**Affiliation and Disclosure Statements**

**Hilary P. Grocott, MD, FRCPC, FASE**  
Editor-in-Chief  
*Canadian Journal of Anesthesia*

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Professor, Departments of Anesthesia and Surgery, University of Manitoba  
Adjunct Professor of Anesthesiology, Duke University

*Areas of research & clinical interest:* Dr. Grocott’s areas of clinic and research interests include cardiothoracic anesthesiology and transesophageal echocardiography. These interests have included extensive experimental research in cardiopulmonary bypass, with particular interest in the cerebral consequences of cardiac surgery and neuroprotection. In addition, extensive clinical research experience has focused upon outcomes following cardiac surgery, notably neurologic but also end-organ dysfunction outcomes related to inflammation, bleeding and renal dysfunction.

*Competing interests:* None.

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**Gregory L. Bryson, MD, FRCPC**  
Deputy Editor-in-Chief  
*Canadian Journal of Anesthesia*

Associate Professor, Department of Anesthesiology and Pain Medicine, University of Ottawa.  
Vice Chair Research, Department of Anesthesiology and Pain Medicine, University of Ottawa  
Associate Scientist, Clinical Epidemiology Programme, Ottawa Hospital Research Institute  
Director of Research, Department of Anesthesiology and Pain Medicine – The Ottawa Hospital.  
Vice Chair, Research Advisory Committee, Canadian Anesthesiologists’ Society.  
Vice Chair, Research Committee, Association of Canadian University Departments of Anesthesia

*Research interests:* Care of the aging surgical patient, neurocognitive disorders in the perioperative period, rational use of preoperative testing, preoperative evaluation.
Competing interests: None.

Steven B. Backman, MDCM, PhD, FRCPC
Professor, McGill University Department of Anesthesia
Associate Editor
Canadian Journal of Anesthesia

Areas of research interests: Dr. Backman’s research interests have focused on neural modulation of the cardiovascular and respiratory systems, central mechanisms of anesthetic drugs, physiological and pharmacological properties of the transplanted heart, and interaction of anesthetic drugs with the autonomic nervous system.

Competing interests: Dr. Backman has received funding from the Canadian Anesthesiologists’ Society, Canadian Institutes of Health Research, Association des Anesthésiologistes du Québec, McGill University Health Sciences Centre Research Institute, Pfizer, Glaxo Wellcome, Organon, Abbott Laboratories and GlaxoSmith Kline. He holds no equity position in any pharmaceutical or medical equipment manufacturing company.

Philip M. Jones, MD, MSc (Clinical Trials), FRCPC
Associate Editor
Canadian Journal of Anesthesia

Associate Professor, Department of Anesthesia & Perioperative Medicine, The University of Western Ontario

Associate Professor, Department of Epidemiology & Biostatistics, The University of Western Ontario

Member, Research Advisory Committee, Canadian Anesthesiologists' Society

Areas of research and clinical interest: Dr Jones has a clinical practice which is largely focussed on cardiac care. His research interests include pragmatic randomized clinical trials, cardiac anesthesia, clinical trial methodology & biostatistics, and perioperative medicine.

Competing interests: None.

Sangeeta Mehta, MD, FRCPC
Associate Editor (Critical Care)
Canadian Journal of Anesthesia
Areas of research and clinical interest: Dr. Mehta is a Critical Care Physician in the Medical-Surgical ICU at Mount Sinai Hospital. Her research foci include the administration of sedation and analgesia, delirium, and restraint use in mechanically ventilated, critically ill patients; and ICU care and outcomes of patients with hematologic malignancy and hematopoietic cell transplants.

Competing interests: None.

Adriaan Van Rensburg, MB, ChB, MMED(ANES), FCA(SA), MD, FRCPC
CPD Editor
Canadian Journal of Anesthesia

Areas of interest: Clinical practice consists of anesthesia in the fields of cardiac, thoracic, vascular and major oncologic surgery and anesthesia for major solid organ transplantation (heart, lung, liver, kidney, pancreas). Practices in a very active perioperative echocardiography group. Clinical duties also include cardiovascular critical care.

Non-clinical interests in the area of continuing education and development.

Competing interest: Has acted as a consultant for Merck Canada on one occasion.

Étienne de Médicis, MD, MSc, FRCPC
French Language Editor
Canadian Journal of Anesthesia

Member, Research Advisory Committee, Canadian Anesthesiologists' Society and CAS Archives & Artifacts Committee. Non-financial relationship with Merck.
Areas of expertise: Chronic pain and cardiac anesthesia.

Competing interests: None.

Virendra K. Arya, MBBS, MD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Professor of Anaesthesiology and Cardiac Anaesthesia,
Department of Anaesthesiology and Intensive Care
Room 4006, 4th Floor, Block-C, Advanced Cardiac Centre, PGIMER
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Visiting Professor Associated to University of Manitoba Department of
Anesthesiology, Perioperative and Pain Medicine Saint Boniface General
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Areas of research & clinical interest: Dr Arya’s area of clinical work and research
include cardiothoracic anesthesia, transthoracic and transesophageal
echocardiography. He has special interest in cardiovascular physiology, perioperative
hemodynamics in congenital heart disease and in study of central neuraxial blocks
associated hemodynamic alterations in congenital and acquired cardiac pathologies. In
addition his research interest includes human behavior, non-technical skills and
emotional intelligence in research and perioperative medicine.

Competing interests: None.

Mrinalini Balki, MBBS, MD
Editorial Board Member
Canadian Journal of Anesthesia

Mount Sinai Hospital
Toronto, Ontario

Associate Professor, Department of Anesthesia and Pain management, University of
Toronto
Associate Professor, Department of Obstetrics and Gynaecology (cross appointment),
University of Toronto
Faculty Member, Wilson centre, University of Toronto
Faculty Member, SimSinai, Mount Sinai Hospital, Toronto, Ontario
Senior Clinician Scientist, Lunenfeld-Tanenbaum Research Institute
Research interests: Obstetric anesthesia and analgesia, postpartum hemorrhage, cesarean delivery, nausea/vomiting, spinal ultrasound, obstetric simulation, obstetric airway, maternal mortality and morbidity. Dr. Balki’s basic science program focuses on physiology of myometrial contractions with various uterotonics and oxytocin-induced desensitization phenomenon.

Competing interests: Dr. Balki has received research funding from the Canadian Anesthesiologists’ Society (Career Scientist Award, Dr. RA Gordon Research Award, Research Award), University of Toronto (Departments of Anesthesia and Obstetrics & Gynaecology), Mount Sinai Hospital foundation, Dean’s Fund, Inaugural SOAP/ Gertie Marx Research & Education Grant, Ontario AHSC AFP Innovation Funds from the Ministry of Health and Long-Term Care.

M. Dylan Bould, MB ChB, MEd
Editorial Board Member
Canadian Journal of Anesthesia

Associate Professor, University of Ottawa Department of Anesthesiology
Pediatric Anesthesiologist, Children's Hospital of Eastern Ontario, Ottawa

Research interests: Medical education, global health, pediatric anesthesia, pediatric cardiovascular anesthesia

Competing interests: None.

Matthew T.V. Chan, MB BS, PhD, FANZCA, FHKCA, FHKAM
Editorial Board Member
Canadian Journal of Anesthesia

Professor, Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong, Prince of Wales Hospital, Shatin, New Territories, Hong Kong Special Administrative Region, China

Areas of research interest: neuroanesthesia, perioperative monitoring of the brain and spine, clinical trials, clinical epidemiology and mechanisms of chronic postsurgical pain

Competing interests: None.

Mark W. Crawford, MBBS, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia
Anesthesiologist-in-Chief, The Hospital for Sick Children
Curtis Joseph and Harold Groves Chair in Anesthesia and Pain Medicine
Department of Anesthesia and Pain Medicine, The Hospital for Sick Children

Professor of Anesthesia, University of Toronto
Senior Associate Scientist, The Hospital for Sick Children Research Institute

*Research interests:* Dr. Crawford’s research interests relate to clinical outcomes in pediatric anesthesia.

*Competing interests:* None.

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**Franklin Dexter, MD, PhD FASA**
Guest Editor (Statistics)
*Canadian Journal of Anesthesia*

Franklin Dexter is Director of the Division of Management Consulting and Professor in the Department of Anesthesia, University of Iowa. He performs research in the science of anesthesia group and operating room management, including statistical methods to analyze management and social sciences data in the field. As listed at https://www.FranklinDexter.net/FAQ/FAQ_a1.pdf, Dr. Dexter has tenure and receives no funds personally, including honoraria, other than his salary and allowable expense reimbursements from the University of Iowa. He and his family have no financial holdings in any company related to his work, other than indirectly through mutual funds for retirement. Income from the Division's professional services, including that for the *Canadian Journal of Anesthesia*, is used to fund Division research. A complete list of consultations is in his curriculum vitae at https://www.FranklinDexter.net/Contact_Info.htm

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**Derek Dillane, MB BCh, BAO, MMedSci, FCARCSI**
Editorial Board Member
*Canadian Journal of Anesthesia*

Associate professor, University of Alberta

*Areas of expertise:* Regional anesthesia, acute pain medicine, perioperative medicine

*Statement of competing interests:* Dr. Dillane receives funding on a per patient basis for enrolling patients to the Regain Trial for hip fracture surgery (Patient-Centered Outcomes Research Institute, University of Pennsylvania). He is paid honoraria from ASRA, on average once or twice per year, for teaching at workshops and conferences. Apart from these, he has no personal or financial involvement which may inappropriately affect his scientific judgement or interpretation of data.
John C. Drummond, MD, FRCPC
Guest Editor
Canadian Journal of Anesthesia

Professor of Anesthesiology,
University of California, San Diego;
Staff Anesthesiologist,
VA Medical Center San Diego

Areas of research & clinical interest: Dr. Drummond’s area of clinical interest is Anesthesia for Neurosurgery. His research activities have included preclinical and clinical investigations examining the effects of anesthetic agents on cerebral physiology, the efficacy of anesthetic agents as cerebral protectants and the interaction of anesthetic agents and adjuvants with electrophysiologic monitoring techniques.

Competing interests: None.

Alana M. Flexman, MD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Clinical Associate Professor, University of British Columbia (UBC)
Head, Division of Neuroanesthesia
UBC Department of Anesthesiology, Pharmacology & Therapeutics and
Vancouver Acute Department of Anesthesiology and Perioperative Care

Neuroanesthesia Section Head, Canadian Anesthesiologists’ Society
Board Member, Society for Neuroscience in Anesthesiology and Critical Care (SNACC)

Research interests: Clinical outcomes after neurosurgery and spine surgery, mentorship and diversity in anesthesiology.

Competing interests: Dr. Flexman has received research funding from the Canadian Anesthesiologists’ Society, Hospira, Inc., Vancouver Acute Department of Anesthesiology and Perioperative Care and one prior honorarium from Hospira, Inc.

Adrian W. Gelb MBChB, FRCA, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia
Distinguished Professor (Emeritus)
Edward A Dickson Emeritus Professor
Department of Anesthesia and Perioperative Care
University of California San Francisco

Research interests: Anesthesia for neurosurgery; neurologic wellbeing during and after anesthesia and surgery e.g. perioperative stroke, delirium; research has included preclinical and clinical studies (CIHR, NIH, FAER, PSI); patient safety; global health esp. at the national and multinational level.

Competing interests: Secretary World Federation of Societies of Anaesthesiologists (WFSA); past chair WFSA Patient Safety & Quality of Practice committee; liaison with multiple WHO programs; past president SNACC and ISAP; consultant for brain function monitoring Masimo Inc.

Ronald B. George, MD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Professor, Dalhousie University
Unit Head – Research in Medicine (RIM) – Dalhousie Medical School
Department of Anesthesia, Pain Management, and Perioperative Medicine

Research interests: Obstetrical Anesthesia, including labour analgesia, postoperative analgesia, acute pain, epidural anesthesia and analgesia, cesarean delivery, maternal health, global health, women’s rights to analgesia.

Competing interests: None.

M. Ruth Graham MD, FRCP(C)
Editorial Board Member
Canadian Journal of Anesthesia

Associate Professor, University of Manitoba, Department of Anesthesia
Pediatric Anesthesiologist, Children’s Hospital, Winnipeg, MB

Research interests: Cardiorespiratory physiology, alternative modes of mechanical ventilation, acute lung injury models, hemodynamics of persistent pulmonary hypertension of the newborn, general anesthesia neurotoxicity and the developing brain.

Competing interests: None.
Donald E. G. Griesdale, MD, MPH, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Associate Professor
University of British Columbia
Department of Anesthesiology, Pharmacology & Therapeutics Department of Medicine, Divisions of Critical Care Medicine & Neurology

Associate Professor, Department of Anesthesiology, Pharmacology & Therapeutics, University of British Columbia, Vancouver BC, Canada.

Associate Professor, Divisions of Critical Care Medicine and Neurology, Department of Medicine, University of British Columbia, Vancouver BC, Canada.

Associate Scientist, Centre for Clinical Epidemiology and Evaluation, Vancouver Coastal Health Research Institute, Vancouver BC, Canada.

Research interests: Dr. Donald Griesdale is an anesthesiologists and intensive care physician at Vancouver General Hospital. Following his clinical training, he completed his Masters of Public Health in Quantitative Methods from the Harvard School of Public Health. His clinical and academics areas of interest include neurocritical care of patients with traumatic brain injury and cerebral autoregulation in patients with hypoxemic ischemic brain injury following cardiac arrest.

Competing interests: Dr. Griesdale is a clinical scientist and holds operational grant funding from the Heart and Stroke Foundation of Canada and the Laerdal Foundation. He receives salary support from the Michael Smith Foundation of Canada having won the Health Professional-Investigator Award in 2018. He has previously held operational funding from the Canadian Institutes of Health Research (CIHR) and the Canadian Anesthesiologists’ Society (CAS). He previously received salary support from the Vancouver Coastal Health Research Institute having won a Clinician Scientist Award in 2014.

David Mazer, MD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Professor, Department of Anesthesia, University of Toronto

Professor, Department of Physiology (cross appointment), University of Toronto

Research interests: Cardiovascular physiology, blood transfusion and hemostasis, organ protection, anesthesia, cardiac metabolism, critical care, cardiac surgery.
Dr. Mazer’s research interests include cardiac anesthesia and critical care. His basic science program focuses on perioperative blood conservation, cardiac physiology and metabolism and perioperative organ protection. Using integrative and molecular approaches, he investigates the adverse effects of cardiopulmonary bypass on renal function, organ preservation, and transfusion/hemostatic therapies. He is engaged in translational research as an investigator in both pre-clinical and clinical studies in these areas.

**Competing interests:** Dr. Mazer has received research funding or consulting fees from the Canadian Institutes of Health Research, the Heart & Stroke Foundation of Ontario, Physicians Services Inc, University of Toronto, St. Michael's Hospital, Amgen, Quark, Thrasos, Allocure, Boehringer-Ingelheim, Octapharma, CSL-Behring, Fresenius-Kabi and Canadian Medical Protective Association.

Dr. Mazer has no equity positions in any companies related to anesthesia or critical care.

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**Daniel I. McIsaac, MD, MPH, FRCPC**  
Editorial Board Member  
*Canadian Journal of Anesthesia*

Anesthesiologist, The Ottawa Hospital  
Assistant Professor, Department of Anesthesiology & Pain Medicine, School of Epidemiology & Public Health, University of Ottawa  
Associate Scientist, Ottawa Hospital Research Institute  
Full status Adjunct Scientist  
ICES

**Competing interests:** None.

**Areas of expertise/interest:** Dr. McIsaac's research focuses on improving care and outcomes for high-risk surgical patients, with a specific focus on older adults and those with frailty. Dr. McIsaac has methodological expertise in observational study design and analysis, administrative data and health services research, knowledge synthesis and clinical trials.

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**Sheila Riazi, MSc, MD, FRCPC**  
Editorial Board Member  
*Canadian Journal of Anesthesia*

Associate Professor, Department of Anesthesiology, University of Toronto.  
Director, Malignant Hyperthermia investigation Unit, Toronto General Hospital.
Affiliated Scientist, Toronto General Research Institute Member, Member of Board of Directors and Research Advisory Committee, Malignant Hyperthermia Association of United States.

Research interests: Malignant hyperthermia, skeletal muscle physiology, congenital myopathies and regional anesthesia.

Competing interests: None.

Disclosure: Received consulting fee from Norgine B.V.

Stephan K.W. Schwarz, MD, PhD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Professor and Dr. Jean Templeton Hugill Chair in Anesthesia
The University of British Columbia
Department of Anesthesiology, Pharmacology & Therapeutics
Staff Anesthesiologist & Director of Anesthesia Research, St. Paul’s Hospital

Areas of expertise/interest: Neuropharmacology (including, in particular, local anesthetic & analgesic neuropharmacology); whole-cell patch clamp brain slice electrophysiology; regional anesthesia; general adult anesthesia; perioperative medicine; acute pain; RCTs; and experimental design/analysis.

Competing interests: Dr. Schwarz is a member of the Research Advisory Committee and the Grant Standing Subcommittee of the Canadian Anesthesiologists' Society. He is a past recipient of the Canadian Anesthesiologists' Society (CAS) Research Award, the CAS/Abbott Laboratories Ltd. Career Scientist Award in Anesthesia, and the CAS Research Award Neuroanesthesia in Memory of Adrienne Cheng. He has received research funding from the Canadian Foundation for Innovation, the British Columbia Knowledge Development Fund, the Canadian Institutes of Health Research, the Dr. Jean Templeton Hugill Endowment for Anesthesia Memorial Fund (UBC), and the St. Paul's Hospital Department of Anesthesia (Vancouver, B.C.). In 2007, he won a Pfizer Neuropathic Pain Research Award (independently peer-reviewed public operating grant competition sponsored by Pfizer Canada Inc.). For another investigator-initiated curiosity-driven study, he received in 2013 an aliquot of pregabalin free of charge through a Pfizer Canada Compound Transfer Program application (Kirkland, Quebec, Canada). Dr. Schwarz has been advised by his investment manager that his discretionary portfolio may variably include holdings from the medical/biotechnology sectors; Dr. Schwarz similarly assumes that his UBC Pension Plan holdings may include variable positions from such sectors over time. None of such holdings relate to his work, and Dr. Schwarz has never been employed by any medical/biotechnology/pharmaceutical companies nor has he received personal honoraria, consulting fees, or other personal
benefits from such commercial entities. On rare occasions, he has received a small honorarium for participation in online surveys solicited by market research firms.

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**Robert H. Thiele, MD**  
Editorial Board Member  
*Canadian Journal of Anesthesia*

Associate Professor, Departments of Anesthesiology and Biomedical Engineering  
Co-Director, UVA Enhanced Recovery after Surgery (ERAS) Program  
Board of Directors, University Physicians Group  
University of Virginia School of Medicine

*Research interests*: Non-invasive monitoring, venous oximetry, non-contact oximetry, near infrared spectroscopy, sub-cellular energetics, exercise preconditioning; prior and ongoing work has been funded by both the Society of Cardiovascular Anesthesiologists and the National Institutes of Health

*Clinical practice*: Adult cardiothoracic anesthesia and critical care, Enhanced Recovery after Surgery

*Competing interests*: Dr. Thiele's department has received compensation for time spent on advisory panels for both Teleflex and Masimo corporations (2012-2013).

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**Alexis F. Turgeon, MD, MSc(Epid), FRCPC**  
Editorial Board Member  
*Canadian Journal of Anesthesia*

Associate Professor  
Department of Anesthesiology and Critical Care Medicine  
Division of Critical Care Medicine  
Université Laval

Director of Research  
Department of Anesthesiology and Critical Care Medicine  
Université Laval

Chairholder - Canada Research Chair in Critical Care Neurology and Trauma

Director, Cochrane Canada Francophone

Co-Chair, Canadian Traumatic Brain Injury Research Consortium (CTRC)

Staff Anesthesiologist and Critical Care Physician  
CHU de Québec - Université Laval
Université Laval

Areas of research interest: Dr. Turgeon’s research interests include trauma, critical care medicine, transfusions, neuroanesthesia, epidemiology, and especially neurocritical care and traumatic brain injury. His research program focuses on neurological prognosis in patients with severe traumatic brain injury and level of care decisions, as well as blood product utilization in neurocritically ill patients. Dr. Turgeon also has a particular interest and expertise in systematic reviews and meta-analyses in perioperative and critical care medicine.

Competing interests: Dr. Turgeon is a clinician scientist supported by the Canadian Institutes of Health Research (CIHR) and the Fonds de la Recherche du Québec - Santé (FRQS). He is an active member of the Canadian Critical Care Trials Group (CCCTG) and the Perioperative Anesthesia Clinical Trials (PACT) group, and is the Co-Chair of the Canadian Traumatic Brain Injury Research Consortium (CTRC), a CIHR-funded initiative. Dr Turgeon is the Director of Cochrane Canada Francophone. He has received funding, past or present, as Principal Investigator, Co-Principal Investigator, or Co-Investigator from the Canadian Institutes of Health Research, Canada Foundation for Innovation, Fonds de la Recherche du Québec - Santé, Heart and Stroke Foundation, Canadian Anesthesiologists’ Society, Ontario Neutrotrauma Foundation, Fondation d'anesthésiologie et réanimation du Québec, Fondation du CHA - Hôpital de l'Enfant-Jésus and the Fondation du CHU de Québec - Université Laval. Dr. Turgeon has not received funding or honoraria from any pharmaceutical company or entity involved with the industry, and does not held an equity position in a company involved in health care.

Duminda N. Wijeysundera, MD, PhD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Associate Professor, Department of Anesthesia, University of Toronto
Staff, Department of Anesthesia and Pain Management, Toronto General Hospital
Scientist, Li Ka Shing Knowledge Institute of St. Michael’s Hospital
Associate Professor, Institute of Health Policy Management and Evaluation, University of Toronto
Adjunct Scientist, Institute for Clinical Evaluative Sciences

Areas of expertise: perioperative cardiac complications, preoperative risk stratification, observational study methodology, health services research, randomized controlled trials, clinical epidemiology

Competing interests: None.
Anne Wong, MD, PhD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Professor and Associate Chair of Education
Department of Anesthesia, McMaster University

Assistant Dean, Program for Faculty Development
Faculty of Health Sciences, McMaster University

Research interests: Medical education, intrinsic CanMeds roles (in particular: professional, leader, communicator, scholar), faculty development, qualitative methodologies and global health.

Competing interests: Noneed.

Jean Wong, MD, FRCPC
Editorial Board Member
Canadian Journal of Anesthesia

Associate Professor, University of Toronto
Department of Anesthesia, Toronto Western Hospital
University Health Network, Toronto, Ontario

Areas of expertise: Perioperative smoking cessation, perioperative sleep apnea, tranexamic acid for spine and orthopedic surgery, ambulatory anesthesia, postoperative delirium in non-cardiac surgery.

Statement of competing interests: Dr. Wong has received research grants from Acacia Pharma.