

# DEPARTMENT OF ANESTHESIA NEWSLETTER

Focus on the History of Anesthesia

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## Upcoming Events

**September 26-28, 2013.** International Conference on Residency Education (ICRE) in Calgary, Alberta

**September 26-29, 2013.** Ontario Medical Association, Anesthesia meeting at Sheraton on the Falls in Niagara Falls, Ontario

**October 12-16, 2013.** American Society of Anesthesia Meeting at the Moscone Center in San Francisco, California

**October 17-20, 2013.** First International Congress on Whole Person Care at the New Residence Hall, 3625 Avenue du Parc, in Montréal, Québec, Canada

**November 15-16, 2013.** Canadian Conference on Physician Health at the Hyatt Regency Calgary Hotel in Calgary, Alberta

**November 21-24, 2013.** 12<sup>th</sup> ASRA Annual Pain Medicine Meeting in Phoenix, Arizona

**April 26-30, 2014.** 16<sup>th</sup> Ottawa Conference and the 12<sup>th</sup> Canadian Conference on Medical Education (CCME) will be held conjointly, in Ottawa, Ontario

**June 5-8, 2014.** Bethune Round Table at McMaster University

## The History of Anesthesia in Hamilton

Part 2 in a series of 3: The pre-McMaster era: The evolution of anesthesia as a specialty in Hamilton, 1940's-60's

By Dr. Joel Hamstra

By the 1940's Anesthesia had come into its own as a specialty. In addition to open drop ether, anesthesia providers now had a number of other techniques and drugs available to them. Cyclopropane, nitrous oxide as well as intravenous agents such as sodium thiopental and curare, in addition to various regional anesthetic options were added to the anesthesia armamentarium. It was becoming clear that a specific practitioner with a specialized skill set was needed to help a patient safely through the surgical procedure.

In 1945, Dr. R. J. Fraser was appointed as the first Head of the Department of Anesthesia at St Joseph's Hospital. He remained chief until 1964.<sup>17</sup> From a historical perspective, Fraser can be said to be the "father of anesthesia research" in Hamilton.<sup>18</sup> Fraser published some of the earliest scientific publications in anesthesia. He was keenly interested in spinal anesthesia and published two papers on the topic in the Ca-



St. Joseph's Hospital, 1975.

nadian Medical Association Journal (CMAJ). The first was in 1939, dealing with spinal anesthesia for obstetrics and the other in 1940, entitled "High Spinal Anesthesia".<sup>19</sup> In the second paper, Fraser described how to produce a high spinal blockade. He ended the paper with, "I look forward to the day in the not too distant future when the patient will be operated on in full consciousness under total spinal or complete body anaesthesia, pain only being blocked off."<sup>20</sup> In both papers Fraser meticulously described the techniques that he used. One cannot help but get the sense that he was a careful, reflective clinician who was enthusiastic about advancing his practice and his profession and who cared deeply about his patients. He did not, however, have much use for clinical epidemiology; "Statistics may be erroneous and should therefore not be relied on," he stated in a CMAJ paper from 1940.<sup>21</sup>

Fraser was not the only regional anesthesia advocate in the city at that time. Frank Rushton, who joined the anesthesia department at the Hamilton General in 1950, also published papers on neuraxial anesthesia. In the very first edition of the Journal of the Canadian Anesthesia Society (now the Canadian Journal of Anesthesia) he published "Epidural Anesthesia in Infants and Children." In the paper, he describes his technique in detail. He lists 77 cases of intra-abdominal surgery in children, performed under epidural anesthesia. Most of these cases were pyloromyotomies. The paper even includes some pictures. It seems that he faced some resistance, especially from the surgeons, to the introduction of his technique. Near the end of the paper he stated, "At

first one could feel slight skepticism, but they have since become agreeably impressed with its use in infant surgery so that now there is often a request for 'one of those epidural blocks'".<sup>22</sup>

The number of anesthesiologists in Hamilton grew in the 1950's and 60's. In these two decades, Drs. Catton, Browne, and Ashworth joined the Hamilton General Hospital. Drs. Bota, Lepinskie, Andry and Dyckhoff joined the St Joseph's Anesthesia staff. In the early 1960's, the Department of Anesthesia, which had previously been operating as one, separated and became hospital-based at the Hamilton General and St. Joseph's Hospital. As the number of operations that were performed in the city expanded, the logistics of scheduling all the anesthesiologists that were needed became more challenging.<sup>23</sup> The number of hospitals providing surgical services in Hamilton also grew. Two new hospitals were also opened; the Nora Frances Henderson Hospital in 1954 and the Chedoke Hospital in 1960.



Hamilton Health Sciences' Chedoke Hospital.

The 1950's and 1960's were what I would term the Pre-McMaster years. Even though the medical school had not yet been established, Hamilton was essentially functioning as an academic centre. Innovations in surgery and anesthesia were commonplace. Hamilton anesthesiologists made important contributions to the medical literature and advancing their profession. In his paper "The History of Anaesthesia in Hamilton, Ontario," Dr. Stringer mentioned medical innovations that took place during these years: awake neurosurgery, ElectroConvulsive Therapy(ECT), as well as advances in thoracic and cardiac surgery. These were all made possible because of advances in anesthetic techniques.

The first open heart surgery was done at the Hamilton General in the early 1960's. In an interview posted on the McMaster Department of Anesthesia website, Dr. Ashcroft discusses some of the work that was done leading up to this event.<sup>24</sup> Hamilton anesthesiologists also conducted some of the pioneering re-

search in the physiology of thoracic anesthesia. Drs Browne, Catton and Ashworth published "A Study of Oxygenation during Thoracotomy" in the Canadian Anesthesia Society Journal in 1968.<sup>25</sup> Their research laid the groundwork for techniques used to maintain adequate oxygenation during thoracic surgery.

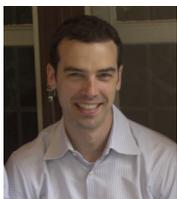
Obstetrical anesthesia in Hamilton developed a strong reputation both clinically and academically. Obstetrical practices across the country and throughout North America and Europe were quite varied. Most women who gave birth in hospital in the 1950's and early 1960's, were given some type of sedation. This ranged from morphine/scopolamine to chloroform, cyclopropane and ether.<sup>26</sup> As far back as 1939, Dr. R. F. Fraser, had advocated administering spinal anesthesia in late first stage of labour. The context of his advice, however, seems to indicate that there was not a great deal of support for regional techniques.<sup>27</sup> Many obstetricians preferred general anesthesia. This however, was not without risk. While completing his anesthesia residency in Buffalo in the early 1960's, Dr. Bota recalls that in the space of a year there were 4 maternal deaths in the city related to the administration of chloroform for labour analgesia. At the time, the obstetrical residents were administering chloroform.

By the mid 1960's spinal anesthesia to facilitate forceps delivery, had become the standard of care for obstetrical anesthesia in Hamilton. Anesthesiologists on call would spend most of their nights on the labour and delivery unit administering spinals.<sup>28</sup> Drs. Ashworth, Browne, and Catton, introduced continuous epidural anesthesia for obstetrics in the early 1960's. They published their results with almost 800 patients in 1969. When the technique was introduced in 1965, 62% of patients were receiving general anesthesia. By 1968, this number had been reduced to 41%, with better neonatal outcomes.<sup>29</sup> Thus Hamilton was on the forefront of a trend toward safer obstetrical anesthesia, leading both in clinical practice as a well as in publications,

*To be continued...*

For a complete list of annotated references, please visit the History of Anesthesia website. [http://fhs.mcmaster.ca/anesthesia/annotated\\_references.html](http://fhs.mcmaster.ca/anesthesia/annotated_references.html)

## Research News



Simulation Summit has selected **Kurt Domuracki's** (PGY3 Resident) abstract titled "*The Effect of Errorless, Errorful and Feedback-augmented Observational Practice on the Performance of Central Venous Catheter Insertion by Novices*" for a Poster Presentation at the Simulation Summit 2013, to be held November 8 - 9, 2013 in Vancouver, BC, Canada.

The Canadian Anesthesiologists' Society Annual Meeting was to be held in Calgary in June, but due to extensive flooding in the city and surrounding areas, it was cancelled. **PGY 5 Andrew Heikkila** was given the opportunity to present his Research "virtually" to conference committee members and judges. In doing so, he was rewarded with 3rd place for his "Transversus Abdominus Plane Block: Does Volume Make a Difference?" project with McMaster Faculty Supervisor Dr. Mauricio Forero. Congratulations!

## Society of Critical Care Medicine Reflection

By Dr. John Centofanti (PGY4 resident)

In January of 2013, I had the opportunity to attend the Society of Critical Care Medicine International Conference in San Juan, Puerto Rico. Along with friends and colleagues, we were involved in two abstract poster presentations on our research reviewing an ICU Daily Goals Checklist (DGC), utilized in the St. Joseph's ICU.



Research poster at the SCCM International Conference. From left to right: Deborah Cook, Erick Duan, Neala Hoad, John Centofanti, and Lilly Waugh.

Over the past two years, our research team has been studying the perspectives and attitudes of ICU clinicians about the use of their Daily Goals Checklist in daily patient management. The abstracts submitted for this conference were preliminary results of some of our data set. The two abstracts were

entitled:

i) *Residents' Perspectives on a Daily Goals Checklist: A Mixed-Methods Study*

John Centofanti, McMaster University, Erick Duan, McMaster University, Neala Hoad, St. Joseph's Healthcare Hamilton, Lily Waugh, St. Joseph's Healthcare Hamilton, Dan Perri, McMaster University, Deborah Cook, McMaster University

ii) *A Multidisciplinary ICU Communication Checklist: A Qualitative Study*

Neala Hoad, St. Joseph's Healthcare Hamilton, John Centofanti, McMaster University, Erick Duan, McMaster University, Dan Perri, McMaster University, Lily Waugh, St. Joseph's Healthcare Hamilton, Deborah Cook, McMaster University

Our findings highlighted the usefulness of the Checklist in residents' management of critically ill patients. Citing its value in (i) minimizing errors of omission and commission by ensuring a systematic, comprehensive care plan was used, (ii) serving as a tool improving communication with nursing staff, and (iii) highlighting its importance in learning evidence based practices, residents were the most prominent physician users of the checklist, completing it 86% of the time and driving adherence rate of the checklist to 93%. Other healthcare providers also endorsed how the DGC helped to enrich communication and create comprehensive plans of care for their patients, specifically in the areas of weaning sedation, analgesia, and ventilation, and optimizing fluid and nutrition plans.

Throughout the remainder of the five-day conference, I was able to attend very informative sessions exploring new developments of managing critically ill patients. The recently developed clinical practice guidelines for management of pain, agitation and delirium in the ICU were also reviewed, highlighting the importance of early weaning from sedation, appropriately addressing acute pain with multimodal regimens including opioid and non-opioid techniques, and utilizing non-benzodiazepines when possible, such as propofol or dexmedetomidine (a drug not readily available in many Canadian centres). Other interesting sessions included a review of resuscitation in sepsis management, updates on ARDS management, and a detailed look at the Oscillate Trial, spearheaded through McMaster and the University of Toronto, that was stopped early for harm, with a signal toward increased mortality with high-frequency oscillation in early ARDS management.

Amazing highlights of the trip were experiencing the culture, scenery and amazing food in beautiful Puerto Rico. Erick and I arrived in San Juan on the opening evening of their annual San Sebastian Street Festival - where thousands of people fill the street, and live music, dance performances and authentic food markets are randomly found on corners and plazas around the capital. The remainder of our free time was spent with our research team, enjoying the sun, beaches, and different restaurants scattered (and hidden!) throughout Old San Juan.



Hiking the Waterfalls of El Yunque National Rainforest in Puerto Rico

Once the conference ended, Erick Duan and I trekked to the top of El Yunque National Rainforest. Erick, a co-investigator and good friend from medical school, is now a PGY4 Internal Medicine and Critical Care resident at McMaster University. Over two days, we lived at the top of the mountain, and spent the days hiking through the rainforest, and swimming in amazing waterfalls. We also bumped into 4 Anesthesia residents from Quebec who attended the same conference and spent some time hiking as well. All in all, it was a fantastic educational and cultural experience.



**John Centofanti,**  
PGY4 Anesthesiology

On behalf of my entire research group: Erick Duan, Neala Hoad, Marilyn Swinton, Dan Perri, Lilly Waugh, Deborah Cook.

## The McMaster-Western Resident Research Day a success!

The McMaster-Western Resident Research Day on June 13 2013 held at the University Club at McMaster University was a great success! This annual tradition allows anesthesia residents and faculty from both universities to present their research projects and to learn about their respective research and academic activities. Residents and faculty also have the opportunity to network over lunch and evening dinner and game of trivia!



**Drs. Nayer Youssef and Andrew Heikkila** did a phenomenal job as “MC’s” for the day, ensuring that it ran smoothly. **Dr. Buckley** introduced the day with opening remarks, followed by resident presentations in the morning and afternoon. The discussions were both interesting and stimulating. Our residents gave stellar presentations on a broad spectrum of research topics:

**Andrew Heikkila (PGY4):** *Lumbar Transversus Abdominis Block: Does volume make a difference? A prospective randomized controlled trial*

**Kurt Domuracki (PGY3):** *Observational Practice Observational Practice and Central Line Insertion: The Role of Errors in Motor Learning*

**John Centofanti, (PGY3):** *ICU Daily Goals Checklist: A Mixed Methods Analysis of Effects on Communication and Patient Care*

**Jessica Spence (PGY2):** i. *Anesthesia Resident Peer Support Groups for Building Resilience and Preventing Burnout* ii. *Variation in Diagnostic Testing in Intensive Care Units: A Comparison of Teaching and Non-Teaching Hospitals in a Regional System*

**Ada Hindle (PGY3):** *Web Based Learning for Emergency Airway Management: A Pilot Study of Feasibility and Educational Efficacy*

Our guest speaker was **Dr. Yannick Le Manach**, Assistant Professor in the Departments of Anesthesia and Clinical Epidemiology and Biostatistics at McMaster University, who presented: *Intra-operative hemodynamic: Gray zone approach and Preload dependency.*



Congratulations to Ada Hindle and John Centofanti who garnered 1<sup>st</sup> and 2<sup>nd</sup> prizes for their presentations! Many thanks for all those who dedicated their time and efforts to make this event a success! Thanks also to our summer student and event photographer, Alison de Boer.

## Anesthesia CTU Directors

The department would like to give special thanks to **Drs. Desi Reddy and Liz Ling** for their ten years of service to education as CTU Directors at MUMC and HGH, respectively. Please welcome the new Anesthesia CTU Directors:

**Dr. Tracey Bruce** will succeed Dr. Reddy at the McMaster site.

**Dr. Iwona Zieba** will succeed Dr. Ling at the Hamilton General site.

## Welcome!

The department would like to send out a warm welcome to all of the new Clinical Scholars at HHS. Please welcome **Drs. Greg Kostandoff, Edwin Ho, Phil Dass and Amanda Whippley.**

Please also welcome the new Fellows at McMaster, **Drs. Julie Hui, Shiyama Hassan, and Adnan Jalal.**

Finally, please welcome the new PGY1 residents in the new school year, **Drs. Matthew Conway, Sean Donald, Suzan Ergun, Wooheon Kim, Connor Rice, Stefanie Smulski, Emily Trenker, and Jessie Ursenbach.**

## Newsletter Staff

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## Did we miss your news?

Are you interested in submitting an article for the Department’s next newsletter, a continuation of the previous two issues *Focus on the History of Anesthesia*? Let us know!

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