Arrested) Development; Critical Care Education, Maintaining Competence Canadian Critical Care Forum. Toronto, Ontario, Canada.
- 2017 Oct 2 **Moderator.** CCCF/CCCS - Competency by Design in CCM; Plenary. Critical Care Canada Forum. Toronto, Ontario, Canada.
- 2017 Jun 12 **Organizer.** CCCTG Research Career Development Day. Canadian Critical Care Trials Group. Toronto, Ontario, Canada.

## Local

- 2017 Nov 17 **Invited Speaker.** Workshop on Curricular Design and Improvement: A roadmap to strategic curriculum development; Autonomy and Resident Learning during Simulated Resuscitation: Lessons learned from a feasibility study 6th Annual Sunnybrook Education Conference. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Dale C, King J, Nonoyama M, Mckim D, Road J. **Rose L.** Transitions during home mechanical ventilation: The experiences of Canadian ventilator assisted adults and their family caregivers. *ATS Annals*. 28 Dec 2017.

**Senior Responsible Author**

Povitz M, **Rose L**, Leasa DJ, Welk B, Bray-Jenkyn K, Shariff SZ, Gershon A. Home mechanical ventilation in the province of Ontario, Canada: a 12-year population based retrospective cohort study. *Respiratory Care*. 5 Dec 2017. **Coauthor or Collaborator**

Amin R, Parshuram C, Kelso J, Lim A, Mateos-Corral D, Mitchell I, Patel H, Roy M, Syed F, Troini R, Wensley D, **Rose L.** Checklist Development for Assessment of Caregiver Knowledge and Skills to Safely Care for Children Receiving Tracheostomy Ventilation at Home: The KIDS VENT Study. *Pediatric Pulmonology*. 6 Oct 2017. **Senior Responsible Author**

**Rose L**, McGinlay M, Amin R, Burns KEA, Connolly B, Hart N, Jouvett P, Katz S, Leasa D, Mawdsley C, McAuley DF, Schultz MJ, Blackwood B. Variation in definition of prolonged mechanical ventilation: a scoping review. *Respiratory Care*. 13 Jun 2017. **Principal Author**

**Rose L**, Adhikari NKJ, Leasa D, Fergusson DA, McKim D. Cough augmentation techniques for extubation and weaning of critically ill patients. *Cochrane Database of Systematic Reviews* 11 Jan 2017; 1:CD011833.

**Principal Author**

**Rose L**, Agar M, Burry L, Campbell N, Clarke M, Lee J, Siddiqi N, Page, V. Development of core outcome sets for effectiveness trials of interventions to prevent and/or treat delirium (Del-CORs): Study protocol. *BMJ Open*. 2017; 7(9):e01637. **Principal Author**

Guenette M, Burry L, Cheung A, Farquharson T, Traill M, Mantas I, Mehta S, **Rose L.** Psychotropic drug use in physically restrained, mechanically ventilated, critically ill adults: A prospective observational study. *American Journal of Critical Care*. 2017;26:380-387. **Senior Responsible Author**

Burry L, Williamson D, Mehta S, Perreault M, Mantas I, Malik R, Fergusson DA, Smith O, Fan E, Dupuis S, Herridge M, **Rose L.** Delirium and exposure to psychoactive medications in critically ill adults: a multi-centre observational study. *Journal of Critical Care*. 2017;42:268-274. **Senior Responsible Author**

**Rose L**, Istanboulian L, Allum L, Burry L, Dale C, Hart N, Kydonaki C, Ramsay P, Pattison N, Connolly B; PERFORM study investigators. Patient- and family-centered performance measures focused on actionable processes of care for persistent and chronic critical illness: protocol for a systematic review. *Syst Rev*. 2017;6(1):84. **Principal Author**

Dale C, King J, Amin R, Katz S, McKim D, **Rose L.** Health transition experiences of Canadian ventilator-assisted adolescents and their family caregivers: A qualitative interview study. *Pediatrics & Child Health*. 2017;22(5); 277-281. **Principal Author**

Burry L, Dryden L, **Rose L**, Williamson DR, Adhikari NKJ, Turgeon AF, Golan E, Dewhurst N, Fergusson DA, Hutton B, Mehta S. Sedation for moderate-to-severe traumatic brain injury in adults: a network meta-analysis (Protocol). *Cochrane Database of Systematic Reviews*. 2017;Issue 4. **Coauthor or Collaborator**



Burry L, Scales D, Williamson D, Foster J, Mehta S, Guenette M, Fan E, Detsky M, Azar A, Bernards D, **Rose L**. Feasibility of melatonin for prevention of delirium in critically ill patients: protocol for a multi-centre, randomized, placebo-controlled study. *BMJ Open* 7. 2017; (3):e015420. **Senior Responsible Author**

Tume L, Blackwood B, Kneyber M, **Rose L**. Mechanical ventilation, weaning practices and decision-making in European paediatric intensive care units. *Pediatric Critical Care Medicine*. 2017;18(4):e182-e188. **Senior Responsible Author**

Kerlin M, Adhikari N, **Rose L**, Wilcox ME, Bellamy CJ, Costa DK, Gershngorin HB, Halpern SP, Kahn JM, Lane-Fall, M, Wallace D, Weiss CH, Wunsch H, Cooke C. An Official American Thoracic Society Systematic Review: The effect of nighttime intensivist staffing on mortality and length of stay among ICU patients. *ATS Ad Hoc Committee on ICU Organization. Am J Respir Crit Care Med*. 2017;195(3):383-393. **Coauthor or Collaborator**

Hill A, **Rose L**, Burns, K, Fowler, R, Scales D. Long-term outcomes and health care utilization following prolonged mechanical ventilation. *Annals American Thoracic Society*. 2017; 14(3):355-362. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

- 2017 **Co-Investigator**. The diagnostic accuracy and reliability of transcutaneous carbon dioxide monitoring at home for nocturnal hypoventilation screening in children with neuromuscular disease. Collaborator(s): Amin R, Goldstein R, McAdam L, Al-Saleh S, Chang J. Muscular Dystrophy Canada. 49,855 CAD. [Grants]
- 2017 **Co-Investigator**. Patient and family centered performance measures focused on actionable processes of care for persistent or chronic critical illness. Collaborator(s): Burry L, Campbell V, Dale C, Fan E, Fraser I, Istanboulian L, Lo V, Amaral AC. Canadian Lung Association: Breathing as One grant. 20,000 CAD. [Grants]
- 2017 **Co-Investigator**. Predicting emergency delirium with an interactive customizable tablet (PrEDICT) app. Collaborator(s): Lee J, McRae A, Eagles D, Lang E, Perry J, Goldstein J, Kanik M, Émon M, Sirois M, Chignell M, Tierney M, Tong T. Canadian Centre for Aging and Brain Health Innovation (CC-ABHI) Researcher-Clinician Partnership Program (RCP2). 598,250 CAD. [Grants]
- 2017 **Co-Investigator**. Patient and family centered performance measures focused on actionable processes of care for persistent or chronic critical illness. Collaborator(s): Burry L, Campbell V, Dale C, Fan E, Fraser I, Istanboulian L, Lo V, Amaral AC. Ontario Respiratory Care Association. 20,000 CAD. [Grants]
- 2017 **Co-Investigator**. Mechanical ventilation in obstetric patients: development of an international registry. Collaborator(s): Lapinsky S, Viau-Lapointe J, D'Souza J. The Lung Association – Ontario Grant-in-Aid Program. 50,000 CAD. [Grants]
- 2017 **Co-Investigator**. Mechanical ventilation in pregnancy: Development of a core outcome set. Collaborator(s): Lapinsky S, Viau-Lapointe J, D'Souza J. Cheat Foundation Research Grant in Women's Lung Health. 9,711 CAD. [Grants]
- 2017 **Co-Investigator**. Core outcome set development for effectiveness trials of interventions to prevent or treat delirium (Del-CORs). Collaborator(s): Page V, Burry L, Campbell N, Clarke M, Lee J, Marshall J, Siddiqi N. CIHR Project Grant 271,560 CAD. [Grants]

- 2017 **Co-Investigator.** The SuDDICU study- A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. Collaborator(s): Cuthbertson B, Billot L, Burns K, Campbell M, Dale C, Daneman N, Ferguson N, Fowler R, Garber G, Gordon A, Grimshaw J, Johnston L, Marshall J, McGeer A, Misak C, Murthy S, Myburgh J, Quach-Thanh C. CIHR Project Grant. 100,000 CAD. [Grants]
- 2017 **Co-Investigator.** Patient and family centered performance measures focused on actionable processes of care for persistent or chronic critical illness. Collaborator(s): Allum L, Hart N, Kydonaki C, Ramsay P, Connolly B. European Society of Intensive Care Medicine. Life Priority Grant. 15,000 €. [Grants]
- 2017 **Co-Investigator.** Resuscitation in Motion (RiM) 2018 From Research to Real World Resuscitation: Translating knowledge to policy for best practice. Collaborator(s): Morrison L, Baker A, Brindley P, Brooks S, Buick J, Cheskes S, Chopra A, Christenson J, Decaen A, Dainty K, Dorian P, Drennan I, Jensen J, Lin S, Parsons J, Rizoli S, Rotstein O, Scales D, Tijssen J, Vaillancourt C, Verbeek R, Welsford M. CIHR. 25,000 CAD. [Grants]
- 2017 **Co-Investigator.** The SuDDICU study- A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. PI: Cuthbertson B. Collaborator(s): Murthy S, Misak C, Garber G, Billot L, Burns K, Campbell M, Dale C, Daneman N, Ferguson N, Fowler R, Gordon A, Grimshaw J, Johnston L, Marshall J, McGeer A, Myburgh J, Quach-Thanh C. SPOR Grant. 2,950,000 CAD. [Grants]
- 2017 **Co-Investigator.** Preventing emergency department visits using tablet technology to identify people with unrecognized dementia. Collaborator(s): Lee J, Tierney M, Chignell M. Canadian Centre for Aging & Brain Health Innovation (CC-ABHI) Spark Fund. 49,997.58 CAD. [Grants]

## Presentations and Special Lectures

### International

- 2017 Nov 11 - 12 **Invited Speaker.** Patient- and family-centred performance measures for enhancing quality of care for persistent/chronic critical illness; Managing cough and using the inxsufflator ('Cough Assist'). 5th European Conference on Weaning and Rehabilitation in Critically ill Patients. London, England, United Kingdom.
- 2017 June 16 **Invited Speaker.** Update on UK airway clearance survey and lessons from Canada. UK Home Mechanical Ventilation meeting. London, England, United Kingdom.
- 2017 Apr 20 - 22 **Invited Speaker.** Strategies to Enable Communication for Critically Ill Patients; Promoting cough in the critically ill 10<sup>th</sup> International Congress of the Croatian Nurses Society of Anaesthesia, Reanimation, Intensive Care and Transfusion. Sibenik, Croatia.
- 2017 Mar 31 - Apr 1 **Invited Speaker.** Strategies to Enable Communication for Critically Ill Patients; Cough Augmentation Techniques in the Critically Ill. Congress of the Icelandic Critical Care Society. Reykjavik, Iceland.

2017 Feb 15 -18

**Invited Speaker.** Promoting cough in the critically ill; Feasibility of the electrolarynx for communication in the critically ill. 7th European Federation of Critical Care Nurses Association. Belfast, Northern Ireland.

2017 Feb 1

**Invited Speaker.** In 2030 nurses will be in charge of the ICU. IC-Gelre Symposium. Apeldoorn, Netherlands.

### **Local**

2017

**Invited Speaker.** Non-invasive oxygen strategies for adults with hypoxemic respiratory failure. SPARC Annual meeting. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Shankar-Hari M, **Rubinfeld GD**. Just Because Things Are Not Different, Does Not Mean They Are the Same: Biomarker Patterns in Acute Respiratory Distress Syndrome. Crit Care Med. 2017 Nov 1;45(11):1955-1957. **Senior Responsible Author**

Del Sorbo L, Goligher EC, McAuley DF, **Rubinfeld GD**, Brochard LJ, Gattinoni L, Slutsky AS, Fan E. Mechanical Ventilation in Adults with Acute Respiratory Distress Syndrome. Summary of the Experimental Evidence for the Clinical Practice Guideline. Ann Am Thorac Soc. 2017 Oct 1;14(Supplement):S261-S270. **Coauthor or Collaborator**

Goligher EC, Munshi L, Adhikari NKJ, Meade MO, Hodgson CL, Wunsch H, Uleryk E, Gajic O, Amato MPB, Ferguson ND, **Rubinfeld GD**, Fan E. High-Frequency Oscillation for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. Ann Am Thorac Soc. 2017 Oct 1;14(Supplement):S289-S296. **Coauthor or Collaborator**

Goligher EC, Hodgson CL, Adhikari NKJ, Meade MO, Wunsch H, Uleryk E, Gajic O, Amato MPB, Ferguson ND, **Rubinfeld GD**, Fan E. Lung Recruitment Maneuvers for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. Ann Am Thorac Soc. 2017 Oct 1;14(Supplement):S304-S311. **Coauthor or Collaborator**

Shankar-Hari M, Harrison DA, **Rubinfeld GD**, Rowan K. Epidemiology of sepsis and septic shock in critical care units: comparison between sepsis-2 and sepsis-3 populations using a national critical care database. Br J Anaesth. 2017 Oct 1;119(4):626-636. **Coauthor or Collaborator**

Limaye AP, Stapleton RD, Peng L, Gunn SR, Kimball LE, Hyzy R, Exline MC, Files DC, Morris PE, Frankel SK, Mikkelsen ME, Hite D, Enfield KB, Steingrub J, O'Brien J, Parsons PE, Cuschieri J, Wunderink RG, Hotchkin DL, Chen YQ, **Rubinfeld GD**, Boeckh M. Effect of Ganciclovir on IL-6 Levels Among Cytomegalovirus-Seropositive Adults With Critical Illness: A Randomized Clinical Trial. JAMA. 2017 Aug 22;318(8):731-740. **Coauthor or Collaborator**

Wilcox ME, Lim AS, McAndrews MP, Wennberg RA, Pinto RL, Black SE, Walczak KD, Friedrich JO, Taglione MS, **Rubinfeld GD**. A study protocol for an observational cohort investigating COGNitive outcomes and WELLness in survivors of critical illness: the COGWELL study. BMJ Open. 2017 Jul 13;7(7):e015600. **Senior Responsible Author**

Fan E, **Rubinfeld GD**. Driving Pressure-The Emperor's New Clothes. Crit Care Med. 2017 May 1;45(5):919-920. Impact Factor 2841031. **Senior Responsible Author**

Fan E, Del Sorbo L, Goligher EC, Hodgson CL, Munshi L, Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, **Rubinfeld GD**, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard LJ, American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. Am J Respir Crit Care Med. 2017 May 1;195(9):1253-1263. **Coauthor or Collaborator**

Charbonney E, Wilcox E, Shan Y, d'Empaire PP, Duggal A, **Rubinfeld GD**, Liles C, Santos CD. Systemic angiopoietin-1/2 dysregulation following cardiopulmonary bypass in adults. *Future Sci OA*. 2017 Mar 1;3(1):FSO166. **Coauthor or Collaborator**

Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, Kumar A, Sevransky JE, Sprung CL, Nunnally ME, Rochweg B, **Rubinfeld GD**, Angus DC, Annane D, Beale RJ, Bellingham GJ, Bernard GR, Chiche JD, Coopersmith C, De Backer DP, French CJ, Fujishima S, Gerlach H, Hidalgo JL, Hollenberg SM, Jones AE, Karnad DR, Kleinpell RM, Koh Y, Lisboa TC, Machado FR, Marini JJ, Marshall JC, Mazuski JE, McIntyre LA, McLean AS, Mehta S, Moreno RP, Myburgh J, Navalesi P, Nishida O, Osborn TM, Perner A, Plunkett CM, Ranieri M, Schorr CA, Seckel MA, Seymour CW, Shieh L, Shukri KA, Simpson SQ, Singer M, Thompson BT, Townsend SR, Van der Poll T, Vincent JL, Wiersinga WJ, Zimmerman JL, Dellinger RP. *Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016*. *Intensive Care Med*. 2017 Mar 1;43(3):304-377. **Coauthor or Collaborator**

Rhodes A, Evans LE, Alhazzani W, Levy MM, Antonelli M, Ferrer R, Kumar A, Sevransky JE, Sprung CL, Nunnally ME, Rochweg B, **Rubinfeld GD**, Angus DC, Annane D, Beale RJ, Bellingham GJ, Bernard GR, Chiche JD, Coopersmith C, De Backer DP, French CJ, Fujishima S, Gerlach H, Hidalgo JL, Hollenberg SM, Jones AE, Karnad DR, Kleinpell RM, Koh Y, Lisboa TC, Machado FR, Marini JJ, Marshall JC, Mazuski JE, McIntyre LA, McLean AS, Mehta S, Moreno RP, Myburgh J, Navalesi P, Nishida O, Osborn TM, Perner A, Plunkett CM, Ranieri M, Schorr CA, Seckel MA, Seymour CW, Shieh L, Shukri KA, Simpson SQ, Singer M, Thompson BT, Townsend SR, Van der Poll T, Vincent JL, Wiersinga WJ, Zimmerman JL, Dellinger RP. *Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016*. *Crit Care Med*. 2017 Mar 1;45(3):486-552. **Coauthor or Collaborator**

Pham T, **Rubinfeld GD**. Fifty Years of Research in ARDS. The Epidemiology of ARDS: A Fiftieth Birthday Review. *Am J Respir Crit Care Med*. 2017 Feb 3. **Senior Responsible Author**

McCredie VA, Alali AS, Scales DC, Adhikari NK, **Rubinfeld GD**, Cuthbertson BH, Nathens AB. Effect of Early Versus Late Tracheostomy or Prolonged Intubation in Critically Ill Patients with Acute Brain Injury: A Systematic Review and Meta-Analysis. *Neurocrit Care*. 2017 Feb 1;26(1):14-25. **Coauthor or Collaborator**

Bellani G, Laffey JG, Pham T, Madotto F, Fan E, Brochard L, Esteban A, Gattinoni L, Bumbasirevic V, Piquilloud L, van Haren F, Larsson A, McAuley DF, Bauer PR, Arabi YM, Ranieri M, Antonelli M, **Rubinfeld GD**, Thompson BT, Wrigge H, Slutsky AS, Pesenti A, LUNG SAFE Investigators., ESICM Trials Group. Noninvasive Ventilation of Patients with Acute Respiratory Distress Syndrome. Insights from the LUNG SAFE Study. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):67-77. **Coauthor or Collaborator**

Munshi L, Gershengorn HB, Fan E, Wunsch H, Ferguson ND, Stukel TA, **Rubinfeld GD**. Adjuvants to Mechanical Ventilation for Acute Respiratory Failure. Adoption, De-adoption, and Factors Associated with Selection. *Ann Am Thorac Soc*. 2017 Jan 1;14(1):94-102. **Senior Responsible Author**

### **Journal Articles, Multicenter Study**

Whitehouse T, Hodson J, Pemberton P, Veenith T, Snelson C, Bion J, **Rubinfeld GD**. The Association Between Visiting Intensivists and ICU Outcomes. *Crit Care Med*. 2017 Jun 1;45(6):949-955. **Senior Responsible Author**

### **Journal Articles, Review**

Kelly JM, **Rubinfeld GD**, Masson N, Min A, Adhikari NKJ. Using Selective Serotonin Reuptake Inhibitors and Serotonin-Norepinephrine Reuptake Inhibitors in Critical Care: A Systematic Review of the Evidence for Benefit or Harm. *Crit Care Med*. 2017 Jun 1;45(6):e607-e616. **Coauthor or Collaborator**

## Editorials

Shankar-Hari M, **Rubinfeld GD**. The use of enrichment to reduce statistically indeterminate or negative trials in critical care. *Anaesthesia*. 2017 May 1;72(5):560-565. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

2015 Jul - 2020 Jun **Co-Investigator**. Paramedic Initiated Treatment of Sepsis Trial in Out-of-hospital Patients (PITSTOP). Canadian Institutes of Health Research. Operating Grant. PI(s): Scales D. Collaborator(s): Cheskes S, Drennan I, Mazzulli T, Morris A, Morrison L, Seymour C, Verbeek R. 900,554 CAD. [Grants]

2015 Jul - 2020 Jun **Co-Investigator**. The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research. Operating Grant. PI(s): Scales D, Ferguson N. Collaborator(s): Adhikari NK, Alali A, Baker A, Bosma K, Brochard L, Chapman M, Charbonney E, Cuthbertson B, Fowler R, Griesdale D, Mainprize T, McCredie VA, Meade M, Nathens A, Seely A, Singh J, Turgeon A, Wilcox ME, Zygun D. 880,404 CAD. [Grants]

## Non-Peer Reviewed Grants

### Funded

2012 Oct - 2017 Sep **Co-Investigator**. Catecholamines as primary mediators of post-burn hypermetabolism: A clinical prospective trial. Canadian Institutes of Health Research (CIHR). PI(s): Jeschke M. Collaborator(s): Boehning D. 851,939 CAD. [Grants]

## Presentations and Special Lectures

### International

2017 Jun 16 **Invited Speaker**. No escalation of treatment as a routine strategy for decision-making in the ICU; Does intermediate care improve patient outcomes or reduce costs?; How to measure quality of care.; Effect of early versus late tracheostomy or prolonged intubation in critically ill patients with acute brain injury. International Symposium on Intensive Care and Emergency Medicine for Latin America. São Paulo, Brazil.

2017 May 20 - 24 **Invited Speaker**. Changing Definitions: Progress?; Evaluation of a Web Based Intervention to Improve Adherence to Lung Protective Ventilation: The Lung Injury Knowledge Network (LINK).; My Mistakes in Trying to Implement and How to Avoid Repeating Them.

**Moderator**. A15-Critical Care. The Future of Critical Care? Regionalization and closing the gender gap – Mini Symposium.

American Thoracic Society Conference. Washington, United States.

2017 Mar 21 - 22 **Moderator.** Standard presentation - For a better ICU team. Presenter(s): Jean-Paul Mira (France).

**Invited Speaker.** 'PRO': Do we really need to limit tidal volume in everyone?; Improving mechanical ventilation: do we know enough to benchmark?

**Facilitator.** Poster discussions and Poster awards - ICU organization-outcomes scores-ethics.

37th International Symposium on Intensive Care and Emergency Medicine. Brussels, Belgium.

## National

2017 Aug 1 **Invited Speaker.** Why we agree on the evidence but disagree on the medicine: the role of priors, values, costs, and risks in guideline development. University of Toronto, Critical Care Residency Program. Toronto, Ontario, Canada.

2017 May 5 **Visiting Professor.** End of Life Issues. University of Western Ontario. London, Ontario, Canada.

2017 Apr 28 **Invited Speaker.** ARDS: Evidence-based management of ARDS. University of Toronto, Mechanical Ventilation From physiology to clinical practice. Toronto, Ontario, Canada.

2017 Apr 12 **Invited Speaker.** Writing pearls and pitfalls. University of Toronto, IDCCM Research - NABOR Symposium. Toronto, Ontario, Canada.

2017 Feb 27 **Invited Lecturer.** "How to get published – an editor's perspective". CPRS - Science and Sushi Seminar. Toronto, Ontario, Canada.

## Local

2017 Jun 8 **Invited Speaker.** Conflicts in end of life care: are nurses the solution? M2 Critical Care Conference, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.

### Peer-Reviewed Publications

#### Journal Articles

Hua M, **Scales DC**, Cooper Z, Pinto R, Moitra V, Wunsch H. Impact of Public Reporting of 30-day Mortality on Timing of Death after Coronary Artery Bypass Graft Surgery. *Anesthesiology*. 2017 Dec 1;127(6):953-960.

**Coauthor or Collaborator**

Yarnell CJ, Fu L, Manuel D, Tanuseputro P, Stukel T, Pinto R, **Scales DC**, Laupacis A, Fowler RA. Association Between Immigrant Status and End-of-Life Care in Ontario, Canada. *JAMA*. 2017 Oct 17;318(15):1479-1488.

**Coauthor or Collaborator**

**Scales DC**, Cheskes S, Verbeek PR, Pinto R, Austin D, Brooks SC, Dainty KN, Goncharenko K, Mamdani M, Thorpe KE, Morrison LJ, Strategies for Post-Arrest Care SPARC Network. Prehospital cooling to improve successful targeted temperature management after cardiac arrest: A randomized controlled trial. *Resuscitation*. 2017 Oct 5. **Principal Author**

Goligher EC, Dres M, Fan E, Rubenfeld GD, **Scales DC**, Herridge MS, Vorona S, Sklar MC, Rittayamai N, Lanys A, Murray A, Brace D, Urrea C, Reid WD, Tomlinson G, Slutsky AS, Kavanagh BP, Brochard LJ, Ferguson ND. Mechanical Ventilation-induced Diaphragm Atrophy Strongly Impacts Clinical Outcomes. *Am J Respir Crit Care Med*. 2017 Sep 20. **Coauthor or Collaborator**

Bagshaw SM, Wang X, Zygun DA, Zuege D, Dodek P, Garland A, **Scales DC**, Berthiaume L, Faris P, Chen G, Opgenorth D, Stelfox HT. Association between strained capacity and mortality among patients admitted to intensive care: A path-analysis modeling strategy. *J Crit Care*. 2017 Aug 24;43:81-87. **Coauthor or Collaborator**

Turgeon AF, Lauzier F, Zarychanski R, Fergusson DA, Léger C, McIntyre LA, Bernard F, Rigamonti A, Burns K, Griesdale DE, Green R, **Scales DC**, Meade MO, Savard M, Shemilt M, Paquet J, Gariépy JL, Lavoie A, Reddy K, Jichici D, Pagliarello G, Zygun D, Moore L; TBI-Prognosis Study Team and the Canadian Critical Care Trials Group. Prognostication in critically ill patients with severe traumatic brain injury: the TBI-Prognosis multicentre feasibility study. *BMJ Open*. 2017 Apr 17;7:e013779. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 28416497. **Coauthor or Collaborator**

Burry L, **Scales D**, Williamson D, Foster J, Mehta S, Guenette M, Fan E, Detsky M, Azad A, Bernard F, Rose L. Feasibility of melatonin for prevention of delirium in critically ill patients: a protocol for a multicentre, randomised, placebo-controlled study. *BMJ Open*. 2017 Mar 30;7:e015420. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 28363933. **Coauthor or Collaborator**

Shuvy M, Morrison LJ, Koh M, Qiu F, Buick JE, Dorian P, **Scales DC**, Tu JV, Verbeek PR, Wijeyesundera HC, Ko DT, Rescu Epistry Investigators. Long-term clinical outcomes and predictors for survivors of out-of-hospital cardiac arrest. *Resuscitation*. 2017 Mar 1;112:59-64. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 28104428. **Coauthor or Collaborator**



Hill AD, Fowler RA, Burns KE, Rose L, Pinto RL, **Scales DC**. Long-Term Outcomes and Health Care Utilization after Prolonged Mechanical Ventilation. *Ann Am Thorac Soc*. 2017 Mar 1;14(3):355-362. Role: Conceived study idea; contributed to study methods, analytical approach, and drafting of manuscript, supervised research team and approach. PubMed ID: 28033033. **Senior Responsible Author**

Hylands M, Toma A, Beaudoin N, Frenette AJ, D'Aragon F, Belley-Côté E, Hylander M, Lauzier F, Siemieniuk RA, Charbonney E, Kwong J, Laake JH, Guyatt G, Vandvik PO, Rochweg B, Green R, Ball I, **Scales D**, Murthy S, Rizoli S, Asfar P, Lamontagne F. Vasopressor use following traumatic injury: protocol for a systematic review. *BMJ Open*. 2017 Feb 28;7(2):e014166. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 28246141. **Coauthor or Collaborator**

Seymour CW, Kahn JM, Martin-Gill C, Callaway CW, Yealy DM, **Scales D**, Angus DC. Delays From First Medical Contact to Antibiotic Administration for Sepsis. *Crit Care Med*. 2017 Feb 23. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 28234754. **Coauthor or Collaborator**

McCredie VA, Alali AS, **Scales DC**, Adhikari NK, Rubenfeld GD, Cuthbertson BH, Nathens AB. Effect of Early Versus Late Tracheostomy or Prolonged Intubation in Critically Ill Patients with Acute Brain Injury: A Systematic Review and Meta-Analysis. *Neurocrit Care*. 2017 Feb 1;26(1):14-25. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 27601069. **Coauthor or Collaborator**

Worthington H, Pickett W, Morrison LJ, **Scales DC**, Zhan C, Lin S, Dorian P, Dainty KN, Ferguson ND, Brooks SC, Rescu Investigators. The impact of hospital experience with out-of-hospital cardiac arrest patients on post cardiac arrest care. *Resuscitation*. 2017 Jan 1;110:169-175. Role: Contributed to study idea, contributed to methods and analytical approach, contributed to writing on manuscript. PubMed ID: 27658654. **Coauthor or Collaborator**

McCredie VA, Ferguson ND, Pinto RL, Adhikari NK, Fowler RA, Chapman MG, Burrell A, Baker AJ, Cook DJ, Meade MO, **Scales DC**, Canadian Critical Care Trials Group. Airway Management Strategies for Brain-injured Patients Meeting Standard Criteria to Consider Extubation. A Prospective Cohort Study. *Ann Am Thorac Soc*. 2017 Jan 1;14(1):85-93. Role: Conceived study idea; contributed to study methods, analytical approach, and drafting of manuscript; supervised research team and approach. PubMed ID: 27870576. **Senior Responsible Author**

## Editorials

Ferreyro BL, Angriman F, Amaral AC, **Scales DC**. Prediction of Occult Cancer Among Adult Patients With Acute Venous Thromboembolic Disease. *Chest*. 2017 Mar 1;151(3):727-728. PubMed ID: 28279281. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

2017 Jul - 2019 Jun **Co-Investigator**. Cerebral oximetry to assess cerebral autoregulation in hypoxemic ischemic brain injury (COncEpT - HIBI). Heart and Stroke Foundation of Canada. Project Grant. PI(s): Griesdale D. Collaborator(s): Sekhon M, Sirounis D, McCredie V, Dorian P, Ainslie P, Boyd J, Brasher P, Menon D. 196,991 CAD. [Grants]

- 2017 Apr - 2019 Mar **Co-Investigator.** Assessing Postoperative Cognitive Changes after Major Joint Arthroplasty - A Prospective Observational Cohort. Innovation Fund Provincial Oversight Committee. Sunnybrook AFP Innovation Fund. PI(s): Avramescu S. 96,330 CAD. [Grants]
- 2016 Oct - 2021 Sep **Co-Investigator.** The Epinephrine Randomized Optimal Versus Current Dose (EpiROC) Canada Trial. CIHR. Project Grant. PI(s): Dorian P. Collaborator(s): Lin S, Morrison L, Brooks S, Cheskes S, Christenson J, Dainty K, Drennan I, Stiell I, Thorpe K, Vaillancourt C, Verbeek P. 2,509,200 CAD. [Grants]
- 2016 Oct - 2021 Sep **Co-Investigator.** Aneurysmal Subarachnoid Hemorrhage - Red Blood Cell Transfusion and Outcome (SAHaRa): A Randomized Controlled Trial. CIHR. Project Grant. PI(s): English S. Collaborator(s): Acker J, Algird A, Althenayan E, Boyd J, Chapman M, Chasse M, Da Costa L, D'Aragon F, Dowlatshahi D, Fergusson D, Griesdale D, Kramer A, Kutsogiannis D, Demitrios J, Lauzier F, Lum C, Marshall S, Mcintyre L, Pagliarello G, Sinclair J, Singh J, Tinmouth A, Turgeon A, Zarychanski R. 1,384,650 CAD. [Grants]
- 2016 Sep - 2018 Aug **Co-Investigator.** Opioid use after critical illness. CIHR. Project Grant. PI(s): Wunsch H. Collaborator(s): Fan E, Gomes T, Juurlink D, Neuman M, Wang HT, Wijeyesundera DN. 183,480 CAD. [Grants]
- 2016 Sep - 2017 Oct **Co-Investigator.** Managing Pain In Collaboration in the Intensive Care Unit (MPIC-ICU): A Stepped Wedge Cluster Randomized Trial. CIHR. Project Grant. PI(s): Gelinac C, Laporta D. Collaborator(s): Bernard F, Bérubé M, Boitor M, Burry L, Charbonney E, Chiochio F, Choinière M, De Marchie M, Dubé JN, Houle J, Lavoie-Tremblay M, Perreault M, Purden M, Raboy Thaw J, Rose L, Thiffault N, Tousignant-Laflamme Y, Wilcox ME, Williamson D. 100,000 CAD. [Grants]
- 2016 Sep - 2017 Aug **Co-Investigator.** The changing face of trauma care: a comprehensive evaluation of the impact of severe injury on elderly patients. CIHR. Project Grant. PI: Haas B, Nathens A. Collaborator(s): Gotlib Conn L, Wong C, Wunsch H. 92,500 CAD. [Grants]
- 2016 Sep - 2017 Aug **Co-Principal Investigator.** Thromboprophylaxis After Significant Traumatic Brain Injury: A Randomized Controlled Trial. CIHR. Project Grant. PI(s): Pirouzmand F. Collaborator(s): English S, Fourney D, Fowler R, Geerts W, Griesdale D, Jabejdar Maralani P, Kramer A, Kutsogiannis D, Macdonald R, Machnowska M, Mansouri A, Midha R, O'Kelly C, Patel C, Pronovost A. 100,000 CAD. [Grants]
- 2016 Sep - 2017 Aug **Co-Investigator.** InCURS: Intensive Care Unit Residents Scheduling Study. CIHR. Project Grant. PI(s): Parshuram C, Piquette C. Collaborator(s): Amaral AC, Ayas N, Bagshaw S, Baker G, Brydges R, Ferguson N, Frank J, Friedrich J, Imrie K, Karachi T, Kirpalani H, Haresh, Mema B, Sen M, Stelfox H, Tomlinson G, Walsh C, Willan A. 100,000 CAD. [Grants]
- 2016 Sep - 2017 Aug **Co-Investigator.** Effectiveness of intermittent electrical stimulation in preventing the formation of pressure ulcers in acute care facilities. CIHR. Project Grant. PI(s): Mushahwar V, Emmons K. Collaborator(s): Dukelow S, Ferguson N, McCabe C, Tsuyuki R, Zygum D. 100,000. [Grants]

- 2016 Mar - 2021 Feb **Co-Investigator.** Transfusion in traumatic brain injury (TSiTBI Trial). CIHR. Project Grant. PI(s): Turgeon A. Collaborator(s): Fergusson D, Lauzier F, Algird A, Baker A, Ball I, Burns K, Charbonney E, Chasse M, Clement J, Delage G, English S, Fox-Robichaud A, Green R, Griesdale D, Hebert P, Kramer A, Lamontagne F, Laroche V, Lessard Bonaventure P, Moore L, Oleary S, Riopelle R, Shahin J, St-Onge, M, 1,139,105 CAD. [Grants]
- 2016 Jan - 2018 Dec **Co-Investigator.** Evaluating the PulsePoint Mobile Device Application to Increase Bystander Resuscitation for Victims of Sudden Cardiac Arrest. CIHR. Partnerships for Health System Improvement (PHSI). PI(s): Brooks S, Dick W. Collaborator(s): Christenson J, Day A, Grierson R, Morrison L, Wax R, Weldon E. 375,000 CAD. [Grants]
- 2015 Oct - 2020 Sep **Co-Investigator.** CanROC - Canadian Resuscitation Outcomes Consortium: Toward a National Resuscitation Clinical Research Network. Canadian Institutes of Health Research. ICRH Community Development Program Grants - Resus Clin Res. PI(s): Morrison LJ, Christenson JM, Stiell IG. Collaborator(s): Atkinson PR, Bhanji F, Brooks SC, Cheskes S, Dainty KN, de Caen A, Dorian P, Hutchison JS, Kirkpatrick AW, Lin S, Nascimento B, Osmond MH, Parker MJ, Ramanathan K, Rizoli SB, Travers AH, Vaillancourt C, Verbeek PR, Wells GA. 1,499,760 CAD. [Grants]
- 2015 Jul - 2020 Jun **Principal Investigator.** The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research. Operating Grant. Collaborator(s): Adhikari NK, Alali A, Baker A, Bosma K, Brochard L, Chapman M, Charbonney E, Cuthbertson B, Fowler R, Griesdale D, Mainprize T, McCredie V, Meade M, Nathens A, Rubenfeld G, Seely A, Singh J, Turgeon A, Wilco ME, Zygun D. 880,404 CAD. [Grants]
- 2015 Jul - 2020 Jun **Principal Investigator.** Paramedic Initiated Treatment of Sepsis Trial in Out-of-hospital Patients (PITSTOP). Canadian Institutes of Health Research. Operating Grant. Collaborator(s): Cheskes S, Drennan I, Mazzulli T, Morris A, Morrison L, Rubenfeld G, Seymour C, Verbeek PR. 900,554 CAD. [Grants]
- 2015 Jul - 2017 Jun **Co-Investigator.** Regional and temporal variations in incidence, prevalence and outcomes of critical illness among pregnant and post-partum women and newborns in Canada. Canadian Institutes of Health Research. Operating Grant. PI(s): Fowler, Robert A. Collaborator(s): Aoyama K, Hladunewich M, Lapinsky S, Ray J, Seaward P, Shah P. 46,415 CAD. [Grants]
- 2014 Oct - 2017 Sep **Co-Investigator.** Identifying Risk Factors for and Outcomes following Rehospitalizations for Elderly Critically Ill Patients. Canadian Institutes of Health Research. Operating Grant. PI(s): Wunsch H. Collaborator(s): Fowler RA. 189,225 CAD. [Grants]
- 2014 Sep - 2017 Sep **Co-Investigator.** Assessing and improving the quality of care of patients with out-of-hospital cardiac arrest. Canadian Institutes of Health Research. 2527. PI(s): Ko D. Collaborator(s): Austin P, Cheskes S, Dorian P, Morrison L, Rac V, Stukel T, Tu J, Verbeek P, Wijeyesundera H. 443,022 CAD. [Grants]

- 2014 Apr - 2017 Mar **Co-Investigator.** Clinical outcomes and predictors of PITuitary disorders in patients with moderate and severe Traumatic Brain Injury: the PIT-TBI prospective multicenter pilot cohort study. Canadian Institutes of Health Research. Operating Grant. PI(s): Lauzier F. Collaborator(s): Archambaul P, Bernard F, Boutin A, Cook D, Gagnon C, Griesdale D, Herridge M, Margaret S, Houde G, Lamontagne F, McIntyre L, Menon K, Moore L, Pagliarello G, Perron P, Rousseau F, Turgeon A. 278,469 CAD. [Grants]
- 2014 Jan - 2017 Jan **Co-Investigator.** Identifying and Evaluating Intensive Care Unit Capacity Strain in Alberta. Alberta Innovates Health Solutions. Partnership for Research and Innovation in the Health System. PI(s): Bagshaw S. 743,818 CAD. [Grants]

## Presentations and Special Lectures

### International

- 2017 May **Facilitator.** Critical Care: Non-pulmonary critical care problems. American Thoracic Society Conference. Washington, United States.
- 2017 Jan 19 **Visiting Professor.** Medical Grand Rounds, Moving Critical Care Upstream: Studying time-sensitive treatments; Pulmonary/Critical Care Grand Rounds, Weaned but not awake: Extubate, Trach, or Just Wait?; Seattle Resuscitation Rounds, Neurological Prognostication after Cardiac Arrest. University of Washington. Washington, United States.
- 2017 Jan 11 **Visiting Professor.** Therapeutic Hypothermia after Cardiac Arrest. Cleveland Clinic. Ohio, United States.

### Provincial

- 2017 Jan 25 **Invited Speaker.** Update on NEURO-ETT. Canadian Critical Care Trials Group. Vancouver, British Columbia, Canada.

### National

- 2017 Oct 19 **Invited Speaker.** What are CIHR, PSI, and TVN and what types of grants go to each? IDCCM, NABOR. Toronto, Ontario, Canada.
- 2017 Sep 12 **Invited Speaker.** Moving critical care upstream: studying time-sensitive treatments. ICES, Evaluative Clinical Sciences Rounds. Toronto, Ontario, Canada.
- 2017 Apr **Invited Speaker.** Strategic approaches to grant submission at CIHR (and beyond). Nuts And Bolts Of Research (NABOR), Interdepartmental Division of Critical Care Medicine. Toronto, Ontario, Canada.
- 2017 Mar 22 **Visiting Professor.** Neurological Prognostication after Cardiac Arrest. Windsor Regional Hospital, Medical Grand Rounds, Metropolitan (Hotel-Dieu) Campus.
- Visiting Professor.** Neurological Prognostication after Cardiac Arrest. Windsor Regional Hospital, Medical Grand Rounds, Ouellette Campus.
- Windsor, Ontario, Canada.

- 2017 Mar 21 **Visiting Professor.** Neurological Prognostication after Cardiac Arrest. Erie St. Clair Local Health Integration Network, LHIN Grand Rounds. Toronto, Ontario, Canada.
- 2017 Feb 21 **Invited Speaker.** Prehospital Sepsis and the PITSTOP Trial. York Paramedic Services. Newmarket, Ontario, Canada.

### **Local**

- 2017 **Invited Speaker.** Debate: Temperature management after cardiac arrest: To cool, not to cool, or just too cool? Critical Care Challenges Conference - Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada. Presenter(s): Adhikari N.

### **Honours and Awards**

- 2017 Mar 2017 CERN-RCRSP EMS Research Mentorship Award. Canadian EMS Research Network - Réseau Canadien de Recherche en Soins Préhospitaliers (CERN-RCRSP), Canada. (Distinction)

## Peer-Reviewed Publications

### Journal Articles

Oczkowski SJW, Au S, des Ordon AR, Gill M, Potestio ML, Smith O, **Sinuff T**, Stelfox HT, Fox-Robichaud AE. A modified Delphi process to identify clinical and research priorities in patient and family centred critical care. *J Crit Care.* 2017 Dec 1;42:243-247. **Coauthor or Collaborator**

Heyland DK, Heyland R, Dodek P, You JJ, **Sinuff T**, Hiebert T, Jiang X, Day AG, ACCEPT Study Team and the Canadian Researchers at the End of Life Network (CARENET). Discordance between patients' stated values and treatment preferences for end-of-life care: results of a multicentre survey. *BMJ Support Palliat Care.* 2017 Sep 1;7(3):292-299. **Coauthor or Collaborator**

Leung D, Angus JE, **Sinuff T**, Bavly S, Rose L. Transitions to End-of-Life Care for Patients With Chronic Critical Illness: A Meta-Synthesis. *Am J Hosp Palliat Care.* 2017 Sep 1;34(8):729-736. **Coauthor or Collaborator**

Heyland DK, Dodek P, You JJ, **Sinuff T**, Hiebert T, Tayler C, Jiang X, Simon J, Downar J for the ACCEPT Study Team and the Canadian Researchers at the End of Life Network (CARENET). Validation of quality indicators for end-of-life communication: results of a multicentre survey. *CMAJ.* 2017 Jul 31;31(189):980-989. **Coauthor or Collaborator**

St-Onge M, Anseeuw K, Cantrell FL, Gilchrist IC, Hantson P, Bailey B, Lavergne V, Gosselin S, Kerns W 2nd, Laliberté M, Lavonas EJ, Juurlink DN, Muscedere J, Yang CC, **Sinuff T**, Rieder M, Mégarbane B. Experts Consensus Recommendations for the Management of Calcium Channel Blocker Poisoning in Adults. *Crit Care Med.* 2017 Mar 1;45(3):e306-e315. **Coauthor or Collaborator**

### Letters to Editor

Downar J, Koo E, des Ordon AR, Smith O, Cook D, Golan E, Hales S, Tomlinson G, Kalocsai C, Strachan D, MacKinnon C, **Sinuff T**. Prevalence and predictors of severe grief reactions and desire for support following a death in the intensive care unit: a multicentre observational study. *Intensive Care Med.* 2017 Dec 28. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

2017 Jun - 2020 Jun **Co-Investigator.** Improving Advance Care Planning for Frail Elderly Canadians. CFN (Canadian Frailty Network). Transformative Grant. PI(s): You J. Collaborator(s): Barwich D, Gutman G, Howard M, Jayaraman D, Kaasalainen S, Kobewka D, Ma M, Sharma N, Simon J, Tan A, Urquhart R, Slaven M, Bernard C, Bourgeois-querin V, Hunter P, Thompson G, McCleary I, Devries B, Gahagan J, Myers J, Downar J, Fowler R, Dodek P, Allatt P, Taneja R, Kryworuchko J, Block S, Taneja R, Sudore R, Abelson J, Clark BD, Winhall M, Day A. 2,700,000 CAD. [Grants]

- 2017 Jun - 2020 Jun **Co-Investigator.** Improving Advance Care Planning for Frail Elderly Canadians. CFN (Canadian Frailty Network). Translation Grant. PI(s): You J. Collaborator(s): Barwich D, Gutman G, Howard M, Jayaraman D, Kaasalainen S, Kobewka D, Ma M, Sharma N, Simon J, Tan A, Urquhart R, Slaven M, Bernard C, Bourgeois-querin V, Hunter P, Thompson G, McCleary I, Devries B, Gahagan J, Myers J, Downar J, Fowler R, Dodek P, Allatt P, Taneja R, Kryworuchko J, Block S, Taneja R, Sudore R, Abelson J, Clark BD, Winhall M, Day A. 24,000 CAD. [Grants]
- 2016 Jul - 2020 Jun **Co-Investigator.** Development and Evaluation of a Family-Partnered Care Pathway for Critically Ill Older Patients. CIHR. Team Grant. PI(s): Stelfox H, Heyland D. Collaborator(s): Boucher P, O'Neill B, Robertson D, Wickson P, Zygun D, Allatt P, Au S, Berg B, Cohen S, Coyle D, Day A, Downar J, Ely W, Fiest K, Gramlich L, Grant C, Harries B, Hartwick K, Holroyd-Leduc J, Jenkins J, Kyeremanteng K, Mourtzakis M, Niven D, Oczkowski S, Papathanasoglou E, Parsons L, Jeanna J, Potestio M, Rahman A. 1,388,754 CAD. [Grants]
- 2016 Jul - 2018 Jun **Co-Investigator.** Identifying Spiritual Distress in Families of ICU Patients: The INSPIRE Study. Alberta MSI Grant. PI(s): Lee Rose Des Ordons A. Collaborator(s): Sinclair S. 147,686 CAD. [Grants]
- 2016 Jan - 2018 Jan **Co-Investigator.** Cough Assist: Use, Education Needs, Health Services Utilization, and Outcomes. PHI (Post-polio Health International). PI(s): Rose L. 24,863. [Grants]
- 2015 Jul - 2017 Jul **Co-Investigator.** Translating Recommendations for Airway Clearance from the Canadian Thoracic Society Home Mechanical Ventilation Guidelines (Phase 1). Muscular Dystrophy Canada. PI(s): Rose L. 49,505. [Grants]
- 2015 Jan - 2020 Jan **Co-Investigator.** The Canadian Critical Care Trials Group. Canadian Institutes of Health Research (CIHR). ICRH Community Development Prog Grants-Crit Care Clin Trials. PI(s): Hebert P. Collaborator(s): Burns K, Choong K, Cook D, Fowler R, Gilfoyle E, Lamontagne F, Marshall J, McIntyre L, Meade M, Muscedere J, Seely A, Turgeon Alexis. 1,500,000 CAD. [Grants]
- 2011 Dec-2017 Dec **Co-Investigator.** Technology Evaluation in the Elderly Network (TECH VALUE NET). Networks of Centres of Excellence (NCE). Network Grant. PI: Heyland D. 23,888,157 CAD. [Grants]

## Presentations and Special Lectures

### Local

- 2017 Oct **Invited Speaker.** Optiflow vs NIV. Department of Critical Care Medicine, Sunnybrook Health Sciences Centre. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

**Tillmann B**, Klingel ML, Iansavichene AE, Ball IM, Nagpal AD. Extracorporeal membrane oxygenation (ECMO) as a treatment strategy for severe acute respiratory distress syndrome (ARDS) in the low tidal volume era: A systematic review. J Crit Care. 2017; 40:64-71. **Principal Author**

**Commentaries**

**Tillmann B**, Wunsch H. Care at a non-university hospital: an independent risk factor for mortality in ARDS. Crit Care. 2017; 21(1):195. **Principal Author**

**Presentations and Special Lectures**

**National**

1 Oct 2017 **Moderator**. Living with Uncertainty. Canadian Critical Care Forum. Toronto, Ontario, Canada.



**Peer-Reviewed Grants**

**Funded**

2017 Jan - present      **Principal Investigator.** Prevalence of Risky Driving Behaviors on Popular TV Series. Sunnybrook General Surgery AEF Grant. Collaborator(s): Tien A, Chu P. 6,500 CAD. [Grants]

**Presentations and Special Lectures**

**Local**

2017 Mar 29      **Invited Speaker.** Highlights from the 2017 Annual Trauma Association of Canada Meeting. Critical Care Central Grand Rounds. Sunnybrook Health Sciences Hospital. Toronto, Ontario, Canada.

**Honours and Awards**

2017 May      Robert Mustard Mentorship Award. Department of General Surgery. University of Toronto. Toronto, Ontario, Canada. (Distinction).

**Peer-Reviewed Publications**

**Journal Articles**

Gershengorn HB, Harrison DA, Garland A, Wilcox ME, Rowan KM, **Wunsch H**. Association of Intensive Care Unit Patient-to-Intensivist Ratios with Hospital Mortality. *JAMA Internal Medicine*. 2017 Jan 24. **Senior Responsible Author**

Munshi L, Del Sorbo L, Adhikari NKJ, Hodgson CL, **Wunsch H**, Meade MO, Uleryk E, Mancebo J, Pesenti A, Ranieri VM, Fan E. Prone Position for Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017; 14:S280-S288. **Coauthor or Collaborator**

Goligher EC, Hodgson CL, Adhikari NKJ, Meade MO, **Wunsch H**, Uleryk E, Gajic O, Amato MPB, Ferguson ND, Rubenfeld GD, Fan E. Lung Recruitment Maneuvers for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017; 14:S304-S311. **Coauthor or Collaborator**

Walkey AJ, Del Sorbo L, Hodgson CL, Adhikari NKJ, **Wunsch H**, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, Fan E. Higher PEEP versus Lower PEEP Strategies for Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017; 14:S297-S303. **Coauthor or Collaborator**

Goligher EC, Munshi L, Adhikari NKJ, Meade MO, Hodgson CL, **Wunsch H**, Uleryk E, Gajic O, Amato MPB, Ferguson ND, Rubenfeld GD, Fan E. High-Frequency Oscillation for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017; 14:S289-S296. **Coauthor or Collaborator**

Hua M, Scales DC, Cooper Z, Pinto R, Moitra V, **Wunsch H**. Impact of Public Reporting of 30-day Mortality on Timing of Death after Coronary Artery Bypass Graft Surgery. *Anesthesiology*. 2017; 127:953-960. **Senior Responsible Author**

Walkey AJ, Goligher EC, Del Sorbo L, Hodgson CL, Adhikari NKJ, **Wunsch H**, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, Fan E. Low Tidal Volume versus Non-Volume-Limited Strategies for Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017; 14:S271-S279. **Coauthor or Collaborator**

Fan E, Del Sorbo L, Goligher EC, Hodgson CL, Munshi L, Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, **Wunsch H**, Uleryk E, Brozek J, Brochard LJ; American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017; 195:1253-1263. **Coauthor or Collaborator**

**Wunsch H**, Kramer A, Gershengorn HB. Validation of Intensive Care and Mechanical Ventilation Codes in Medicare Data. *Crit Care Med*. 2017; 45:e711-e714. **Principal Author**

Latronico N, Herridge M, Hopkins RO, Angus D, Hart N, Hermans G, Iwashyna T, Arabi Y, Citerio G, Wesley Ely E, Hall J, Mehta S, Puntillo K, Van den Hoeven J, **Wunsch H**, Cook D, Dos Santos C, Rubenfeld G, Vincent JL, Van den Berghe G, Azoulay E, Needham DM. The ICM research agenda on intensive care unit-acquired weakness. *Intensive Care Med.* 2017; 43:1270-1281. **Coauthor or Collaborator**

Miltiades AN, Gershengorn HB, Hua M, Kramer AA, Li G, **Wunsch H**. Cumulative Probability and Time to Reintubation in U.S. ICUs. *Crit Care Med.* 2017; 45:835-842. **Senior Responsible Author**

Hua M, Gong MN, Miltiades A, **Wunsch H**. Outcomes after Rehospitalization at the Same Hospital or a Different Hospital Following Critical Illness. *Am J Respir Crit Care Med.* 2017; 195:1486-1493. **Coauthor or Collaborator**

Vail E, Gershengorn HB, Hua M, Walkey AJ, Rubenfeld G, **Wunsch H**. Association between US norepinephrine shortage and mortality among patients with septic shock. *JAMA.* 2017; 317(14):1433-1442. **Senior Responsible Author**

Kerlin MP, Adhikari NK, Rose L, Wilcox ME, Bellamy CJ, Costa DK, Gershengorn HB, Halpern SD, Kahn JM, Lane-Fall MB, Wallace DJ, Weiss CH, **Wunsch H**, Cooke CR. An Official American Thoracic Society Systematic Review: The Effect of Nighttime Intensivist Staffing on Mortality and Length of Stay among Intensive Care Unit Patients. *AJRCCM.* 2017;195(3):383-93. **Coauthor or Collaborator**

Sanmartin C, Reicker A, Garland A, Iwashyna T, Fransoo R, Scales D, **Wunsch H**, Forget E, Qiu H. Linking Hospital and Tax data to support research on the economic impacts of hospitalization. *International Journal for Population Data Science.* 2017 Apr 18;1(1). **Coauthor or Collaborator**

Hogan DB, Maxwell CJ, Afilalo J, Arora RC, Bagshaw SM, Basran J, Bergman H, Bronskill SE, Carter CA, Dixon E, Hemmelgarn B, Madden K, Mitnitski A, Rolfson, D, Stelfox HT, Tam-Tham, H, **Wunsch H**. A scoping review of frailty and acute care in middle-aged and older individuals with recommendations for future research. *Canadian Geriatrics Journal.* 2017 Mar;20(1):22. **Senior Responsible Author**

Wang JG, Belley-Coté E, Burry L, Duffett M, Karachi T, Perri D, Alhazzani W, D'Aragon F, **Wunsch H**, Rochweg B. Clonidine for sedation in the critically ill: a systematic review and meta-analysis. *Critical Care.* 2017;21(1):75. **Coauthor or Collaborator**

### **Editorials, Letters, and Review Chapters**

Wang HT, **Wunsch H**. Hospital Experience Caring for the Frail: A New Concern for Surgical Patients. *Anesthesiology.* 2017 Feb 3. **Senior Responsible Author**

Azoulay E, Vincent JL, Angus DC, Arabi YM, Brochard L, Brett SJ, Citerio G, Cook DJ, Curtis JR, Dos Santos CC, Ely EW, Hall J, Halpern SD, Hart N, Hopkins RO, Iwashyna TJ, Jaber S, Latronico N, Mehta S, Needham DM, Nelson J, Puntillo K, Quintel M, Rowan K, Rubenfeld G, Van den Berghe G, Van der Hoeven J, **Wunsch H**, Herridge M. Recovery after critical illness: putting the puzzle together-a consensus of 29. *Crit Care.* 2017; 21:296. **Coauthor or Collaborator**

Tillmann B, **Wunsch H**. Care at a non-university hospital: an independent risk factor for mortality in ARDS? *Crit Care.* 2017; 21:195. **Senior Responsible Author**

Dos Santos C, Heunks L, **Wunsch H**. Update in Critical Care 2016. *Am J Respir Crit Care Med.* 2017;196:11-17. **Senior Responsible Author**

## Peer-Reviewed Grants

### Funded

- 2017 - 2021 **Principal Investigator.** Acute Pain Management and Long-term Opioid Use after Surgery. NIH/NIDA. PI(s): Newman M. 2,100,000 million CAD.
- 2016 - 2018 **Principal Investigator.** Opioid use after critical illness. CIHR. 183,480 CAD. [Grants]
- 2016 - 2017 **Co-Investigator.** The changing face of trauma care: a comprehensive evaluation of the impact of severe injury on elderly patients. CIHR. PI(s): Haas B. 92,500 CAD [Grants]
- 2015 - 2020 **Mentor.** Determinants of Critical Care Intensity for Hospitalized Older Adults: the Effect of Hospital-based Palliative Care Services NIH/NIA. 862,510 CAD. [Beeson Award]
- 2015 - 2017 **Co-Investigator.** Changes in Work and Earnings After Heart Attack, Stroke and Cardiac Arrest. Heart & Stroke. 245,000 CAD. [Operating Grants]
- 2014 - 2017 **Principal Investigator.** Identifying Risk Factors for and Outcomes following Rehospitalizations for Elderly Critically Ill Patients. CIHR. 189,225 CAD [Operating Grants]

## Presentations and Special Lectures

### International

- 2017 Sep **Invited Speaker.** Understanding who will benefit from intensive care; Perioperative ICU admission - risk stratification. European Society of Intensive Care Medicine Annual Meeting. Vienna, Austria
- 2017 Jun **Invited Speaker.** ICU Staffing Models. Grand Rounds, Division of Pulmonary and Critical Care Medicine. Department of Medicine. University of Pennsylvania. Philadelphia, PA, USA.
- 2017 May **Invited Speaker.** Association between norepinephrine shortage and mortality among patients with septic shock. Joint NEJM/JAMA Session. American Thoracic Society Annual Meeting. Washington DC, USA.
- 2017 Apr **Invited Speaker.** Extubation of patients outside of the operating room. International Anesthesia Research Society (IARS) Annual Meeting. Washington DC, USA.
- 2017 Apr **Invited Speaker.** Understanding ICU strain; Pros and Cons of Intermediate Care Beds; The Impact of Critical Illness on Long-Term Outcomes. Singapore-ANZICS Intensive Care Forum. Singapore.
- 2017 Mar **Invited Speaker.** A higher mortality rate can be a sign of quality; Epidemiology of vasopressor use in the United States; How many doctors do we need?; Who will be readmitted?; Association between norepinephrine shortage and mortality among patients with septic shock. International Society of Intensive Care and Emergency Medicine. Brussels, Belgium
- 2017 Feb **Invited Speaker.** What is PICS from the public-health point of view? Leopoldina Institute Symposium on Critical Care. Berlin, Germany.
- 2017 Jan **Invited Speaker.** What happens after the ICU, particularly for the chronically critically ill? Society of Critical Care Medicine Annual Meeting. Honolulu, Hawaii, USA.

## **National**

2017 Oct **Invited Speaker.** ICU bed availability: Impact on Care. Medicine Grand Rounds. Sinai Health System. Toronto, Ontario, Canada.

2017 Oct **Invited Speaker.** Getting it wrong with large datasets; Critical Care: Learning from Natural Experiments. Critical Care Canada Forum, Toronto, Canada

## **Honours and Awards**

2017 Star Research Achievement Award, Society of Critical Care Medicine

2017 Presidential Citation, Society of Critical Care Medicine

**Peer-Reviewed Publications**

**Journal Articles**

Hoetzenecker K, Donahoe L, Yeung JC, Azad S, Fan E, Ferguson ND, **Del Sorbo L**, de Perrot M, Pierre A, Yasufuku K, Singer L, Waddell TK, Keshavjee S, Cypel M. Extracorporeal life support as a bridge to lung transplantation-experience of a high-volume transplant center. *J Thorac Cardiovasc Surg.* 2017 Nov 22.

**Coauthor or Collaborator**

Pettenuzzo T, **Del Sorbo L**. Right patient selection and management in veno-venous extracorporeal carbon dioxide removal. *Minerva Anestesiol.* 2017 Nov 17. **Senior Responsible Author**

Marhong JD, DeBacker J, Viau-Lapointe J, Munshi L, **Del Sorbo L**, Burry L, Fan E, Mehta S. Sedation and Mobilization During Venovenous Extracorporeal Membrane Oxygenation for Acute Respiratory Failure: An International Survey. *Crit Care Med.* 2017 Nov 1;45(11):1893-1899. **Coauthor or Collaborator**

**Del Sorbo L**, Goligher E, McAuley DF, Rubenfeld GD, Brochard LJ, Gattinoni L, Slutsky AS, Fan E. Mechanical Ventilation in Adults with Acute Respiratory Distress Syndrome: Summary of the Experimental Evidence for the Clinical Practice Guideline. *Ann Am Thorac Soc.* 2017 Oct 6. **Principal Author**

Walkey AJ, **Del Sorbo L**, Hodgson CL, Adhikari NKJ, Wunsch H, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, Fan E. Higher PEEP versus Lower PEEP Strategies for Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc.* 2017 Oct 1;14(Supplement):S297-S303. **Coauthor or Collaborator**

Munshi L, **Del Sorbo L**, Adhikari NKJ, Hodgson CL, Wunsch H, Meade MO, Uleryk E, Mancebo J, Pesenti A, Ranieri VM, Fan E. Prone Position for Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc.* 2017 Oct 1;14(Supplement):S280-S288. **Coauthor or Collaborator**

Walkey AJ, Goligher E, **Del Sorbo L**, Hodgson C, Adhikari NK, Wunsch H, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, Fan E. Low Tidal Volume versus Non-Volume-Limited Strategies for Patients with Acute Respiratory Distress Syndrome: A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc.* 2017 Aug 28. **Coauthor or Collaborator**

Fan E, **Del Sorbo L**, Goligher EC, Hodgson CL, Munshi L, Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard LJ, American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med.* 2017 May 1;195(9):1253-1263.

**Coauthor or Collaborator**

Morelli A, **Del Sorbo L**, Pesenti A, Ranieri VM, Fan E. Extracorporeal carbon dioxide removal (ECCO2R) in patients with acute respiratory failure. *Intensive care medicine.* 2017 Jan 28. **Coauthor or Collaborator**

**Letters to Editor**

Chen L, **Del Sorbo L**, Grieco DL, Shklar O, Junhasavasdikul D, Telias I, Fan E, Brochard L. Airway Closure in Acute Respiratory Distress Syndrome: An Underestimated and Misinterpreted Phenomenon. Am J Respir Crit Care Med. 2017 May 30. **Coauthor or Collaborator**

## Book Chapters

**Del Sorbo L**, Fan E. Indications and Contraindications for ECLS in Adults with Respiratory Failure. In: 5th Edition of ECMO, Extracorporeal Support in Critical Care, (the "Red Book"). Extracorporeal Life Support organization; 2017. **Principal Author**

Yeung JC, **Del Sorbo L**, Keshavjee S. Ventilatory Support of the Thoracic Surgical Patient. In: Shields TW, LoCicero J, Reed CE, Feins RH, editor(s). General Thoracic surgery. Wolters Kluwer; 2017. **Coauthor or Collaborator**

## Presentations and Special Lectures

### International

2017 Nov 17 **Invited Speaker.** Extracorporeal CO2 removal in acute exacerbations of COPD; Strategies for Optimal Lung Ventilation in ECMO for ARDS: The SOLVE ARDS Study. International Symposium on Acute Pulmonary Injury Translational Research - Hospital Universitario de Getafe. Madrid, Madrid, Spain.

2017 Feb 16 **Invited Speaker.** Strategies of weaning from veno-venous extra-corporeal life support trial. 3rd Annual International ECMONet Scientific Meeting. Barcelona, Spain.

### National

2017 Oct 3 **Invited Speaker.** ECMO - Multi Organ Implications: Ventilator-ECMO Interactions. Canada Critical Care Forum. Toronto, Ontario, Canada.

2017 Jun 1 **Invited Speaker.** Management of Primary Graft Dysfunction. Toronto Update on Lung Transplantation and Artificial Lung Support. Division of Thoracic Surgery, Department of Surgery. University of Toronto. Toronto, Ontario, Canada.

2017 May 31 **Invited Speaker.** Ventilator Management for the Intensivist Workshop: Beside Strategies For Optimizing PEEP: When and how to measure esophageal pressure. Canadian Critical Care Review, Ontario, Canada.

2017 Oct 10 **Invited Speaker.** Why ECCO2R causes hypoxemia – The physiology behind that concern. Critical Care Physiology Rounds. Interdepartmental Division of Critical Care Medicine. University of Toronto. Toronto, Ontario, Canada.

2017 Jun 16 **Invited Speaker.** Mechanical ventilation during extracorporeal life support. Department of Critical Care Medicine Rounds. St. Michael's Hospital. Toronto, Ontario, Canada.

**Peer Reviewed Publications**

**Journal Articles**

**Downar J**, Koo E, des Ordon AR, Smith O, Cook D, Golan E, Hales S, Tomlinson G, Kalocsai C, Strachan D, MacKinnon C, Sinuff T. Prevalence and predictors of severe grief reactions and desire for support following a death in the intensive care unit: a multicentre observational study. *Intensive Care Med.* 2017 Dec 28. **Principal Author**

Muscudere J, Kim P, Aitken P, Gaucher M, Osborn R, Farrell B, Holroyd-Leduc J, Mallery L, Siu H, **Downar J**, Lee TC, McDonald E, Burry L. Proceedings of the Canadian Frailty Network Summit: Medication Optimization for Frail Older Canadians, Toronto, Monday April 24, 2017. *Can Geriatr J.* 2017 Dec 1;20(4):253-263. **Coauthor or Collaborator**

Heyland DK, Dodek P, You JJ, Sinuff T, Hiebert T, Tayler C, Jiang X, Simon J, **Downar J**, ACCEPT Study Team and the Canadian Researchers at the End of Life Network (CARENET). Validation of quality indicators for end-of-life communication: results of a multicentre survey. *CMAJ.* 2017 Jul 31;189(30):E980-E989. **Senior Responsible Author**

Pilkey J, **Downar J**, Dudgeon D, Herx L, Oneschuk D, Schroder C, Schulz V. Palliative Medicine-Becoming a Subspecialty of the Royal College of Physicians and Surgeons of Canada. *J Palliat Care.* 2017 Jul 1;32(3-4):113-120. **Coauthor or Collaborator**

**Downar J**, Francescutti LH. Medical assistance in dying: time for physicians to step up to protect themselves and patients. *CMAJ.* 2017 Jun 26;189(25):E849-E850. **Principal Author**

Farshchi Zarabi S, Parotto M, Katznelson R, **Downar J**. Massive Ischemic Stroke Due to Pulmonary Barotrauma and Cerebral Artery Air Embolism During Commercial Air Travel. *Am J Case Rep.* 2017 Jun 13;18:660-664. **Senior Responsible Author**

**Downar J**, Goldman R, Pinto R, Englesakis M, Adhikari NK. The “surprise question” for predicting death in seriously ill patients: a systematic review and meta-analysis. *CMAJ.* 2017 Apr 3;189(13):E484-E493. **Principal Author**

Goligher EC, Ely EW, Sulmasy DP, Bakker J, Raphael J, Volandes AE, Patel BM, Payne K, Hosie A, Churchill L, White DB, **Downar J**. Physician-Assisted Suicide and Euthanasia in the ICU: A Dialogue on Core Ethical Issues. *Crit Care Med.* 2017 Feb 1;45(2):149-155. **Senior Responsible Author**

Sheehan K, Gaiind KS, **Downar J**. Medical assistance in dying: special issues for patients with mental illness. *Curr Opin Psychiatry.* 2017 Jan 1;30(1):26-30. **Senior Responsible Author**

Shiotsuka J, Steel A, **Downar J**. The Sedative Effect of Propranolol on Critically Ill Patients: A Case Series. *Front Med (Lausanne).* 2017 Jan 1;4:44. **Senior Responsible Author**

**Non-Peer Reviewed Publications**

**Journal Articles**



**Downar J, Bakker J.** The authors reply. Crit Care Med. 2017 Jun 1;45(6):e627. **Principal Author**

## **Comment, Letters to Editor**

**Downar J, Goldman R, Pinto R, Englesakis M, Adhikari N.** The authors respond to “The utility and value of the ‘surprise question’ for patients with serious illness”. CMAJ. 2017 Aug 21;189(33):E1074. **Principal Author**

**Downar J, Goldman R, Pinto R, Englesakis M, Adhikari NKJ.** Response to: “About the ‘surprise question’”. CMAJ. 2017 Jun 12;189(23):E808. **Principal Author**

## **Peer-Reviewed Grants**

### **Funded**

- 2016 Aug - 2017 Jul **Co-Investigator.** Death, Dying, and Doctors: A Qualitative Exploration of Physician-Assisted Death to Guide Continuing Professional Development. University of Toronto. Education Development Fund. PI: Sheehan K. Collaborator(s): Sockalingam S, Bell J. 9,997.5 CAD. [Grants]
- 2016 Jul - 2019 Jun **Co-Investigator.** Reducing post-discharge adverse drug events among the elderly: a multi-centre electronic deprescribing intervention. Canadian Institutes of Health Research. PI: Lee T. 1,500,000 CAD. [Grants]
- 2016 Jul - 2017 Jun **Principal Investigator.** Creating an ICU-based screening and support system for bereaved family members, and using patient-level feedback to help medical trainees improve their communication skills. Associated Medical Services Inc. (AMS). AMS Phoenix Fellowship. 50,000 CAD. [Research Fellowships]
- 2016 Jul - 2019 Jan **Co-Investigator.** Better targeting, Better outcomes for frail Elderly patients (BABEL). Canadian Frailty Network, Transformative Grant Program. PI: Hebert P. 2,996,168 CAD. [Grants]
- 2016 Apr - 2020 Mar **Co-Investigator.** Development and Evaluation of a Family- Partnered Care Pathway for Critically Ill Older Patients. Canadian Institutes of Health Research (CIHR). Team Grant - Late Life Issues. PI: Heyland D. Collaborator(s): Stelfox HT (PA), Heyland D (PA), Boucher P (KU), O'Neill B (KU), Robertson D (KU), Wickson P (KU), Zygun D (KU), Allatt P (CA), Au S (CA), Berg B(CA), Cohen R(CA), Coyle D (CA), Day A (CA), Ely W (CA), Fiest K (CA), Gramlich L (CA), Grant C (CA), Harries B (CA), Hartwick M (CA), Holroyd-Leduc J (CA), Jenkins J (CA), Kyeremanteng K (CA), Mourtzakis M (CA), Niven D (CA), Oczkowski S (CA), Papathanasoglou E (CA), Parsons Leigh J (CA), Potestio M (CA), Rahman A (CA), Rockwood K (CA). 1,388,754 CAD. [Grants]
- 2016 Apr - 2017 Mar **Principal Investigator.** Pilot study of an automated one-year mortality prediction tool to trigger Advance Care Planning. National Centre for Excellence. TechValueNet. Collaborator(s): Kobewka D, Anstey K, O'Connor E, Hartwick M, Kyeremanteng K, Costello J, You J, Bell C, Wu R, Frost D, Steinberg L, Ansari S, Mclsaac D, Fischer L, Lee L, Borgundvaag B, Delicaet K, Kalocsai C, Reynolds S, Goldman R, van Walraven C. 153,000 CAD. [Grants]

## Invited Lectures and Presentations

### International

2017 Jun 16 **Invited Lecturer.** Lisbon Series on Palliative Care- Congestive Heart Failure. Catholic University of Portugal, Lisbon, Lisboa, Portugal.

### Provincial

2017 Dec 7 **Visiting Professor.** Soins palliatifs pour les maladies non-cancéreuses; Lavale University- Department of Medicine, Quebec, Quebec, Canada.

2017 Dec 6 **Visiting Professor.** Soins palliatifs dans l'unité de soins intensifs. Lavale University- Division of Critical Care, Quebec, Quebec, Canada.

2017 Oct 26 - 27 **Invited Lecturer.** Who can benefit from Palliative Care; Palliative Care in the ICU; Medical Aid in Dying: the First Year. St. John Regional Hospice Annual Conference. St. John, New Brunswick, Canada

2017 Sep 14 **Keynote Speaker.** Palliative Care and its Relationship with Medical Aid in Dying (with Onwuteaka-Philipsen J, Chambaere K, Wasylenko E.

**Keynote Speaker.** End of Life Care in Canada.

**Invited Speaker.** Rasouli vs. Carter: Why was one wrong and the other right?

2nd International Conference on End-of-Life. Dalhousie University. Halifax, Nova Scotia, Canada.

2017 May 9 **Visiting Professor.** Palliative Care for Non-Cancer Illness. University of Victoria, Victoria, British Columbia, Canada.

2017 May 9 **Visiting Professor.** Identifying patients who may benefit from Palliative Care. BC Cancer Agency, Vancouver, British Columbia, Canada.

2017 May 8 **Visiting Professor.** Palliative Care and Bereavement Support in the Critically Ill. University of Victoria, Victoria, British Columbia, Canada.

2017 May 5 **Invited Lecturer.** Medical Aid in Dying: the First Year. College of Physicians and Surgeons of Newfoundland and Labrador, St. John's, Newfoundland and Labrador, Canada.

2017 Feb 28 **Presenter.** Development and Scope of CCCS Guidelines for Withdrawal of Life Support. Canadian Blood Services (WLSM Quality Assurance Planning Committee). Vancouver, British Columbia, Canada.

2017 Feb 25 **Invited Speaker.** Medico-Legal Challenges in Modern Spinal Practice (with Blackmer J, MacNeil P). Canadian Spine Society Annual Scientific Conference, Montreal, Quebec, Canada.

### National

2017 Nov 4 **Presenter.** Advance Consent for Medical Aid in Dying- Pro-Con Debate (with Gokool S).

- Presenter.** Palliative Care for the Frail Elderly.  
9th Annual Canadian Conference on Dementia. Toronto, Ontario, Canada.
- 2017 Nov 3 **Presenter.** Palliative Care for the General Internist.  
**Presenter.** Medical Aid in Dying in Canada (with Ailon J).  
Canadian Society of Internal Medicine. Toronto, Ontario, Canada.
- 2017 Nov 1 **Invited Speaker.** Opioids for refractory dyspnea (with Jensen D, Mahle D, Bourbeau J).  
CHEST 2017. American College of Chest Physicians, Toronto, Ontario, Canada.
- 2017 Oct 2 **Invited Speaker.** Bereavement and Support. Critical Care Canada Forum. Toronto,  
Ontario, Canada.
- 2017 Sep 27 **Presenter.** Canadian Medical Association Webinar on Medical Aid in Dying. Joule, Inc.  
Canada. A series of webinars given by the Canadian Medical Association to teach  
providers how to perform Medical Aid in Dying. Covered the topics of assessing  
competence and technical considerations.(Total of 8 x 1.5h seminars - Sep 27, Oct 5,  
18, 24, Nov 14, 21, 22, 30).
- 2017 Sep 27 **Presenter.** Canadian Medical Association Webinar on Medical Aid in Dying. Joule, Inc.  
Canada. A series of face-to-face workshops given by the Canadian Medical Association  
to teach providers how to perform Medical Aid in Dying. Covered the topics of assessing  
competence and technical considerations.(Total of 3 x 8h seminars - Oct 13 (London),  
Nov 20 (Ottawa), Dec 5 (Toronto)).
- 2017 Sep 26 **Keynote Speaker.** Organ donation in the conscious competent patient. Canadian  
Association of Critical Care Nurses. Toronto, Ontario, Canada.
- 2017 Sep 21 **Invited Speaker.** Integrating Palliative Care into Frailty (with Kaasalainen S, Muscedere  
J, Klinger C. Canadian Hospice and Palliative Care Association. Ottawa, Ontario,  
Canada.
- 2017 Oct 19 **Invited Speaker.** Medical Aid in Dying in Canada. Northeast LHIN Geriatric Refresher  
Day. Sudbury, Ontario, Canada.
- 2017 Oct 12 **Invited Speaker.** End of Life Care in the ICU. William Osler Health Centre. Brampton,  
Ontario, Canada.
- 2017 Jun 21 **Invited Speaker.** An automated tool to identify inpatients at elevated risk of one-year  
mortality (with Ansari S). Canadian Foundation for Healthcare Improvement - National  
Palliative Care Forum. Toronto, Ontario, Canada.
- 2017 Jun 20 **Invited Speaker.** The Way Forward: MAID Information for Health System Decision  
Making - Emerging Pan-Canadian MAID research (with Gibson J). Canadian Institute for  
Health Information. Toronto, Ontario, Canada.
- 2017 Jun 22 **Facilitator.** Physician Assisted Death - the first 12 months (with Goldman R, Bowman  
K). 2017 Geriatrics Institute. Toronto, Ontario, Canada.
- 2017 May 24 **Invited Speaker.** Medical Aid in Dying: Clinical Considerations (with Frolic A). McMaster  
8th Annual Care of the Elderly Conference. Hamilton, Ontario, Canada.

- 2017 May 18 **Invited Speaker.** Medical Aid in Dying: Clinical Considerations. Canadian Medical Association Educational Webinar. Joule, Inc. Canada.
- 2017 May 5 **Invited Lecturer.** Medical Aid in Dying: the First Year. Canadian Blood Services: Conference to Develop Guidelines for Organ Donation in the Conscious Competent Patients. Toronto, Ontario, Canada.
- 2017 Apr 30 **Invited Speaker.** Medical Aid in Dying. Canadian Islamic Bioethics Conference. Toronto, Ontario, Canada.
- 2017 Apr 25 **Presenter.** Workshop on Medication Rationalization (MERA) (with Whitty R., Porter S., Battu K). Hospice Palliative Care Ontario Annual Meeting,. Toronto, Ontario, Canada.
- 2017 Apr 24 **Invited Speaker.** Medication Rationalization (MERA) (with Whitty R). Canadian Frailty Network National Deprescription Symposium. Toronto, Ontario, Canada.
- 2017 Apr 22 **Invited Speaker.** Palliative Care in the ICU. Canadian Geriatrics Society. Toronto, Ontario, Canada.
- 2017 Apr 22 **Invited Speaker.** INSPIRED COPD. Canadian Geriatrics Society (for Rocker G). Toronto, Ontario, Canada.
- 2017 Apr 21 **Keynote Speaker.** Medical Aid in Dying: the first few months (with Bowman K). Canadian Geriatrics Society, Toronto, Ontario, Canada.
- 2017 Apr 5 **Invited Speaker.** Medical Aid in Dying: the first 6 months. University of Toronto. Department of Surgery. Toronto, Ontario, Canada.
- 2017 Mar 10 **Presenter.** mHOMR Automated Mortality Prediction Tool. iGAP National Research Meeting, Hamilton, Ontario, Canada.
- 2017 Feb 25 **Invited Speaker.** Medical Aid in Dying: The first year. Society of Gynecologic Oncology of Canada. Toronto, Ontario, Canada.
- 2017 Feb 23 **Presenter.** National Webinar: Frailty and Palliative Care (with Moorhouse P). Canadian Hospice Palliative Care Association, Canada.
- 2017 Feb 3 **Invited Speaker.** Chronic Disease Management and Medical Assistance in Dying. Ontario Hospital Association. Toronto, Ontario, Canada.

## Media Appearances

- 2017 Jul 14 **Invited Speaker.** Access to Medical Aid in Dying. Your Morning. CTV, Canada.
- 2017 Jun 11 **Invited Speaker.** Medical Aid in Dying (with Towers A). Interviewer: Michael Enright. The Sunday Edition. Canadian Broadcasting Corporation, Toronto, Ontario, Canada. Available from: <http://www.cbc.ca/radio/thesundayedition/june-11-2017-the-sunday-edition-with-michael-enright-1.4150230/two-palliative-care-doctors-talk-about-helping-their-patients-to-die-1.4150290>.
- 2017 Apr 17 **Presenter.** Conscientious objection to Medical Aid in Dying. Interviewer: Steve Paikin. The Agenda. TV Ontario, Ontario, Canada.

- 2017 Apr 4      **Speaker.** Aide Medicale a Mourir et Objection de Conscience. Interviewer: Michel Auger. Midi Info. Societe Radio-Canada, Canada. Available from: [http://ici.radio-canada.ca/emissions/midi\\_info/2016-2017/](http://ici.radio-canada.ca/emissions/midi_info/2016-2017/).
- 2017 Mar 21      **Invited Speaker.** Physician Assisted Death in Canada. CFRB 1010, Toronto, Ontario, Canada.
- 2017 Mar 2      **Speaker.** Advance Consent for Medical Aid in Dying (with Gibson J, Bonnardel F). Interviewer: Anna Maria Tremonti. The Current. Canadian Broadcasting Corporation. Toronto, Ontario, Canada. Available from: <http://www.cbc.ca/radio/thecurrent/the-current-for-march-2-2017-1.4005007/march-2-2017-full-episode-transcript-1.4007714#segment3>.

## Local

- 2017 Feb 17      **Invited Speaker.** Grand Respiriology Rounds- Medical Aid in Dying. UHN/MSH Division of Respiriology. Toronto, Ontario, Canada.
- 2017 Jan 17      **Invited Speaker.** Physician Assisted Death: The first 6 months. UHN/MSH Division of Rheumatology. Toronto, Ontario, Canada.

## Honours and Awards

- 2016 May      **Health Professional Award**, World Federation of Right to Die Societies. (Distinction)

**Peer Reviewed Publications****Journal Articles**

Burry LD, Williamson DR, Mehta S, Perreault MM, Mantas I, Mallick R, Fergusson DA, Smith O, **Fan E**, Dupuis S, Herridge M, Rose L. Delirium and exposure to psychoactive medications in critically ill adults: A multi-centre observational study. *J Crit Care*. 2017 Dec 1;42:268-274. **Coauthor or Collaborator**

Munshi L, Kiss A, Cypel M, Keshavjee S, Ferguson ND, **Fan E**. Oxygen Thresholds and Mortality During Extracorporeal Life Support in Adult Patients. *Crit Care Med*. 2017 Dec 1;45(12):1997-2005. **Senior Responsible Author**

de Prost N, Pham T, Carteaux G, Mekontso Dessap A, Brun-Buisson C, **Fan E**, Bellani G, Laffey J, Mercat A, Brochard L, Maître B, LUNG SAFE investigators., ESICM trials group., REVA network. Etiologies, diagnostic work-up and outcomes of acute respiratory distress syndrome with no common risk factor: a prospective multicenter study. *Ann Intensive Care*. 2017 Dec 1;7(1):69. **Coauthor or Collaborator**

Sklar MC, **Fan E**, Goligher EC. High-Frequency Oscillatory Ventilation in Adults With ARDS: Past, Present, and Future. *Chest*. 2017 Dec 1;152(6):1306-1317. **Coauthor or Collaborator**

Piraino T, **Fan E**. Acute life-threatening hypoxemia during mechanical ventilation. *Curr Opin Crit Care*. 2017 Dec 1;23(6):541-548. **Senior Responsible Author**

Hoetzenecker K, Donahoe L, Yeung JC, Azad S, **Fan E**, Ferguson ND, Del Sorbo L, de Perrot M, Pierre A, Yasufuku K, Singer L, Waddell TK, Keshavjee S, Cypel M. Extracorporeal life support as a bridge to lung transplantation-experience of a high-volume transplant center. *J Thorac Cardiovasc Surg*. 2017 Nov 22. **Coauthor or Collaborator**

Aoyama H, Pettenuzzo T, Aoyama K, Pinto R, Englesakis M, **Fan E**. Association of Driving Pressure With Mortality Among Ventilated Patients With Acute Respiratory Distress Syndrome: A Systematic Review and Meta-Analysis. *Crit Care Med*. 2017 Nov 10. **Senior Responsible Author**

Morandi A, Piva S, Ely EW, Myatra SN, Salluh JIF, Amare D, Azoulay E, Bellelli G, Csomos A, **Fan E**, Fagoni N, Girard TD, Heras La Calle G, Inoue S, Lim CM, Kaps R, Kotfis K, Koh Y, Misango D, Pandharipande PP, Permpikul C, Cheng Tan C, Wang DX, Sharshar T, Shehabi Y, Skrobik Y, Singh JM, Slooter A, Smith M, Tsuruta R, Latronico N. Worldwide Survey of the “Assessing Pain, Both Spontaneous Awakening and Breathing Trials, Choice of Drugs, Delirium Monitoring/Management, Early Exercise/Mobility, and Family Empowerment” (ABCDEF) Bundle. *Crit Care Med*. 2017 Nov 1;45(11):e1111-e1122. **Coauthor or Collaborator**

Marhong JD, DeBacker J, Viau-Lapointe J, Munshi L, Del Sorbo L, Burry L, **Fan E**, Mehta S. Sedation and Mobilization During Venovenous Extracorporeal Membrane Oxygenation for Acute Respiratory Failure: An International Survey. *Crit Care Med*. 2017 Nov 1;45(11):1893-1899. **Coauthor or Collaborator**

deBacker J, Tamberg E, Munshi L, Burry L, **Fan E**, Mehta S. Sedation Practice in Extracorporeal Membrane Oxygenation-Treated Patients with Acute Respiratory Distress Syndrome: A Retrospective Study. *ASAIO J*. 2017 Oct 18. **Coauthor or Collaborator**

Munshi L, Del Sorbo L, Adhikari NKJ, Hodgson CL, Wunsch H, Meade MO, Uleryk E, Mancebo J, Pesenti A, Ranieri VM, **Fan E**. Prone Position for Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Supplement):S280-S288. **Senior Responsible Author**

Goligher EC, Hodgson CL, Adhikari NKJ, Meade MO, Wunsch H, Uleryk E, Gajic O, Amato MPB, Ferguson ND, Rubenfeld GD, **Fan E**. Lung Recruitment Maneuvers for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Supplement):S304-S311. **Senior Responsible Author**

Walkey AJ, Del Sorbo L, Hodgson CL, Adhikari NKJ, Wunsch H, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, **Fan E**. Higher PEEP versus Lower PEEP Strategies for Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Supplement):S297-S303. **Senior Responsible Author**

Goligher EC, Munshi L, Adhikari NKJ, Meade MO, Hodgson CL, Wunsch H, Uleryk E, Gajic O, Amato MPB, Ferguson ND, Rubenfeld GD, **Fan E**. High-Frequency Oscillation for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Supplement):S289-S296. **Senior Responsible Author**

Walkey AJ, Goligher EC, Del Sorbo L, Hodgson CL, Adhikari NKJ, Wunsch H, Meade MO, Uleryk E, Hess D, Talmor DS, Thompson BT, Brower RG, **Fan E**. Low Tidal Volume versus Non-Volume-Limited Strategies for Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct 1;14(Supplement):S271-S279. **Senior Responsible Author**

Del Sorbo L, Goligher EC, McAuley DF, Rubenfeld GD, Brochard LJ, Gattinoni L, Slutsky AS, **Fan E**. Mechanical Ventilation in Adults with Acute Respiratory Distress Syndrome. Summary of the Experimental Evidence for the Clinical Practice Guideline. *Ann Am Thorac Soc*. 2017 Oct 1;14(Supplement):S261-S270. **Senior Responsible Author**

Goligher EC, Dres M, **Fan E**, Rubenfeld GD, Scales DC, Herridge MS, Vorona S, Sklar MC, Rittayamai N, Lanys A, Murray A, Brace D, Urrea C, Reid WD, Tomlinson G, Slutsky AS, Kavanagh BP, Brochard LJ, Ferguson ND. Mechanical Ventilation-induced Diaphragm Atrophy Strongly Impacts Clinical Outcomes. *Am J Respir Crit Care Med*. 2017 Sep 20. **Coauthor or Collaborator**

Combes A, Brodie D, Chen YS, **Fan E**, Henriques JPS, Hodgson C, Lepper PM, Leprince P, Maekawa K, Muller T, Nuding S, Ouweneel DM, Roch A, Schmidt M, Takayama H, Vuylsteke A, Werdan K, Papazian L. The ICM research agenda on extracorporeal life support. *Intensive Care Med*. 2017 Sep 1;43(9):1306-1318. **Coauthor or Collaborator**

Weiss CH, McSparron JI, Chatterjee RS, Herman D, **Fan E**, Wilson KC, Thomson CC. Summary for Clinicians: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome Clinical Practice Guideline. *Ann Am Thorac Soc*. 2017 Aug 1;14(8):1235-1238. **Coauthor or Collaborator**

Laffey JG, Madotto F, Bellani G, Pham T, **Fan E**, Brochard L, Amin P, Arabi Y, Bajwa EK, Bruhn A, Cerny V, Clarkson K, Heunks L, Kurahashi K, Laake JH, Lorente JA, McNamee L, Nin N, Palo JE, Piquilloud L, Qiu H, Jiménez JIS, Esteban A, McAuley DF, van Haren F, Ranieri M, Rubenfeld G, Wrigge H, Slutsky AS, Pesenti A, LUNG SAFE Investigators and the ESICM Trials Group. Geo-economic variations in epidemiology, patterns of care, and outcomes in patients with acute respiratory distress syndrome: insights from the LUNG SAFE prospective cohort study. *Lancet Respir Med*. 2017 Aug 1;5(8):627-638. **Coauthor or Collaborator**

Alhusein M, Osten M, Horlick E, Ross H, **Fan E**, Rao V, Billia F. Percutaneous left atrial decompression in adults with refractory cardiogenic shock supported with veno-arterial extracorporeal membrane oxygenation. *J Card Surg*. 2017 Jun 1;32(6):396-401. **Coauthor or Collaborator**

Sy E, Sklar MC, Lequier L, **Fan E**, Kanji HD. Anticoagulation practices and the prevalence of major bleeding, thromboembolic events, and mortality in venoarterial extracorporeal membrane oxygenation: A systematic review and meta-analysis. *J Crit Care*. 2017 Jun 1;39:87-96. **Coauthor or Collaborator**

**Fan E**, Brodie D, Slutsky AS. Fifty Years of Research in ARDS. Mechanical Ventilation during Extracorporeal Support for Acute Respiratory Distress Syndrome. For Now, a Necessary Evil. *Am J Respir Crit Care Med*. 2017 May 1;195(9):1137-1139. **Principal Author**

**Fan E**, Del Sorbo L, Goligher EC, Hodgson CL, Munshi L, Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, Ferguson ND, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard LJ, American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017 May 1;195(9):1253-1263. **Principal Author**

Pettenuzzo T, **Fan E**. 2016 Year in Review: Mechanical Ventilation. *Respir Care*. 2017 May 1;62(5):629-635. **Senior Responsible Author**

Rose L, Istanboulian L, Allum L, Burry L, Dale C, Hart N, Kydonaki C, Ramsay P, Pattison N, Connolly B, PERFORM study investigators. Patient- and family-centered performance measures focused on actionable processes of care for persistent and chronic critical illness: protocol for a systematic review. *Syst Rev*. 2017 Apr 17;6(1):84. **Coauthor or Collaborator**

Cypel M, Waddell T, Singer LG, Del Sorbo L, **Fan E**, Binnie M, Ferguson ND, Keshavjee S. Bilateral pneumonectomy to treat uncontrolled sepsis in a patient awaiting lung transplantation. *J Thorac Cardiovasc Surg*. 2017 Apr 1;153(4):e67-e69. **Coauthor or Collaborator**

Morelli A, Del Sorbo L, Pesenti A, Ranieri VM, **Fan E**. Extracorporeal carbon dioxide removal (ECCO2R) in patients with acute respiratory failure. *Intensive Care Med*. 2017 Apr 1;43(4):519-530. **Senior Responsible Author**

Burry L, Scales D, Williamson D, Foster J, Mehta S, Guenette M, **Fan E**, Detsky M, Azad A, Bernard F, Rose L. Feasibility of melatonin for prevention of delirium in critically ill patients: a protocol for a multicentre, randomised, placebo-controlled study. *BMJ Open*. 2017 Mar 30;7(3):e015420. **Coauthor or Collaborator**

deBacker J, Hart N, **Fan E**. Neuromuscular Blockade in the 21st Century Management of the Critically Ill Patient. *Chest*. 2017 Mar 1;151(3):697-706. **Senior Responsible Author**

**Fan E**, Zakhary B, Amaral AC, McCannon J, Girard TD, Morris PE, Truwit JD, Wilson KC, Thomson CC. Liberation from Mechanical Ventilation in Critically Ill Adults. An Official ATS/ACCP Clinical Practice Guideline. *Ann Am Thorac Soc*. 2017 Mar 1;14(3):441-443. **Principal Author**

Silversides JA, Major E, Ferguson AJ, Mann EE, McAuley DF, Marshall JC, Blackwood B, **Fan E**. Conservative fluid management or deresuscitation for patients with sepsis or acute respiratory distress syndrome following the resuscitation phase of critical illness: a systematic review and meta-analysis. *Intensive Care Med*. 2017 Feb 1;43(2):155-170. **Senior Responsible Author**

Munshi L, Kobayashi T, DeBacker J, Doobay R, Telesnicki T, Lo V, Cote N, Cypel M, Keshavjee S, Ferguson ND, **Fan E**. Intensive Care Physiotherapy during Extracorporeal Membrane Oxygenation for Acute Respiratory Distress Syndrome. *Ann Am Thorac Soc*. 2017 Feb 1;14(2):246-253. **Senior Responsible Author**

Frerichs I, Amato MB, van Kaam AH, Tingay DG, Zhao Z, Grychtol B, Bodenstern M, Gagnon H, Böhm SH, Teschner E, Stenqvist O, Mauri T, Torsani V, Camporota L, Schibler A, Wolf GK, Gommers D, Leonhardt S, Adler A, TREND study group. Chest electrical impedance tomography examination, data analysis, terminology, clinical use and recommendations: consensus statement of the TRanslational EIT developmeNt stuDY group. *Thorax*. 2017 Jan 1;72(1):83-93. **Coauthor or Collaborator**



Ouellette DR, Patel S, Girard TD, Morris PE, Schmidt GA, Truwit JD, Alhazzani W, Burns SM, Epstein SK, Esteban A, **Fan E**, Ferrer M, Fraser GL, Gong MN, Hough CL, Mehta S, Nanchal R, Pawlik AJ, Schweickert WD, Sessler CN, Strøm T, Kress JP. Liberation From Mechanical Ventilation in Critically Ill Adults: An Official American College of Chest Physicians/American Thoracic Society Clinical Practice Guideline: Inspiratory Pressure Augmentation During Spontaneous Breathing Trials, Protocols Minimizing Sedation, and Noninvasive Ventilation Immediately After Extubation. *Chest*. 2017 Jan 1;151(1):166-180. Coauthor or Collaborator. (Journal Articles) Schmidt GA, Girard TD, Kress JP, Morris PE, Ouellette DR, Alhazzani W, Burns SM, Epstein SK, Esteban A, Fan E, Ferrer M, Fraser GL, Gong MN, Hough CL, Mehta S, Nanchal R, Patel S, Pawlik AJ, Schweickert WD, Sessler CN, Strøm T, Wilson KC, Truwit JD. Liberation From Mechanical Ventilation in Critically Ill Adults: Executive Summary of an Official American College of Chest Physicians/American Thoracic Society Clinical Practice Guideline. *Chest*. 2017 Jan 1;151(1):160-165. **Coauthor or Collaborator**

Schmidt GA, Girard TD, Kress JP, Morris PE, Ouellette DR, Alhazzani W, Burns SM, Epstein SK, Esteban A, **Fan E**, Ferrer M, Fraser GL, Gong MN, L Hough C, Mehta S, Nanchal R, Patel S, Pawlik AJ, Schweickert WD, Sessler CN, Strøm T, Wilson KC, Truwit JD, ATS/CHEST Ad Hoc Committee on Liberation from Mechanical Ventilation in Adults. Official Executive Summary of an American Thoracic Society/American College of Chest Physicians Clinical Practice Guideline: Liberation from Mechanical Ventilation in Critically Ill Adults. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):115-119. **Coauthor or Collaborator**

Girard TD, Alhazzani W, Kress JP, Ouellette DR, Schmidt GA, Truwit JD, Burns SM, Epstein SK, Esteban A, **Fan E**, Ferrer M, Fraser GL, Gong MN, Hough CL, Mehta S, Nanchal R, Patel S, Pawlik AJ, Schweickert WD, Sessler CN, Strøm T, Wilson KC, Morris PE, ATS/CHEST Ad Hoc Committee on Liberation from Mechanical Ventilation in Adults. An Official American Thoracic Society/American College of Chest Physicians Clinical Practice Guideline: Liberation from Mechanical Ventilation in Critically Ill Adults. Rehabilitation Protocols, Ventilator Liberation Protocols, and Cuff Leak Tests. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):120-133. **Coauthor or Collaborator**

Bellani G, Laffey JG, Pham T, Madotto F, **Fan E**, Brochard L, Esteban A, Gattinoni L, Bumbasirevic V, Piquilloud L, van Haren F, Larsson A, McAuley DF, Bauer PR, Arabi YM, Ranieri M, Antonelli M, Rubenfeld GD, Thompson BT, Wrigge H, Slutsky AS, Pesenti A, LUNG SAFE Investigators., ESICM Trials Group. Noninvasive Ventilation of Patients with Acute Respiratory Distress Syndrome. Insights from the LUNG SAFE Study. *Am J Respir Crit Care Med*. 2017 Jan 1;195(1):67-77. **Coauthor or Collaborator**

Munshi L, Gershengorn HB, **Fan E**, Wunsch H, Ferguson ND, Stukel TA, Rubenfeld GD. Adjuvants to Mechanical Ventilation for Acute Respiratory Failure. Adoption, De-adoption, and Factors Associated with Selection. *Ann Am Thorac Soc*. 2017 Jan 1;14(1):94-102. **Coauthor or Collaborator**

Singal RK, Singal D, Bednarczyk J, Lamarche Y, Singh G, Rao V, Kanji HD, Arora RC, Manji RA, **Fan E**, Nagpal AD. Current and Future Status of Extracorporeal Cardiopulmonary Resuscitation for In-Hospital Cardiac Arrest. *Can J Cardiol*. 2017 Jan 1;33(1):51-60. **Coauthor or Collaborator**

Wilcox ME, Jaramillo-Rocha V, Hodgson C, Taglione MS, Ferguson ND, **Fan E**. Long-Term Quality of Life After Extracorporeal Membrane Oxygenation in ARDS Survivors: Systematic Review and Meta-Analysis. *J Intensive Care Med*. 2017 Jan 1:885066617737035. **Senior Responsible Author**

## Editorials

**Fan E**, Rubenfeld GD. Driving Pressure-The Emperor's New Clothes. *Crit Care Med*. 2017 May 1;45(5):919-920. **Principal Author**

## Non-Peer Reviewed Publications

### Journal Articles

Laffey JG, Bellani G, Pham T, **Fan E**, Madotto F, Bajwa EK, Brochard L, Clarkson K, Esteban A, Gattinoni L, van Haren F, Heunks LM, Kurahashi K, Laake JH, Larsson A, McAuley DF, McNamee L, Nin N, Qiu H, Ranieri M, Rubenfeld GD, Thompson BT, Wrigge H, Slutsky AS, Pesenti A, LUNG SAFE Investigators., ESICM Trials Group. Correction to: Potentially modifiable factors contributing to outcome from acute respiratory distress syndrome: the LUNG SAFE study. *Intensive Care Med.* 2017 Nov 14. **Coauthor or Collaborator**

### Book Chapters

Del Sorbo L, **Fan E**. Indications and Contraindications for ECLS in Adults with Respiratory Failure. In: *ECMO, Extracorporeal Support in Critical Care, 5th Edition.* 5th Edition. (United States); 2017. **Senior Responsible Author**

Siriwardena M, **Fan E**. The descent into heard and lung failure. In: *ECMO, Extracorporeal Support in Critical Care. 5th Edition.* 2017. **Senior Responsible Author**

Hodgson C, **Fan E**. ICU-acquired weakness and early mobilization. In: *Lange's Critical Care Medicine. 4th Edition.* 2017. **Senior Responsible Author**

## Peer-Reviewed Funding

### Funded

- 2017 Jan - 2017 Dec **Co-Investigator.** Physical Training for Patients Receiving ECMO to Improve Recovery: An International Pilot RCT. Monash University Strategic Grant Scheme. 45,000 AUD. [Grants].
- 2015 Jul - 2020 Jun **Principal Investigator.** Strategies for Optimal Lung Ventilation in ECMO for ARDS: The SOLVE ARDS Study. Canadian Institutes of Health Research (CIHR). New Investigator Award. 300,000 CAD. [Grants].
- 2015 Apr - 2017 Mar **Principal Investigator.** Gas exchange extracorporeal techniques: The XXL Study. MSH-UHN AMO. AFP Innovation Fund. 130,950 CAD. [Grants].

## Non-Peer Reviewed Funding

### Funded

- 2016 Jun - 2017 May **Co-Principal Investigator.** Nitric Oxide in Right Ventricular Dysfunction: Improvements in Congestion and Hemodynamics on VA ECMO (NOVICE) Study. Mallinckrodt Pharmaceuticals. 46,000 CAD. [Grants].

## Invited Lectures and Presentations

### International

- 2017 Nov 17 **Invited Speaker.** What's New in 2017 for Mechanical Ventilation Guidelines for Patients with ARDS? The World Day of the Critical Lung. Global Webinar. Spain.
- 2017 Oct 14 **Invited Speaker.** When I'm 65....; What Are the Right Outcomes? Lessons Learned from the Pediatric World; Oxygenation Comes With a Cost Asia-Pacific ELSO Meeting. Gold Coast, Australia.
- 2017 Sep 30 **Invited Speaker.** No Lungs? No Problem! We Can Support You. 30th Annual ELSO Conference. Baltimore, Maryland, United States.
- 2017 Aug 31 **Invited Speaker.** Outcomes in Caregivers of Critically Ill Patients; Liberation from Mechanical Ventilation: Clinical Practice Guidelines; The RECOVER Study. 27th Congresso Argentino de Terapia Intensiva. Cordoba, Argentina.
- 2017 Jun 29 - 30 **Invited Speaker.** Latest in Mechanical Ventilation during ECMO; Is There an Age Limit for ECMO?; Extracorporeal Support Registries. Temporary Circulatory Support-ECMO Meeting, Paris, France.
- 2017 Jun 6 **Invited Speaker.** Extracorporeal Support Registries. ANZIC-RC Collaborative Clinical Trials in Intensive Care Medicine Conference. Prato, Italy.
- 2017 May 24 **Invited Speaker.** Mechanical Ventilation: Has Anything Changed in 50 Years?; ATS/ESICM/SCCM Clinical Practice Guideline: Mechanical Ventilation for ARDS. American Thoracic Society International Conference. Washington, District of Columbia, United States.

### Provincial

- 2017 Feb 28 **Invited Speaker.** Ventilatory Management of ARDS: What Have We Learned in 50 Years?; Extracorporeal Support for Respiratory Failure – A to Z. Department of Critical Care Education Rounds. Interior Health, Kelowna, British Columbia, Canada.

### National

- 2017 Oct 28 - 30 **Invited Speaker.** Refractory Respiratory Failure: Rescue Therapies and VA ECMO; Year in Review: Acute Respiratory Failure and Mechanical Ventilation. American College of Chest Physicians Annual Meeting. Toronto, Ontario, Canada.
- 2017 Oct 26 **Invited Speaker.** Mechanical Ventilation During Extracorporeal Support. SickKids Department of Critical Care Medicine Research Rounds. Toronto, Ontario, Canada.
- 2017 Oct 3 - 4 **Invited Speaker.** A Role for ECPR?; Why Remove CO<sub>2</sub>? Canada Critical Care Forum. Toronto, Ontario, Canada.
- 2017 Jul **Invited Speaker.** Podcast - How to use an article on quality improvement. JAMAevidence. <http://books.mcgraw-hill.com/podcast/jamaevidence>.
- 2017 Jun 20 **Invited Speaker.** Extracorporeal Support for Respiratory Failure. Toronto and Beyond. Art Slutsky Research Day, Interdepartmental Division of Critical Care Medicine, Toronto, Ontario, Canada.

- 2017 Jun 2 **Invited Speaker.** Albumin: Good, Bad, or Ugly? University of Toronto Transfusion Bootcamp. Toronto, Ontario, Canada.
- 2017 Jun 1 **Invited Speaker.** Extracorporeal Support for Respiratory Failure. Lung Transplantation and Artificial Lung Support. Division of Thoracic Surgery, University of Toronto, Toronto, Ontario, Canada.
- 2017 May 31 **Invited Speaker.** Extracorporeal Support for Respiratory Failure. Ventilator Management for the Intensivist Workshop. Toronto, Ontario, Canada.
- 2017 Apr 28 **Invited Speaker.** Extracorporeal Support for Respiratory Failure. Mechanical Ventilation. From Physiology to Clinical Practice, Toronto, Ontario, Canada.
- 2017 **Invited Speaker.** Podcast - Mechanical ventilation for ARDS: a Clinical Practice Guideline. American Journal of Respiratory and Critical Care Medicine.
- Local**
- 2017 Nov 23 **Invited Speaker.** ECMO in 2017: A Role in the ED? UHN Emergency Department Grand Rounds. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Duan EH, Adhikari NKJ, D'Aragnon F, Cook DJ, Mehta S, Alhazzani W, Goligher E, Charbonney E, Arabi YM, Karachi T, Turgeon AF, Hand L, Zhou Q, Austin P, Friedrich J, Lamontagne F, Lauzier F, Patel R, Muscedere J, Hall R, Aslanian P, Piraino T, Albert M, Bagshaw SM, Jacka M, Wood G, Henderson W, Dorscheid D, **Ferguson ND**, Meade MO; Canadian Critical Care Trials Group. Management of Acute Respiratory Distress Syndrome and Refractory Hypoxemia. A Multicenter Observational Study. *Ann Am Thorac Soc*. 2017 Dec;14(12):1818-1826. **Senior Responsible Author**

Munshi L, Kiss A, Cypel M, Keshavjee S, **Ferguson ND**, Fan E. Oxygen Thresholds and Mortality During Extracorporeal Life Support in Adult Patients. *Crit Care Med*. 2017 Dec;45(12):1997-2005. **Coauthor or Collaborator**

Hoetzenecker K, Donahoe L, Yeung JC, Azad S, Fan E, **Ferguson ND**, Del Sorbo L, de Perrot M, Pierre A, Yasufuku K, Singer L, Waddell TK, Keshavjee S, Cypel M. Extracorporeal life support as a bridge to lung transplantation-experience of a high-volume transplant center. *J Thorac Cardiovasc Surg*. 2017 Nov 22. **Coauthor or Collaborator**

Meade MO, Young D, **Ferguson ND**. Reply to: Might High-frequency Oscillatory Ventilation Improve Prognosis of More Severe Acute Respiratory Distress Syndrome? Not So Sure. *Am J Respir Crit Care Med*. 2017 Nov 1. **Senior Responsible Author**

Brodie D, Curtis JR, Vincent JL, Bakker J, Brown CE, Creteur J, Papazian L, Sladen RN, Ranieri VM; Participants in the Round Table Conference. Treatment limitations in the era of ECMO. *Lancet Respir Med*. 2017 Oct;5(10):769-770. **Coauthor or Collaborator**

Leeies M, Flynn E, Turgeon AF, Paunovic B, Loewen H, Rabbani R, Abou-Setta AM, **Ferguson ND**, Zarychanski R. High-flow oxygen via nasal cannulae in patients with acute hypoxemic respiratory failure: a systematic review and meta-analysis. *Syst Rev*. 2017 Oct 16;6(1):202. **Coauthor or Collaborator**

Goligher EC, Hodgson CL, Adhikari NKJ, Meade MO, Wunsch H, Uleryk E, Gajic O, Amato MPB, **Ferguson ND**, Rubenfeld GD, Fan E. Lung Recruitment Maneuvers for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct;14(Supplement\_4):S304-S311. **Coauthor or Collaborator**

Goligher EC, Munshi L, Adhikari NKJ, Meade MO, Hodgson CL, Wunsch H, Uleryk E, Gajic O, Amato MPB, **Ferguson ND**, Rubenfeld GD, Fan E. High-Frequency Oscillation for Adult Patients with Acute Respiratory Distress Syndrome. A Systematic Review and Meta-Analysis. *Ann Am Thorac Soc*. 2017 Oct;14(Supplement\_4):S289-S296. **Coauthor or Collaborator**

Meade MO, Young D, Hanna S, Zhou Q, Bachman TE, Bollen C, Slutsky AS, Lamb SE, Adhikari NKJ, Mentzelopoulos SD, Cook DJ, Sud S, Brower RG, Thompson BT, Shah S, Stenzler A, Guyatt G, **Ferguson ND**. Severity of Hypoxemia and Effect of High-Frequency Oscillatory Ventilation in Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017 Sep 15;196(6):727-733. **Senior Responsible Author**

Meade MO, Young D, Hanna S, Zhou Q, Bachman TE, Bollen C, Slutsky AS, Lamb SE, Adhikari NKJ, Mentzelopoulos SD, Cook DJ, Sud S, Brower RG, Thompson BT, Shah S, Stenzler A, Guyatt G, **Ferguson ND**. Severity of Hypoxemia and Effect of High-Frequency Oscillatory Ventilation in Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017 Sep 15;196(6):727-733. **Senior Responsible Author**

Yoshida T, Engelberts D, Otulakowski G, Katira B, Post M, **Ferguson ND**, Brochard L, Amato MBP, Kavanagh BP. Continuous Negative Abdominal Pressure Recruits Lungs at Lower Distending Pressures. *Am J Respir Crit Care Med*. 2017 Jul 25. **Coauthor or Collaborator**

Goligher EC, Detsky ME, Sklar MC, Campbell VT, Greco P, Amaral AC, **Ferguson ND**, Brochard LJ. Rethinking Inspiratory Pressure Augmentation in Spontaneous Breathing Trials. *Chest*. 2017 Jun;151(6):1399-1400. **Coauthor or Collaborator**

Fan E, Del Sorbo L, Goligher EC, Hodgson CL, Munshi L, Walkey AJ, Adhikari NKJ, Amato MBP, Branson R, Brower RG, **Ferguson ND**, Gajic O, Gattinoni L, Hess D, Mancebo J, Meade MO, McAuley DF, Pesenti A, Ranieri VM, Rubenfeld GD, Rubin E, Seckel M, Slutsky AS, Talmor D, Thompson BT, Wunsch H, Uleryk E, Brozek J, Brochard LJ; American Thoracic Society, European Society of Intensive Care Medicine, and Society of Critical Care Medicine. An Official American Thoracic Society/European Society of Intensive Care Medicine/Society of Critical Care Medicine Clinical Practice Guideline: Mechanical Ventilation in Adult Patients with Acute Respiratory Distress Syndrome. *Am J Respir Crit Care Med*. 2017 May 1;195(9):1253-1263. doi: 10.1164/rccm.201703-0548ST. Erratum in: *Am J Respir Crit Care Med*. 2017 Jun 1;195(11):1540. **Coauthor or Collaborator**

Ng J, **Ferguson ND**. High-frequency oscillatory ventilation: still a role? *Curr Opin Crit Care*. 2017 Apr;23(2):175-179. **Senior Responsible Author**

Cypel M, Waddell T, Singer LG, Del Sorbo L, Fan E, Binnie M, Ferguson ND, Keshavjee S. Bilateral pneumonectomy to treat uncontrolled sepsis in a patient awaiting lung transplantation. *J Thorac Cardiovasc Surg*. 2017 Apr;153(4):e67-e69. **Coauthor or Collaborator**

Tejerina E, Pelosi P, Muriel A, Peñuelas O, Sutherasan Y, Frutos-Vivar F, Nin N, Davies AR, Rios F, Violi DA, Raymondos K, Hurtado J, González M, Du B, Amin P, Maggiore SM, Thille AW, Soares MA, Jibaja M, Villagomez AJ, Kuiper MA, Koh Y, Moreno RP, Zeggwagh AA, Matamis D, Anzueto A, **Ferguson ND**, Esteban A; for VENTILA group. Association between ventilatory settings and development of acute respiratory distress syndrome in mechanically ventilated patients due to brain injury. *J Crit Care*. 2017 Apr;38:341-345. **Coauthor or Collaborator**

Jerath A, Panckhurst J, Parotto M, Lightfoot N, Wasowicz M, **Ferguson ND**, Steel A, Beattie WS. Safety and Efficacy of Volatile Anesthetic Agents Compared With Standard Intravenous Midazolam/Propofol Sedation in Ventilated Critical Care Patients: A Meta-analysis and Systematic Review of Prospective Trials. *Anesth Analg*. 2017 Apr;124(4):1190-1199. **Coauthor or Collaborator**

Nin N, Muriel A, Peñuelas O, Brochard L, Lorente JA, **Ferguson ND**, Raymondos K, Rios F, Violi DA, Thille AW, González M, Villagomez AJ, Hurtado J, Davies AR, Du B, Maggiore SM, Soto L, D'Empaire G, Matamis D, Abroug F, Moreno RP, Soares MA, Arabi Y, Sandi F, Jibaja M, Amin P, Koh Y, Kuiper MA, Blaw HH, Zeggwagh AA, Anzueto A, Sznajder JI, Esteban A; VENTILA Group. Severe hypercapnia and outcome of mechanically ventilated patients with moderate or severe acute respiratory distress syndrome. *Intensive Care Med*. 2017 Feb;43(2):200-208. **Coauthor or Collaborator**

Munshi L, Kobayashi T, DeBacker J, Doobay R, Telesnicki T, Lo V, Cote N, Cypel M, Keshavjee S, Ferguson ND, Fan E. Intensive Care Physiotherapy during Extracorporeal Membrane Oxygenation for Acute Respiratory Distress Syndrome. *Ann Am Thorac Soc*. 2017 Feb;14(2):246-253. **Coauthor or Collaborator**

Wilcox ME, Jaramillo-Rocha V, Hodgson C, Taglione MS, **Ferguson ND**, Fan E. Long-Term Quality of Life After Extracorporeal Membrane Oxygenation in ARDS Survivors: Systematic Review and Meta-Analysis. *J Intensive Care Med.* 2017 Jan 1. **Coauthor or Collaborator**

McCredie VA, **Ferguson ND**, Pinto RL, Adhikari NK, Fowler RA, Chapman MG, Burrell A, Baker AJ, Cook DJ, Meade MO, Scales DC; Canadian Critical Care Trials Group. Airway Management Strategies for Brain-injured Patients Meeting Standard Criteria to Consider Extubation. A Prospective Cohort Study. *Ann Am Thorac Soc.* 2017 Jan;14(1):85-93. **Coauthor or Collaborator**

Huang DT, Angus DC, Moss M, Thompson BT, **Ferguson ND**, Ginde A, Gong MN, Gundel S, Hayden DL, Hite RD, Hou PC, Hough CL, Iwashyna TJ, Liu KD, Talmor DS, Yealy DM; Reevaluation of Systemic Early Neuromuscular Blockade Protocol Committee and the National Institutes of Health National Heart, Lung, and Blood Institute Prevention and Early Treatment of Acute Lung Injury Network Investigators. Design and Rationale of the Reevaluation of Systemic Early Neuromuscular Blockade Trial for Acute Respiratory Distress Syndrome. *Ann Am Thorac Soc.* 2017 Jan;14(1):124-133. **Coauthor or Collaborator**

Bellani G, Laffey JG, Pham T, Madotto F, Fan E, Brochard L, Esteban A, Gattinoni L, Bumbasirevic V, Piquilloud L, Van Haren F, Larsson A, McAuley DF, Bauer PR, Arabi YM, Ranieri M, Antonelli M, Rubenfeld GD, Thompson BT, Wrigge H, Slutsky AS, Pesenti A; LUNG SAFE Investigators; ESICM Trials Group. Noninvasive Ventilation of Patients with Acute Respiratory Distress Syndrome. Insights from the LUNG SAFE Study. *Am J Respir Crit Care Med.* 2017 Jan 1;195(1):67-77. **Coauthor or Collaborator**

Munshi L, Gershengorn HB, Fan E, Wunsch H, **Ferguson ND**, Stukel TA, Rubenfeld GD. Adjuvants to Mechanical Ventilation for Acute Respiratory Failure. Adoption, De-adoption, and Factors Associated with Selection. *Ann Am Thorac Soc.* 2017 Jan;14(1):94-102. **Coauthor or Collaborator**

Worthington H, Pickett W, Morrison LJ, Scales DC, Zhan C, Lin S, Dorian P, Dainty KN, **Ferguson ND**, Brooks SC; Rescu Investigators. The impact of hospital experience with out-of-hospital cardiac arrest patients on post cardiac arrest care. *Resuscitation.* 2017 Jan;110:169-175. **Coauthor or Collaborator**

## Peer-Reviewed Funding

### Funded

- 2017-2020 **Co-Investigator.** The SuDDICU study- A study of the impact of preventative antibiotics (SDD) on patient outcome and antibiotic resistance in the critically ill in intensive care. Canadian Institutes of Health Research. PI(s): Cuthbertson BH, Murthy S. Collaborator(s): Rose L, Misak C, Garber G, Fowler R. 3,000,000 CAD. [Grants]
- 2017-2019 **Co-Investigator.** Protective Mechanical Ventilation Strategy for Patients Undergoing Cardiac Surgery (VENT-CARD) Trial. MSH-UHN AMO Innovation Fund. PI(s): Parroto M. Collaborator(s): Brochard L, Jerath A, Wijeysondera D. 184,309 CAD. [Grants]
- 2015 Jul - 2020 Jun **Principal Investigator.** The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research (CIHR). Collaborator(s): Adhikari N, Singh Wilcox ME, Baker A, Mainprize T, Turgeon A, McCredie V, Zygun D, Seely AJ, Brochard L, Griesdale D, Bosma K, Charbonney E, Meade M, Nathens A, Rubenfeld GD, Fowler RA, Alai A, Chapman M, Cuthbertson BH. 880,405 CAD. [Grants]
- 2015 Jul - 2017 Jun **Principal Investigator.** Diaphragm Activity and Function During Mechanical Ventilation. Ontario Thoracic Society. Collaborator(s): Brochard L, Rubenfeld GD, Kavanagh BP. 100,000 CAD. [Grants]

2013 Jul - 2018 Jun **Collaborator.** Linking Ventilator-Induced Diaphragm Dysfunction and Weaning Failure due to Diaphragm Inactivity During Mechanical Ventilation. Canadian Institutes of Health Research (CIHR). CIHR Postdoctoral Fellowship. PI(s): Goligher EC. Collaborator(s): Kavanagh BP. 275,000 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Oct 13 - 14 **Invited Speaker.** ECMO at the Front Door – You Must Be Kidding; Monitoring the Diaphragm During ECMO; To Rest or Recruit During V-V ECMO. Asia-Pacific Extra-Corporeal Life Support Organization Conference, Gold Coast, Australia.
- 2017 Sept 29 **Invited Speaker.** Still a Roll for HFO in 2017?; Strategies for the Management of Refractory Hypoxemia; 50 Years of ARDS – Still Important? Inauguration of Centre for Investigation and Education in Mechanical Ventilation. Fundación Neumológica Colombiana, Bogotá, Colombia.
- 2017 Jul 15 **Invited Speaker.** Do We Still Need ARDS? Yes!; Monitoring and Improving Diaphragm Function with Ultrasound During Mechanical Ventilation.! 20<sup>th</sup> International Forum on Critical Care Medicine, Mexico City, Mexico.
- 2017 Jun 29 **Invited Speaker.** How to Recruit the Lung in ARDS. TCS-ECMO International Conference, Paris, France.
- 2017 May 25 – 26 **Invited Speaker.** How, When and in Whom to Recruit the Lung; Clinical Challenges in Mechanical Ventilation. 11<sup>th</sup> National Congress of the Colombian Society of Intensive Care Medicine. Medellín, Colombia.
- 2017 Mar 20 – 23 **Invited Speaker.** All Patients in the ICU Should be Enrolled in a Clinical Trial; HFO – A Useful Recruitment Strategy?; How to Be a Leader in the ICU; Diaphragm Function Relates to Duration of Ventilation; How to Manage Refractory Hypoxemia; Long-term Outcome in ECMO Studies – Does Anything Else Matter?; ECLS for Respiratory Failure – Current and Future Indications. 37<sup>th</sup> International Symposium on Intensive Care and Emergency Medicine. Brussels, Belgium.
- 2017 Feb 16** **Invited Speaker.** Bilateral Pneumonectomy for Source Control in CF Septic Shock – ECLS without Lungs. International ECMONet Meeting. Barcelona, Spain.

### Provincial

- 2017 Mar 2** **Invited Speaker.** How to Oxygenate and Ventilate...with ECLS. Canadian Critical Care Conference. Whistler, British Columbia, Canada.

### National

- 2017 Oct 2 **Invited Speaker.** We Still Need ARDS. Critical Care Canada Forum 2017, Toronto, Ontario, Canada.
- 2017 Jun 1 **Invited Speaker.** Respiratory Dysfunction - ARDS. Canadian Critical Care Review – Canadian Critical Care Society RCPSC Critical Care National Exam Review Course. Toronto, Ontario, Canada.



**Peer-Reviewed Publications**

**Journal Articles**

East JM, Cserti-Gazdewich C, **Granton JT**. Heparin-Induced Thrombocytopenia in the Patient Who Is Critically Ill. *Chest*. 2017 Dec 16. **Senior Responsible Author**

Skoretz SA, Yau TM, **Granton JT**, Martino R. The feasibility of assessing swallowing physiology following prolonged intubation after cardiovascular surgery. *Pilot Feasibility Stud*. 2017 Nov 21;3:62. **Coauthor or Collaborator**

Baillie TJ, **Granton JT**. Lung Transplantation for Pulmonary Hypertension and Strategies to Bridge to Transplant. *Semin Respir Crit Care Med*. 2017 Oct 2017; 38(5):701-710. **Senior Responsible Author**

Rivers-Bowerman MD, Zener R, Jaber A, de Perrot M, **Granton JT**, Moriarty JM, Tan KT. Balloon Pulmonary Angioplasty in Chronic Thromboembolic Pulmonary Hypertension: New Horizons in the Interventional Management of Pulmonary Embolism. *Tech Vasc Interv Radiol*. 2017 Sep;20(3):206-215. **Coauthor or Collaborator**

Donahoe L, Vanderlaan R, Thenganatt J, McRae K, Bykova A, Moric J, **Granton JT**, de Perrot M. Symptoms Are More Useful Than Echocardiography in Patient Selection for Pulmonary Endarterectomy. *Ann Thorac Surg*. 2017 Aug 16. **Coauthor or Collaborator**

Zhao YD, Yin L, Archer S, Lu C, Zhao G, Yao Y, Wu L, Hsin M, Waddell TK, Keshavjee S, **Granton JT**, de Perrot M. Metabolic heterogeneity of idiopathic pulmonary fibrosis: a metabolomic study. *BMJ Open Respir Res*. 2017. 2017 Jun 5;4(1):e000183. **Coauthor or Collaborator**

Avriel A, Klement AH, Johnson SR, de Perrot M, **Granton JT**. The impact of left ventricular diastolic dysfunction on lung transplant outcome in patients with pulmonary arterial hypertension. *Am J Transplant*. 2017 May 16. **Senior Responsible Author**

Ma K, Kahn SR, Hirsch AM, Akaberi A, Anderson DR, Wells PS, Rodger M, Solymoss S, Kovacs MJ, Rudski L, Shimony A, Dennie C, Rush C, Hernandez P, Aaron SD, **Granton JT**. N-terminal of prohormone brain natriuretic peptide predicts functional limitation one year following pulmonary embolism: Results from the ELOPE study. *Thromb Res*. 2017 May;153:47-49. **Senior Responsible Author**

Kahn SR, Hirsch AM, Akaberi A, Hernandez P, Anderson DR, Wells PS, Rodger MA, Solymoss S, Kovacs MJ, Rudski L, Shimony A, Dennie C, Rush C, Geerts WH, Aaron SD, **Granton JT**. Functional and Exercise Limitations After a First Episode of Pulmonary Embolism: Results of the ELOPE Prospective Cohort Study. *Chest*. 2017 May;151(5):1058-1068. **Senior Responsible Author**

Mehta S, Granton JT, Gordon AC, Cook DJ, Lapinsky S, Newton G, Bandayrel K, Little A, Siau C, Ayers D, Singer J, Lee TCK, Walley KR, Storms M, Cooper DJ, Holmes CL, Hebert P, Presneill J, Russell JA, Vasopressin and Septic Shock Trial (VASST) Investigators. Erratum to: Cardiac ischemia in patients with septic shock randomized to vasopressin or norepinephrine. *Crit Care*. 2017 May 4;21(1):98. **Coauthor or Collaborator**

Kahn SR, Akaberi A, **Coauthor or Collaborator**, Anderson DR, Wells PS, Rodger MA, Solymoss S, Kovacs MJ, Rudski L, Shimony A, Dennie C, Rush C, Hernandez P, Aaron SD and Hirsch AM. Quality of Life, Dyspnea and Functional Exercise Capacity Following a First Episode of Pulmonary Embolism: Results of the ELOPE Cohort Study. Am J Med. 2017 Apr 8. pii: S0002-9343(17)30361-3. **Coauthor or Collaborator**

Kozij NK, **Granton JT**, Silkoff PE, Thenganatt J, Chakravorty S, Johnson SR. Exhaled Nitric Oxide in Systemic Sclerosis Lung Disease. Can Respir J. 2017 Jan 1;2017:6736239. **Coauthor or Collaborator**

## **Non-Peer Reviewed Grants**

### **Funded**

2015 Apr-2019 Mar **Principal Applicant.** Bayer Pulmonary Hypertension Grant.  
Bayer Canada Inc. Bayer Candada. Collaborator(s): de  
Perrot M. 1,000,000 CAD. [Industrial Grants].

## **Invited Lectures and Presentations**

### **International**

2017 Apr 6 **Invited Speaker.** RV failure - metabolic and functional maladaptation. International Society for Heart and Lung Transplantation. San Diego, California, United States.

### **Provincial**

2017 Jun 8 **Distinguished Speaker.** Getting the RV out of trouble. Inagural Dean Bell Memorial lecture. Winnipeg, Manitoba, Canada.

### **National**

2017 Oct 29 **Invited Speaker.** Exercise studies in chronic thromboembolic pulmonary hypertension. American College of Chest Physicans. Toronto, Ontario, Canada.

2017 Oct 2 **Invited Speaker.** Fluid related acute organ dysfunction. Toronto, Ontario, Canada.

2017 Nov **Invited Speaker.** Chronic Thromboembolic pulmonary hypertension. Interviewer: CHEST. Toronto, Ontario, Canada.

2017 Oct 29 **Facilitator.** Hemodynamics in pulmonary hypertension. American College of Chest Physicans. Toronto, Ontario, Canada.

2017 Sep 25 **Invited Speaker.** Treat to close. ACHD. Toronto, Ontario, Canada.

2017 Jun 1 **Invited Speaker.** Transplantation for the intensivist. Toronto, Ontario, Canada.

2017 Oct 12-13 **Invited Speaker.** Update on pulmonary embolism; Diagnosis of pulmonary hypertension. How did we get here. Toronto satellite symposium. Toronto, Ontario, Canada.

2017 Jun 22 **Invited Speaker.** Advances in the management of pulmonary embolism. Toronto, Ontario, Canada.

2017 Apr 26 **Invited Speaker.** Heart Lung Interactinos. U of T Critical Care. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Fergusson DA, Smith O, Fan E, Dupuis S, **Herridge M**, Rose L. Delirium and exposure to psychoactive medications in critically ill adults: A multi-centre observational study. *J Crit Care*. 2017 Dec 1;42:268-274.

**Coauthor or Collaborator**

**Herridge MS**. Fifty Years of Research in ARDS. Long-Term Follow-up after Acute Respiratory Distress Syndrome. Insights for Managing Medical Complexity after Critical Illness. *Am J Respir Crit Care Med*. 2017 Dec 1;196(11):1380-1384. **Principal Author**

Kiriella JB, Araujo T, Vergara M, Lopez-Hernandez L, Cameron JI, **Herridge M**, Gage WH, Mathur S. Quantitative Evaluation of Muscle Function, Gait, and Postural Control in People Experiencing Critical Illness After Discharge From the Intensive Care Unit. *Phys Ther*. 2017 Dec;98(1):8-15. **Coauthor or Collaborator**

Rozenberg D, Mathur S, **Herridge M**, Goldstein R, Schmidt H, Chowdhury NA, Mendes P, Singer LG. Thoracic muscle cross-sectional area is associated with hospital length of stay post lung transplantation: a retrospective cohort study. *Transpl Int*. 2017 Apr 8. **Coauthor or Collaborator**.

(Journal Articles) Rozenberg D, Singer LG, **Herridge M**, Goldstein R, Wickerson L, Chowdhury NA, Mathur S. Evaluation of Skeletal Muscle Function in Lung Transplant Candidates. *Transplantation*. 2017 Apr 3. **Coauthor or Collaborator**

Latronico N, **Herridge M**, Hopkins RO, Angus D, Hart N, Hermans G, Iwashyna T, Arabi Y, Citerio G, Wesley Ely E, Hall J, Mehta S, Puntillo K, Van den Hoeven J, Wunsch H, Cook D, Dos Santos C, Rubenfeld G, Vincent JL, Van den Berghe G, Azoulay E, Needham DM. The ICM research agenda on intensive care unit-acquired weakness. *Intensive Care Med*. 2017 Mar 13. **Coauthor or Collaborator**

Batt J, **Herridge M**, Dos Santos C. Mechanism of ICU-acquired weakness: skeletal muscle loss in critical illness. *Intensive Care Med*. 2017 Mar 10. **Coauthor or Collaborator**

Mehta S, Burns KE, Machado FR, Fox-Robichaud AE, Cook DJ, Calfee CS, Ware LB, Burnham EL, Kissoon N, Marshall JC, Mancebo J, Finfer S, Hartog C, Reinhart K, Maitland K, Stapleton RD, Kwizera A, Amin P, Abroug F, Smith O, Laake JH, Shrestha GS, **Herridge M**. Gender Parity in Critical Care Medicine. *Am J Respir Crit Care Med*. 2017 Feb 27. **Senior Responsible Author**

**Non Peer-Reviewed Publications**

Azoulay E, Vincent JL, Angus DC, Arabi YM, Brochard L, Brett SJ, Citerio G, Cook DJ, Curtis JR, Dos Santos CC, Ely EW, Hall J, Halpern SD, Hart N, Hopkins RO, Iwashyna TJ, Jaber S, Latronico N, Mehta S, Needham DM, Nelson J, Puntillo K, Quintel M, Rowan K, Rubenfeld G, Van den Berghe G, Van der Hoeven J, Wunsch H, **Herridge M**. Recovery after critical illness: putting the puzzle together-a consensus of 29. *Crit Care*. 2017 Dec 5;21(1):296. **Senior Responsible Author**.

## Peer-Reviewed Funding

### Funded

- 2017 Jul - 2019 Jun **Co-Investigator.** Critical Care Outcomes in Hematology Malignancy and Stem Cell Transplant Leukemia and Lymphoma Society of Canada. PI: Munshi L, Mehta S. 199,742.5 CAD. [Clinical Trials].
- 2017 Jul - 2018 Jun **Co-Investigator.** CYCLE Vanguard: The Catalyst to an International Randomized Comparative Effectiveness Trial of Early in-Bed Cycling with Mechanically Ventilated Patients. CIHR. \$100,000.00 CAD. [Grants]
- 2015 Jul - 2018 Jul **Principal Investigator.** The RECOVER Program: An International Model of Post-ICU care for patients and caregivers. Department of Medicine Challenge Grant. 200,000 CAD. [Grants]
- 2014 Oct - 2018 Sep **Co-Investigator.** Mechanisms of Impaired Skeletal Muscle Growth in Intensive Care Unit Acquired Weakness (ICUAW). Canadian Institutes of Health Research (CIHR), 325365. PI(s): Batt J. Collaborator(s): dos Santos C, Herridge, Mathur S. 409,200 CAD. [Grants]
- 2014 Sep - 2019 Aug **Co-Investigator.** The Canadian Critical Care Trials Group. Canadian Institutes of Health Research. The Canadian Critical Care Trials Group, CD1 138094. PI(s): HerbertP. Collaborator(s): Burns K, Turgeon A, Sinuff T, Seeley A. 1,500,000 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Nov **Invited Speaker.** Current Understanding of ICU Survivorship; The Future of ICU Survivorship. 5th European Conference on Weaning and Rehabilitation in Critically Ill Patients, London, United Kingdom.
- 2017 Sep **Invited Speaker.** ICM Year in Review: Nutrition; Chronic Critical Illness; Global Ageing: Selecting the right patient and supporting the survivors; Vitamin C: We Need Proper Evidence. European Society of Critical Care Medicine. Vienna, Austria.
- 2017 Jun **Invited Speaker.** Did Nietzsche Know Anything About Critical Illness Survivors?  
**Member of Expert Panel Discussion.** Critical Illness...Heroes, Victims,Victors,Survivors?  
Das Social Media and Critical Care. Berlin, Germany.
- 2017 May **Keynote Speaker.** Risk Stratification and Patient-and Family-centred care after critical illness. Society of Critical Care Anesthesia. Washington, District of Columbia, United States.
- 2017 May **Invited Speaker.** Muscles Can No Longer Be Collateral Damage: Neuromuscular Blockers DO cause muscle and nerve injury in ARDS. American Thoracic Society. Washington, District of Columbia, United States.

## National

- 2017 Oct **Invited Speaker.** Impact of the Caregiving Role During and After an episode of Critical Illness. CHEST. Toronto, Ontario, Canada.
- 2017 Oct **Interviewer.** Toronto Star newspaper- print article on the RECOVER program. Toronto, Ontario, Canada. Discussion about patient and caregiver needs after an episode of critical illness. Available from: <https://www.thestar.com>
- 2017 Oct **Interviewer.** Healthy Debates. Toronto, Ontario, Canada. Oct. Available from: [healthydebate.ca/2017/10/topic/post-icu-syndrome](http://healthydebate.ca/2017/10/topic/post-icu-syndrome)

## Honours and Awards

- 2017 Distinction. Who's Who at ATS. Specialty: Critical Care Medicine. American Thoracic Society, United States.
- 2017 Jun Inaugural Excellence in Research Faculty Award. Division of Respiology. Department of Medicine. University of Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Pivetta E, **Goffi A**, Nazerian P, Castagno D, Tozzetti C, Tizzani P, Tizzani M, Porrino G, Ferreri E, Busso V, Morello F, Paglieri C, Masoero M1, Cassine E, Bovaro F, Grifoni S, Maule MM, Lupia E, on behalf of study group on lung ultrasound from the Molinette and Careggi Hospitals. Integrated Lung Ultrasound for the diagnosis of acute decompensated heart failure in the Emergency Department. A randomized controlled trial. JACC: Cardiovascular Imaging. 2017 Dec. **Coauthor or Collaborator**

Lane S, Paskar D, Hamed S, **Goffi A**. When Guidelines Fail - Euglycemic Diabetic Ketoacidosis after Bariatric Surgery: A Case Report. Anesthesia & Analgesia - Case Reports. 2017 Nov. **Senior Responsible Author**

Pichette M, **Goffi A**. A 45-Year-Old Man with Severe Respiratory Failure after Cardiac Arrest. Chest. 2017 Jul. **Senior Responsible Author**

Kruisselbrink R, Chan V, Cibinel GA, Abrahamson S, **Goffi A**. I-AIM (Indication, Acquisition, Interpretation, Medical Decision-making) Framework for Point of Care Lung Ultrasound. Anesthesiology. 2017 Jul 24. Impact Factor: 5.785. **Senior Responsible Author**

Morelli A, Del Sorbo L, Pesenti A, Ranieri VM, Fan E. Extracorporeal carbon dioxide removal (ECCO2R) in patients with acute respiratory failure. Intensive Care Medicine. 2017 Apr 1;43(4):519-530. (Acknowledged in Publication; Not Author).

### Letters to Editor

El-Boghdadly K, **Goffi A**, Chan V. In reply: Proper use and interpretation of diaphragmatic ultrasonography. Canadian Journal of Anesthesia. 2017 May 1;64(5):550-551. **Coauthor or Collaborator**

El-Boghdadly K, Goffi A, Chan V. Point of care diaphragmatic ultrasonography made easy. Canadian Journal of Anesthesia. 2017 Mar 1;64(3):327-328. **Coauthor or Collaborator**

## Peer-Reviewed Funding

### Funded

- 2017 - present **Co-Investigator**. A study evaluating, in patients with severe ARDS supported with extracorporeal membrane oxygenation (ECMO), the impact of tidal ventilation and positive end-expiratory pressure (PEEP) on ventilator-induced lung injury (Strategies for Optimal Lung Ventilation in ECMO for ARDS: The SOLVE ARDS Study).
- 2017 - present **Co-Investigator**. A study evaluating the role of lung ultrasound in the follow-up of patients undergoing lung transplant.
- 2017 - present **Co-investigator**. A multicenter prospective cohort study exploring hospital-wide incidence, clinical characteristics and outcomes of ARDS, using SpO2/FIO2 and lung ultrasound.

- 2017 Sep - present **Co-Investigator.** Lung ultrasound and microbubbles for drug or gene delivery in ARDS. A study exploring feasibility of ultrasound-induced microbubble cavitation for drug or gene delivery targeted specifically to the injured lung. PI: Lee W.
- 2016 Aug - present **Site-Investigator.** PROSPECT (Probiotics: Prevention of Severe Pneumonia and Endotracheal Colonization) Trial - The study investigates whether orally ingested *L. rhamnosus* GG prevents VAP and other infections. Canadian Critical Care Trials Group (CCCTG).
- 2016 Aug - present **Co-Investigator.** Re-Evaluating the Inhibition of Stress Erosions (REVISE): Gastrointestinal Bleeding Prophylaxis In ICU - A Randomized Trial. The study will aim to determine, among mechanically ventilated patients, the effect of withholding vs administering daily pantoprazole on clinically important upper GI bleeding (primary outcome) and pneumonia, *C. difficile* infection, length of stay and mortality. REVISE will be conducted in collaboration with the Canadian, Australian, and New Zealand Critical Care Trials Groups, under the auspices of the International Forum for Acute Care Trialists.
- 2015 - present **Co-Investigator.** A study exploring how residents navigate learning opportunities for central venous catheter insertion skills. PI: Brydges R.
- 2015 - present **Co-Investigator.** InCURS Study. Exploring 1) the feasibility of assessing the competencies of subspecialty residents in 3 domains (cognitive reasoning, procedural skills, and communication skills) during an rotation, as well as their exposure to learning activities and the ICU learning climate; 2) the quality and relevance of specific assessment tools that could be used to measure resident competencies in the context of an ICU rotation. PI(s): Piquette D, Parshuram C. Canadian Institute for Health Research.
- 2012 - present **Principal Investigator.** A study exploring the role of self-directed simulation-assisted training (using video-lectures and an ultrasound simulator) for point-of-care focused cardiac and lung ultrasound. PI(s): Abrahamson S; Kim H.
- 2012 - present **Co-Principal Investigator.** A qualitative study evaluating the use of point of care ultrasound in critical care academic centers across Ontario.
- 2012 - present **Co-Lead.** The development of a longitudinal ultrasound curriculum and assessment of standards for point-of-care critical care ultrasound competency.
- 2009 - present **Co-Investigator.** A pilot study on diagnostic accuracy and reproducibility of pleural and lung ultrasound in discriminating cardiogenic causes of acute dyspnea in the Emergency Department (Intern Emerg Med 2012;7(1):65-70).
- 2009 - present **Principal investigator.** A pilot study on diagnostic and therapeutic impact of lung ultrasound in patients with acute dyspnea in the emergency department (Crit Care. 2013 Aug 27;17(4):R180).
- 2009 - present **Co-Investigator.** An Italian multicenter study addressing accuracy and reproducibility of lung ultrasound in the emergency department (Chest 2015 – 148(1), 202–210).
- 2009 - present **Co-Investigator.** A study evaluating the role of lung ultrasound in monitoring lung recruitment of patients with severe ARDS during prone positioning (abstract presented during ESICM Annual Meeting - Milan, Italy - 2016).

2009 - present **Co-Investigator.** A randomized trial aimed at evaluating accuracy and usefulness, in patients presenting with acute dyspnea to the ED, of a diagnostic approach integrating LUS and clinical evaluation compared with the standard diagnostic workup for acute decompensated heart failure (clinical evaluation integrated with CXR and natriuretic peptides measurement) (submitted).

## Invited Lectures and Presentations

### International

- 2017 Aug 1 **Invited Speaker.** Advanced LV assessment hands-on; Diastology hands-on assessment; Clinical Cases. Advanced Critical Care Ultrasound Course. Society of Critical Care Medicine (SCCM). Chicago, Illinois, United States.
- 2017 Jul 30 **Invited Speaker.** Intravascular Volume Assessment; Subcostal view hands-on session; FAST hands-on session; Ask the expert hands-on session; Volume assessment session. Critical Care Ultrasound Course. Society of Critical Care Medicine (SCCM), Chicago, Illinois, United States.
- 2017 May 21 **Facilitator.** Critical Case Reports: Neurocritical Care. ATS International Conference, American Thoracic Society, Washington, District of Columbia, United States.

### Provincial

- 2017 Oct 13 **Invited Lecturer.** Online ultrasound training: do we still need supervision at the bedside? World Congress on Ultrasound in Medical Education. SUSME & WINFOCUS. Montreal, Quebec, Canada.

### National

- 2017 Nov 1 **Instructor.** Point-of-Care Ultrasound for the Internist. Canadian Society of Internal Medicine (CSIM), Toronto, Ontario, Canada.
- 2017 Sep **Facilitator.** Workshop: Point of Care Ultrasound in Acute Care Medicine: Basic and Advanced Applications. Critical Care Canada Forum, Toronto, Ontario, Canada.
- 2017 Aug 16 **Invited Speaker.** 8th Annual Canadian Resuscitative Ultrasound Course 2017. Schulich Medicine & Dentistry, Western University, London, Ontario, Canada. Special Guest Faculty.
- 2017 Jul **Facilitator.** Point of Care Ultrasound Course. Royal College of Physicians and Surgeons of Canada/National Acute Critical Events Course, Toronto, Ontario, Canada.
- 2017 Jul **Facilitator.** National Acute Critical Events Simulation Workshop. Royal College of Physicians and Surgeons of Canada/National Acute Critical Events Course, Toronto, Ontario, Canada.
- 2017 Jul **Invited Speaker.** Point-of-Care Ultrasound for the Internist. Etobicoke General Hospital, William Osler Health System, Brampton, Ontario, Canada.
- 2017 Apr 28 **Presenter.** Mechanical Ventilation Course - Difficult Weaning Cases; Diaphragmatic Ultrasound Workshop CCCF, University of Toronto Interdepartmental Division of Critical Care Medicine, Toronto, Ontario, Canada.



2017 Apr 27 **Presenter.** Mechanical Ventilation Course - . CCCF, University of Toronto Interdepartmental Division of Critical Care Medicine, Toronto, Ontario, Canada.

### **Local**

2017 Nov 4 **Invited Speaker.** Transcranial Doppler and Optic Nerve Sheath Assessment. 15th Annual Toronto Perioperative TEE Symposium, Toronto General Hospital Anesthesia Department, Toronto, Ontario, Canada

2017 Feb 4 **Invited Lecturer.** Pulmonary Procedures for the Non-interventionalist - Lung Ultrasound. Division of Respiriology, University of Toronto, Toronto, Ontario, Canada.

### **Honours and Awards**

2016 Jul - 2017 Jun Award for Individual Teaching Excellence - Toronto Western Hospital, Critical Care Medicine, Dept of Medicine, Faculty of Medicine, University of Toronto.

2016 Jul - 2017 Jun Department of Medicine Excellence in Teaching Award - New Faculty, Dept of Medicine, Faculty of Medicine, Mount Sinai Hospital & University Health Network.

## **Peer Reviewed Publications**

### **Journal Articles**

**Hawryluck L.** Issues of Vulnerability and Equality: the emerging need for court evaluations of the fiduciary in high stakes EOL decisions. *Health Law in Canada* 2017. 2017;37(4):86-95. **Principal Author**

**Hawryluck L.** Estate Planning: Ten practical steps to improve written advance directives in powers of attorney for healthcare. *McGill Journal of Law and Health*. 2017;online: [www.mjlh.mcgill.ca](http://www.mjlh.mcgill.ca). **Principal Author**

Shamis J, **Hawryluck L**, Christian M Devine L. Stopping Resuscitation when family is present: teaching ethical and professional implications. *Simulation in Healthcare*. 2017;12(3):196-201. **Coauthor or Collaborator**

**Hawryluck L**, Handelman M. Standard of Care, Clinical Judgement and Issues of Unreasonableness: A reply to Young. *Mc Gill Journal of Law and Health*. 2017. **Principal Author**

**Hawryluck L**, Brindley P. Understanding how intensivists burnout can affect patients, family members and other clinicians. *Intensive Care Medicine*. 2017. **Principal Author**

**Hawryluck L**, Kalocsai C, Colangelo J, Downar J. Medicolegal advocacy and conflicts at the end of life: A qualitative study of what happens when advocacy and best interests collide. 2017. **Principal Author**

### **Clinical Care Guidelines**

Chapgain S, Parjula R, Deo S, **Hawryluck L**. Nepal Medical Council Draft Code of Ethics and Professional Conduct, Sept 2014-2017 (NMC International Expert Consultant). Nepal Medical Council; 2017 Dec. International Consultant to Nepal Medical Council. **Senior Responsible Author**

### **Commentaries**

**Hawryluck L**, Samworth P, Pairaudeau N, Ameis A. Submissions on behalf of MLST to CPSO on Draft policy: Physicians Services in Disasters December 2017. 2017. **Principal Author**

### **Books**

**Hawryluck L**, Fraleigh M editors --- in press with Carswell. *Law of Acute Care Medicine*. Hawryluck L, Fraleigh M, editor(s). (Canada): Carswell; 2017. **Principal Author**

## **Peer-Reviewed Funding**

### **Funded**

2016 May - present **Co-Principal Investigator**. Balancing the interests of patients, substitute decision-makers, family and health care providers in decision-making over the withdrawal and withholding of life-sustaining treatment. Law Reform Commission of Ontario. PI(s): Downar J. Collaborator(s): Gibson J, Sibbald R, Richards J, Brown S. [Grants]

## Invited Lectures and Presentations

### International

2017 Sep **Invited Speaker.** Telemedicine and International Critical Care outreach. Global Intensive Care working group (Dr Mervyn Mer), Austria.

### National

2017 Nov 14 **Distinguished Speaker.** 10 steps to improving advance directives and advance care planning: what estate lawyers and financial planners should know. Toronto, Ontario, Canada.

2017 Oct **Invited Speaker.** When advocacy and best interests collide. CCCF. Toronto, Ontario, Canada.

2017 Jun **Chair.** CCRT Training and Simulation. Toronto, Ontario, Canada.

2017 May **Distinguished Speaker.** MLST Award acceptance speech. Medico Legal Society of Toronto. Toronto, Ontario, Canada.

### Honours and Awards

2017 Jun IDCCM Humanitarian award, University of Toronto. (Distinction).

2017 May Medico-Legal Society Award for contributions to law and medicine, Medico-Legal Society of Toronto. (Distinction).

**Invited Lectures and Presentations**

**National**

2017 Nov 29

**Invited Speaker.** ICU rounds. University of Toronto. Critical Care Program. Toronto, Ontario, Canada.

## **Peer Reviewed Publications**

### **Journal Articles**

**Leligdowicz A**, Bhagwanjee S, Diaz JV, Xiong W, Marshall JC, Fowler RA, Adhikari NK, Acute Care for Africa R, Training G, the International Forum of Acute Care T: Development of an intensive care unit resource assessment survey for the care of critically ill patients in resource-limited settings. J Crit Care. 2017, 38:172-176. **Principal Author**

Rojek AM, Dunning J, **Leligdowicz A**, Castle L, Van Lieshout M, Carson G, Sahr F, Olliaro P, Horby PW: Regulatory and operational complexities of conducting a clinical treatment trial during an Ebola Virus Disease epidemic. Clinical infectious diseases : an official publication of the Infectious Diseases Society of America. 2017. **Coauthor or Collaborator**

### **Invited Lectures and Presentations**

#### **International**

2017 May **Poster Oral Presentation.** ATS and CTS. Washington DC, United States.

2017 May **Invited Lecturer.** Precision medicine in ARDS. SOCCA . Washington DC, United States.

### **Honours and Awards**

2017 U of Toronto Hollenberg Research Prize (2<sup>nd</sup> prize translational medicine category)

2015-17 CIHR Banting Postdoctoral Fellowship (ranked 11 out of 228 applications)

2015-17 Clinician Scientist Training Program, Department of Medicine, University of Toronto

## **Peer-Reviewed Publications**

### **Journal Articles**

Ball IM, Burry L, Dodek P, Hutchison JS, Leigh JP, **McCredie VA**, Murthy S, Rochweg B, Cook D, Canadian Critical Care Trials Group and the Canadian Critical Care Translational Biology Group. The Young Investigator Retreat of the Canadian Critical Care Trials Group: mentorship and self-discovery. *Can J Anaesth* 2017 Nov 17. **Coauthor or Collaborator**

Alali AS, Mukherjee K, **McCredie VA**, Golan E, Shah PS, Bardes JM, Hamblin SE, Haut ER, Jackson JC, Khwaja K, Patel NJ, Raj SR, Wilson LD, Nathens AB, Patel MB. Beta-Blockers and Traumatic Brain Injury: A Systematic Review, Meta-analysis, and Eastern Association for the Surgery of Trauma Guideline. *Ann Surg*. 2017 May 18. **Coauthor or Collaborator**

Zakrisson TL, Austin PC, **McCredie VA**. A Systematic Review of Propensity Score Methods in the Acute Care Surgery Literature: Avoiding the Pitfalls and Proposing a Set of Reporting Guidelines. *Eur J Trauma Emerg Surg*. 2017 Mar 24. **Senior Responsible Author**

Alali AS, **McCredie VA**, Mainprize TG, Gomez D, Nathens AB. Structure, Process and Culture of Intensive Care Units Treating Patients with Severe Traumatic Brain Injury: Survey of Centers Participating in the American College of Surgeons Trauma Quality Improvement Program. *J Neurotrauma*. 2017 Oct 1;34(19):2760-2767. **Coauthor or Collaborator**

Alali AS, Gomez D, **McCredie VA**, Mainprize TG, Nathens AB. Understanding Hospital Volume-Outcome Relationship in Severe Traumatic Brain Injury. *Neurosurgery*. 2017 Apr 1;80(4):534-542. **Coauthor or Collaborator**

**McCredie VA**, Piva S, Rigamonti A, Airton L, Hare G., Baker A. The Impact of Red Blood Cell Transfusion on Cerebral Tissue Oxygen Saturation in Severe Traumatic Brain Injury. *Neurocritical Care*. 2017 Apr;26(2): 247-255. **Principal Author**

## **Peer-Reviewed Grants**

### **Funded**

2017 - 2018 **Co-Investigator and Site Lead**. Cerebral oximetry to assess cerebral autoregulation in hypoxemic ischemic brain injury (COncEpT – HIBI) PI(s): Griesdale D. Collaborator(s): Sekhon M, Scales D, Ainslie P, Gord Boyd J, Brasher P, Field T, Sirounis D, Aries M, Czosnyka M, Menon D, Smielewski P. \$196,991 CAD. [Grants]

## **Invited Lectures and Presentations**

### **National**

2017 **Invited Speaker**. Multimodal monitoring to generalize care; Updates in Traumatic Brain Injury. Critical Care Canada Forum. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Dresser LD, Bell CM, Steinberg M, Ferguson ND, Lapinsky S, Lazar N, Murphy P, **Singh JM**, Morris AM. Use of a structured panel process to define antimicrobial prescribing appropriateness in critical care. *J Antimicrob Chemother.* 2017 Sep 26. **Coauthor or Collaborator**

Fehlings MG, Wilson JR, Harrop JS, Kwon BK, Tetreault LA, Arnold PM, **Singh JM**, Hawryluk G, Dettori JR. Efficacy and Safety of Methylprednisolone Sodium Succinate in Acute Spinal Cord Injury: A Systematic Review. *Global Spine J.* 2017 Sep 1;7(3 Suppl):116S-137S. **Coauthor or Collaborator**

Morandi A, Piva S, Ely EW, Myatra SN, Salluh JIF, Amare D, Azoulay E, Bellelli G, Csomos A, Fan E, Fagoni N, Girard TD, Heras La Calle G, Inoue S, Lim CM, Kaps R, Kotfis K, Koh Y, Misango D, Pandharipande PP, Permpikul C, Cheng Tan C, Wang DX, Sharshar T, Shehabi Y, Skrobik Y, **Singh JM**, Slooter A, Smith M, Tsuruta R, Latronico N. Worldwide Survey of the “Assessing Pain, Both Spontaneous Awakening and Breathing Trials, Choice of Drugs, Delirium Monitoring/Management, Early Exercise/Mobility, and Family Empowerment” (ABCDEF) Bundle. *Crit Care Med.* 2017 Aug 3. **Coauthor or Collaborator**

Wang J, Alotaibi NM, Akbar MA, Ayling OG, Ibrahim GM, Macdonald RL, Noble A, Molyneux A, Quinn A, Schatlo B, Lo B, Jaja BN, Johnston C, Hanggi D, Hasan D, Wong GK, Lantigua H, Fukuda H, Torner J, **Singh JM**, Spears J, Schaller K, Stienen MN, Vergouwen MD, Cusimano MD, Todd M, Tseng M, Le Roux P, Macdonald RL, Yamagata S, Mayer S, Schenk T, Schweizer TA. Loss of Consciousness at Onset of Aneurysmal Subarachnoid Hemorrhage is Associated with Functional Outcomes in Good-Grade Patients. *World Neurosurg.* 2017 Feb 1;98:308-313. **Coauthor or Collaborator**

Aldakkan A, Mansouri A, Jaja BN, Alotaibi NM, Macdonald RL, Noble A, Molyneux A, Quinn A, Schatlo B, Lo B, Jaja BN, Johnston C, Hanggi D, Hasan D, Wong GK, Lantigua H, Fukuda H, Torner J, **Singh JM**, Spears J, Schaller K, Stienen MN, Vergouwen MD, Cusimano MD, Todd M, Tseng M, Le Roux P, Macdonald RL, Yamagata S, Mayer S, Schenk T, Schweizer TA. Predictors of Delayed Cerebral Ischemia in Patients with Aneurysmal Subarachnoid Hemorrhage with Asymptomatic Angiographic Vasospasm on Admission. *World Neurosurg.* 2017 Jan 1;97:199-204. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

2017 May - 2022 Jun

**Co-Investigator.** Aneurysmal Subarachnoid Hemorrhage: Red Blood Cell Transfusion and Outcome (SAHaRA Pilot). Canadian Institutes of Health Research. PI(s): English S. Collaborator(s): AckerJ, Algird A, AlThenayan E, Boyd J, Butcher K, Chapman M, Chasse M, D’aragon F, Da Costa L, Dowlathshahi D, Fergusson D, Griesdale D, Kramer A, Kutsogiannis J, Lauzier F, Lum C, Marshall S, McIntyre L, Pagliarello G, Scales D, Sinclair J, Tinmouth A, Turgeon A, Zarychanski R. 1,384,650 CAD. [Grants]

2015 Jul - 2020 Jun **Co-Investigator.** The NEUROlogically-impaired Extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research. Transitional Operating Grant 2014-2015. PI(s): Scales D, Ferguson N. Collaborator(s): Adhikari N, Alali A, Baker A, Bosma K, Brochard L, Chapman M, Charbonney E, Cuthbertson B, Fowler R, Griesdale D, Mainprize T, McCredie V, Meade M, Nathens A, Rubenfeld G, Seely A, Turgeon A, Wilcox E, Zygun D. 880,405 CAD. [Grants].

2015 Mar - 2017 Mar **Principal Investigator.** Predictors of Apnea and Their Relationship to Time to Death Following Withdrawal of Life Sustaining Therapy for Donation after Cardiac Death Candidates. Physician Services Incorporated Foundation, Health Research Grant. PI(s): Munshi L. . Collaborator(s): Dhanani S, Payne C. 37,025 CAD. [Grants].

## Non Peer-Reviewed Grants

### Funded

2017 Jul - 2019 Jun **Principal Site Investigator.** Canada-DONATE: National Observational Study of the ICU Management of Deceased Organ Donors. PI: Meade M, D'Aragon F. [Clinical Trials]

2016 Sep - 2017 Sep **Principal Site Investigator.** A Randomized, Double-Blind, Placebo-Controlled Study to Evaluate the Efficacy and Safety of SAGE-547 Injection in the Treatment of Subjects With Super-Refractory Status Epilepticus. SAGE Therapeutics. [Clinical Trials]

## Invited Lectures and Presentations

### National

2017 Dec 6 **Invited Speaker.** Neuroprognostication; Ancillary Testing - Principles and Practice.

**Facilitator.** Small Group Learning - Difficult Cases in NDD.

Trillium Gift of Life Network - Joint Organ and Tissue Donation Coordinator Day. Toronto, Ontario, Canada.

2017 Oct 18 **Invited Speaker.** What You Can Do to Save Lives Through Organ Donation. Hamilton Health Sciences Respiratory Therapist Education Day. Hamilton, Ontario, Canada.

2017 Oct 3 **Facilitator.** Deceased Donation. Critical Care Canada Forum 2017. Toronto, Ontario, Canada.

2017 Oct 1 **Course Co-Director.** CCCF Neurocritical Care Masterclass 2017. Critical Care Canada Forum 2017. Toronto, Ontario, Canada.

2017 Oct 1 **Invited Speaker.** Update in Intracerebral Hemorrhage. CCCF Neurocritical Care Masterclass 2017. Toronto, Ontario, Canada. Presenter(s): Jeffrey M Singh.

2017 Jun 1 **Invited Speaker.** Neurological Critical Care. 2017 Canadian Critical Care Review. Toronto, Ontario, Canada.

2017 Apr 28 **Invited Speaker.** GTA Donation Nursing Conference - Optimizing Donor Potential. Trillium Gift of Life Network. Toronto, Ontario, Canada.



- 2017 Apr 26 **Invited Speaker.** CCCF Mechanical Ventilation Course. Critical Care Canada Forum, Toronto, Ontario, Canada.
- 2017 May 30 **Chair.** Neurophysiology. U of T IDCCM Critical Care Physiology Rounds. Toronto, Ontario, Canada.
- 2017 Mar 28 **Invited Speaker.** Neuro-ICU Simulation Day Neurological Determination of Death. IDCCM. Ontario, Canada.
- 2017 Feb 1 **Invited Speaker.** Organ Donation. Credit Valley Hospital Division of Emergency Medicine. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

**Wilcox ME**, Lim AS, McAndrews MP, Wennberg R, Black S, Walczak KD, Friedrich JO, Taglione MS, Rubenfeld GD. A study protocol for an observational cohort investigating COGNITIVE outcomes and WELLness in survivors of critical illness: the COGWELL study. *BMJ Open*. 2017 Jul 13;7(7):e01560. **Principal Author**

Fanou EM, Coutinho JM, Shannon P, Kiehl TR, Levi MM, **Wilcox ME**, Aviv RI, Mandell DM. Critical Illness-Associated Cerebral Microbleeds. *Stroke*. 2017 Apr 1;48(4):1085-1087. **Coauthor or Collaborator**

**Wilcox ME**, Charbonney E, Shan Y, d'Empaire PP, Duggal A, Rubenfeld GD, Liles C, Santos CD. Systemic angiopoietin-1/2 dysregulation following cardiopulmonary bypass in adults. *Future Sci OA*. 2017 Mar 1;3(1):FSO166. **Principal Author**

Gershengorn HB, Harrison DA, Garland A, **Wilcox ME**, Rowan KM, Wunsch H. Association of Intensive Care Unit Patient-to-Intensivist Ratios With Hospital Mortality. *JAMA Intern Med*. 2017 Mar 1;177(3):388-39. **Coauthor or Collaborator**

Kerlin MP, Adhikari NKJ, Rose L, **Wilcox ME**, Bellamy CJ, Costa DK, Gershengorn H, Halpern SD, Kahn JM, Lane-Fall MB, Wallace DJ, Weiss CH, Wunsch H, Cooke CR on behalf of the ATS ad hoc committee on ICU Organization. An Official American Thoracic Society Systematic Review: The Effect of Nighttime Intensivist Staffing on Mortality and Length of Stay Among ICU Patients. *Am J Respir Crit Care Med*. 2017 Feb 1;195(3):383-393. **Coauthor or Collaborator**

**Wilcox ME**, Jaramillo-Rocha V, Hodgson C, Taglione MS, Ferguson ND, Fan E. Long-Term Quality of Life After Extracorporeal Membrane Oxygenation in ARDS Survivors: Systematic Review and Meta-Analysis. *J Intensive Care Med*. 2017 Jan 1. **Principal Author**

### Peer-Reviewed Grants

#### Funded

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|---------------------|---|
| 2017 Dec - 2020 Dec | <b>Principal Investigator</b> . 24: Circadian Rhythm and Delirium in the ICU. Interdepartment Division of Critical Care Medicine. Collaborator(s): Shankar-Hari M, Andrew Lim A. 60,000 CAD. [Grants].  |
| 2016 Apr - 2017 Apr | <b>Co-Investigator</b> . Managing Pain In Collaboration in the Intensive Care Unit (MPIC-ICU): A Stepped Wedge Cluster Randomized Trial. Sir Mortimer B. Davis - Jewish General Hospital. PJT Project Grant Competition. PI: Gelinias C, Laporta D. 100,000 CAD. [Grants] |
| 2015 Jul - 2020 Jun | <b>Co-Investigator</b> . The NEUROlogically-impaired extubation Timing Trial (NEURO-ETT). Canadian Institutes of Health Research (CIHR). PI: Ferguson N, Scales D. 880,000 CAD. [Grants]  |

- 2015 Jul - 2018 Jun **Site Investigator.** Proportional Assist Ventilation for Minimizing the Duration of Mechanical Ventilation (PROMIZING). Canadian Institutes of Health Research (CIHR). PI(s): Bosma K, Brochard L. [Grants]
- 2014 Dec - 2018 Jun **Co-Investigator.** STARRT-AKI: STandard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury. Canadian Institutes of Health Research (CIHR). Operating Grant: Industry-partnered Collaborative Research. 334912. PI(s): Wald R, Bagshaw S. 220,996 CAD. [Clinical Trials]
- 2014 Dec - 2018 Jun **Co-Investigator.** STandard versus Accelerated initiation of Renal Replacement Therapy in Acute Kidney Injury (STARRT-AKI). Canadian Institutes of Health Research. PI(s): Wald R, Bagshaw S. 1,177,472 CAD. [Clinical Trials]

## Invited Lectures and Presentations

### International

- 2017 Mar 28 **Invited Speaker.** Patient to Intensivist Ratio in Critical Care and Outcome. ICNARC CMP Annual Conference, London, London, City of, United Kingdom.
- 2017 Jan 22 **Invited Speaker.** ICU Aftercare Service Is a Crucial Part of the Spectrum of Care for ICU Survivors. Society of Critical Care Medicine. Honolulu, Hawaii, United States.

### National

- 2017 Oct 3 **Moderator.** Improving Long-Term Outcomes; End of Life Care and Immigration Status in Ontario Critical Care Canada Forum, Toronto, Ontario, Canada.

## Honours and Awards

- 2017 IDCCM Scholar. Research Award. Interdepartmental Division of Critical Care Medicine.
- 2017 Wrightman Barris Academy Teaching Award. Postgraduate Medicine, Dept of Medicine, Faculty of Medicine.

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## ***Cross-Appointed Faculty with IDCCM***

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**DR. JANE BATT  
ST. MICHAEL'S HOSPITAL**

### **Peer-Reviewed Publications**

#### **Journal Articles**

**J Batt**, M Herridge, C dos Santos. Mechanism of ICU Acquired weakness: Skeletal muscle loss in critical illness. *Intensive Care Medicine* 2017 Mar 10. **Responsible Author**

**J Batt**, S Mathur, H Katzberg. Mechanism of ICU Acquired Weakness: Muscle contractility in critical illness. *Intensive Care Medicine*. *Intensive Care Med.* 2017 Apr;43(4):584-586. **Senior Responsible Author**

### **Peer-Reviewed Grants**

#### **Funded**

2015 May - 2017 May **Co-Principal Investigator**. Skeletal Muscle Microcirculatory Dysfunction in Sustained ICU-Acquired Weakness (ICUAW). St Michaels Foundation Translational Innovation Fund. PI: **Jane Batt**, Wolfgang Kuebler. 50,000 CAD. [Grants]

2014 Oct - 2018 Oct **Principal Investigator**. Mechanisms of Impaired Skeletal Muscle Growth in Intensive Care Unit Acquired Weakness. Canadian Institutes of Health Research (CIHR). Operating Grant. Collaborator(s): Claudia dos Santos, Margaret Herridge, Sunita Mathur. 460,000 CAD. [Grants]

### **Invited Lectures and Presentations**

#### **National**

2017 Apr 26 **Invited Speaker**. ICUAW - A devastating complication of critical illness. Physician Services Incorporated Foundation Annual Meeting. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Iyer NP, Dickson J, Ruiz ME, Chatburn R, **Beck J**, Sinderby C, Rodriguez RJ. Neural breathing pattern in newborn infants pre- and postextubation. *Acta Paediatr.* 2017 Aug 22. **Coauthor or Collaborator**

**Peer-Reviewed Grants**

**Funded**

2015 - 2017      LifeVest for premature infants: feasibility of synchronizing negative pressure ventilation  
GHIA 2016. St. Michael's Hospital Foundation. Translational Innovation Fund. 25,000  
CAD. [Grants]

**Peer-Reviewed Publications**

**Journal Articles**

Dale CM, Smith O, **Burry L**, Rose L. Prevalence and predictors of difficulty accessing the mouths of intubated critically ill adults to deliver oral care: An observational study. *Int J Nurs Stud.* 2017 Dec 28;80:36-40.

**Coauthor or Collaborator**

Muscudere J, Kim P, Aitken P, Gaucher M, Osborn R, Farrell B, Holroyd-Leduc J, Mallery L, Siu H, Downar J, Lee TC, McDonald E, **Burry L**. Proceedings of the Canadian Frailty Network Summit: Medication Optimization for Frail Older Canadians, Toronto, Monday April 24, 2017. *Can Geriatr J.* 2017 Dec 22;20(4):253-263. **Senior Responsible Author**

**Burry L**, Rose L, Ricou B. Physical restraint: time to let go. *Intensive Care Medicine* 2017 Nov 23. **Principal Author**

Ball IM, **Burry L**, Dodek P, Hutchison, Leigh JP, McCredie V, Murthy S, Rochweg, Cook D; Canadian Critical Care Trials Group and the Canadian Critical Care Translational Biology Group. The Young Investigator Retreat of the Canadian Critical Care Trials Group: mentorship and self-discovery. *Can J Anaesth* 2017;Nov 17.

**Coauthor or Collaborator**

Rose L, Agar M, **Burry L**, Campbell N, Clarke M, Lee J, Sidiqi N, Page VJ; Del-CORs group. Development of core outcome sets for effectiveness trials of interventions to prevent and/or treat delirium (Del-CORs): study protocol. *BMJ Open.* 2017 Sep 18;7(9):e016371. **Coauthor or Collaborator**

Marhong JD, DeBacker J, Viau-Lapointe J, Munshi L, Del Sorbo L, **Burry L**, Fan E, Mehta S. Sedation and mobilization during venovenous extracorporeal membrane oxygenation for acute respiratory failure: An international survey. *Crit Care Med.* 2017 Aug 31. **Coauthor or Collaborator**

**Burry L**, Williamson DR, Mehta S, Perreault MM, Mantas I, Mallick R, Fergusson DA, Smith O, Fan E, Dupuis S, Herridge M, Rose L. Delirium and exposure to psychoactive medications in critically ill adults: a multi-centre observational study. *J Crit Care.* 2017 Aug 5;42: 268-274. **Principal Author**

Chiu AW, Contreras S, Mehta S, Korman J, Perreault MM, Williamson DR, **Burry L**. Iatrogenic opioid withdrawal in critically ill patients: a review of assessment tools and management. *Ann Pharmacother.* 2017 Aug 1;1060028017724538. **Senior Responsible Author.**

Bai AD, Steinberg M, Showler A, **Burry L**, Bhatia RS, Tomlinson GA, Bell CM, Morris AM. Diagnostic accuracy of transthoracic echocardiography for infective endocarditis findings using trans-esophageal echocardiography as the reference standard: a meta-analysis. *J Am Soc Echocardiogr.* 2017 Jul;30(7): 639-646. **Coauthor or Collaborator**

Rose L, Istanboulian L, Allum L, **Burry L**, Dale C, Hart N, Kydonaki C, Ramsay P, Pattison N, Connolly B; PERFORM study investigators. Patient- and family-centered performance measures focused on actionable processes of care for persistent and chronic critical illness: protocol for a systematic review. *Sys Rev.* 2017 Apr 17;6(1):84. **Coauthor or Collaborator**

**Burrry L**, Scales D, Williamson D, Foster J, Mehta S, Guenette M, Fan E, Detsky M, Azad A, Bernard F, Rose L. Feasibility of melatonin for prevention of delirium in critically ill patients: a protocol for a multicentre, randomised, placebo-controlled study. *BMJ Open*. 2017 Mar 30;7(3): e015420. **Principal Author**

Duceppe MA, Williamson DR, Elliott A, Para M, Poirier MC, Delisle MS, Deckelbaum D, Razek T, Desjardins M, Bertrand JC, Bernard F, Rico P, **Burrry L**, Frenette AJ, Perreault M. Modifiable risk factors for delirium in critically ill trauma patients. *J Intensive Care Med*. 2017 Jan 1:885066617698646. **Coauthor or Collaborator**

Wang JG, Belley-Coté E, **Burrry L**, Duffett M, Karachi T, Perri D, Alhazzani W, D'Aragnon F, Wunsch H, Rochweg B. Clonidine for sedation in the critically ill: a systematic review and meta-analysis. *Crit Care*. 2017 Feb 25; 21(1):75. **Coauthor or Collaborator**

Guenette M, **Burrry L**, Cheung A, Farquharson T, Traille M, Mantas I, Mehta S, Rose, L. Psychotropic drug use in physically restrained, critically ill adults receiving mechanical ventilation. *Am J Crit Care*. 2017. **Coauthor or Collaborator**

deBacker J, Tamberg E, Munshi L, Fan E, **Coauthor or Collaborator**, Mehta S. Sedation practice in extracorporeal membrane oxygenation treated patients with acute respiratory distress syndrome: a retrospective study. 2017. **Coauthor or Collaborator**

## **Non-Peer Reviewed Publications**

### **Journal Articles**

Turchet C, Canfield A, Fan-Lun C, Tabbara N, Mantas I, Guenette M, Sinha S, **Burrry L**. An Evaluation Audit of Early Detection and Management Strategies of Delirium in Hospitalized Older Adults. *Ann Pharmacother*. 2017 Jul. **Senior Responsible Author**

Douketis J, Adhikari N, Ostermann M, Skrobik Y, Heels-Ansdell D, Qushmaq I, Meade M, Guyatt G, Geerts W, Walsh M, Crowther M, Friedrich JO, **Burrry L**, Bellomo R, Brandão da Silva N, Costa Filho R, Cox M, Alves Silva S, Cook C. Low-molecular-weight heparin venous thromboprophylaxis in critically ill patients with renal dysfunction: a subgroup analysis of the PROTECT trial. *J Crit Care*. 2017 Jun. **Coauthor or Collaborator**

## **Peer-Reviewed Grants**

### **Funded**

2017 - 2021 **Co-Applicant**. Development of core outcome sets for effectiveness trials of interventions to prevent and/or treat delirium (Del-CORs). Canadian Institutes of Health Research (CIHR). PI(s): Rose L, Page VJ. Collaborator(s): Agar M, Burry LD, Campbell N, Clarke M, Lee J, Sidiqi N. 275,000 CAD. [Grants]

2017 - 2019 **Co-Applicant**. Managing Pain In Collaboration in the Intensive Care Unit (MPIC-ICU): A Stepped Wedge Cluster Randomized Trial. Canadian Institutes of Health Research (CIHR). Bridge Funds . PI(s): Gelinac C. Collaborator(s): Scales DC, Williamson D, Rose L, Wilcox ME. 100,000 CAD. [Grants]

2017 - 2018 **Principi Investigator**. Efficacy and safety of melatonin for prevention of delirium in critically ill patients: a multi-centre, randomized, double-blind, placebo-controlled study. Early Career Research Grant. Canadian Critical Care Trials Group. 15,000 CAD. [Grants]

- 2017 - 2018 **Co-Applicant.** Patient and family centered performance measures focused on actionable processes of care for persistent or chronic critical illness. Co-applicant Ontario Respiratory Care Society. General Research Grant. PI(s): Rose L. Collaborator(s): Fan E, Amaral AC. 20,000 CAD. [Grants]
- 2016 - 2017 **Principal Applicant.** Management of pain, agitation, and delirium in critically ill patients with traumatic brain injury: a retrospective cohort study. University of Toronto. Division of Respiriology. Godfrey S. Pettit Respiriology Block Term Grants. PI(s): Lee C. Collaborator(s): Mehta S, Williamson DR. 12,500 CAD. [Grants]
- 2016 - 2017 **Principal Applicant.** Sedation and delirium in the ICU: network meta-analyses. Canadian Institutes of Health Research (CIHR). Knowledge Synthesis. PI(s): Hutton B. Collaborator(s): Williamson DR, Rose L, Martin C, Mehta S, Strauss S. 90,000 CAD. [Grants]
- 2015 - 2019 **Collaborator.** The paramedic initiated treatment of sepsis trial in out-of-hospital patients (PITSTOP). Canadian Institutes of Health Research (CIHR). Operating Grant. PI(s): Scales DC. Collaborator(s): Rubenfeld G, Fowler R, Morris AM, Morrison LR. 990,000 CAD. [Grants]

## Invited Lectures and Presentations

### International

- 2017 Sept **Invited Speaker.** Clonidine for adjunctive sedation in the ICU. European Society of Intensive Care Medicine (ESICM). Vienna, Austria.



**Non- Peer-Reviewed Publications**

**Book Chapters**

Colman, J, **Heggie J**, Maxwell B, Schwermann, M. Chapter 27. Anesthesia in Adult Congenital Heart Disease, Including Anesthesia for Noncardiac Surgery in . Diagnosis and Management of Adult Congenital Heart Disease, 3rd edition. 2017. Elsevier. **Coauthor or Collaborator**

**Invited Lectures and Presentations**

**International**

2017 Jul 16 - 21 **Invited Speaker.** Cardiac Surgery and ICU Outcomes. ACHD. World Congress of Congenital Cardiac Surgery. Barcelona, Spain.

**National**

2017 Feb 16 **Invited Speaker.** Anesthesia for Cardiac ACHD Surgery in the Teen and Young Adult-Part 2. Hospital for Sick Children Fellows Rounds. Toronto, Ontario, Canada.

2017 Feb 9 **Invited Speaker.** Anesthesia for Cardiac ACHD Surgery in the Teen and Young Adult-Part 1. Hospital for Sick Children Fellows Rounds. Toronto, Ontario, Canada,

**Local**

2017 Feb 17 **Invited Speaker.** ACHD Patient & Surgery, Risk Stratification and Management. Grand Rounds, University Health Network, Toronto General Hospital. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Journal Articles

Bartoszko J, **Karkouti K**. Can predicting transfusion in cardiac surgery help patients? *Br J Anaesth*. 2017 Sep 1;119(3):350-352. **Senior Responsible Author**

**Karkouti K**. Losing sight of the precautionary principle. *Transfusion*. 2017 Aug;57(8):1854-1856. **Principal Author**

Bartoszko J, Vorobeichik L, Jayarajah M, **Karkouti K**, Klein AA, Lamy A, Mazer CD, Murphy M, Richards T, Englesakis M, Myles PS, Wijeyesundera DN. Defining clinically important perioperative blood loss and transfusion for the Standardised Endpoints for Perioperative Medicine (StEP) collaborative: a protocol for a scoping review. *BMJ Open*. 2017 Jun;7(6)e016743. **Coauthor or Collaborator**

**Karkouti K**, Callum JL, Acker JP, Yip P, Rao V. Red cell transfusion-associated hemolysis in cardiac surgery: an observational cohort study. *Anesth Analg* 2017 Jun;124(6):1986-1991. (This article was accompanied by an editorial). **Principal Author**

**Karkouti K**, Rao V, Chan CT, Wijeyesundera DN, TACS Investigators. Early rise in postoperative creatinine for identification of acute kidney injury after cardiac surgery. *Can J Anesth*. 2017 May. (This article was accompanied by an editorial). **Principal Author**

### Book

**Karkouti K**. *Bloody Easy 4: Ontario's Guide to Transfusion Medicine*. Second edition. Callum JL, Pinkerton PH, et al. editor(s). Sunnybrook and Women's College Health Sciences Centre; 2017. **Principal Author**

### Book Chapters

Koch CG, Karkouti K, Body SC. Chapter 34: Blood and Fluid Management During Cardiac Surgery. In: Kaplan's Cardiac Anesthesia for Cardiac and Noncardiac Surgery. 7th Edition. Kaplan J (ed.). Elsevier. 2017. p. 1229-1247. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

2017 - 2022 **Associate Investigator**. The University of Toronto Quality in Utilization, Education, and Safety in Transfusion (QUEST) Research Program. Canadian Blood Services Transfusion Medicine Research Program Support Award. PI(s): Callum J, Cserti-Gazdewich, Lieberman L, Lin Y, Pendergrast J, Shehata N, Branch D, Lazarus A, Ni H. 1,137,400. [Grants]

2016 - 2021 **Associate Investigator**. IV iron for Treatment of Anaemia before Cardiac Surgery (ITACS Trial). Australian National Health and Medical Research Council. Collaborator(s): Chief Investigators: Myles PS, Richards T, Smith J, Cooper DJ, Wood E, Carter R,

Heritier S, Klein A. Associate Investigators: McQuilten Z, Symons J, Baker R. McGriffin D, **Karkouti K**, Naker S, Murphy G. 2,285,290 AUD. [Grants]

2016 - 2017 **Principal Investigator.** Hyperbaric oxygen therapy for cardiac surgery-associated acute kidney injury: A first-in-human pilot study. University Health Network. Peter Munk Cardiac Center Innovation Committee. PI(s): Katznelson R. Collaborator(s): Rao V, Chan C, Yip P. 76,400 CAD. [Grants]

## Non Peer-Reviewed Grants

### Funded

2017 - 2018 **Principal Investigator.** Deep machine learning for improving perioperative care. Collaborator(s): Wijeyesundera D. Merck & Co., Inc. \$20,000 CAD. [Grants]

2016 - 2018 **Principal Investigator.** A randomized trial comparing fibrinogen concentrate with cryoprecipitate for the treatment of acquired hypofibrinogenemia in bleeding cardiac surgical patients. Octopharma. Collaborator(s): Callum J, Scales D, Crowther M, Heddle N, Rao V. 3,000,000 CAD. [Grants]

## Invited Lectures and Presentations

### International

2017 **Invited Lecturer.** Point of care testing during major haemorrhage; Anaemia in surgery: are we there yet? Canadian experience. The Association of Anaesthetists of Great Britain and Ireland's 13<sup>th</sup> Bleeding, clotting and haemorrhage update meeting. London, England.

2017 **Invited Lecturer.** Risk factors for perioperative transfusion: Can they be mitigated? American Heart Association Annual Meeting. Los Angeles, California, United States.

### Provincial

2017 **Invited Lecturer.** Role of point of care hemostatic testing for management of perioperative coagulopathy; Management of the bleeding surgical patient. Blood and Beyond. Halifax, Nova Scotia, Canada.

### National

2017 **Invited Lecturer.** Whom should I transfuse? Perioperative Care Congress, Toronto, Ontario, Canada.

2017 **Invited Lecturer.** Reducing blood product transfusions using point-of-care coagulation assays. Canadian Society of Transfusion Medicine, Ottawa, Ontario, Canada.

2017 **Invited Lecturer.** Should we use fibrinogen concentrate or cryoprecipitate in acute hypofibrinogenemia? Citywide Transfusion Rounds. Toronto, Ontario, Canada.

## Local

2017 **Invited Lecturer.** Study: FIBRES-FIBrinogen REplenishment in Surgery Prospective, multi-center, randomized, active-control, non-inferiority study comparing fibrinogen concentrate with cryoprecipitate for the treatment of acquired hypofibrinogenemia in bleeding adult cardiac surgical patients and Study: Thrombin Generation during cardiopulmonary bypass with titrated versus conventional anticoagulation management. Department of Anesthesia and Pain Management Grand Rounds, Toronto General Hospital, Toronto, Ontario, Canada.

## Honours and Awards

2016 - 2017 Dr. Earl Wynands Research Award in Cardiovascular Anesthesia, Canadian Anesthesiologists Society. (Research Award)

**Peer-Reviewed Publications**

**Journal Articles**

Chasman DI, **Lawler PR**. Understanding AAA Pathobiology: A GWAS Leads the Way. *Circulation Research* 2017; 120:259-261. **Senior Responsible Author**

**Lawler PR**, Akinkoulie AO, Ridker PM, Sniderman AD, Glynn R, Buring J, Mora S. Discordance between circulating atherogenic cholesterol mass and lipoprotein particle concentration in relation to future coronary events in women. *Clinical Chemistry*. 2017. **Principal Author**

**Lawler PR**, Morrow DA. Cardiovascular conditions in the ICU. Chapter in: Frenzl G, *Pocket ICU*, Ed.2, 2017. **Principal Author**

**Invited Lectures and Presentations**

**Local**

2017 Apr      Invited Speaker. Integrating Next-Generation Epidemiology and Clinical Trials: Deeper Phenotyping to Advance Precision Cardiovascular Care/Cardiovascular Grant Rounds. Department of Medicine. Toronto General Hospital. Toronto, Ontario, Canada.

**Peer-Reviewed Grants**

**Funded**

2016 - present      **Primary investigator.** Society of Thoracic Surgery Adult Cardiac Anesthesia Module, Toronto General Hospital, University Health Network.

2016 - present      **Primary investigator.** Online Ventricular Assist Device Simulator.

**Peer-Reviewed Publications**

**Journal Articles**

Mashari A, Fisher J, Fedorko L, Wasowicz M, **Meineri M** Technology III: in-line vaporizer with reflector, J Clin Monit Comput 2017 Nov 9. **Senior Responsible Author**

Mashari A, Montealegre-Gallegos M, Jeganathan J, Yeh L, Qua Hiansen J, **Meineri M**, Mahmood F, Matyal R Low-Cost 3D Printed Phantom for Neuraxial Anesthesia Training: Development and Comparison to a Commercial Model PLOS-ONE. 2017. **Coauthor or Collaborator**

Ruggeri G, Qua Hiansen J, Pivetta E, Mashari A, Ballocca F, Pinto Ribeiro RV, Xin L, Badiwala M, Thampinathan B, **Meineri M** Description of a novel set-up for functional echocardiographic assessment of left ventricular performance during ex vivo heart perfusion. Anesthe Analg. 2017. **Senior Responsible Author.**

Moreno Garrijo J, Mashari M, **Meineri M**. Role of Transesophageal Echocardiography in General Anesthesia, Curr Anesthesiol Rep. 2017. 7:273 **Senior Responsible Author**

**Peer-Reviewed Publications**

**Journal Articles**

Silverton N, **Meineri M**. Speckle Tracking Strain of the Right Ventricle: An Emerging Tool for Intraoperative Echocardiography. *Anesth Analg*. 2017 Nov; 125(5): 1475-1478 **Senior Responsible Author**

Mashari A, Fisher J, Fedorko L, Wąsowicz M, **Meineri M** Technology III: in-line vaporizer with reflector, *J Clin Monit Comput* 2017 Nov 9. **Senior Responsible Author**

Demarchi L **Meineri M**. POCUS in perioperative medicine: a North American perspective *Crit Ultrasound J* 2017 Oct 9;9(1):19 **Senior Responsible Author**

T Yeoh, L Venkatraghavan, J Fisher, **M Meineri**. Is there Blood Flow in the Internal Jugular Vein in the upright Position? An Ultrasound Study on Healthy Volunteers. *Can J of Anesth*. 2017 Aug;64(8):854-859 **Senior Responsible Author**

Moreno Garijo J, Wijesundera DN, Munro JC, **Meineri M**. Correlation Between Transhepatic and Subcostal Inferior Vena Cava Views to Assess Inferior Vena Cava Variation: A Pilot Study. *J Cardiothorac Vasc Anesth*. 2017 Jun; 31(3): 973-979 **Senior Responsible Author**

Corredor C, Horlick E, Tsang W, **Meineri M**. Double trouble: A case of periprocedural detection of intracardiac thrombus and aortic root dissection during emergent transfemoral TAVR. *Echocardiography*. 2017 Mar;34(3):462-464. **Senior Responsible Author**

L.M. Meier, **M. Meineri**, J. Qua Hiansen, E.M. Horlick Review article :Structural and congenital heart disease interventions: The role of three-dimensional Printing. *Netherlands Heart Journal*. 2017 Feb;25(2):65-75. **Coauthor or Collaborator**

Mashari A, Montealegre-Gallegos M, Jeganathan J, Yeh L, Qua Hiansen J, **Meineri M**, Mahmood F, Matyal R Low-Cost 3D Printed Phantom for Neuraxial Anesthesia Training: Development and Comparison to a Commercial Model *PLOS-ONE*. 2017. **Coauthor or Collaborator**

Ruggeri G, Qua Hiansen J, Pivetta E, Mashari A, Ballocca F, Pinto Ribeiro RV, Xin L, Badiwala M, Thampinathan B, **Meineri M** Description of a novel set-up for functional echocardiographic assessment of left ventricular performance during ex vivo heart perfusion. *Anesthe Analg*. 2017. **Senior Responsible Author**.

Comparative Effectiveness and Harms of Intraoperative Transesophageal Echocardiography in Non-Cardiac Surgery: A Systematic Review *Semin in Cardiothor and Vasc Anesth*. **Coauthor or Collaborator**



**Meineri M**, Bryson G, Arellano R, Skubas N Core curriculum in Point of Care Ultrasound: what does the anesthesiologist need to know? Can Journal of Anesth. 2017. **Principal Author**

Luzzi C, Rao V, **Meineri M** Intraoperative 3D TEE assessment of valvular geometry after implantation of Basal Annuloplasty of Cardia Externally (BACE) device for ischemic mitral regurgitation. A & A Practice. 2017. **Senior Responsible Author.**

Parotto M, Jiansen JQ, AboTaiban A, Ioukhova S, Agzamov A, Cooper R, O'Leary G, **Meineri M**. Evaluation of a low cost, 3D-printed model for bronchoscopy training. Anaesthesiol Intensive Ther. 2017; 49(3): 189-197. **Senior Responsible Author**

Moreno Garrijo J, Mashari M, **Meineri M**. Role of Transesophageal Echocardiography in General Anesthesia, Curr Anesthesiol Rep. 2017. 7:273 **Senior Responsible Author**

## Invited Lectures and Presentations

### International

2017 Nov 21 **Invited speaker.** Wetlab 2017: Aortic Valve Implantation Course: A systematic approach to intraoperative echocardiographic aortic valve assessment.

**Visiting Professor.** Department of Anesthesia, University of Basel, Cardiovascular anesthesia round: TEE assessment of RV strain

University of Basel, Universitatspital Basel, Basel Switzerland.

2017 Oct 2 **Invited Speaker.** AV: a systematic approach European Association of Cardio Thoracic Anesthesia: Certification TEE Course. Valencia, Spain.

2017 Sept 30 **Invited Speaker.** RV Strain in the operating room: ready for prime time ? European Association of Cardio Thoracic Anesthesia: Advanced TEE Course. Valencia, Spain.

2017 Sept 30 **Invited Speaker.** 3D Workshop. European Association of Cardio Thoracic Anesthesia: Advanced TEE Course. Valencia, Spain.

2017 May 21- 23 **Invited Speaker.** PBLD: Moderate Tricuspid Regurgitation; Right Side and Pulmonary Circulation; Tricuspid and Pulmonic Valve: imaging approach and assessment of pathology. Society for Cardio Vascular Anesthesia: Echo week. Atlanta, Georgia, United States.

2017 Apr 22 **Invited Speaker.** PBLD: moderate tricuspid regurgitation: fix it or leave it alone; Point of Care; Transthoracic Cardiac Ultrasound Workshop.

**Chair.** Lung Ultrasound Workshop.

Ultrasound Workshop Society for Cardio Vascular Anesthesia, Annual Meeting. Orlando, Florida, United States.

2017 Mar 10 **Invited Speaker.** TEE for mechanical assist devices, Italian Association of Cardio Thoracic Anesthesiologists, Bologna, Italy

## National

- 2017 Nov 4 - 5 **Invited Speaker.** PBLD: 3D assessment of Aortic Valve; Mitral valve regurgitation post repair: how much is too much?; PBLD: LV strain Toronto Perioperative Toronto Perioperative TEE Symposium. Toronto, Ontario, Canada
- 2017 July 5 **Invited Speaker.** National ACES Point of Care Ultrasound Course. Royal College of Physician and Surgeons of Canada. Canadian Critical Care Fellowship. George Brown College. Toronto, Ontario, Canada.
- 2017 June 23 - 25 **Invited Speaker.** Point of Care Ultrasound.  
**Course Director.** Second Canadian Perioperative Point-of-care.  
Ultrasound Course Canadian Anesthesiologists' Society Meeting. Niagara Falls, Ontario, Canada.
- 2017 May 6 - 7 **Invited Speaker.** RV function; Lung US.  
**Course Director.**  
Department of Anesthesia, University of Toronto. Interdivision of Critical Care, University of Toronto. Winfocus: Winfocus basic echocardiography course. Toronto, Ontario, Canada.

## Local

- 2017 Feb 7 **Invited Speaker.** Echocardiographic assessment of right ventricular function, University Health Network. Critical Care Rounds. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

**Moreno J**, Meineri M, Wijeyesundera D. Pilot Study. Correlation between transhepatic and subcostal IVC views to predict fluid responsiveness. JCTVA. 2017. **Principal Author**

**Invited Lectures and Presentations**

**International**

2017 Sept **Invited Speaker.** ECMO in lung transplantation. Iberoamerican Congress of Thoracic Surgery. Mexico.

## **Peer-Reviewed Publications**

### **Journal Articles**

Parry M, Danielson K, Brennenstuhl S, Drennan IR, **Morrison LJ**. The association between diabetes status and survival following an out-of-hospital cardiac arrest: A retrospective cohort study. *Resuscitation*. 2017 Apr 1;113(1):21-26. **Principal Author**

Boutilier JJ, Brooks SC, Janmohamed A, Byers A, Buick JE, Zhan C, Schoellig AP, Cheskes S, **Morrison LJ**, Chan TC, Rescu Epistry Investigators. Optimizing a Drone Network to Deliver Automated External Defibrillators. *Circulation*. 2017 Mar 2. **Coauthor or Collaborator**

Shuvy M, **Morrison LJ**, Koh M, Qiu F, Buick JE, Dorian P, Scales DC, Tu JV, Verbeek PR, Wijeyesundera HC, Ko DT, Rescu Epistry Investigators. Long-term clinical outcomes and predictors for survivors of out-of-hospital cardiac arrest. *Resuscitation*. 2017 Mar 1;112(1):59-64. **Coauthor or Collaborator**

Cheskes S, Byers A, Zhan C, Verbeek PR, Ko D, Drennan IR, Buick JE, Brooks SC, Lin S, Taher A, **Morrison LJ**, Rescu Epistry Investigators. CPR quality during out-of-hospital cardiac arrest transport. *Resuscitation*. 2017 Feb 24;114(1):34-39. **Senior Responsible Author**

**Morrison LJ**, Devlin SM, Kontos MC, Cheskes S, Aufderheide TP, Christenson J, Ornato JP, Stiell IG, Rac VE, Thomas AJ, Wigginton JG, Dorian P, Resuscitation Outcomes Consortium Investigators. The association of maximum Troponin values post out-of-hospital cardiac arrest with electrocardiographic findings, cardiac reperfusion procedures and survival to discharge: A sub-study of ROC PRIMED. *Resuscitation*. 2017 Feb 1;111(1):82-89. **Principal Author**

Drennan IR, Case E, Verbeek PR, Reynolds JC, Goldberger ZD, Jasti J, Charleston M, Herren H, Idris AH, Leslie PR, Austin MA, Xiong Y, Schmicker RH, **Morrison LJ**, Resuscitation Outcomes Consortium Investigators. A comparison of the universal TOR Guideline to the absence of prehospital ROSC and duration of resuscitation in predicting futility from out-of-hospital cardiac arrest. *Resuscitation*. 2017 Feb 1;111(1):96-102. **Senior Responsible Author**

Worthington H, Pickett W, **Morrison LJ**, Scales DC, Zhan C, Lin S, Dorian P, Dainty KN, Ferguson ND, Brooks SC, Rescu Investigators. The impact of hospital experience with out-of-hospital cardiac arrest patients on post cardiac arrest care. *Resuscitation*. 2017 Jan 1;110(1):169-175. **Coauthor or Collaborator**

Stiell IG, Artz JD, Lang ES, Sherbino J, **Morrison LJ**, Christenson J, Perry JJ, Topping C, Woods R, Green RS, Lim R, Magee K, Foote J, Meckler G, Mensour M, Field S, Chung B, Kuuskne M, Ducharme J, Klein V, McEwen J. An Environmental Scan of Academic Emergency Medicine at the 17 Canadian Medical Schools: Why Does this Matter to Emergency Physicians? *CJEM*. 2017 Jan 1;19(1):39-46. **Coauthor or Collaborator**

Harris DR, Lang ES, Perry JJ, **Morrison LJ**. Treatment of Stroke in Canadian Emergency Departments: Time to be Leaders. *CJEM*. 2017 Jan 1;19(1):47-49. **Senior Responsible Author**

## **Peer-Reviewed Grants**

### **Funded**

- 2016 Jul - 2019 Jun **Co-Investigator.** Evaluating the PulsePoint Mobile Device Application to Increase Bystander Resuscitation for Victims of Sudden Cardiac Arrest. Canadian Institutes of Health Research (CIHR). Partnerships for Health System Improvement (PHSI). PI(s): Brooks, SC. Collaborator(s): Christenson J, Day A, Grierson R, Scales D, Wax R, Weldon E. 375,000 CAD. [Grants]
- 2016 Jul - 2019 Jun **Principal Investigator.** The Surviving Opioid Overdose with Naloxone Education and Resuscitation (SOON-ER) trial: a randomized study of an opioid overdose education and naloxone distribution intervention for laypeople in ambulatory and inpatient settings. Canadian Institutes of Health Research (CIHR). Project Grant. Collaborator(s): Campbell DM, Handford C, Stergiopoulos V, Werb DM, Hicks CM, Hopkins SM, Hunt R, Klaiman M, Leece P, Orkin A, Parsons J, Sellen K, Shahin R, Strike C, Thorpe KE, Turner S. 844,772 CAD. [Grants]
- 2016 Jul - 2017 Dec **Collaborator.** FIRST Study- Field implementation of the AutoRiC device in ST segment elevation myocardial infarction. Health Technology Exchange (HTX). REACH Innovation Procurement Funding Program. PI: Cheskes, Sheldon. Collaborator(s): Verbeek R, Dorian P, Ko D, Natarajan M, Raco D, Singh B, Welsford M. 710,000 CAD. [Grants]
- 2016 Mar - 2017 Mar **Co-Investigator.** Cerebral Oxygenation and Metabolism Using Hyperspectral Near-Infrared Spectroscopy in Cardiac Arrest Resuscitation. St. Michael's Hospital. St. Michael's Foundation's Translational Innovation Fund. PI(s): Lin S. Collaborator(s): Vladislav T, Dorian P, Bagai A, Hare G. 50,000 CAD. [Grants]
- 2015 Jul - 2020 Jul **Principal Applicant.** CanROC - Canadian Resuscitation Outcomes Consortium: Toward a National Resuscitation Clinical Research Network. Canadian Institutes of Health Research (CIHR). Institute of Circulatory and Respiratory Health. 343979. Collaborator(s): I Stiell, J Christenson, P Dorian, S Brooks, S Lin, S Cheskes, PR Verbeek, C Vaillancourt, K Dainty, A deCaen, M Parker, F Bhanji, A Kirkpatrick, A Travers, D Scales, GA Wells, J Hutchinson, K Ramanathan, M Osmond, P Atkinson, B Nascimento, S Rizoli. 3,000,000 CAD. [Grants]
- 2015 Jul - 2020 Jun **Co-Investigator.** Paramedic Initiated Treatment of Sepsis Trial in Out-of-hospital Patients (PITSTOP). Canadian Institute of Health Research. Transitional Operation Grant 2014-2015. PI: Scales, Damon. Collaborator(s): Cheskes S, Drennan I, Morris A, Rubinfeld G, Verbeek R, Mazzulli T. 900,555 CAD. [Grants]
- 2014 Oct - 2017 Sep **Principal Investigator.** The Frontier Trial - Field Randomization of NA-1 Treatment In Early Responders. Brain Canada. MIRI-14-3326. 6,578,920 CAD. [Grants]

## Honours and Awards

- 2017 Mar Dickinson Richards Memorial Lecture Award, Cardiopulmonary, Critical Care, Perioperative and Resuscitation Council (3CPR) of the American Heart Association. (Research Award)

**Peer-Reviewed Publications**

**Journal Articles**

Jerath A, Panckhurst J, **Parotto M**, Lightfoot N, Wasowicz M, Ferguson ND, Steel A, Beattie WS. Safety and Efficacy of Volatile Anesthetic Agents Compared With Standard Intravenous Midazolam/Propofol Sedation in Ventilated Critical Care Patients: A Meta-analysis and Systematic Review of Prospective Trials. *Anesth Analg*. 2017 Apr;124(4):1190-1199. **Coauthor or Collaborator**

Shafiepour DS, Ladha KS, **Parotto M**, Paul NS, McRae KM. Isolated Persistent Left-sided Superior Vena Cava. *Anesthesiology*. 2017 Mar 27. **Coauthor or Collaborator**

Zanardo V, Giliberti L, Volpe F, **Parotto M**, de Luca F, Straface G. Cohort study of the depression, anxiety, and anhedonia components of the Edinburgh Postnatal Depression Scale after delivery. *Int J Gynaecol Obstet*. 2017 Mar 4. **Coauthor or Collaborator**.

Sainsbury JE, Telgarsky B, **Parotto M**, Niazi A, Wong DT, Cooper RM. The effect of verbal and video feedback on learning direct laryngoscopy among novice laryngoscopists: a randomized pilot study. *Can J Anaesth*. 2017 Mar;64(3):252-259. **Coauthor or Collaborator**

**Peer-Reviewed Grants**

**Funded**

2017 **Principal Investigator**. Protective mechanical ventilation strategy in patients undergoing cardiac surgery. AMO AHSC AFP. 178,489 CAD [Grants]

**Invited Lectures and Presentations**

**National**

2017 Feb 28      **Invited Speaker.** Focused TTE Fundamentals. Department of General Surgery  
University of Toronto. Toronto, Ontario, Canada.

**Local**

2017 Feb 27      **Invited Speaker.** Ethics and the Law: Implications for Anesthesiologists. Toronto  
General Hospital. Toronto, Ontario, Canada.

**Peer-Reviewed Publications**

**Journal Articles**

Chen Y-W, Camp PG, Coxson HO, Road JD, Guenette JA, Hunt MA, **Reid WD**. A comparison of pain, fatigue, dyspnea and their impact on quality of life in pulmonary rehabilitation participants with chronic obstructive pulmonary disease. J COPD. 2017 Dec 11. <https://doi.org/10.1080/15412555.2017.1401990>. **Senior Responsible Author**

Wickerson L, Brook S, **Reid WD**, Singer LG, Granton J, Mathur S. Exertional oxygen requirements during exercise training in advanced interstitial lung disease. J Cardiopulmonary Rehabilitation and Prevention. 2017 Dec 6. **Coauthor or Collaborator**

Sima CA, Inskip JA, Sheel AW, van Eeden SF, **Reid, WD**, Camp PG. The reliability of short-term measurement of heart rate variability during spontaneous breathing in people with chronic obstructive pulmonary disease. Revista Portuguesa de Pneumologia, Portuguese Journal of Pulmonology. 2017 Jun 4. **Coauthor or Collaborator**

Ramsook A, Molgat-Seon Y, Schaeffer M, Wilkie S, Camp P, **Reid WD**, Romer L, Guenette J. Effects of inspiratory muscle training on respiratory muscle electromyography and dyspnoea during exercise in healthy men. J Appl Physiol. 2017 May 1;122(5):1267-1275. **Coauthor or Collaborator**

Kubas C, Chen Y-W, Echeverri S, Greenway C, McCann S, Kennedy C, Reid WD. Reliability and Validity of Cervical Range of Motion and Muscle Strength Testing JSCR-08-6048R3. Journal of Strength & Conditioning Research. 31(4):1087-1096, April 2017. **Senior Responsible Author**

Goligher EC, Dres M, Fan E, Rubenfeld GD, Scales DC, Herridge MS, Vorona S, Sklar MC, Rittayamai N, Lanys A, Murray A, Brace D, Urrea C, **Reid WD**, Tomlinson G, Slutsky AS, Kavanagh BP, Brochard LJ, Ferguson ND. Mechanical ventilation-induced diaphragm atrophy strongly impacts clinical outcomes. Am J Respir Crit Care Med. 2018 Jan 15;197(2):204-213. **Coauthor or Collaborator**

Tanaka T, Basoudan N, Melo LT, Wickerson L, Brochard LJ, Goligher EC, **Reid WD**. Deoxygenation of inspiratory muscles during cycling, hyperpnoea and loaded breathing in health and disease: a systematic review. Clin Physiol Funct Imaging. 2017. **Senior Responsible Author**

**Peer-Reviewed Grants**

**Funded**

2016 - 2019 **Principal Investigator**. Rehabilitation Aimed at Muscle Performance. Canadian Foundation of Innovation/Ontario Research Fund/IOF. 172,500 CAD. [Grants]

2016-2017 **Principal Investigator**. Deoxygenation of limb muscles during incremental exercise in persons with interstitial lung disease. Collaborator(s): Wickerson L, Singer L, Mathur S. Ontario Respiratory Care Society. 19,884.34 CAD. [Grants]



2016-2017 **Co-Applicant.** Investigating the impact of inspiratory loading on postural induced lower airway narrowing in asthma. Ontario Lung Association. Collaborator(s): Yadollahi A, Tarlo SM, Inman M. 46,645 CAD. [Grants]

## **Invited Lectures and Presentations**

### **International**

2017 Nov **Invited Speaker.** Clinical Significance and Problems of Respiratory Muscle Training in COPD patients. Japan Pulmonary Rehabilitation Congress. Japan.

2017 Sep **Invited Speaker.** Pain interference with daily living and physical performance in people with COPD. European Respiratory Society Congress. Milan, Italy.

### **National**

2017 Oct 12 **Invited Speaker.** Cumulative disability: Know the early signs and steps to better health. Benefits Conference 2017. Leadership Health and Productivity. Toronto, Ontario, Canada.

2017 Mar 30 **Invited Speaker.** Exercise – Why bother? COPD Support Group. Abilities Centre. Whitby, Ontario, Canada.

2017 Jan21 **Invited Speaker.** Near infrared spectroscopy to monitor muscle oxygenation/deoxygenation. U of T Critical Care Physiology Rounds. Toronto, Ontario, Canada.

## Peer-Reviewed Publications

### Manuscripts

**Smith OM**, Chant C, Burns KEA, Kaur M, Ashraf S, DosSantos CC, Hwang SW, Friedrich JO. Characteristics, Clinical Course, and Outcomes of Homeless and Non-Homeless Patients Admitted to ICU: A Retrospective Cohort Study. PLOS One. 2017. **Principal Author**

Mehta S, Burns KE, Machado FR, Fox-Robichaud AE, Cook DJ, Calfee CS, Ware LB, Burnham EL, Kissoon N, Marshall JC, Mancebo J, Finfer S, Hartog C, Reinhart K, Maitland K, Stapleton RD, Kwizera A, Amin P, Abroug F, **Smith OM**, Laake JH, Shrestha GS, Herridge MS. Gender Parity in Critical Care Medicine. Am J Respir Crit Care Med 2017 Feb 27. **Coauthor or Collaborator**

Burns KE, Prats CJ, Maione M, Lanceta M, Zubrinich C, Jeffs L, **Smith OM**; Canadian Critical Care Trials Group. The Experience of Surrogate Decision Makers on Being Approached for Consent for Patient Participation in Research. A Multicenter Study. Ann Am Thorac Soc. 2017;14(2):238-245. **Coauthor or Collaborator**

## Peer-Reviewed Grants

### Funded

2017 May **Principal Investigator**. ARISE: Achieving Resilience in Acute Care Nurses (ARISE): A randomized controlled trial of a multi-component intervention for nurses in critical care and trauma. Canadian Critical Care Trials Group Research Coordinators Grant. 2500 CAD. [Grants]

2017 Apr **Principal Investigator**. ARISE: Achieving Resilience in Acute Care Nurses (ARISE): A randomized controlled trial of a multi-component intervention for nurses in critical care and trauma (Principal Investigator); Canadian Association of Critical Care Nurses Research Grant. 2500 CAD. [Grants]

**Peer-Reviewed Publications**

**Books Edited**

Denault A, Couture P, Lamrache Y, Tardif JC, Vegas A, editor(s). Basic Transesophageal Echocardiography and Critical Care Ultrasound. 1st. (United Kingdom): CRC Press; 2017.

**Peer-Reviewed Grants**

**Funded**

2015 - 2017 **Principal Investigator.** Development of Perioperative Transesophageal Echocardiography Exam (PTE exam) Web Simulation and Study Guide. University of Toronto. Anesthesia Merit Awards. 40,000 CAD. [Grants]

**Peer-Reviewed Publications**

**Journal Articles**

Badenoch A, Sharma A, Gower S, Selzner M, Srinivas C, **Wąsowicz M**, McCluskey SA. The effectiveness and safety of tranexamic acid in orthotopic liver transplantation clinical practice: A propensity score matched cohort study. *Transplantation*. 2017 Feb 10. **Coauthor or Collaborator**

Yang QJ, Kluger M, Goryński K, Pawliszyn J, Bojko B, Yu AM, Noh K, Selzner M, Jerath A, McCluskey S, Sandy Pang K, **Wąsowicz M**. Comparing Early Liver Graft Function From Heart Beating and Living-Donors: A Pilot Study Aiming to Identify New Biomarkers of Liver Injury. *Biopharm Drug Dispos*. 2017 Jan 19. **Senior Responsible Author**

Sharma V, Rao V, Manlihot C, Boruvka A, Fremes S, **Wąsowicz M**. A derived and validated score to predict prolonged mechanical ventilation in patients undergoing cardiac surgery. *J Thorac Cardiovasc Surg*. 2017 Jan;153(1):108-115. **Senior Responsible Author**

**Wąsowicz M**, Yee KF. In response to: anaphylaxis during cardiac surgery for hypertrophic cardiomyopathy: pathyphysiologic and therapeutic considerations. *Anaesthesiol Intensive Ther*. 2017; 49(1):81-82. **Principal Author**

Costescu F, **Wąsowicz M**. A kinked epidural needle tip-impeding placement of an epidural catheter. *Anesthesia & Analgesia*. 2017. **Senior Responsible Author**

Badenoch A, Srinivas C, Al-Adra N, Selzner M, **Wąsowicz M**. A case report of paradoxical air embolisms caused by intrapulmonary shunting during liver transplantation. *Transplantation direct*. 2017-01. **Senior Responsible Author**

**Peer-Reviewed Grants**

**Funded**

2015 Jul - 2017 Dec Merit Award. Department of Anesthesia, University of Toronto, Toronto, Ontario, Canada.