



WHAT'S INSIDE

- 1 President's Message
- 2 CAS Annual Report and Audited Financial Statements Available Online
- 3 2015 Annual Meeting Showcases Education and Networking
- 3 Congratulations to the Winner of the Evaluations Draw
- 4 CAS Annual Meeting Enhancements Well Received
- 5 Lucie's LEGO Attracts a Lot of Attention
- 5 CARF Raffle Raises \$4,000+
- 6 In Search of Excellence
- 7 The Self Assessment Program from the *Canadian Journal of Anesthesia* —CPD Online

NEWS

- 8 Historic World Health Organization Resolution Unanimously Passed
- 8 Choosing Wisely Canada Update
- 9 CAS IEF Donors
- 10 CAS IEF Update
- 11 Burkina Faso Needs Your Help
- 12 2015 Medical Student First Prize Paper
- 14 Board Update
- 15 The History of Pediatric Anesthesia in Canada (A Summary)
- 16 American Society of Anesthesiologists
- 17 The Personal
- 18 CARF

VOLUME 30
NUMBER 3
SEPTEMBER
2015

www.cas.ca

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

ANESTHESIA NEWS

PRESIDENT'S MESSAGE



CAS members should now be familiar with our proactive efforts in the Choosing Wisely Canada (CWC) campaign. I am pleased to report that it continues to gain momentum and the official launch of the CAS "Five Things Physicians and

Patients Should Question" has been confirmed for this September. This is a huge step forward.

Initiated by CWC, the list for Canadian anesthesiologists garnered input from across Canada and has been approved by CAS (to view the full list, see the Choosing Wisely Canada Update on page 8). The next important steps in this campaign include broader and deeper engagement with anesthesiologists across Canada. I believe that in principle we are all "on the same page" and our profession's discussions and efforts will be supportive of the ongoing dialogue.

Specifically, let's look at one of the items on our list:

#2: Don't order a baseline electrocardiogram for asymptomatic patients undergoing low-risk non-cardiac surgery

As an example, in my hospital there is a long list of indications for a pre-operative ECG. According to those indications, every patient over 40 years old gets an ECG within 90 days of surgery even if they are in perfect health. I was one of those individuals a couple of years ago when I had shoulder surgery. I'm healthy and didn't think it was necessary. Neither did the anesthesiologist looking after me.

From an anesthesiologist's viewpoint, this extensive list of indications for an ECG means patients who do not require an ECG in fact get one because of policy – and not because of a valid medical indication. ECGs do give us useful information and help us give quality care to many patients – when we choose wisely.

At my hospital, I'm going to be having conversations around choosing pre-operative tests wisely. I invite you to do the same with your colleagues at your hospital. Stay tuned to the CAS website for information and resources designed to help you advocate for Choosing Wisely.

Dr Susan O'Leary, FRCPC

CAS Annual Report and Audited Financial Statements Available Online

Member portal: Reference documents/
Annual Reports and ABM minutes
<http://www.cas.ca/Members/Documents>



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:

- Dr O'Leary on Twitter at @Susanolearynl
- CAS on Twitter at @CASupdate
- Join the conversation with #CAS_SCA2015
- CAS on Facebook:
facebook.com/CanadianAnesthesiologistsSociety

2015/2016 BOARD OF DIRECTORS

EXECUTIVE COMMITTEE

President

Dr Susan O'Leary, Outer Cove

Past President

Dr Patricia Houston, Toronto

Vice-President

Dr Douglas DuVal, Edmonton

Secretary

Dr David McKnight, Toronto

Treasurer

Dr François Gobeil, Boucherville

DIVISIONAL REPRESENTATIVES

British Columbia

Dr Sukhpal Brar, New Westminster

Alberta

Dr Michael Cassidy, Calgary

Saskatchewan

Dr Ian Lund, Saskatoon

Manitoba

Dr Eric Sutherland, Winnipeg

Ontario

Dr Paul Tenenbein, Toronto

Quebec

Dr Jean-François Courval, Dorval

New Brunswick

Dr Ashley O'Brien, Rothesay

Newfoundland and Labrador

Dr Jeff Cole, Grand Falls Windsor

Nova Scotia

Dr George Kanellakos, Halifax

Prince Edward Island

Dr Haythem Yousif, Charlottetown

Resident Representative

Dr Kaitlin Duncan, Ottawa

ACUDA President

Dr Michael Murphy, Edmonton

INVITED GUESTS

Interim Executive Director

Randa Fares

CARF Chair

Dr Doreen Yee, Toronto

CAS IEF Chair

Dr Brendan Finucane, Edmonton

CJA Editor-in-Chief

Dr Hilary Grocott, Winnipeg

RCPSC Representative

Dr Michael Sullivan, Aurora

You may contact members, representatives and invited guests of the Board of Directors through the CAS central office.

Editor-in-Chief

Dr Salvatore Spadafora

Managing Editor

Andrea Szametz

Design and Production

Fusion Design Group



Canadian Anesthesiologists' Society

www.cas.ca



2015 ANNUAL MEETING SHOWCASES EDUCATION AND NETWORKING

CAS expresses its appreciation to the many people who contributed to the success of the Annual Meeting in Ottawa. From the members of the Annual Meeting Committee and the Local Arrangements Committee to the presenters, moderators, exhibitors, sponsors, organizers and volunteers, a sincere “thank you” to everyone.



VIEW CAS ANNUAL MEETING PHOTOS ONLINE...

Photos of the 2015 CAS Annual Meeting can be found on our Facebook page at: <https://www.facebook.com/CanadianAnesthesiologistsSociety>

If you would like a high resolution version or a set of photos, please note the number of the picture(s) you want and send an email request to webservices@cas.ca

CONGRATULATIONS TO THE WINNER OF THE EVALUATIONS DRAW



The winner of the iPad is **Dr Konya Sriram** of Prince Albert, Saskatchewan. He is a “first-time” winner who is especially delighted in now being able to give up his eight-year old computer.

“I use my computer only for work-related research at the hospital such as reading articles for my continuing education. It was a real pleasure to attend the CAS Annual Meeting, which is an excellent opportunity to learn and take part in discussions with colleagues.”



VANCOUVER
CAS ANNUAL MEETING 2016

JUNE 24 – 27

2016 CAS Annual Meeting: Vancouver, British Columbia

Set against majestic mountains and the ocean, Vancouver has much to offer visitors – spectacular sights and attractions, outstanding live entertainment and sporting events, world class shopping and more...

Mark your calendar and plan to join us at the **2016 Annual Meeting** from **June 24 – 27**.

CAS ANNUAL MEETING ENHANCEMENTS WELL RECEIVED POSITIVE FEEDBACK FROM ATTENDEES

BY: JANE TIPPING, MAEd, EDUCATIONAL CONSULTANT

In 2015, the Annual Meeting Working Group (AMWG) continued to look for opportunities to enhance the learning experience for attendees. Based on the positive feedback from attendees at the 2014 Annual Meeting in St John’s, the AMWG continues to be engaged and active.

The following is a summary of enhancements offered to attendees at the 2014 and 2015 Annual Meetings.

2014 Enhancements to the Annual Meeting

- Use of timing lights to help speakers stay on schedule
- Creating feedback forms for the workshops, thereby enabling participants to claim Royal College Section 3 credits for attending
- Providing conference-wide Wifi
- Offering individual coaching for speakers

2015 Enhancements to the Annual Meeting

- Use of peer observers to provide detailed non-evaluative feedback to speakers on specific presentation skills
- Development of a module for moderators on tips for increasing audience engagement, keeping speakers on track, and dealing with challenging situations. By working through the module, Royal College Section 3 credits can be earned
- Use of Poll Everywhere in several sessions – a simpler form of audience response system that allows more participation from the audience and is also capable of storing data for future development of topics of interest to the audience
- Use of electronic evaluations
- Use of Go To Webinar, which increased distance participation for members unable to attend the meeting in person

Stay tuned!

LUCIE'S LEGO ATTRACTS A LOT OF ATTENTION



Dr Lucie Filteau



LEGO model of The Ottawa Hospital's façade created by Dr Filteau



Lucie's LEGO creations can be seen at: <https://www.flickr.com/photos/luciefilteau/albums>

The model anesthesia machine on display at the CARF booth attracted plenty of attention and discussion – and, if you looked closely, it was made of LEGO. Made by CAS member, Dr Lucie Filteau, the model included “at least” 800 LEGO bricks (Lucie lost count!) and took 55 – 60 hours over four months to build.

In her professional life, Lucie is an anesthesiologist in the Department of Anesthesia at The Ottawa Hospital. At home, she is raising two active boys, Alex and William, with her husband, Michael Gale.

About 18 months ago, Lucie realized the boys were spending increasing amounts of their spare time with her husband in the family's LEGO room. She was looking for an opportunity for quality family time where everyone could be together.

“I hadn't done anything creative for many years and wanted to hang out with the boys,” recalls Lucie. “LEGO is fun and exciting. You can create something unique and flexible, then take it apart and make something new.”

For her first “large” project, Lucie drew on The Ottawa Hospital's façade for inspiration. She created a LEGO structure and the hospital was so delighted with her creation, it was prominently displayed at the hospital during its 90th year anniversary. Other projects followed as Lucie's dexterity and skills with LEGO continue to increase. The family regularly attends LEGO conventions around the world and with Michael's current view count of over 2.5 million on social media, they are well connected.

What's on the horizon for Lucie and LEGO?

“I belong to a local LEGO building club, called ParLUGment (“LUGs” = LEGO User Groups). We're planning to build 150 LEGO creations that reflect “Canadiana” to display during the 2017 Confederation celebrations. LEGO really isn't just for kids!”

The LEGO anesthesia machine generated plenty of attention for CARF's raffle

CARF RAFFLE RAISES \$4,000+

Created and donated by CAS member, Dr Lucie Filteau, the impressive LEGO anesthesia machine being raffled at the CARF booth in the Exhibit Hall at the CAS Annual Meeting attracted a lot of attention and sold many tickets.

Congratulations to Dr Gregory Hare (St Michael's Hospital, Toronto) who was the lucky winner and “thank you” to all who donated and helped CARF to raise over \$4,000.



IN SEARCH OF/À LA RECHERCHE DE L' EXCELLENCE



**Gold Medal
Médaille d'or**

Dr Davy Cheng
London, ON



**Research Recognition
Mérite en recherche**

Dr Ban Tsui
Edmonton, AB



**Clinical Teacher
Enseignement clinique**

Dr Eric Jacobsohn
Winnipeg, MB



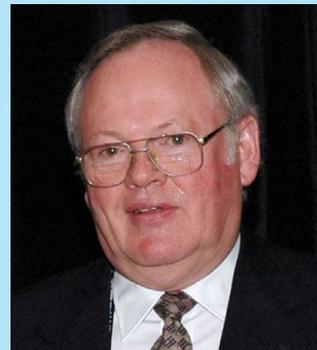
**Clinical Practitioner
Pratique clinique**

Dr Frederick Baxter
Hamilton, ON



**John Bradley Young Educator
Jeune éducateur John-Bradley**

Dr Barton Thiessen
St Johns, NL



**Emeritus Member
Membre émérite**

Dr John Cowan
Ottawa, ON

The **2016 Call for Nominations** is posted on the CAS website under **"Awards and Grants"**.

L'appel **de candidatures 2016** 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 23 / Le 23 octobre 2015

visit / visitez
www.cas.ca

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

CPD MODULE (NEW): Managing the challenging pediatric airway
September 2015

ALSO AVAILABLE

- 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
- Bedside clinical and ultrasound-based approaches to the management of hemodynamic instability – Part I: focus on the clinical approach
September 2014
- Cesarean delivery under general anesthesia
May 2014
- Impact of anesthesia for cancer surgery
December 2013
- Perioperative considerations for neurosurgical procedures in the gravid patient
November 2013

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:



COVIDIEN

HISTORIC WORLD HEALTH ORGANIZATION RESOLUTION UNANIMOUSLY PASSED

World Health Organization (WHO) resolution 68/31 on “Strengthening emergency and essential surgical care and anaesthesia as a component of universal health coverage” was unanimously approved at the 68th World Health Assembly.

This historic resolution will help open the door to national capacity building, health systems strengthening and overall greater prioritization of essential surgical and anaesthesia care for those in need, often at the community and district hospital level.

Many Member States formally sponsored the resolution. Numerous organizations, including the World Federation Of Societies of Anaesthesiologists, were involved in a consultative status with the WHO and made official statements during the session in support of the emergency and essential surgical care and anaesthesia resolution.

To read the resolution, go to: http://apps.who.int/gb/ebwha/pdf_files/EB136/B136_CONF1-en.pdf



CHOOSING WISELY CANADA UPDATE

CAS' TOP 5 RECOMMENDATIONS

Choosing Wisely Canada (CWC) is a campaign to help physicians and patients engage in conversation about unnecessary tests, treatments and procedures, and to make smart and effective choices to ensure high-quality care. CAS has been actively engaged in responding to CWC's request to all Canadian national specialty societies in helping to develop a list of “Five Things Patients and Physicians Should Question”.

“We fully support the notion of the best anesthesia care for patients while simultaneously ensuring effective use of our health care resources,” says CAS President, Dr Susan O’Leary. “CAS’ involvement in this campaign is in the best interests of both our members and our patients, and we are very pleased to have identified our ‘Top 5’ list.”

The “Top 5” list has spurred conversation among anesthesiologists as to what are appropriate and necessary tests, treatments, and procedures. Five pre-operative investigations came out on top during the first CAS survey for Choosing Wisely. Anesthesiologists and perioperative health practitioners in Canada will be guided by this list, which is being coordinated through CAS in accordance with the following principles articulated by CWC:

- The development process is thoroughly documented and publicly available.

- Each recommendation is within the specialty’s scope of practice.
- Tests, treatments or procedures include those that are (a) frequently used and (b) do not expose patients to harm or stress.
- Each recommendation is supported by evidence.

The CWC forum at the CAS Annual Meeting in Ottawa presented the evidence for the recommendations and generated valuable discussion. Since then, the CAS Choosing Wisely team has been fine-tuning the “Top 5” recommendations and drafting the supporting strategies for implementation. In due course, the CAS Divisions and other stakeholders will be solicited for their input – all with the goal of meeting CWC’s official release in September.

Stay tuned!

Five Things Physicians and Patients Should Question

1. Don’t order baseline laboratory studies (complete blood count, coagulation testing or serum biochemistry) for asymptomatic patients undergoing low-risk non-cardiac surgery.
2. Don’t order a baseline electrocardiogram for asymptomatic patients undergoing low-risk non-cardiac surgery.
3. Don’t order a baseline chest x-ray in asymptomatic patients, except as part of surgical or oncological evaluation.
4. Don’t perform resting echocardiography as part of pre-operative assessment for asymptomatic patients undergoing low to intermediate-risk non-cardiac surgery.
5. Don’t perform cardiac stress testing for asymptomatic patients undergoing low to intermediate risk non-cardiac surgery.

DONORS

From May 2014 to April 2015



Canadian Anesthesiologists' Society
International Education Foundation

Patrons (\$1,000+)

Anthony Boulton	David Boyle	Martin Shine	John Chisholm	Serge Lenis	Rick Retallick
Francesco Carli	David Bracco	Lesley Anne Sinclair	John Clark	Elizabeth Ling	John Riendl
Angela Enright	Alan Chu	M Heather Smith	Richard Cooper	Charles MacAdams	David Rosen
Brendan T Finucane	Thomas Coonan	Aviva Stewart	Robin Cox	Alison Macarthur	Douglas Seal
Brent Kennedy	Jan Davies	William A Tweed	Larry Dallen	Peter MacEwen	Guyline Seguin
Patricia Livingston	Kathryn DeKoven	Kristine Urmson	Alezandre Dauphin	Pirjo Manninen	Gavin Semelhago
Louise and Alan Edwards Foundation	Claire Dionne	Martin Van Der Vyver	Hélène Deslippe	David Mark	Shervin Shahabi-Gharib
New Brunswick Section of Anesthesia	Douglas DuVal	Paul Westacott	Wojciech Dobkowski	Carmel Martin	Lorne Shaw
Saifudin Rashiq	Gordon Edwards	Sharon Wiens	Paul Doiron	Daniel Martin	Shane Sheppard
Paul Slavchenko	Henry Ekwueme	Julie Williams	François Donati	Robert McBurney	Frank Shiffman

Leaders (\$500 – \$999)

David Ansley	David Hughes	Friends (Up to \$249)	Andrea Dower	David McKnight	Romesh Shukla
Richard Chisholm	Alayne Kealey	Juan-Francisco Asenjo	Jean-Yves Dupuis	Richard Merchant	Alexander J Shysh
Joel Hamstra	Halina Kieraszwicz	Eric Jagdeo	Charles Eckfeldt	Bethann Meunier	Christopher Sims
Lynn Hansen	James Kim	Balkissoon	Mark Farrell	Stephen Middleton	Peter Slinger
Mark Kataoka	Pradeep R Kulkarni	Sukhjeewan K (Cindy) Basran	Alayne Farries	Rebecca Moga	Kari Smedstad
Patrick J Kelly	Winifred Lloyd-Smith	Michael Bautista	Martina Feierabend	David Morison	Bernard Sowa
Brian Knight	Robert MacNeil	Frederick John Baxter	Nigel Findlay-Shirras	Donald Morrison	William Splinter
Phillip Lalande	Renwick Mann	Philippe Bechard	William Flexer	Brian Muirhead	Shean Stacey
Teddy Lim	Robert Martinek	James Beckstead	Susan French	John Murdoch	Sophie St-Onge
Roger Maltby	Andrew Maykut	Susan Belo	Koto Furue	Janice Mustard	David Storey
Beverly Morningstar	William McKay	Randy Benko	Sylvain Gagné	David Neilipovitz	Tom Suhadolc
Susan O'Leary	Robert McLean	Claire Bernard	Magdi Gaid	Kevin Nolan	Ibrahim Sulaiman
Martine Pirlet	Donald Miller	Harald Bettger	Micheal Gallagher	Elizabeth Oliver	Summer Syed
Robert Seal	Gillian Moll	Darcy Bishop	Julie Germain	Malone	Paul Syslak
Greg Silverman	Thomas Mutter	Jan Piotr Blachut	Rosaire Giroux	Adebusola Onayemi	Jean Taillefer
Ottawa Anesthesia Primer Project	Eding Mvilongo	Jean Blier	David Goldstein	Roland Orfaly	Alexander Tang
Patrick Sullivan	May Ngan	Sylvie Bois	Ronald Gregg	Andrew Owen	Jamie Taylor
Ban Tsui	Thomas O'Leary	Sukhpal Brar	Daniel Groulx	Michael Page	William Taylor
C. Brian Warriner	Catherine Paquet	Joy Brickell	Mahesh Guntamukkala	Marie-Claude Paradis	Roger H Tiede

Supporters (\$250 – \$499)

Gregory Allen	Everard M Phala	Jessica Burjorjee	Philip Hamilton	Katherine Parlee	Kim Turner
John Ascah	Mateen Raazi	Michael Buss	Donald Hickey	Lindsey Patterson	Hamed Umedaly
Laura Baker	Bruce Ramsey	Natalie Buu	Chris Hinkewich	Myriam Paul	Janet Van Vlymen
Colin Bands	Sreevisara Ravinuthala	Robert Byrick	Matthew Ho	John Petrasek	Marcin Wasowicz
Jean Bissonnette	Andrea Rigamonti	Fiona Campbell	John Holmes	Annie Pharand	Davinia Withington
Gregory Bosey	Asoka Samarasena	David Cannell	David Hook	Marie Plamondon	Clinton Wong
	John Scovil	Mark Cheesman	Patricia Houston	Stephanie Power MacDonald	Karen Wong
			Thomas Johnson	Brian Price	Doreen Yee
			Henri Joncas	Jeremy Pridham	Jian Yu
			Henri Kieto Suka Vita	Samir Rafla	Masaru Yukawa
			Marelise Kruger	Ian Randall	Jorge Zamora
			Jennifer Landry	Nikhil Rastogi	Naeem Zubair
			Denis Larochelle	Desigen Reddy	
			Susan Leacock	Dennis Reid	
			Kenneth LeDez		

CAS IEF's Board of Trustees engaged in a strategic planning session at the CAS Annual Meeting in Ottawa this past June. It was well attended by the Trustees and a final report is pending.

We now have 12 Board members with representatives from across the country, including resident representation. This represents a significant increase in the number of Board members from six to 12.

The annual CAS IEF Symposium in Ottawa was well-attended this year and we had three excellent presentations from Drs Dylan Bould, Alezandre Dauphin and Nazinigouba Ouedraogo. Dr Ouedraogo was a visiting professor from Burkina Faso and his presentation was given in French with simultaneous translation into English. All three presentations were very well-received and we had a very enthusiastic question and answer period. The annual CAS IEF dinner was also well attended and Dr Jeffrey Turnbull, this year's speaker, gave an excellent presentation on "Caring for Vulnerable Populations in Canada".

Rwanda continues to be our flagship program and we are pleased to report another very successful year there. We now run this program in co-operation with the American Society of Anesthesiologists Global Humanitarian Outreach (ASAGHO) program and we are planning to send a total of eight volunteer teachers to Rwanda this coming year: four provided by CAS IEF and four from ASAGHO. This program in Rwanda first started in 2006 and has matured into an excellent residency program. Two thousand and sixteen will mark the 10th anniversary of this program, and we anticipate that we will hand over full responsibility for this program to the University of Rwanda in five years.

CAS IEF participated in a field visit to Haiti in March of this year. Representatives from the World Federation Of Societies of Anaesthesiologists, American Society of Anesthesiologists, and CAS IEF were involved and enthusiastically received by the Haitian anesthesia community. The team has pledged to help improve the standard of care and practice of anesthesia in Haiti.

CAS IEF is planning a Safe Anesthesia program in Burkina Faso in November of this year.

CAS IEF is currently exploring the possibility of becoming involved in an emerging anesthesia training program in Guyana. McMaster University is working in co-operation with the Ministry of Health in Guyana to build capacity in this program, and we will keep you informed of any new developments involving CAS IEF in this program.

On behalf of CAS IEF, I would like to take this opportunity to thank our many donors from across Canada for supporting our missions in Africa and other countries. Also, special thanks to the volunteer teachers from Canada and around the world for the great sacrifice they make to share their knowledge with those most in need.

Dr Brendan Finucane, FRCPC
Chair, CAS IEF



BURKINA FASO NEEDS YOUR HELP!

BY: DR ANGELA ENRIGHT, FRCPC

As many of you will remember, CAS IEF had a big fundraising drive a few years ago to provide Lifebox pulse oximeters for Rwanda. Members of the CAS donated so generously that we were able to deliver oximeters to Rwanda, Nepal, and Burkina Faso.

To refresh memories, Burkina Faso is a French-speaking country located in West Africa. It is the world's 3rd poorest country with a population of just over 17 million. The average life expectancy is 56 years, and maternal mortality is about 400/100,000 live births. In their needs assessment for pulse oximetry, they noted that they had 146 operating rooms, 117 of which were without oximeters. In October 2013, I went to Burkina Faso to deliver the oximeters and the teaching to go with them.

As part of that visit, we ran a *Teach the Teachers* course and, recently, I had the pleasure of working with two Burkinabé teachers as we presented the Lifebox course in Niger. CAS IEF also had Professor Nazinigouba Ouedraogo as a visiting speaker at the CAS Annual Meeting in Ottawa. Thus, we are developing an ongoing relationship with them and their three-year old residency training program in anaesthesia.

In December 2015, a team will be going to Burkina Faso to run a SAFE-OB course, sponsored by CAS IEF and the World Federation Of Societies of Anaesthesiologists (WFSA). SAFE-OB (Safer Anaesthesia from Education) is a pre-prepared course on the management of common problems in obstetric anaesthesia. It has been very successful in other countries. Please see the *Canadian Journal of Anaesthesia* (November 2014) for a description of our work on this in Rwanda.

In a follow-up study on oximetry usage in Burkina Faso, they have shown adoption of oximetry in nearly all operating rooms. However, there is a significant lack of oximeters for recovery rooms and other critical areas of the hospitals such as obstetric units, intensive care units, and emergency rooms. The anaesthesiologists of Burkina Faso have asked us if there is any way we could provide them with some more oximeters, particularly for use in their PACUs.

Thus, we are launching a special appeal to the members of CAS to see if we can respond to their need. Lifebox oximeters still cost \$250 US. This would be less than \$1Cdn/day for one year for each of us. All donations can be made to CAS IEF and a tax receipt will be issued. We make a special appeal to the CAS Divisions to support this cause. All donations, no matter how small, or big, are appreciated.

I believe that together we can make this happen. Thank you!



Instructions on how to donate can be found on the CAS website at: <http://www.cas.ca/Burkina-Faso-oximeters>





WHEN STANDARD OF CARE IS NOT ENOUGH: THE TRAGIC HISTORY OF NEONATAL PAIN

BY: HAI CHUAN (CARLOS) YU

“Jeffrey had holes cut on both sides of his neck, another hole cut in his right chest, an incision from his breastbone around to his backbone, his ribs pried apart, and an extra artery near his heart tied off. This was topped off with another hole cut in his left side for a chest tube. The operation lasted 12 hours. Jeffrey was awake through it all. The anesthesiologist paralyzed him with Pavulon, a curare drug that left him unable to move, but totally conscious.”¹

The shocking story of Jeffrey Lawson took place in 1985, a mere three decades ago. By this time, perioperative analgesia for adults was well provided for via the widespread use of morphine, fentanyl, and medications. Moreover, the recognition of the need for pain control during surgery dates back to the mid-19th century with the advent of both chloroform and ether for perioperative analgesia²⁻³. So why was Jeffrey denied pain medication during his surgery more than a century later? Clearly, our understanding of pain in children, and especially newborn infants, was lacking. To understand why, we must go back through the history of pediatric pain.

Experiments examining pain in newborns were underway as early as 1917. Mary Blanton at Johns Hopkins University observed newborns' reactions to having blood drawn, infections laced, as well as pin pricks⁴. In this study, the painful stimuli caused the infants to withdraw, cry, or to be awakened from sleep, leading to Blanton's conclusion that “the reflex and instinctive equipment of the child at birth is more complex and advanced than has hitherto been thought”⁴. While this initial study represented a step in the right direction, subsequent studies would lead physicians astray for decades to come.

A series of studies conducted by Sherman *et al* exposed newborns to needle sticks on their cheeks, thighs, and calves⁵⁻⁷. The authors found that while all infants reacted to the stimuli during the first hour after birth, the infants demonstrated greater reaction to reduced stimuli as they progressed from the 1st to the 12th day after birth. Their findings suggested that newborns at birth are not very sensitive, and become more sensitive as they age. However, these studies failed to account for the anesthetic drugs received during delivery, which would explain the neonatal

depression observed after birth and the subsequent improvement throughout the experiment⁸.

Another seminal study that cemented the idea that newborns could not feel pain was the 1941 study by Myrtle McGraw, whereby infants were tested using pinprick stimulation from birth to four years of age⁹. In her study, McGraw observed “diffuse bodily movements accompanied by crying, and possibly a local reflex”, signs that we now associate with pain and discomfort in any patient. Despite her observations, McGraw concluded that the first 7-10 days of life represented a period of hypesthesia, and that “even when there is sensitivity it is reasonable to assume that neural mediation does not extend above the level of the thalamus”⁹. Unfortunately, the pioneering works of McGraw, Sherman, and others would stand in the way of understanding the reality of pain sensation in newborns, and led to decades of sub-optimal or non-existent pain management in infants.

In addition to the pioneering works of McGraw, Sherman, and colleagues, pervasive beliefs regarding the physiology of newborn babies further contributed to their lack of adequate pain management. For decades, it was believed that infants possessed immature central nervous systems which lacked myelination, and were therefore unable to perceive pain¹⁰. Moreover, analgesia was often withheld due to concerns over their powerful effects on the infant, particularly regarding the potential for respiratory depression¹⁰⁻¹¹. However, evidence contrary to these beliefs had long existed in the medical literature. Pain perception in adults rely on unmyelinated c-fibres and thinly myelinated A δ fibres¹². Thus, even if the infants' CNS were unmyelinated, pain perception remains very much possible. Furthermore, it was known as early as 1983 that pain pathways to the brainstem and thalamus were completely

continued on page 13



continued from page 12

myelinated at 30 weeks of gestation, and the thalamocortical pain fibres in the internal capsule and corona radiata were myelinated at 37 weeks¹³. It stands to reason, then, that newborn babies, even if premature, would be able to perceive some if not all painful stimuli based on the degree of myelination in their CNS. Furthermore, studies on circumcision in the 1970s demonstrated lasting behavioral changes caused by circumcision, which were eliminated by the use of local anesthetics¹⁴⁻¹⁵. This led the researchers to propose that untreated pain could affect neurologic and psychosocial development of neonates, and newer research suggests that pain in pre-term infants could contribute to delays in brain development¹⁶. In 1984, Hickey *et al* described the safe and efficacious use of both fentanyl and sufentanil in infants undergoing cardiac surgery, and extensive research has subsequently surfaced supporting the use of opioid analgesia in infants^{10, 17-18}.

One of the major breakthroughs in our recognition of pain in neonates came in 1985, when Anand *et al* demonstrated that neonates, both term and pre-term, mounted a significant stress response to surgery with minimal anesthesia¹⁹. The study and its authors received much public attention after an article in the *Daily Mail* accused the researchers of withholding anesthesia from the subjects of the study, when in reality the anesthetic regimen used in their study was the standard of care at the time²⁰. While the accusations would later be dropped, the incident allowed the public to become aware that many babies were not receiving analgesia during surgery, and that there were safe ways to provide anesthesia to neonates to manage their pain²⁰. In 1987, Anand and Hickey published a comprehensive review on pain in neonates, discussing the physiological, hormonal, and neural aspects of pain in neonates while unequivocally demonstrating that neonates respond to and may create memories of painful stimuli²¹. The authors concluded their review with a call to

change the practice in managing pain in neonates, stating that "humane considerations should apply as forcefully to the care of neonates and young, non-verbal infants as they do to children and adults in similar painful and stressful situations".

Jeffrey Lawson's heartbreaking story was also pivotal in promoting public recognition of what was an otherwise unknown issue. After Jeffrey's surgery and death shortly after, Jill Lawson, Jeffrey's mother, wrote letters later published in *Birth*, *Perinatal Press*, and the *New England Journal of Medicine* to describe Jeffrey's experiences. Jill and Jeffrey's story captured the public's attention after reaching print in the *Washington Post*, and changed the public's perception forever. The inequity of neonates undergoing surgery without anesthesia was quickly addressed by a joint statement from the American Society of Anesthesiologists and the American Academy of Pediatrics, recognizing the need for and the safety of anesthesia and analgesia, and that the child's age or maturity should not be lead to such interventions being withheld²². This marked the beginning of an important paradigm shift in our understanding of pain in infants, and ultimately laid the groundwork for pediatric pain management today.

The heartbreaking story of Jeffrey Lawson serves as a sobering reminder that what we as the medical community consider to be the gold standard in treatment is not always appropriate, and can harm the patients that we work so hard to help. Far too often, physicians administer treatments to their patients with an undying confidence that the scientific and medical communities have all the answers needed to provide correct, definitive management for our patients. However, our understanding of human physiology and pharmacology is often incomplete and inaccurate, and we are sometimes ignorant of the adverse effects of the treatments we give. Another important point brought up by Lawson's case is the power of culture and the status quo as barricades to change.

continued on page 14

Prior to Jeffrey Lawson's case in 1985, numerous studies had demonstrated both the physiologic basis for the perception of pain in infants and established that the infants' responses, including movements, facial expressions, and crying were in fact indicators of pain. Even in the face of contrary evidence, the standard of practice remained. It wasn't until Anand and Lawson's work led to public outcry that physicians were forced to stop to consider their actions and re-evaluate the growing body of evidence, eventually making the necessary changes to the way they practiced. While the chilling stories of

mistreatment of infants in pain occurred not long in the past, we shouldn't let them become distant memories. Instead, we must take the lessons that we learned from our predecessors' mistakes, and remind ourselves that our understanding of medicine is far from complete. Further, we must not fall into the trap of the status quo, and remain open and receptive to our constantly changing body of knowledge, and incorporate new evidence when justified to continually improve the care that we provide to our patients.

1. Lawson J. Letter. *Birth*. 1986;13:124-125; 2. Artusio JF, Jr. Ether analgesia during major surgery. *J Am Med Assoc*. Jan 1 1955;157(1):33-36; 3. Ramsay MA. John Snow, MD: anaesthetist to the Queen of England and pioneer epidemiologist. *Proc (Bayl Univ Med Cent)*. Jan 2006;19(1):24-28; 4. Blanton MG. The behavior of the human infant during the first thirty days of life. *Psychol Rev*. Nov 1917;24(6):456-483.; 5. Sherman M, Sherman I. Sensori-motor Responses in Infants. *Journal of Comparative Psychology*. 1925;5:53-68; 6. Sherman M. The Differentiation of Emotional Responses in Infants. I. Judgments of Emotional Responses from Motion Picture Views and From Actual Observations. *Journal of Comparative Psychology*. 1927;7(4):265-284; 7. Sherman M, Sherman I, Flory C. Infant Behavior. *Comparative Psychology Monographs*. 1936;12(4):1-107; 8. Maurer D, Maurer C. *The World of the Newborn*. New York: Basic Books; 1988; 9. McGraw M. Neural Maturation as exemplified in the Changing Reactions of the Infant to Pin Prick. *Child Development*. 1941;35(1941):31-42; 10. Hatch DJ. Analgesia in the neonate. *Br Med J (Clin Res Ed)*. Apr 11 1987;294(6577):920; 11. Rees GJ. Anaesthesia in the Newborn. *Br Med J*. Dec 23 1950;2(4694):1419-1422; 12. Schulte F. Neurophysiological aspects of brain development. *Mead Johnson Symp Perinat Dev Med*. 1975;6:38-47; 13. Gilles

F, Leviatan A, Dooling E. *The developing human brain: growth and epidemiologic neuropathology*. Boston: John Wright; 1983; 14. Richards MP, Bernal JF, Brackbill Y. Early behavioral differences: gender or circumcision? *Dev Psychobiol*. Jan 1976;9(1):89-95; 15. Dixon S, Snyder J, Holve R, Bromberger P. Behavioral effects of circumcision with and without anesthesia. *J Dev Behav Pediatr*. Oct 1984;5(5):246-250; 16. Brummelte S, Grunau RE, Chau V, et al. Procedural pain and brain development in premature newborns. *Ann Neurol*. Mar 2012;71(3):385-396; 17. Hickey PR, Hansen DD. Fentanyl- and sufentanil-oxygen-pancuronium anesthesia for cardiac surgery in infants. *Anesth Analg*. Feb 1984;63(2):117-124; 18. Marsh DF, Hatch DJ, Fitzgerald M. Opioid systems and the newborn. *Br J Anaesth*. Dec 1997;79(6):787-795; 19. Anand KJ, Brown MJ, Bloom SR, Aynsley-Green A. Studies on the hormonal regulation of fuel metabolism in the human newborn infant undergoing anaesthesia and surgery. *Horm Res*. 1985;22(1-2):115-128; 20. McGrath PJ. Science is not enough: the modern history of pediatric pain. *Pain*. Nov 2011;152(11):2457-2459; 21. Anand KJ, Hickey PR. Pain and its effects in the human neonate and fetus. *N Engl J Med*. Nov 19 1987;317(21):1321-1329; 22. Anand K, Stevens BJ, McGrath PJ. *Pain in Neonates and Infants*: Elsevier Health Sciences; 2007.

BOARD UPDATE

NEW BOARD MEMBERS WELCOMED

Dr Ian Lund was elected as the Saskatchewan representative and Dr Kaitlin Duncan was elected as the Resident Representative.

APPOINTMENT OF NEW SECRETARY

Upon Dr Sal Spadafora's stepping down as Secretary on August 31, 2015, Dr David McKnight is the new Secretary and his term is in effect from September 1, 2015 to August 31, 2016. Dr Spadafora's dedication and admirable work were recognized by the Board.

CHOOSING WISELY CANADA

The Board ratified the "Top Five Choices" for Choosing Wisely Canada and noted that the Divisions and other groups will be asked for this input and participation.

CANAIRS REGISTRY

A 12-month pilot of the anesthesia incident reporting system known as CanAIRS will be conducted. It is based on the WebAIRS system run by the Australian and New Zealand Tripartite Anaesthetic Data Committee (ANZTADC) on behalf of the CAS Board of Directors.

MEMBER SERVICES COMMITTEE DISBANDED

Following a recommendation that much of the Member Services Committee work is being done by the Executive Committee and the CAS office, the Board approved the disbanding of the Member Services Committee and the transfer of its responsibilities to the CAS Executive.

CANADIAN PATIENT SAFETY INSTITUTE (CPSI)

The Board authorized the renewal of the Program Development Agreement partnership for the Dr John Wade-CPSI Patient Safety Symposium between the CPSI and the CAS.

STANDARDS COMMITTEE CREATES FAQ DOCUMENT

The Standards Committee has created an FAQ document that is a compilation of questions received from practitioners about anesthetic procedures.

The document can be found on the CAS website at: <http://www.cas.ca/English/Guidelines>



THE HISTORY OF PEDIATRIC ANESTHESIA IN CANADA

(A SUMMARY)

BY: DR DAVID J STEWARD, FRCPC



Following Morton's demonstration of ether anesthesia at the Massachusetts General Hospital on October 26, 1846, the news spread rapidly to Quebec and Upper Canada. In early 1847, ether was being used for surgical procedures in both adults and children. The method of administration was simple; open drop on a sponge or towel and the administrators were family practitioners or surgeons. In 1848 chloroform became available; a very early tonsillectomy under chloroform is well documented in the literature. In this case, removal of the right tonsil was successfully accomplished but then the supply of chloroform was exhausted; the patient had to return a week later for removal of the other tonsil!

The methods for administration of anesthesia changed little over the next 80 years as did the personnel in charge of the administration. Anesthesia for children was a somewhat risky procedure in the 1920s and 1930s; there were many instances of sudden unexpected death. On August 1, 1929, the *Toronto Globe* reported that the fifth death in recent weeks of a child anesthetized for tonsillectomy had occurred at the Hospital for Sick Children (HSC). The condition of "Status Thymolyphaticus" was frequently cited as a cause; the only findings at autopsy being an enlarged thymus and generalized lymphadenopathy. Generally, inquests following death under anesthesia attached no blame to the practitioner even with a clear case of pulmonary aspiration in a child who had eaten recently! Not surprisingly the public began to call for better trained anesthetists.

One of the first dedicated pediatric anesthetists in Canada was Dr Charles Robson who headed the department at the HSC. Joining the staff of that hospital in 1919 and remaining there until 1951, he pioneered the use of endotracheal intubation, directing a tracheal catheter through the glottis with his fingers. In 1938, Dr Digby Leigh joined the staff of the Children's Memorial Hospital in Montreal and 10 years later in Vancouver, with Kathleen Belton, produced the first Canadian book on pediatric anesthesia. These dedicated pediatric anesthetists were augmented by the services of family practitioners in their departments for many years to come at HSC until the 1950s.

Neonatal abdominal surgery had its origins with the surgery of pyloric stenosis but it was not until the 1940s that more complex congenital lesions were successfully managed. The first repair of trachea-esophageal fistula was accomplished at HSC in 1944. In these early years, mortality rates were high (78%) especially for pre-term infants, but 15 years later were down to less than 20% for full-term infants.

Pediatric cardiac surgery was pioneered in Toronto by Gordon Murray at the Toronto General Hospital and William Mustard at HSC. Each had a dedicated anesthetist helping to develop this new field. Of interest, both Ronald Stephen in Montreal and Code Smith in Toronto utilized oximetry during cardiac procedures in the 1950s. The equipment they used (the Millikan ear oximeter) had been developed during World War II for use in aviation studies. It would be another 30 years before oximetry was universally applied to anesthetized children.

In the 1950s and 1960s, the poliomyelitis epidemic and the increasing complexity of pediatric surgery prompted anesthesia departments to pioneer the development of the intensive care unit. Mechanical ventilators became available and provided means to treat previously lethal conditions and manage patients following much more aggressive surgical procedures. In the 1960s, fellowship positions in pediatric anesthesia began to be established to provide the manpower for our blossoming sub-specialty. The number of fellowship positions across Canada increased from two in 1968 to 22 in 2012. At present, Canada has no separate specialist qualification process for the pediatric anesthesiologist, and this may be the next step in the maturing of the sub-specialty.



Plan to attend

ANESTHESIOLOGY[®] 2015

San Diego OCTOBER 24-28

Don't miss the largest educational event in anesthesiology.

15,000
attendees



from more than **90**
countries

500 

inspiring sessions: RCLs, PBLDs, Panels, Point Counterpoints, Clinical Forums and Abstract presentations

Abstract presentations
Latest in science and technology
Hands-on workshops

Self-study stations
Simulation seminars
Ultrasound workshops

Learn more
goanesthesiology.org

This activity has been approved for AMA PRA Category 1 Credit™. Directly sponsored by the American Society of Anesthesiologists®.

Mark your calendar for
our future meetings



OCTOBER 22-26, 2016
CHICAGO, IL



OCTOBER 21-25, 2017
BOSTON, MA



OCTOBER 13-17, 2018
SAN FRANCISCO, CA



OCTOBER 19-23, 2019
ORLANDO, FL



OCTOBER 3-7, 2020
WASHINGTON, D.C.



OCTOBER 9-13, 2021
SAN DIEGO, CA



You could be **saving more** on your home and auto insurance

Members like you could save more through exclusive group rates on home and auto insurance

See why the Canadian Anesthesiologists' Society chose **The Personal** as your group insurer.

Get your exclusive group rates!

1-888-476-8737
thepersonal.com/cas



thePersonal

Home and Auto Group Insurer

The right fit.

Certain conditions, limitations and exclusions may apply.

The Personal refers to The Personal General Insurance Inc. in Quebec and The Personal Insurance Company in all other provinces and territories.

Thank you
Ontario's
Anesthesiologists

CARF gratefully acknowledges
Ontario's Anesthesiologists for their
generous donation to fund the
CAS Residents' Research Grant

"I really want to thank Ontario's Anesthesiologists and CARF for their generous support of my research in neuroprotection. As a basic scientist, I have worked to understand how neurons degenerate after stroke and trauma -- and this current project translates my bench work into real world clinical practice. The funds will go a long way to helping us find a way to protect the brain after subarachnoid hemorrhage and improve quality of life for these patients."



**2015 CAS Residents'
Research Grant Recipient
Josh Bell, MD, PhD
PGY 2 Anesthesia Resident
University of Toronto**

Our profession
deserves a firm
foundation

CARF

Canadian Anesthesia Research Foundation
La Fondation canadienne de recherche en anesthésie

www.anesthesia.org/carf



Canadian Anesthesiologists' Society

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

CAS welcomes comments and suggestions from readers.

Materials published in Anesthesia News may be reprinted
without permission if credit is given.

Publisher:

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

Email: anesthesia@cas.ca

Fax: 416-480-0320

Phone: 416-480-0602

WWW.CAS.CA