WHAT'S **INSIDE**

VOLUME 31
NUMBER 3
OCTOBER
2016

www.cas.ca

Innovative leadership and **excellence** in anesthesia, perioperative care, and patient **safety**

Canadian Anesthesiologists' Society

ANESTHESIANEWS

PRESIDENT'S MESSAGE

This is the first newsletter and President's Message since the Canadian Anesthesiologists' Society (CAS) Annual Meeting held in Vancouver June 24 – 27, 2016. This was a sparkling event in a gorgeous setting, and I am pleased to note that almost 1,000 delegates registered. Workshops and lectures were well attended and the President's Dinner, with memorable entertainment by Shaun Majumder, was a sell-out event.

Congratulations to the 2016 recipients of the CAS Honour Awards, which were presented in Vancouver. Dr Joel Hamstra was awarded the John Bradley Young Educator Award, Dr Michael Bourke was awarded the Clinical Practitioner Award, Dr Gordon Whatley was awarded the Clinical Teacher Award, Dr Richard Hall was awarded the Research Recognition Award and Dr Angela Enright was awarded the Emeritus Membership Award. The CAS' highest honour, the CAS Gold Medal, was awarded to Dr Donald Miller.

In addition, Steven Lee Long (McMaster University), Pengyu Yu (Université de Montréal) and Paige Zhang (University of Toronto) were awarded respectively the First, Second and Third Place Medical Student Prizes.

Next year's Annual Meeting will be held in Niagara Falls, Ontario, June 23 – 26, 2017, in the historic year of the 150th Anniversary of the Confederation of Canada. Please mark your calendars, consider adding a few days vacation, and plan to register early. CAS maintains very collegial relations with the New York State Society of Anesthesiologists (NYSSA) and considering geographic proximity, we anticipate that many NYSSA members will be attending. The Annual Meeting Committee, under the new chairmanship of Dr Adriaan Van Rensburg, is already busy planning a quality educational and social event, which will explore the evolving landscape of learning and performance evaluation for residents and practising anesthesiologists alike.

September 1, 2016 marked a transition for the Executive of the CAS. Dr Susan O'Leary, whom I thank and congratulate for her admirable tenure as President for the past two years, is now Past-President. I am thankful that Dr François Gobeil is continuing his term of office as Treasurer, and he will no doubt persist with a restrained fiscal tenor.

continued on page 2

continued from page 1

At the CAS Annual Business Meeting held in Vancouver on June 26, 2016, Dr Daniel Bainbridge, Dr David McKnight and myself were elected Vice-President, Secretary and President, respectively. I feel well supported by this talented and experienced executive group and also by Ms Debra Thomson, our "new" Executive Director (less than one year in her position) and the hard-working office staff, as the business of the Society carries forward. The *Canadian Journal of Anesthesia* remains under the exemplary management of its Editor-in-Chief, Dr Hilary Grocott. Our affiliate foundations, the Canadian Anesthesia Research Foundation (CARF) and the Canadian Anesthesiologists' Society International Education Foundation (CASIEF) continue to be capably chaired by Dr Doreen Yee and Dr Dylan Bould, respectively.

It appears that CAS is on the cusp of a significant multi-year transition in its membership demographics. Like the Canadian physician population as a whole, approximately 40% of the Canadian anesthesiology workforce is over the age of 55, and will probably be retiring in the next decade. These retirees will be replaced by a new wave of "the best and the brightest", whom we hope and anticipate will bring energy and enthusiasm to CAS. In addition, we seek to engage and encourage membership in CAS of many more Family Practice anesthesiologists, as well as anesthesiologists who have been educated outside of Canada.

When you read this, the 16th World Congress of Anaesthesiologists will have recently concluded in Hong Kong, and I know that many Canadian anesthesiologists will have been there as attendees or faculty, or as members of the World Federation of Societies of Anaesthesiologists' (WFSA) Council or committees. The quadrennial World Congress of Anaesthesiologists is organized by the host country's national anesthesiology society (most recently the Society of Anaesthetists of Hong Kong), on behalf of the WFSA. The CAS has hosted the World Congress of Anaesthesiologists on two occasions: in 1960 in Toronto and in 2000 in Montréal.

Canada has a distinguished history with the WFSA from its inception in 1955, when Dr Harold R Griffith of Montréal was elected as its Founder-President. Dr Griffith is world-renowned for the first successful use of curare in surgery in 1942. A second Canadian President of WFSA, Dr Angela Enright, was elected in 2008, and served until 2012. Currently, Canada has a member serving a second term on WFSA Council, as well as members on all WFSA Subspecialty Committees (Obstetric Anaesthesia, Pediatric Anaesthesia and Pain Relief), and all WFSA Permanent Committees (Scientific Affairs - Chair, Education, Safety and Quality of Practice, Publications, and Constitution) except one (Professional Wellbeing). The mission of WFSA is "to improve patient care and access to safe anesthesia, by uniting anesthesiologists around the world".

For Canadian anesthesiologists who are interested in advancing global health, (and there are a great many of these), membership in the CAS as a component society of WFSA is essential to contributing within the WFSA structure.

In August, the world experienced the spectacle of the 2016 Summer Olympics in Rio de Janeiro. We witnessed, and will long remember, many inspirational performances by Canadian athletes.

I hope that you have all taken some time to relax and to enjoy the (usually too short) Canadian summer. As we return to our Fall routines, we are fortunate for the recent opportunities we have had to appreciate and recognize the contributions and achievements of Canadian anesthesiologists domestically and internationally, as well as to applaud the exploits of Canadian athletes on the world stage. We have much to be proud of and thankful for.

Dr Douglas DuVal, FRCPC
President

VANCOUVER
CAS ANNUAL MEETING 2016

THANK YOU…

The success of the 2016 CAS Annual Meeting in Vancouver was made possible by the extensive efforts of many people who worked diligently to ensure a memorable educational and social event for our members. CAS expresses its appreciation to everyone who was involved in any capacity related to the planning and execution—including the members of the Annual Meeting Committee, the Local Arrangements Committee, the presenters and moderators, exhibitors, sponsors and volunteers. We couldn't have done it without you!





View CAS 2016 Annual Meeting Photos Online

Photos of the 2016 CAS Annual Meeting in Vancouver can be found on our Facebook page at: www.facebook.com/CanadianAnesthesiologistsSociety

2016 CAS ANNUAL MEETING REGISTRATION FACTS

Delegates:	964 (up from 855 in 2015)
Countries represented:	25
By province (top 4):	Ontario, British Columbia, Quebec, Alberta
Exhibitors:	149

CONGRATULATIONS TO THE DRAW WINNERS

Each of the following three individuals was a lucky winner in a draw held at the 2016 Annual Meeting:

John Crowther, Penticton, BC

Ainsley Decker, St John's, NL

Martine Pirlet, Sherbrooke, QC

AT YOUR FINGERTIPS

For members only:

Annual Meeting Webinars: **www.cas.ca/Members/2016-webinar-presentations**

Annual Meeting Presentations: **www.cas.ca/Members/2016-Presentations**

2015 Annual Report/Financial Report

English: **www.cas.ca/Members/Documents**

2016 ANNUAL MEETING—A HUGE SUCCESS

BY: DR DANIEL BAINBRIDGE, CHAIR, CAS ANNUAL MEETING

The 2016 CAS Annual Meeting was a huge success as anesthesiologists from across the country met in Vancouver June 24 – 27. The theme of this year's meeting was: "Improving Perioperative Outcomes" which reflects the ongoing evolution of anesthesia into a specialty focused on patient safety. The meeting started on Friday morning with a full day workshop on perioperative echocardiography. As with all workshops held at the annual meeting, category III credits were awarded, giving 3 credit hours for every hour of the workshop. The Welcome Reception took place in the Vancouver convention centre in the exhibitor showcase. Entertainment was provided by a magician who was an expert in sleight of hand tricks.

The theme for this year's meeting was cosponsored by the ambulatory and neuroanesthesia sections. The opening speaker, Dr Jacqueline Leung from UCSF, gave an excellent talk entitled "Postoperative Cognitive Dysfunction—Noise or Signals?" There were also talks on physician wellness and health, an update on the Choosing Wisely Canada initiative, and an ethics symposium on medical aid in dying. This year's Angela Enright Lecture, "Sleep Apnea, Obesity Hypoventilation Syndrome, Overlap Syndrome: Are We Sleep Walking Into Disaster?"was given by Dr Francis Chung who shared her extensive knowledge of sleep disordered breathing and perioperative care. This year's meeting was again streamed live over the Internet via GoToWebinar allowing members who were unable to travel to Vancouver to participate in one day of presentations. Members can view the opening plenary session through the CAS member portal page. Finally, a truly fabulous evening was enjoyed by those attending the CAS President's Dinner, which featured Canada's own Shaun Majumder in a stand-up routine.

The 2017 Annual Meeting will be held in Niagara Falls—a new venue for us. The theme for the meeting is "***Competence by Design – The Future of Education and Assessment in Anesthesiology, From Residency to Retirement***". Our renowned colleague, Dr David Gaba of Stanford University, a leader and early pioneer in patient safety and the use of simulation, will present the opening plenary.

As this is my final year as chair of the CAS Annual Meeting Committee (AMC), I would like to personally thank the CAS office staff; the AM organizing committee; Dr Peter McDougall, head of the CEPD Committee; Jane Tipping, education consultant; Dr Susan O'Leary; and Dr Patricia Houston for all their help over the last four years. Additionally, I would like to welcome the incoming CAS AMC Chair, Dr Adriaan Van Rensburg.

2016/2017 BOARD OF DIRECTORS

EXECUTIVE COMMITTEE

President
Dr Douglas DuVal, Edmonton

Vice-President
Dr Daniel Bainbridge, London

Secretary
Dr David McKnight, Toronto

Treasurer
Dr François Gobeil, Boucherville

Past President
Dr Susan O'Leary, Hamilton

BOARD MEMBERS

British Columbia
Dr Sukhpal Brar, New Westminister

Alberta
Dr Michael Cassidy, Calgary

Saskatchewan
Dr Ian Lund, Dundurn

Manitoba
Dr Mehdi Sefidgar, Winnipeg

Ontario
Dr Christopher Harle, London

Quebec
Dr Jean-François Courval, Dorval

New Brunswick
Dr Sylvie Aucoin, Moncton

Nova Scotia
Dr George Kanellakos, Halifax

Newfoundland & Labrador
Dr Jeff Cole, Grand Falls-Windsor

Prince Edward Island
Dr Vandana Vaishnav, Summerside

ACUDA President
Dr Roanne Preston, Vancouver

Resident Representative
Dr Kaitlin Duncan, Ottawa

Executive Director
Ms Debra Thomson, Toronto

BOARD GUESTS

CARF Chair
Dr Doreen Yee, Toronto

CASIEF Chair
Dr Dylan Bould, Ottawa

***CJA* Editor-in-Chief**
Dr Hilary Grocott, Winnipeg

RCPSC Representative
Dr Hélène Pellerin, Quebec

You may contact Board members through the CAS central office.

Canadian Anesthesiologists' Society

www.cas.ca

THANK YOU

The Canadian Anesthesiologists' Society gratefully acknowledges the financial assistance to the 2016 Annual Meeting of the following industry partners through unrestricted educational grants.

CORPORATE LEADER

MERCK

CORPORATE SUPPORTER

Piramal
knowledge action care

ASSOCIATE SPONSOR

Teleflex®

The Canadian Anesthesiologists' Society would like to thank the following organizations for their contributions:

- Canadian Patient Safety Institute
- Clarius Mobile Health
- Cook Medical
- GE
- Karl Storz Endoscopy Canada
- Medtronic
- Phillips
- Sonosite
- Teleflex

www.cas.ca

Canadian Anesthesiologists' Society
Société canadienne des anesthésiologistes

IN SEARCH OF/À LA RECHERCHE DE L'
EXCELLENCE

Gold Medal
Médaille d'or
Dr Donald Miller
Ottawa, ON

Research Recognition
Mérite en recherche
Dr Richard Hall
Halifax, NS

Clinical Teacher
Enseignement clinique
Dr Gordon Whatley
Halifax, NS

Clinical Practitioner
Pratique clinique
Dr Michael Bourke
Ottawa, ON

John Bradley Young Educator
Jeune éducateur John-Bradley
Dr Joel Hamstra
Hamilton, ON

Emeritus Member
Membre émérite
Dr Angela Enright
Victoria, BC

The **2017 Call for Nominations** is posted on the CAS website under "**Awards and Grants**".

L'appel **de candidatures 2017** a été précédemment annoncé aux membres et est publié sur le site de la SCA dans la section « **Subventions et bourses** ».

Deadline / Date limite
October 21 / Le 21 octobre 2016

visit / visitez
www.cas.ca

CONGRATULATIONS TO CAS AWARD WINNERS

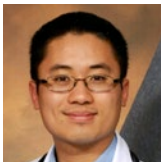
The CAS Awards Ceremony at the Annual Meeting recognizes the accomplishments and talents of members across research grants, oral competitions, best papers and other categories. Congratulations to all of the winners!

CAS MEDICAL STUDENT PRIZES

1st Prize – 2016 MEDICAL STUDENT PAPER

Steven Lee Long
McMaster University, Hamilton, ON

From Arrow Tips to Syringe Needles



2nd Prize – 2016 MEDICAL STUDENT PAPER

Pengyu Yu
Université de Montréal, Montréal, QC

L'anesthésiologiste contre la douleur… psychique

3rd Prize – 2016 MEDICAL STUDENT PAPER

Paige Zhang
University of Toronto, Toronto, ON

Considerations for Opioid Use in Chronic Pain

ORAL COMPETITIONS

RICHARD KNILL COMPETITION

Dr Sheila Riazi
University of Toronto, Toronto, ON

Metabolomics Profiling in Patients with Malignant Hyperthermia

RESIDENTS' COMPETITION

1st Place Winner

Dr Karim Abdulla
University of Ottawa, Ottawa, ON

The Impact of Delayed Emergency Surgery on In-hospital Mortality

2nd Place Winner

Dr Antony Carrier-Boucher
Laval University, Laval, QC

Improved Preoxygenation in Morbidly Obese: Position & Ventilation

3rd Place Winner

Dr Pascal Laferrière-Langlois
University of Sherbrooke, Sherbrooke, QC

Retroclavicular Block in Obese Patients: A Feasibility Study

BEST PAPER AWARDS

AMBULATORY ANESTHESIA

Dr Papu Nath
University of Montreal, Montreal, QC

Lidocaine Preloaded in the ETT Cuff Reduces Emergence Cough

CHRONIC PAIN

Dr Stephen Yang
McGill University, Montreal, QC

A Novel Use of Beta-Blockers to Reduce Postoperative Pain

CRITICAL CARE MEDICINE AWARD

Dr Erin Bruce
University of Calgary, Calgary, AB

Does Elevated Perioperative Lactate Translate into Poor Outcomes?

CVT RAYMOND MARTINEAU PRIZE

Dr John Moore
Western University, London, ON

Design and Assessment of Patient Specific, Dynamic Mitral Valve Model

EDUCATION AND SIMULATION IN ANESTHESIA

Dr Tobias Everett
University of Toronto, Toronto, ON

Simulation-based Assessment: A Multi-centre Validation Study

BEST PAPER AWARDS CONT'D

IAN WHITE PATIENT SAFETY AWARD

Dr Kathleen Carten
Memorial University of Newfoundland, St John's, NL

System Errors Found in Rural Hospitals Using In-situ Simulation

NEUROANESTHESIA

Dr Alana Flexman
University of British Columbia, Vancouver, BC

Effect of a Recruitment Maneuver During Brain Tumour Resection

OBSTETRIC ANESTHESIA

Dr Mrinalini Balki
University of Toronto, Toronto, ON

Epidemiology of Maternal Cardiac Arrest in Canada: A Nationwide Study

PEDIATRIC ANESTHESIA

Dr Ushma Shah
University of Toronto, Toronto, ON

Subtenon Block in Pediatric Strabismus Surgery: A Meta-analysis

PERIOPERATIVE

Dr Karim Abdulla
University of Ottawa, Ottawa, ON

The Impact of Delayed Emergency Surgery on In-hospital Mortality

REGIONAL ANESTHESIA AND ACUTE PAIN

Dr Pierre Beaulieu
University of Montreal, Montreal, QC

The Pectoral Nerve Block for Pain Treatment Post Breast Cancer Surgery

CANADIAN ANTI-SPAM LEGISLATION:

We need your permission

Remember to give us your consent when we ask your permission.

SOCIAL MEDIA AT YOUR FINGERTIPS

Stay current, informed and on track with the latest discussions…. Sign up and take advantage:

- CAS on Twitter at @CASupdate
- CAS on Facebook: facebook.com/CanadianAnesthesiologistsSociety

MODERATORS MAKE A DIFFERENCE AT THE CAS ANNUAL MEETING

BY: JANE TIPPING, MAD ED

Panel discussions and lectures with a "question and answer" component are a traditional aspect of the CAS Annual Meeting and moderators play a central role in determining the effectiveness of these sessions. It is the moderator who sets the context, drives the discussion, keeps the session starting and ending on time, and engages the speaker(s) and audience in an interactive dialogue. Commonly, very little training or information is given to those who volunteer to be speakers or moderators.

Two years ago, the CAS Annual Meeting Working Group introduced a few initiatives to improve the level of interactivity in the Annual Meeting sessions. Creating an online moderator training module was one of them.

The module consists of:

- Approximately one hour of reading
- 30 minutes of watching and reflecting on two YouTube presentations
- 30 minutes in creating a strategy for your session
- 10 minutes in completing a multiple choice quiz

Several moderators (new and experienced) have now taken the module and found it provided them with tips and "tricks" they had not yet tried. The general feedback has been positive.

If you are a CAS member, you can sign up to take the module and receive Section 3 credits upon completion.

HOW TO ACCESS THE MODULES

Go to: cas.knowledgedirectweb.com/kd/10.cfm

Username and password are the same as when accessing the CPD modules.

PAYING TRIBUTE TO DECEASED CAS MEMBERS

To recognize the contributions of and pay tribute to deceased CAS members, *Anesthesia News* will now publish obituaries that are submitted to CAS.

If you would like to submit an obituary for a deceased CAS member, please forward it to **anesthesia@cas.ca**. A photograph may be included.

Please note the following general guidelines:

- The person must have been a member of CAS during their career, although not necessarily at the time of death.
- While vital statistics are important, stories about the individual's life, career, and contributions to specific endeavours are strongly encouraged.
- The obituary should be limited to 500 words.
- All submissions will be edited.

THE CAS IS A MAJOR PLAYER FOR THE WFSA

BY: DR PIERRE FISET, FRCPC, MEMBER AND CANADIAN REPRESENTATIVE, WFSA COUNCIL

The World Congress of Anaesthesia was held in Hong Kong from August 28 to September 2, and Canada was among the top 10 countries for the number of delegates with almost 200 Canadians attending the conference. The quality of the scientific content was very high, with international experts giving conferences and workshops in all anesthesia sub-specialties. Topics like education, collaboration and levelling of anesthesia standards around the world were addressed. Delegates had unique opportunities to network and get involved in educational and humanitarian projects.

The World Federation of Societies of Anaesthesiologists (WFSA) ran its business and Council meetings, and various committees were convened for a first meeting of their four-year cycle. At the administrative level, the Canadian representation is very important and reflects the influence the CAS continues to have in our international Federation.

The WFSA Board has revealed the name of the members of the various committees, and it is my pleasure to inform you that our representatives for the next four years will be:

- Constitution Committee: Dr David McKnight
- Education Committee: Dr Dylan Bould
- Publications Committee: Dr Gregory Klar, Dr Angela Enright
- Safety and Quality of Practice: Dr Beverly Orser
- Scientific Affairs Committee: Dr Davy Cheng
- Obstetric Anesthesia Committee: Dr Ronald George
- Pediatric Anesthesia Committee: Dr David Rosen, Dr Pierre Fiset
- Pain Management Committee: Dr Jason McVicar
- WFSA Council: Dr Pierre Fiset

These people will play a very active role in their respective fields. We will keep you informed of the WFSA activities and hope that more of you will become involved at various levels of international cooperation. Please visit the WFSA website: www.wfsahq.org to get familiar with your Federation and its activities.

Meanwhile, consider the following:

- Around five billion people worldwide lack access to surgical and anesthetic care, and most of them are in lower income countries. (*The Lancet Commission on Global Health 2015*)
- In 2010, an estimated 16.9 million lives were lost from conditions needing surgical care. This figure well surpassed the 3.84 million deaths from HIV/AIDS, TB and malaria combined. (*The Lancet Commission on Global Health 2015*)

Let's make anesthesia safe for everyone!

WFSA
WORLD FEDERATION OF SOCIETIES OF ANAESTHESIOLOGISTS

DR DAVY CHENG ELECTED CHAIR, IARS BOARD OF TRUSTEES

Congratulations to CAS member, Dr Davy Cheng, who was elected as Chair of the Board of Trustees (2016 – 2017) of the International Anesthesia Research Society (IARS) at the 2016 Annual Meeting. Dr Cheng is Distinguished University Professor and Chair/Chief of Department of Anesthesia & Perioperative Medicine at Western University.

Founded in 1922, the IARS is a non-political, not-for-profit medical society. Its mission is focused solely on the advancement and support of education and scientific research related to anesthesiology. For more information, go to www.iars.org.

DR ANDRÉ BERNARD RECEIVES CMA AWARD

Congratulations to Dr André Bernard who has received the Canadian Medical Association (CMA) Award for Young Leaders (Early Career) in recognition for his commitment to social justice and health equity for all.

A CAS member and active international volunteer, Dr Bernard serves as a trustee of the Canadian Anesthesiologists' Society International Education Foundation (CASIEF) and is presently the CMA's representative at the World Medical Association (WMA), sitting as a member of Council. Dr Bernard has inspired younger physicians in the WMA Junior Doctors Network and is seen as an outstanding mentor for trainees around the world.

Dr Bernard is a staff anesthesiologist at Capital Health and Assistant Professor in Dalhousie University's Department of Anesthesia, Pain Management and Perioperative Medicine.

Read more about Dr Bernard's award on the CAS website.

DR IAN MORRIS RECEIVES ROYAL COLLEGE PRIX D'EXCELLENCE – SPECIALIST OF THE YEAR AWARD

Congratulations to Dr Ian Morris, recipient of the Royal College of Physicians and Surgeons of Canada's Prix D'Excellence Specialist of the Year Award. The award recognizes Fellows of the Royal College who have made significant contributions in providing outstanding care to their patients and the community in which they practise.

A Professor in the Department of Anesthesia at Dalhousie University in Halifax, Dr Morris has been a CAS member since 1987, and was a correspondent on the Editorial Board in 2005.

Read more about Dr Ian Morris' award on the CAS website.

DR KIM TURNER RECOGNIZED BY WFSA

The World Federation of Societies of Anaesthesiologists (WFSA) held its 16th World Congress of Anesthesiologists in Hong Kong August 28 – September 2, 2016. Dr Kim Turner was recognized with a first prize in the Arts and Humanities category of the Abstract Poster Competition. Congratulations to Dr Turner for this recognition. Her submission was entitled "Dr Norman Bethune's Anesthesia Challenges in China."

CHOOSING WISELY CANADA VIDEOS AVAILABLE FOR VIEWING

CAS has developed two informational videos for use at your place of work. Developed to assist anesthesiologists in initiating and moving forward the Choosing Wisely Canada (CWC) campaign, the videos:

- Outline the objectives of the Choosing Wisely Canada campaign.
- Explain the development of the Top 5 list of tests and procedures anesthesiologists should question.
- Provide research that supports the need for less testing.

Take time to review the videos and to share them in any way—post on your employee website, distribute to departments, use in training sessions, etc. Be a part of the CWC movement—get your colleagues involved now!

Effective September 1, 2016, several CAS committees welcomed new committee chairs. CAS is sincerely appreciative of the commitment and dedication shown by all volunteers who step forward and share their expertise, time and energy.

Dr Jean-François Courval

Co-Chair

Medical Economics/Physician Resources

A practising staff anesthesiologist for 19 years, Dr Courval characterizes his career as quite varied. He started as a cardiac anesthesiologist with a fellowship in transthoracic as well as transesophageal echocardiography. In 2008, he became chief of department in a community center and in 2014 started a new chapter as a pediatric anesthesiologist in a tertiary care centre. Although most of his practice has been in Quebec, he has done locums in New Brunswick and Ontario. In 2010, Dr Courval first joined the Medical Economics Committee as the Quebec representative. Since then, he has also transitioned from Treasurer of the Association of Anesthesiologists of Quebec to now serving as President.

Dr Eric Goldszmidt

Co-Chair

Medical Economics/Physician Resources

Dr Goldszmidt is a graduate of McGill Medical School. In 2001, he completed his anesthesia residency at the University of Toronto after which he completed a combined obstetric and cardiac anesthesia fellowship. He then joined the consultant staff at Mount Sinai and Toronto General Hospitals. An assistant professor at the University of Toronto, Dr Goldszmidt has been an elected member of Ontario's Anesthesiologists, a Section of the Ontario Medical Association, for the past nine years and the Tariff Chair for the past seven years. He has also served as the deputy anesthesiologist-in-chief for Mount Sinai Hospital since 2010.

Dr Kyle Kirkham

Chair

CAS Choosing Wisely Canada

Dr Kirkham received his medical degree from the University of British Columbia, followed by residency at the University of Toronto. A lecturer at the University of Toronto and the Toronto Western Hospital site coordinator for the University of Toronto anesthesia residency training program, Dr Kirkham's clinical focus is on the management of acute pain and optimization of ambulatory patient preoperative assessment. He is also the director of the Anesthesia Preadmission Clinic at Women's College Hospital, and his academic work examines the preparation patients receive for outpatient surgery, ensuring they receive the testing they need while supporting a sustainable and evidence-based health care system. Actively involved in research in the area of testing utilization, economic impact and strategies to enhance knowledge translation in this clinical domain, Dr Kirkham's work brought him together with the CAS' Choosing Wisely Canada committee.

Dr Dolores McKeen

Chair

Research Advisory

Following graduation from Memorial University's Medical School in 1992, Dr McKeen completed five years of post-graduate anesthesia training. She moved to Halifax in 1999 on a "two year plan" to complete sub-specialty training in obstetrical anesthesia at the IWK Health Centre (Dalhousie University). Following this training and despite being a patriotic Newfoundlander, Dolores accepted a faculty appointment at Dalhousie University, and also completed an MSc in clinical epidemiology.

Dr McKeen is currently a Professor at Dalhousie University, the Associate Chief of the IWK Department of Women's & Obstetric Anesthesia and the Medical Co-Director of Resident Research. She serves the Royal College as a Surveyor for the PGME Accreditation Committee and is on the RCPSC Awards Committee. An active CAS member, Dolores sits on the CARF Board of Trustees and is currently Chair of the ACUDA Research Sub-Committee.

Dr Adriaan Van Rensburg

Chair

Annual Meeting

Educated in South Africa, Dr Van Rensburg is Assistant Professor at the University of Toronto, Department of Anesthesiology. In 2012, he became the coordinator of the Grand Rounds Program in the Department of Anesthesia and Pain Medicine at Toronto General Hospital, part of the University Health Network. His duties balance a spectrum of the research and scientific work of the department, morbidity and mortality programs, quality assurance, continuing medical education and a residents' presentation program.

Since 2012, Dr Van Rensburg has served on CAS' Annual Meeting Scientific Sub-committee and, on several occasions, has been invited to be a speaker at the CAS Annual Meeting. He has also regularly participated as an instructor at various courses and international meetings (such as the American Society of Anesthesiologists, where he has been a workshop instructor since 2009).

THE SELF ASSESSMENT PROGRAM FROM THE *CANADIAN JOURNAL OF ANESTHESIA*—CPD ONLINE

CPD MODULE: Hypertensive disorders of pregnancy – **September 2016**

ALSO AVAILABLE

- An update on the prone position
  June 2016
- Local anesthetic systemic toxicity
  March 2016
- Potential strategies for preventing chronic postoperative pain: a practical approach
  December 2015
- Managing the challenging pediatric airway
  September 2015
- Reversal of warfarin anticoagulation for urgent surgical procedures
  June 2015
- Step-by-step clinical management of one-lung ventilation
  December 2014
- Bedside clinical and ultrasound-based approaches to the management of hemodynamic instability: Part II: bedside ultrasound in hemodynamic shock
  November 2014

HOW TO ACCESS THE MODULES

Instructions can be found on the Canadian Anesthesiologists' Society website at: **cas.ca/members/cpd-online**

Successful completion of each module of the self-assessment program will entitle readers to claim four hours of continuing professional development (CPD) under section 3 of CPD options, for a total of 12 maintenance of certification credits. Section 3 hours are not limited to a maximum number of credits per five-year period.

Publication of these modules is made possible through unrestricted education grants from the following industry partners:

Edwards

Medtronic

CARF CORNER

BY: DR DOREEN YEE, FRCPC, CHAIR, BOARD OF TRUSTEES

The Canadian Anesthesia Research Foundation (CARF) has been undergoing some changes and renewal in the recent past. As many of you know, Bruce Craig, who was our Director of Development for 12 years, stepped down after the annual meeting in June 2015. Some of you may have met Emily MacKinnon, who was also at the 2015 meeting. Emily worked hard on planning a new website, as well as drafting a new strategic fundraising plan. Unfortunately, she had to step down after six months for another opportunity. Our new Director, Katherine Palumbo, was identified after a search in the spring. Katherine comes to us with eight years of experience in the fundraising non-profit sector, and her past experiences include Heart and Stroke and Mount Sinai Hospital Foundations, as well as the Canadian Mental Health Association. Katherine stepped right up to the plate and was ready for our annual meeting this past June, six weeks after she started!

Dr Donald Miller, this year's CAS Gold Medal winner, has been recently appointed as the Vice Chair of the CARF Board. We welcome Don and are confident that he is well positioned with all his CAS experience to lead the Board now and in the future.

At the June 2016 CARF Board meeting, it was decided that CARF needed to hold a strategic planning exercise to determine future directions. The last one was done in 2003, and led to the creation of the Director of Development position. Since that time, the overall endowment has grown by over 40%, despite diminishing industry support and CARF supporting more awards directly. Member donations increased initially, but have now plateaued in the past five years. A facilitator has been identified for this exercise, which has been scheduled for November after the Fall CAS Board of Directors' meeting. We look forward to some new ideas and directions from this day.

9TH ANNUAL *ANESTHESIA FOR GLOBAL OUTREACH* COURSE

The 9th annual *Anesthesia for Global Outreach Course* will be hosted at Boston Children's Hospital, Boston, Massachusetts from **October 7 – 9, 2016**.

The three-day course prepares anesthesia providers to deliver anesthesia care in poorly resourced environments—the conditions under which 80% of the world's anesthesia care is delivered. The course boasts a cadre of world-renowned experts in global health and anesthesia. Participants will have the opportunity to consider intellectual, technical, psychological, and ethical aspects of outreach anesthesia work in conditions that they are unlikely to have encountered in their training or daily practice.

The course includes personal insights from faculty experienced in these environments, as well as current topics in global health-related issues. Practical sessions include equipment use and maintenance, hands on simulation, and use of unfamiliar anesthesia techniques. Participants will also attend sessions on tropical disease, cross-cultural adaptation, and travel preparation. There are ample opportunities for participants to engage with the expert faculty who have experience working in a broad variety of contexts. In addition, the program will enable anesthesia providers to better transfer their knowledge and build capacity when working in the low resource setting.

For more information on the 2016 *Anesthesia for Global Outreach Course* and to register, please visit: www.AnesthesiaGlobalOutreach.com

DONORS / DONATEURS

From May 2015 to April 2016 / De mai 2015 à avril 2016

Canadian Anesthesiologists' Society
International Education Foundation
Société canadienne des anesthésiologistes
Fondation d'éducation internationale

Patrons Protecteurs
($1,000+) (1 000 $+)

Dylan Bould
Anthony Boulton
Francesco Carli
Angela Enright
Brent Kennedy
Patricia Livingston
Louise and Alan Edwards Foundation
Massimo Canada
Susan O'Leary
OMA Section on Anesthesiology
Ottawa Anesthesia Primer Project
Martine Pirlet
Saifudin Rashiq
Jennifer Szerb

Leaders
($500 – $999)
(500 $ – 999 $)

Richard Chisholm
Jan Davies
Joel Hamstra
Lynn Hansen
James Kim
Brian Knight
Phillip Lalande
Teddy Lim
Donald Miller
Gillian Moll
Joel Parlow
Sebastian Pinto
Mark Rosati
Rotary Club of Edmonton Glenora
Sonia Sampson
Robert Seal
Greg Silverman
FC Violago
Kim Walton
Sharon Wiens
Julie Williams

Supporters Supporteurs
($250 – $499)
(250 $ – 499 $)

Colin Bands
John Beaver
Randy Benko
Jean Bissonnette
Gregory Bosey
David Boyle
David Bracco
Eric Brown
Russell Brown
Gregory Bryson
Rod Cameron
Chris Christodoulou
Kathryn DeKoven
Claire Dionne
John Dove
Douglas DuVal
Henry Ekwueme
Kathryne Faccenda
Alayne Farries
Brendan T Finucane
Pierre Fiset
Jocelyn Foran
Alison Froese
Ron George
Raymer Grant
Christopher Harvie
David Hughes
Orlando Hung
Patrick J Kelly
Halina Kieraszewicz
Steven Kraus
Pradeep R Kulkarni
Indrani Lakheeram
Charles MacAdams
Robert MacNeil
Doug Maguire
Robert Martinek
Paul McArthur
Robert McBurney
William McKay
Jocelyne McKenna
Robert McLean
Jason McVicar
Thomas Mutter
Eding Mvilongo
May Ngan
Roland Orfaly
Catherine Paquet
Barbara Pask
Lindsey Patterson
Anahi Perlas-Fontana
Mateen Raazi
Sreevisara Ravinuthala
David Riddell
Andrea Rigamonti
John Scovil
Lesley Anne Sinclair
Julia Smith
M Heather Smith
Konya Sriram
Aviva Stewart
Michael Sullivan
Kristine Urmson
Martin Van Der Vyver
Paul Westacott
Davinia Withington
H Clifford Yanover

Friends Amis
(Up to $249)
(jusqu'à 249 $)

Gregory Allen
John Ascah
Juan-Francisco Asenjo
Lukas Bartosik
Sukhjeewan K (Cindy) Basran
Michael Bautista
Philippe Bechard
James Beckstead
Harald Bettger
Jan Piotr Blachut
Sylvie Bois
Jessica Burjorjee
Patrick Butler
Robert Byrick
David Cannell
Jan Carstoniu
Michael Cassidy
Paul Chang
Mark Cheesman
Albert Christ
Alan Chu
David Cohen
Marcus Coneys
Thomas Coonan
Richard Cooper
Robin Cox
John Cronhelm
Hélène Deslippe
Pritampal Dhadly
Achal Dhir
Scott Drysdale
Ahmed ElAlfy
Mark Farrell
Nigel Findlay-Shirras
Allen Finley
William Flexer
Koto Furue
Sylvain Gagné
Micheal Gallagher
Adrian Gelb
Julie Germain
Rosaire Giroux
Marion Gould
Marianne Graham
Allison Gray
Ronald Gregg
Hilary Grocott
Mahesh Guntamukkala
Margaret Haig
Philip Hamilton
Cynthia Henderson
Donald Hickey
Chris Hinkewich
Denis Hogan
David Hook
Patricia Houston
Patricia Johnson
Thomas Johnson
Henri Joncas
Ramona Kearney
Shirley Korman
Mark Kostash
Pascal Labrecque
Josée Lavoie
Kenneth LeDez
Serge Lenis
Martin Lessard
Mark Levine
Elizabeth Ling
Theo Lombard
Simon Lucy
Peter MacDougall
Peter MacEwen
Renwick Mann
Pirjo Manninen
David Mark
Andrew Maykut
Magdalena McGinley
David McKnight
Duncan McLuckie
Richard Merchant
Bethann Meunier
David Morison
Donald Morrison
Philipp Mossdorf
Jorge Antonio Rocha Mota
Brian Muirhead
Tim Mullen
Michael Murphy
Patti Murphy
Kimmo Murto
Vinod Nair
David Neilipovitz
Victor Neira
John Oyston
Desiree A Persaud
John Petrasek
Brian Price
Jeremy Pridham
Yasmin Rajan
Ian Randall
Erin Ray
Desigen Reddy
Dennis Reid
Rick Retallick
Philippe Richebe
John Riendl
Douglas Seal
Guylaine Seguin
Subash Sethi
Shane Sheppard
Frank Shiffman
Romesh Shukla
Alexander J Shysh
Christopher Sims
Kari Smedstad
Catherine Smyth
William Splinter
Jami Sridhar
Sarah Stevens
Tom Suhadolc
Summer Syed
Roger H Tiede
Kim Turner
Hamed Umedaly
Johann Van Der Vyver
Janet Van Vlymen
Jacques Villeneuve
Anne Katling Wong
Rajalaxmi Wong
Joseph Woo
Carine Wood
Isabel Woodhouse
Desmond Writer
Linda Wynne
Doreen Yee
Masaru Yukawa
Wing Ko Yung
Jorge Zamora
Naeem Zubair

Sponsors Commanditaires

American Anesthesia Society
Canadian Anesthesiologists' Society
Chef Aldo Halifax NS
European Society of Regional Anesthesia
Let's Eat Personal Chef Services – Kerina Dykstra
New York School of Regional Anesthesia
Oyster Bay Wineries Western Canada
Scotia McLeod – The Chung Group.
Telefelex Canada

ACUDA: WHAT IS IT AND WHAT DOES IT DO FOR ANESTHESIA IN CANADA?

BY: DR ROANNE PRESTON, FRCPC, ACUDA PRESIDENT

ACUDA (Association of Canadian University Departments of Anesthesiology) draws its membership from the 17 Canadian universities with anesthesia residency training programs.

There are five committees—the Management Committee and four subcommittees of 17 members each and with one from each University Department—constituting the "membership" (~85 total members). The five committees are:

- Management Committee: comprised of the 17 Department Chairs, the President of the CAS, the Editor-in-Chief of the *Canadian Journal of Anesthesia*, and the Chair of the Royal College Specialty Committee in Anesthesiology
- Post-graduate Education Committee: called simply the "Education Committee" by some people and comprised of the Residency Program Directors
- Undergraduate Medical Education Committee
- Continuing Education and Professional Development Committee (CEPD)
- Research Committee

The ACUDA Executive is drawn from the Management Committee membership, with each position serving a two-year term. The current Executive members are:

- President - Dr Roanne Preston, University of British Columbia
- Vice President and Chair of Management Committee - Dr Jeremy Pridham, Memorial University
- Secretary Treasurer - Dr Peter Moliner, University of Sherbrooke
- Past President - Dr Davy Cheng, Western University

The mission of ACUDA is to develop and support the academic agenda for university departments of anesthesiology, which naturally includes residency training, undergraduate education, research and CEPD. The National Curriculum in Anesthesiology, Canadian National Anesthesia Simulation Curriculum (CanNASC), and Resident LogBook are recent "projects" that ACUDA has been involved in creating and/or supporting.

CURRENT ACUDA ACTIVITIES

The Perioperative Anesthesia Clinical Trials (PACT) Group, which has been supported by the ACUDA Chair in Halifax, has recently become a subcommittee of ACUDA. PACT has published its first randomized control trial. PACT was developed to support perioperative research in Canada, and it is more than a clinical trials group. PACT also mentors developing researchers and is engaged in the production of systematic reviews.

Competency-based residency education (CBD): Anesthesiology is currently scheduled to "come online" in July 2017 is transforming its 17 residency training programs to ones based on competency assessment versus the current time-based training. The University of Ottawa started its program in 2015 and Halifax in 2016, each piloting a variant of a CBD-based residency program. All residency program directors have been working together to develop the milestones and entrustable professional activities (EPAs) that will create the framework for our residency training programs. All teaching faculty will need to engage in some professional development activities around understanding how residency assessment will change, as well as learning some new techniques for assessment.

ANESTHESIA ASSISTANTS IN CANADA

ACUDA is part of the CAS committee that is working with the Canadian Society of Respiratory Therapists on developing a common national evaluation and certification method for Anesthesia Assistants (AAs), and subsequently the accreditation of training programs for AAs.

For more information about ACUDA, check out our web page hosted on the CAS website at: www.cas.ca/English/ACUDA.

2016 MEDICAL STUDENT FIRST PRIZE PAPER
FROM ARROW TIPS TO SYRINGE NEEDLES

Steven Lee Long

Michael G DeGroote School of Medicine
McMaster University, Hamilton, ON

With a piercingly fast exhale, the dart rips down the hollow of the zarabatana, nicking the Amazonian spider monkey only along its flank. But it's enough. The animal quickly loses the steadfastness in its flee. Within minutes, it becomes fully paralyzed, toppling limp out of the canopy as its last breath is lost to the surrounding air.

Smothered in a dark viscid paste prepared from the Strychno toxifera plant of the Amazon rainforest, this dart symbolizes one of the earliest uses of curare. Little could anyone have predicted that this poison would one day serve as the basis for one of the most important drugs in modern anesthesia. In fact, it was a Canadian anesthesiologist who first demonstrated the perioperative use of curare—a discovery that revolutionized the operating room. This paper will take the reader on a journey through time, describing the clinical development of modern-day muscle relaxants from curare.

500 YEARS AGO, the first written account of curare was made by Pieter Martyr, an Italian gossip columnist of his time.[1] He wrote fantastical accounts of the travels of explorers, recently returned from the New World. Amongst these chronicles were descriptions of curare being prepared by elderly people, who in the process, risked being found "lying on the ground half dead from the fumes of the poison."[2] A potent concoction, this arrow poison was used for thousands of years by South American indigenous peoples for hunting and witchcraft.[3] While the active ingredient was the boiled-down bark of the Strychno toxifera or Chondrodendom tomentosum plants, it was also laced with animal venoms and other plant products.[4,5]

Throughout the 19th century, curare began to emerge in the scientific realm, as naturalists and explorers grew increasingly interested in studying its physiologic effects. A series of macabre experiments involving small animals injected with the toxin described how the heart continued to beat even when respiration ceased. If air was forced into the lungs artificially, the animal could be kept alive until the drug wore off.[6] In 1856, Bernard hypothesized that this occurred because the drug antagonized transmission at the neuromuscular junction of voluntary muscles, without affecting the heart or smooth muscles.[7] This principle would be key to its later applications.

It was not until the late 1930s that curare was first used in clinical medicine as an adjunct for psychiatric treatments.[8] Incostrin, the purified pharmaceutical form, was given during electroconvulsive therapy to soften seizures and reduce trauma, with good results.[9] An American anesthesiologist, Dr. Lewis H. Wright, took interest in this development and began contemplating an application for Incostrin in the operating room. At the time, common anesthetics, like cyclopropane, ethylene, and barbiturates, did not achieve adequate muscle paralysis. As a result, unconscious patients exhibited unintentional muscle contractions, which compromised operating conditions. If muscle relaxation was indeed required, this could only be achieved with deep inhalational anesthetics—a dangerous technique associated with prolonged cardiac and respiratory depression. Wright reasoned that using a separate drug like Incostrin might resolve this issue. However, in 1940, many of his colleagues scoffed at the suggestion of using an indigenous arrow poison in the operating room.[10] The few who initially entertained the idea soon abandoned it after early animal trials.[3,10]

Dr. Harold Griffith was a Canadian anesthesiologist who would see things differently. As one of the anesthetists approached by Wright in 1940, Griffith started putting serious consideration into curare over the next few years. A quiet, humble, and highly accomplished anesthesiologist practicing in Montreal, Griffith always found himself at the frontiers of the field. He was the first to administer cyclopropane anesthetic in Canada,[11] and would soon be the first to introduce postoperative recovery rooms into Canadian practice.[9] With this pioneering resumé, it is no surprise that after two years of discussion with Wright, Griffith courageously decided to begin clinical trials of perioperative Incostrin in 1942. He reasoned that if psychiatrists had been using it safely, so too could anesthetists who were trained in managing its most common side effect, namely respiratory paralysis.

On January 23, 1942, Griffith and his resident [Enid] Johnson introduced the surgical world to the paralyzing properties of curare. They administered Incostrin to a 20-year-old man undergoing surgery for chronic appendicitis. Complete relaxation of the abdominal muscles was achieved safely and reversibly. Griffith proceeded to use Incostrin in 24 more patients before publishing his most famous case series, where he begins memorably with: "Every anesthetist has wished at times that he might be able to produce rapid and complete muscular relaxation in resistant patients under general anesthesia."[12] This report marked the advent of a paradigm-shifting practice: controlled muscle relaxation during surgery. Soon after Griffith's landmark publication, a rush of articles began to fill the literature,[3] until the principle gained widespread acceptance among the global anesthesia community.

There are a number of reasons why muscle relaxation has since revolutionized surgery. It has minimized muscle rigidity, facilitating both intubation and surgical working conditions.[13]

continued on page 18

continued from page 17

In intra-abdominal surgery, paralysis has assisted with surgical exposure; in delicate procedures like ophthalmic or neurosurgery, it has prevented potentially detrimental patient movement. In addition to eliminating the need for dangerously high dose inhaled anesthetics, muscle relaxants have enabled the dawn of longer and more complex surgery, including cardiothoracic and organ transplant procedures. Therefore, some 100 years after the famous demonstration of ether anesthesia by Morton at Massachusetts General Hospital, Dr. Griffith's use of Incostrin emerges as the next historical pillar in the formative years of anesthesiology. Arguably the greatest Canadian contribution to the specialty and one that has vastly expanded the surgical horizon, it is no wonder that historians divide anesthesiology into eras "before and after Griffith."[14]

It is noteworthy, however, that the acceptance of curare into everyday anesthetic practice was not without resistance. Two years after Griffith's milestone, a controversial audit published in 1954 by Beecher and Todd stands out as a prominent example. Beecher and Todd studied surgical outcomes at ten major North American hospitals and showed that muscle paralysis was associated with a six-fold increase in anesthetic mortality.[15] Some argued that this increase in mortality reflected the improper use of mechanical ventilation and reversal agents available at the time. Nonetheless, this early paper identified the real dangers of paralysis and led to some important corollaries. Anesthesiologists had to reassess their practice of muscle relaxation and address risks, which continue to shape the practice today. New curare-like drugs with more favourable pharmacological properties have replaced Incostrin and practice guidelines have been established to standardize administration and post-operative care.[16,17] These improvements have now made muscle paralysis a widely accepted tool in the operating room, albeit one that requires significant training and skill.

Today, muscle relaxation is achieved with a class of pharmaceuticals known as the neuromuscular blocking agents (NMBAs). While curare was the only option some 70 years ago, the modern day anesthesiologist faces a choice among various designer drugs of curare-like origin: cisatracurium, rocuronium, pancuronium and succinylcholine to name a few. Each has a differing pharmacokinetic, pharmacodynamic, and side effect profile, allowing drug selection to be customized to the operation at hand. To add to this armamentarium, there are reversal agents known as anticholinesterases, which can be used to minimize the risks of residual paralysis. Nerve stimulators are further employed to monitor the degree of muscle relaxation and best titrate effects.

In spite of this complexity, it is not to be forgotten that the modern era of muscle relaxation stems from a story that is much more profound and long-standing. The history of curare lends itself to vivid portrayal, from South American hunting poison to mainstay medication in the current operating theatre. Its use in anesthesiology has allowed patients to undergo increasingly complex procedures more safely and with faster recovery. Today, new pharmaceutical research and improved monitoring techniques continue to shape the anesthetic practice of neuromuscular blockade, but the journey of this medication thus far, from arrow tips to syringe needles, must not be overlooked.

The 21st century anesthesiologist gently places the oxygen mask on the patient's face, as instructions are given to "take a few deep breaths in". Syringes approach the intravenous line, through which various medications are injected, one after the other like the pistons in a car. The last of these syringes is a translucent fluid labelled 'Rocuronium 10 mg/mL'. A seemingly innocuous mixture, this powerful intubating dose of muscle relaxant paralyzes the patient and allows the anesthesiologist to assume full responsibility for their care—to subsequently regulate their breathing and vital functions. This power and extreme responsibility is a privilege few other physicians experience and one that has been hundreds of years in the making.

1 *Raghavendra, T. Neuromuscular blocking drugs: discovery and development. J R Soc Med. 2002 Jul;95:363-367*

2 *Martyr Pd'A. De Orbe Novo (1516 Latin). Translation by FA Mainutt. New York, GP Putnam's Sons, 1912, vol 1, p 75*

3 *Betcher, AM. The Civilizing of Curare: A History of Its Development and Introduction Into Anesthesiology. Anesth Analg. 1977 Mar-Apr;56(2):305-19*

4 *Bisset, NG. War and hunting poisons of the New World. Part 1. Notes on the early history of curare. J Ethnopharmacol. 1992 Feb;36(1):1-26*

5 *Shibamoto T, Bjeldanes LF. Introduction to Food Toxicology. 2nd ed. Oxford: Elsevier; 2009*

6 *Brodie, BC. Further Experiments and Observations on the Action of Poisons on the Animal System. Phil Trans R Soc Lond. 1812 Jan;102:205-227*

7 *Bernard C. Analyse Physiologique des Proprietes des Actions de Curare et de la Nicotine sur Systemes Musculaire et Nerveux au Moyen du Curare. Compt Rend. 1856;43:305-319*

8 *Bennett, AE. A history of the introduction of curare into medicine. Anesth Analg. 1968 Sept-Oct;47(5):484-92*

9 *Bennett, AE. Preventing traumatic complications in convulsive shock therapy by curare. JAMA. 1940;114(4):322-324*

10 *Sykes, K. Harold Griffith Memorial Lecture. The Griffith Legacy. Can J Anaesth. 1993;40(4):365-74*

11 *Griffith, HR. Cyclopropane Anesthesia: a clinical record of 350 administrations. Can Med Assoc J. 1934 Aug;31(2):157-160*

12 *Griffith HR, Johnson E. The use of curare in general anesthesia. Anesth. 1942 Jun;3(4):418-420*

13 *Ledowski, T. Muscle relaxation in laparoscopic surgery: what is the evidence for improved operating conditions and patient outcome? A brief review of the literature. Surg Laparosc Endosc Percut Tech. 2015 Aug;25(4)281-5.*

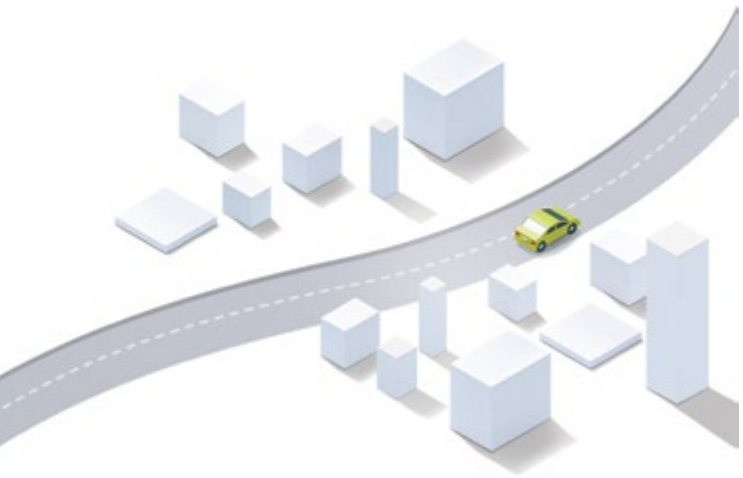
14 *Cohen, L. An anesthetist of a different order. Can Med Assoc J. 1999 Jan;160(1):160*

15 *Beecher, HK, Todd, DP. A study of the Deaths Associated with Anesthesia and Surgery. Ann Surg. 1954 Jul;140(1):2-34*

16 *Merchant R, Chartrand D, Dain S, et al. Guidelines to the Practice of Anesthesia – Revised Edition 2016. Can J Anesth 2016;63:86-112*

17 *Apfelbaum JL, Silverstein JH, Chung FF, et al. Practice guidelines for postanesthetic care: an updated report by the American Society of Anesthesiologists Task Force on Postanesthetic Care. Anesth. 2013 Feb;118(2):291-397.*

DRIVE CAREFULLY AND SAVE WITH THE AJUSTO PROGRAM OFFERED BY THE PERSONAL



The Personal is committed to making our roads safer by offering **Ajusto**®. You can now enjoy the benefits of this usage-based insurance program right on your smartphone to help you monitor and improve your driving habits.

ajusto

SIGN UP FOR THE AJUSTO PROGRAM AND FOLLOW THESE 3 EASY STEPS

GET IT ON Google play

Download on the App Store

Works on Apple Watch with an iPhone

STEP 1

Download the app

STEP 2

Drive carefully

STEP 3

Save up to 25%

Save up to 25% on your auto insurance premium at renewal, in addition to your exclusive group rates.

Sign up for the Ajusto program today! Get a quote.

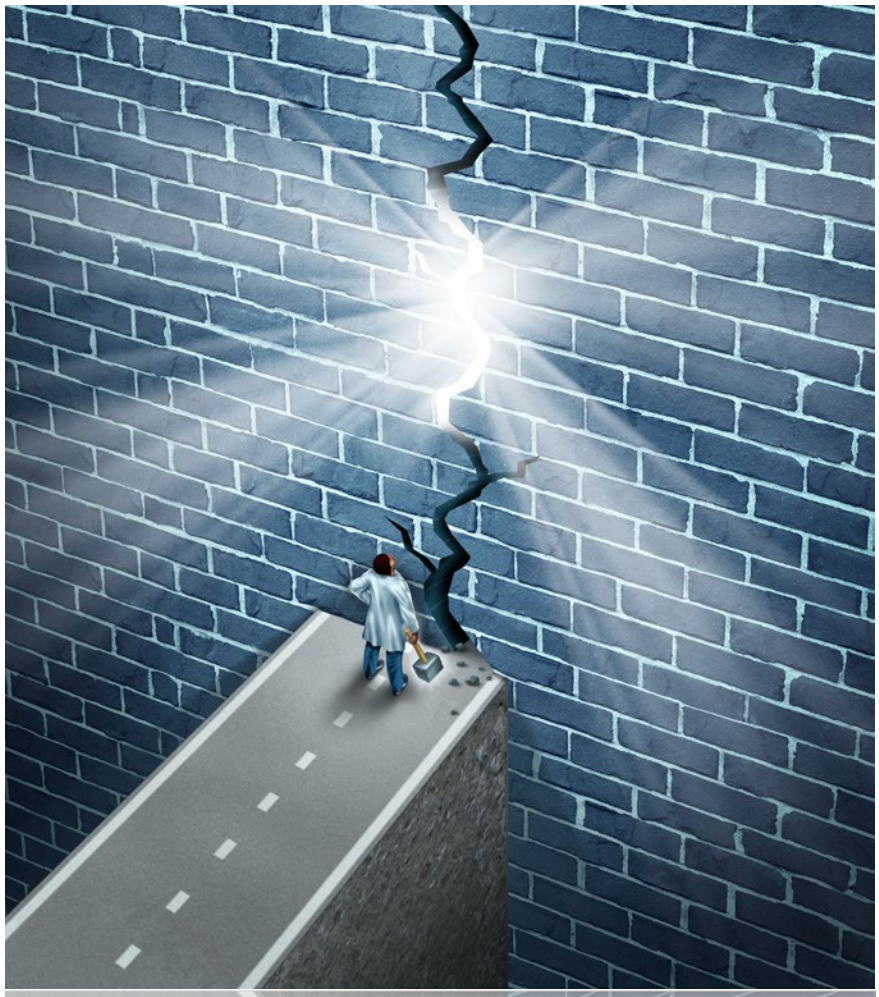
thepersonal.com/ajusto

1-888-476-8737

thePersonal

Home and Auto Group Insurer

CANADIAN ANESTHESIOLOGISTS' SOCIETY · SOCIÉTÉ CANADIENNE DES ANESTHÉSIOLOGISTES



INTRODUCING THE LATEST BREAKTHROUGH IN ANESTHESIA RESEARCH: YOU.

CARF
Canadian Anesthesia Research Foundation
La Fondation canadienne de recherche en anesthésie

When you give to the Canadian Anesthesia Research Foundation, you invest in the future of our Specialty.

Please donate when you renew your CAS membership.

Together, we can transform the future.

BRIDGING THE ELEMENTS

PERTH

7-10 OCTOBER 2017

Australian Society of Anaesthetists
National Scientific Congress

SAVE THE DATE

7-10 OCTOBER 2017

INVITED SPEAKERS

Professor Michael Avidan

Professor, Anesthesiology, Washington University.Director, Institute of Quality Improvement, Research and Informatics (INQUIRI) and Division Chief, Cardiothoracic Anesthesiology.

A/ Professor Marjorie Stiegler

A/ Professor of Anesthesiology at the University of North Carolina, Director of the Consortium for Anesthesiology Patient Safety and Experiential Learning.

Dr Philipp Lirk

Attending Anesthesiologist at the Academic Medical Center, University of Amsterdam. Head of Regional Anesthesia Service, he is also in charge of two international academic exchange programs.

Professor David Story

Foundation Chair of Anaesthesia at the University of Melbourne; and Head of the Anaesthesia, Perioperative and Pain Medicine Unit. Senior Investigator, ANZCA Clinical Trials Network

For all enquiries please contact
Denyse Robertson, Senior Events Coordinator
E: drobertson@asa.org.au

www.asa2017.com.au

Canadian Anesthesiologists' Society

Anesthesia News is published by the Canadian Anesthesiologists' Society (CAS).

CAS welcomes comments and suggestions from readers.

Publisher:
Canadian Anesthesiologists' Society
1 Eglinton Avenue East, Suite 208
Toronto, ON, Canada M4P 3A1

Editor-in-Chief:
Dr David McKnight

Managing Editor:
Andrea Szametz

Design and Production:
Fusion Design Group

Email: anesthesia@cas.ca
Fax: 416-480-0320
Phone: 416-480-0602

WWW.CAS.CA