London Health Sciences Centre
Southwest Ontario Regional Base Hospital Program

Leadership of Optimal Prehospital Care Systems

SWORBHP LINKS

OCTOBER 2019 I VOLUME 31

IN THIS ISSUE:

New Adventures Await

I have been with the Base Hospital world for over 21 years! As I plan my upcoming retirement for November 30, 2019, I reflect on the many changes that have occurred during this span of time which has indeed been remarkable. From using paper ACR's to the gradual shift to electronic ACR's; I remember sending out hundreds of envelopes monthly for audit responses. That was a lot of licking!! From an old antiquated office in the Nurses residence on South Street, to a much more spacious and "modern" office. I have seen names of Services change a few times, especially Middlesex London Paramedic Service which was once Thames Valley Ambulance. Sometimes it's hard to keep up! I witnessed the birth of Oneida Nation Paramedic Services and was so happy to attend the grand opening of their first base!

One of the greatest pleasures I've had in the past 21 years is connecting with the incredible souls that work in Emergency Services. From the old notion of "ambulance driver" it did not take long to see the dedication, compassion and hard work that paramedics endure. They are held accountable for impeccable documentation, long hours, continuing education, yearly certification and the diverse challenges of the calls they work on every day. I have heard some very heart wrenching and heart-warming calls where one cannot imagine the scenes that they have encountered. From muddy ditches to unkempt hoarder houses, and everything in between! It did not take long for me to have a deep respect and gratitude for our medics.

In return, it has been such an honour to assist our paramedics in any way that I could. An ear to listen to, guidance with Base Hospital issues, assurance when they needed it and always a warming smile and often a hug! I have made lifelong friends, beautiful connections and an internal admiration, respect and love for these beautiful beings.

As I move forward in my retirement, I am pursuing a new career as an "End of Life Doula". This is a move that will enable me to use all of my skills and to give back to the community to my fullest extent, and who knows what other doors will open!

I want to take this time to thank all of the paramedics for their amazing service as well as the Service Providers, the physicians and staff at SWORBHP. I have learned so much in so many different ways from all of you and have been truly blessed.

With the deepest gratitude, respect and love,

Brenda Smith-Huie
Team Assistant, SWORBHP

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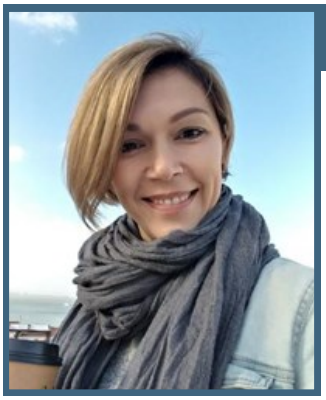
Facilitating the delivery of excellent prehospital care while advancing safe practice and preparedness in our communities through collaborative partnerships and innovation.

SWORBHP TEAM UPDATES:



Anya Bechard - Welcome to the Team

Anya joined SWORBHP as a part-time Prehospital Care Specialist in July, 2019.

Anya worked as a Registered Nurse in a variety of roles, including clinical education, emergency/trauma, and critical care. She brings expertise in training and education as a Clinical Educator for St. Thomas Elgin General Hospital and the Faculty of Health Sciences at the Arthur Labatt School of Nursing.

She completed Bachelor of Business degree in Ukraine, Bachelor of Science in Nursing at University of Western Ontario and post-graduate certification at Durham College.

Anthony Jaroszewicz - Welcome to the Team

Tony joined SWORBHP as a part-time Prehospital Care Specialist in September, 2019.

Tony holds diplomas in, Advanced Care Paramedicine from the Michener Institute (Toronto), and Advanced Emergency Medical Assistant from St. Clair College (Windsor). Tony is currently pursuing a Bachelor of Paramedicine (Honours) Degree from Charles Stuart University (Australia).

Tony also works as a full time Advanced Care Paramedic with Essex-Windsor EMS.

Dean Casement - Welcome to the Team

Dean joined SWORBHP as a full-time Prehospital Care Specialist in September, 2019.

Dean has cumulative experience as a leader, educator/QA specialist and an ACP. Dean previously worked for the Centre for Paramedic Education and Research (CPER) as the Lead Paramedic Educator, Training and QA Superintendent for Niagara EMS and most recently in Norfolk County as the Deputy Chief.

He holds a Bachelor of Applied Business: Emergency Services from Lakeland College and completed his Advanced Care Paramedic education at Michener Institute. He completed his Ambulance and Emergency Care Certificate through Niagara College and has completed many paramedic education courses including the Level 2 National Association of EMS Educators Course which has given him a strong knowledge in adult education.

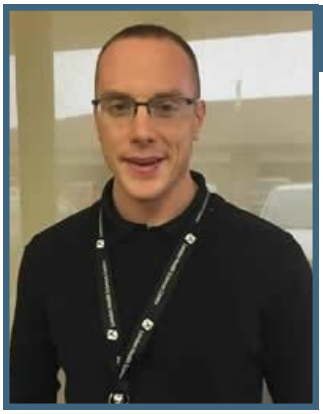
SWORBHP TEAM UPDATES:

Michelle Priebe - Welcome Back

We would like to welcome Michelle Priebe back from maternity leave. In July of 2018 Michelle and her husband Matt welcomed their second son Wyatt Michael Priebe to their growing family! Michelle returned to SWORBHP in August as the Application Support Analyst. In her new role she will provide support for both IQEMS and the Paramedic Portal of Ontario. She will play an integral role in the further development of these applications as part of the provincial working groups.

Michelle welcomes you to contact her for any questions or technical support by contacting her at michelle.priebe@lhsc.on.ca or 1-866-544-9882, Option 3.

Congratulations and welcome back Michelle!



Curtis Harrison - Farewell

Curtis joined SWORBHP in November 2016 as a Prehospital Programmer Analyst. Curtis was instrumental in the IQEMS implementation project and played a key role in moving our PPO application forward. In addition to his provincial involvement, he assisted the SWORBHP team with automating and creating efficiencies with many of our internal processes.

Curtis hasn't gone too far though! He is now working as a Technical Analyst in the IT Department at LHSC.

We wish you the best of luck in your future endeavors!

PARAMEDIC PORTAL OF ONTARIO

CERTIFICATION AND LEARNING MANAGEMENT SYSTEM

On September 30, 2019, we implemented a new tool within the Paramedic Portal of Ontario called the Document Manager. The Document Manager will maintain paramedics continuing medical education (CME) in one central location within the portal and will be accessible through the Online Training as opposed to the Paramedic Registry. All CME submitted in 2019 has been moved to your account on the new Document Manager.

For information on how to use the Document Manager, please visit our website (lhsc.on.ca/bhp) or the Paramedic Portal of Ontario (paramedicportalontario.ca) to view our training bulletin. If you have any questions, please do not hesitate to contact us:

DOCUMENT MANAGER:
Michelle Priebe
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1-866-544-9882, Option 3

CME PROCESS:
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SECTION 56 EXEMPTION

What are the Implications

Over the last few months the topic of the recent "Section 56 Exemption" changes has been an item of discussion at various meetings with Paramedic Services and brought up in passing by paramedics when I see them in the Emergency Department. Many paramedics have heard of this recent federal legislative change and have had many questions about what these recent changes mean, especially for the PCP scope of practice.

First off, a bit of background for those of you who may not be familiar with the current legislation surrounding controlled substances. The Controlled Drugs and Substances Act (CDSA) is Canada's federal drug control statute. This Act establishes eight schedules of controlled substances and prohibits activities related to controlled substances such as possession, transportation, administration and destruction. Subsection 56 of the CDSA allows for specific groups to be exempt from this legislation.

In Ontario, Advanced and Critical Care Paramedics had an exemption that gave them the authority to possess, transport, administer and destroy controlled substances when providing prehospital care to patients within their scope of practice. As such, the use of opioids, benzodiazepines and ketamine were restricted to ACP and CCP use only. Previously the OBHG MAC requested that the MOHLTC petition the federal government for extending this to PCPs, but under different leadership at the time, the did not move this request forward.

In July 2018, the Ontario Base Hospital Group (OBHG) Medical Advisory Committee (MAC) once again requested that the MOHLTC apply to Health Canada to include PCPs and add hydromorphone to the exempted controlled substances within the Section 56 Class Exemption. The impetus for this was to allow for PCPs working with ACPs to assist with controlled substance handling when working with an ACP partner, in addition to allowing PCPs to handle these controlled substances as part of the inventory and tracking process that must be undertaken by the Service. Hydromorphone was requested to be included as there are some pilot research projects beginning in the upcoming months surrounding prehospital palliative care and this medication is used quite frequently in this patient population.

Health Canada approved the proposed amendments in May of 2019 and now there is a Subsection 56(1) class exemption for PCPs, ACPs and CCPs in Ontario. PCPs now have the authority to possess, transport, administer and destroy controlled substances when providing care to patients within their scope of practice. Although not the intent of the OBHG MAC, this Section 56 exemption now opens the door to the potential increase of the PCP scope of practice to include morphine, fentanyl, midazolam and ketamine.

This has generated much buzz and excitement amongst frontline paramedics and some Paramedic Services within our region. I have been approached by frontline paramedics and leaders asking if this is something that SWORBHP would support provincially. In theory, SWORBHP does support the potential use of these medications within the PCP scope of practice. However there are many barriers that must be overcome before this would become a reality. The introduction of these medications comes at a great cost given the resources needed to acquire, store, track and destroy. There is also the need for substantial education surrounding these medications and the disease processes that they are used to treat. When you look at the ACP college program, a significant portion of their curriculum is geared towards education around these medications, the disease processes they are designed to treat and their associated directives. Base Hospital is only allotted 8 hours of CME per year with PCPs. The PCP scope of practice has grown, while funding for mandatory CME has not kept pace. Continually increasing PCP scope without a reciprocal increase in CME time is neither sustainable nor fair to PCPs who are expected to have ongoing competency in all the ALS PCS directives, medications and procedures within. This is another major barrier that must be overcome.

continued on page 5...

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I will work with my provincial counterparts, the Emergency Health Services (EHS) Division of the Ministry of Health and Long Term Care (MOHLTC) and Paramedic Service Leadership to try and overcome some of these barriers. SWORBHP has heard the voice of frontline paramedics and Paramedic Service leaders who wish to pursue this endeavor. We will work with all stakeholders to ensure a safe, well planned approach is taken if there is a desire to pursue this avenue. This would be a huge undertaking with many moving parts that would need to be aligned. This will take time. The conversations have already begun.

Dr. Matthew Davis, M.D., M.Sc., FRCPC
Regional Medical Director, SWORBHP

SWORBHP Quality Improvement

In July 2019 we announced that would be collaborating with the London Health Sciences Centre (LHSC) Regional Trauma Program on an initiative to provide paramedics with feedback on trauma calls they attended. Unfortunately, due to resource issues on our end, we have not been able to begin this program. We hope to be able to implement this initiative in November 2019. We appreciate your patience as we overcome our resource concerns. We believe you will find the wait worthwhile and beneficial to your practice.

In addition to this initiative, we have partnered with Health Sciences North Centre for Prehospital Care and Sunnybrook Centre for Prehospital Medicine, the Base Hospitals we share the IQEMS platform with, on a Collaborative Quality Improvement Initiative. With the go live of IQEMS for our Interdev Paramedic Services, we are now able to leverage and use our data in more meaningful ways. One of the mandates of the Base Hospitals is to ensure the provision of a Continuous Quality Improvement Program.

We have partnered with Dr. Scott Bourn, a US leader in prehospital care and research to begin some key quality improvement work. We wish to identify key areas of paramedic practice as part of a project to create measurable improvements in specific clinical encounters in order to optimize positive impacts on the patients in our regions. Approximately a year ago we requested input from a variety of prehospital stakeholders including front-line paramedics, supervisors, managers, emergency physicians, base hospital personnel and others who are the experts in the field. This gathering of information began as an online survey sent to our Quality Assurance service leads, SWORBHP staff, contracted associate instructors, medical directors, patch physicians, hospital leaders and MOHLTC partners. The survey consisted of a Delphi process, a validated method of obtaining consensus among experts with differing views and perspectives through two or more rounds of input. We completed two iterations of surveys electronically then a third during an in person session led by Dr. Bourn in September 2018.

Many topics were identified during the first Delphi. The suggestions were themed, compared to our mandate and scope (to create measurable improvements in specific clinical encounters in order to optimize positive impacts on the patients in our regions), and sent out to the group for a second round. Five themes were then presented to the group that met in person. Each Base Hospital had medical directors, management, frontline staff, research experts and Paramedic Service representation participate.

Two themes emerged as the projects to be undertaken over the next year. Infection and sepsis, where a focus on early recognition and treatment is one project of focus. The other topic relates to patient safety and care pathways focused on ensuring patients are safely assessed, treated and/or transported which could include a reduction in the number of non-transport calls where full assessments did not occur and improved documentation where cancelation or lift assists are being considered.

Teams have been meeting regularly to review the data and determine how we can best optimize patient care and safety.

The leadership group has developed a manuscript that outlines the process used and hopes to be able to share it with others should it be accepted for presentation at a conference or for publication in a journal. As the projects are still under consideration, no information on them has been disseminated.

Susan Kriening, RN, BScN, MHS, ENC(C)
Regional Program Manager , SWORBHP

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Medical Scene Calls and Ornge Response – Update

Recently, Ornge Medical Directors delivered an online presentation for select areas of Bruce County Paramedic Services and Grey County Paramedic Services explaining the current approach to medical scene calls and provincial standards. Based on some recent commentary on social media and a communication distributed through SWORBHP, it is apparent that there is some confusion around this. The purpose of this memo is to provide some added clarity around the underlying issues and the standards themselves.

Key points:

- Ornge supports air response for direct transport of STEMI patients to PCI under the current provisions of the provincial Basic Life Support Patient Care Standards (BLS-PCS). Unfortunately it is not possible to meet the STEMI specific time criteria listed within the relevant Standards within the BLS-PCS in all areas of the province due to distances and local logistics.

- The BLS-PCS Chest Pain (Non-Traumatic) Standard STEMI Hospital Bypass Protocol requires the patient must be able to reach the PCI centre less than 60 minutes after patient contact. If it is anticipated that this time criteria can be met through the use of an air ambulance, then land based paramedics should request an air ambulance. Unfortunately in many areas of Ontario, based upon launch and flight times to and from scene, this STEMI specific time criteria cannot be met. In these situations, paramedics are to follow the BLS-PCS Transport Standard and the patient should be transported to the closest or most appropriate hospital capable of providing the medical care apparently required by the patient.

- When specific Air Ambulance Utilization Standard operational guidelines are met and a time savings can be realized through the use of an air ambulance, paramedics should follow the AAUS within the BLS-PCS and request an air ambulance.

- If an air ambulance is requested and responding per the AAUS and the land paramedics have completed their scene protocols and the patient is in the ambulance, then the land ambulance will proceed to the closest local hospital with an emergency department. Unlike with trauma patients, “auto-accept” agreements which allow for a modified scene response to a lead trauma hospital (LTH) are not in place for all medical scene call indications listed within the AAUS (which also includes shock, altered LOC and respiratory distress). In these situations, emergency physicians must arrange for a receiving facility and an accepting physician and Ornge is available to transport these patients as inter-facility transports.

For further information or questions, please contact the Director of Paramedic Operations Justin Pyke jpyke@ornge.ca

Helping Honour the Heroes of Ontario

On September 12, 2019, 11 members of H3O (Essex-Windsor EMS paramedics and family) loaded up an ambulance with their bikes and travelled up the 401 to Toronto to participate in the 7th Annual Tour Paramedic Ride. The team consisted of Trevor Lee, Victoria Laframboise, Mike Lacroix, Andrew Peters, Cathie Driedger, Nicole Hanson, Don (Buddy) Ranchuk, Selena Redekop and John Coulter, along with the support of Dan Pickel and Chris Deschaine driving the support ambulance. Over the next 4 days, we would be cycling from Toronto to Ottawa, a roughly 500km ride to raise fund for the future build of a monument in our nation's capital to honour Canadian paramedics who have lost their lives in the line of duty. As well, to raise awareness and support to those who suffer in silence, from the mental struggles associated with the job.

Our team spent the past year and a half developing this group called H3O, which stands for Helping Honour the Heroes of Ontario. Fundraising events were held and a lot of personal training went into accomplishing this goal. Proudly, we were able to present the ride with a cheque for $4,000 on top of any personal funds donated to each rider. This year's ride fell only a few months after the 30th anniversary of the loss of our brother and colleague Charles "Russ" Ransome who died in a plane crash while transporting a patient from Pelee Island. We were proud to be able to honour him by baring his number 779 on a black band around our left sleeve.

Our challenge began early September 13th as we began our first leg of the ride, being escorted through the streets of Toronto. Over 200 riders and many support vehicles were greeted with cheering, clapping, honks of car horns, and school children lining the fences of their school as we rode by. It was only the beginning, and we couldn't be more proud of why we embarked on this mission. Our trip took us through many areas of open county roads, and through the main streets of different towns where people came out of their houses, stores and restaurants to line the streets and cheer us on. One man even went back into his house to get his bagpipes and play for us as we went by. It was an amazing experience that I will never forget.

On the final day, our group of riders from Ontario, met up in Gatineau Quebec with approximately 175 riders doing a similar 4 days ride in Quebec for the same cause. Together, over 400 of us paraded the final 4km through the streets of Ottawa with the assistance of Ottawa Police, to the LeBreton Flatts finish line. We were greeted with many people including an Honour Guard, Bag Pipes being played and many dress uniforms standing at attention. Mission accomplished!!! As we congratulate each other, we think of those who are no longer with us. Our ride had its struggles with cold, wind, rain, hills that made the legs and lung burn, and some misfortunate injuries, but we can all agree that it only pales in comparison to those that have given the ultimate sacrifice, or the pain those endure who suffer in silence.

Although this year's ride is over, the financial goal of this monument has not been reached. Donations are still being accepted and appreciated by Tour Paramedic Ride and the Canadian Paramedic Memorial Foundation.

Trevor Lee
Primary Care Paramedic
H3O President

SWORBHP RESEARCH CORNER

As part of SWORBHPs commitment contributing to the prehospital literature and seek out evidenced based answers to prehospital questions, the purpose of this section is to highlight a current research project that is occurring in the SWORBHP region as well as one that has been completed.

Double Sequential External Defibrillation for Refractory VF (DOSE VF) Randomized Control Trial (RCT)

This fall, Middlesex-London Paramedic Service (MLPS) will be one of five Ontario Paramedic Services that will be participating in the Double Sequential External Defibrillation for Refractory VF (DOSE VF) Randomized Control Trial (RCT). SWORBHP is excited to partner with MLPS and project lead Dr. Sheldon Cheskes from Sunnybrook Center of Prehospital Medicine and support this research initiative.

Despite significant advances in resuscitation efforts, there are some patients who remain in refractory ventricular fibrillation (rVF) during out-of-hospital cardiac arrest. Double sequential external defibrillation (DSED) and vector change defibrillation have been proposed as a viable option for patients in rVF.

Currently MLPS has been utilizing vector change and MLPS and SWORBHP have conducted and presented some preliminary research at various international meetings that has helped to support the need for a large RCT. If a patient presents in VF and has been defibrillated 3 consecutive times, MLPS paramedics will add a second set of defib pads and defibrillate using those pads which is known as a “vector change”. This has proven to be somewhat successful, gaining some worldwide attention. Because of MLPS current vector change practice, Dr. Sheldon Cheskes approached SWORBHP and MLPS seeking participation to be one of five Paramedic Services research sites.

This cluster randomized trial will be conducted in the regions of Peel, Halton, Durham, Simcoe, London Middlesex and Ottawa. All adult (≥ 18 years) patients presenting in refractory VF (defined as patients presenting in VF and remaining in VF after three consecutive standard defibrillation attempts each separated by 2 minutes of CPR) or pulseless ventricular tachycardia (pVT) during out-of-hospital cardiac arrest of presumed cardiac etiology will be assigned to be treated by one of three strategies:

1. Continued resuscitation using standard defibrillation;
2. Resuscitation involving DSED (two defibrillators, one using anterior-posterior pad placement and the second using anterior- anterior pad placement delivering two rapid sequential shocks for all subsequent defibrillation attempts, ± antiarrythmic use and epinephrine as per current provincial standard); or
3. Resuscitation involving vector change (change of defibrillation pads from anterior-anterior to an anterior-posterior pad position) defibrillation.

During this time, Both PCP’s and ACP’s will be delivering up to 6 shocks on scene, prior to transporting the patient to the ED. This research directive has been approved by the Ontario Base Hospital Group Medical Advisory Committee (OBHG MAC).

MLPS and SWORBHP are excited to be a part of this trial. Although it is expected to take 2 years for data collection to occur, we look forward to sharing the results with you as soon as they are available.

Dr. Matthew Davis, M.D., M.Sc., FRCPC
Regional Medical Director, SWORBHP

Jay Loosley, RN, A-EMCA, ACP, CMMII
Superintendent of Education
Middlesex London Paramedic Service

SWORBHP:CASE STUDY

CONSIDER THIS...

You are dispatched Code 4 to a local football field for a report of a 55-year-old who is VSA. Dispatch updates you that CPR is in progress and that a first-aid team is with the patient. Upon arriving to the football field you are directed to the patient who is on the football field. When you arrive at the patient's side, you witness that CPR is ongoing and appears adequate. Bystanders tell you the patient was actively coaching some players and suddenly collapsed. There was no impact at the time of the collapse, as he was caught by one of the other coaches. CPR has been ongoing for 8 minutes. An AED, applied by the first aid team, has analyzed two times with no shocks delivered. There is no known medical history and the patient is not wearing a medic alert bracelet. . The closest ED is 6 minutes away from the location of the call.

So, what do you do?

OPTION A	OPTION B	OPTION C
Perform 1 analysis and leave under the unusual circumstance guideline.	Finish the remaining two analysis and transport with no patch to the BHP.	Complete 3 analyses and perform a BHP patch for direction and/or TOR if conditions are met .

THE CORRECT ANSWER...

Despite the fact that the arrest is being run in a public place and the hospital is nearby, you should follow the Cardiac Arrest Medical Directive. This includes performing 3 rhythm analyses and if the Conditions are met (and the Contraindication NOT met) patch to the BHP to consider a Medical TOR. Recall that the conditions for a TOR are all of the following:

- Patient Age ≥ 18 years; and
- Arrest not witnessed by EMS; and
- NO ROSC; and
- No defibrillation (including any reported AED shock prior to your arrival); and
- And the contraindication for medical TOR is: arrest thought to be of non-cardiac origin.

...continued on page 10

SWORBHP:CASE STUDY

If there are concerns about the public location and a potential TOR being called, please highlight this in your patch to the BHP. A "Rolling TOR" is also an acceptable alternative if the patient meets TOR criteria but a public location would not be an ideal environment for the scene of death.

There are, however, certain conditions wherein very early transport (after 1st analysis, and defibrillation, if indicated) is considered. Which of the following is NOT a consideration for very early transport?

Which of the following NOT a consideration for very early transport?

- Pregnancy presumed to be ≥20 weeks gestation (fundus above umbilicus)
- Hypothermia
- Airway obstruction
- Suspected pulmonary embolus
- Medication overdose/toxicology
- Other known reversible cause of arrest not addressed
- Transport time to hospital is ≤ 5minutes

That's right. Transportation time to hospital is NOT an indication for very early transport in cardiac arrest.

The reasons for very early transport in the other conditions are that these are potential treatments, only available in hospital (i.e. thrombolysis for suspected pulmonary embolism). However, YOU can treat other causes of arrest in the field (i.e. defibrillation of a ventricular arrhythmia). Transport without treatment in this circumstance can lead to poor outcomes for your patient.

CLOSING REMARKS

Remember to follow your directive for Medical Cardiac Arrest and stay on scene (unless there are extenuating circumstances, or the patient meets consideration for very early transportation). In most situations YOUR treatment on scene will give your patient the best chance of survival.

Dwayne Cottel, B.A., ACP, A-EMCA, CQIA, NCEE
Prehospital Care Specialist, SWORBHP

Your education team has been hard at work developing new Tip of the Week (TOTW) articles and I wanted to draw your attention to these education pearls.

These little gems are brief reminders, or new pearls to help you with patient management. Most of them have been derived from trends in auditing and common questions we've received, so are very pertinent to your day-to-day work.

We have a bank of tips ready to go out and are constantly adding new ones as QA trends arise. So, make sure to check back frequently, or follow us on social media where we advertise when new TOTW and other educational content goes up. You can also subscribe to our website updates to receive an email when we post new content.

To give you an example of some of the great stuff on our TOTW page, here are 3 recent posts:

ASTHMA & NSAIDs:

Posted on: April 9, 2019

Quick reminder that administration of NSAIDs (including Ibuprofen and ASA) to patients with a history of asthma requires a previous history of NSAID use without complication. A subset of asthmatic patients mount NSAID-induced bronchoconstriction, that can be life-threatening. Therefore, remember to ask your patients about prior use (and document this use in your ACR) when considering administration of these medications.

There is a sweet spot of Endotracheal tube (ETT) depth between the carina and the glottis. Placement outside of this area makes your lifesaving intervention ineffective. Here are a few pearls:

ETT DEPTH

Posted on: June 17, 2019

Depth: Needs to be individualized, suggested starting with:

- ~21cm adult females
- ~23cm adult males
- Individualized for peds (3xsize of ETT used)

Secure and DOCUMENT placement of ETT, including on ACR:

- Measured AT THE TEETH (not the lips)
- Allows for reassessment with movement

Positioning: Movement of the head/neck causes movement the ETT

- Neck FLEXION cause the ETT to go deeper (can result in mainstem intubation)
- Neck EXTENSION causes the ETT to move upwards (can result in extubation)

continued on page 12...

...continued from page 11

EPHINEPHRINE IN TRAUMATIC CARDIAC ARREST

Posted on: August 22, 2019

Epinephrine is not a defined standard treatment under the Trauma Cardiac Arrest Medical Directive. The cause for arrest in trauma is typically one of: hypovolemia due to hemorrhage, cardiogenic obstruction due to tension pneumothorax, pericardial tamponade or great vessel injury, hypoxia due to airway/breathing mechanism injury or hypothermia. These various causes of cardiac arrest in trauma require management of the underlying insult (blood products, control of bleeding source, relief of cardiac output obstruction, oxygenation and rewarming) in order to correct the arrest.

Epinephrine is indicated within the Medical Cardiac Arrest Medical Directive and acts by causing increased coronary perfusion pressure via alpha adrenergic effects. Epinephrine given in the setting of trauma may not effectively induce vasoconstriction as the vessels are likely already maximally constricted. Therefore, optimal management of the trauma arrest patient includes CPR, defibrillation (if indicated), rapid transport to the closest appropriate facility following the 1st rhythm analysis, and ensuring the patient does not meet the criteria for BHP Patch for Trauma TOR (see Treatment – Algorithm for Trauma Arrest).

If you feel that epinephrine may be of benefit, you may consider requesting further orders from the BHP for its administration (see Ask MAC 1-Mar-2012).

Note, however, that the evidence for benefit of epinephrine in cardiac arrest is not robust. There has been a single randomized controlled trial performed examining the outcomes for the use of epinephrine vs. placebo for all-cause out-of-hospital cardiac arrest. A study by Jacobs et al (2011) examined a total of 534 patients and found those receiving epinephrine had significantly higher rates of ROSC [64(23.5%) vs. 22 (8.4%)] with no statistically significant survival to discharge [5 (1.9%) vs. 11 (4.0%)]. These results were similar to a metanalysis by Atiksawedparit et al. (2014) looking at the outcomes of epinephrine given in the prehospital or in the ED settings for cardiac arrest, which found an increase in prehospital ROSC, but no significant difference in overall ROSC, hospital admission, or survival to discharge from hospital.

Therefore, ensure the listed management (see Treatment – Algorithm for Trauma Arrest is being optimized and you are transporting expediently before considering epinephrine administration en route.

Jacobs IG, Finn JC, Jelinek GA, et al. Effect of adrenaline on survival in out-of-hospital cardiac arrest: A randomised double-blind placebo-controlled trial. Resuscitation. 2011;82(9):1138-1143.

Atiksawedparit P, Rattanasiri S, McEvoy M, et al. Effects of prehospital adrenaline administration on out-of-hospital cardiac arrest outcomes: A systematic review and meta-analysis. Crit Care. 2014;18(4):463.

2019 TIPS OF THE WEEK

- Prematurity and Age Definitions
- Blood glucose: Before we snow or wake, is it important?
- 3 Reasons to Perform a 12-Lead ECG in Suspected Cardiac Ischemia
- Be a Creature of Habit: Do you have a routine for patient assessment?
- Refusal of Service Documentation

VIEW TIPS OF THE WEEK ONLINE:

askmac.sworbhp.ca/tip-of-the-week

CONTACT US

As always, if you have any questions or uggestions for TOTW (or other educational content) we'd love to hear from you.

On a personal note, I have changed my last name from Leggatt to Valdis, after getting married last summer. My contact information has not changed. However if/when it does, we will make sure to notify you.

Take care out there,

Dr. Lauren Valdis, MD, FRCPC
Medical Director of Education, SWORBHP

SWORBHP JOINT COUNCIL UPDATES

The Joint Education & Quality Council met on September 12, 2019 and a lot of exciting topics were discussed! It was decided earlier this year that the two committees that originally met separately would join forces to tackle both the education & quality topics as one informs the other.

Since joining forces, the Terms of Reference (TOR) has been updated and the group has started moving forward with their first joint initiative - The Importance of Documentation.

This topic has been divided into 3 tasks:

1. The legal importance of documentation
2. Determining capacity in a patient
3. Documentation of interventions

The council members will be divided into focus groups to determine goals and objectives.

The council received an update on the Ontario Base Hospital ALS PCS Application "downloading bug" which has been creating challenges for paramedics while working in the field. The Provincial App has now been fixed and will now only download when content has been updated. If you are still experiencing issues, try downloading the App again and it should be corrected.

A discussion around a Code Silver (person with a weapon) protocol for EMS was presented jointly by Allison Crossett from Elgin County Paramedic Service and Rosemary Thuss, Manager of Emergency Management from London Health Sciences Centre (LHSC). They are looking at what role paramedics would play should the receiving hospital call a Code Silver and how it would affect transport of patients into and out of the hospital. More info on this great initiative to come!!

Individual paramedic reports are in the process of being developed. The reports will provide paramedics with a breakdown of the total number of calls they were involved in along with the number of calls where a delegated act was performed. An additional summary of any variances found and final outcomes will be included. The information reported is meant for educational paramedic review and individual professional feedback and development. Reports will be distributed in early fall!

The Joint Council would like to thank our Paramedic Advisors for contributing to discussions and initiatives for the past 2 years!

Education Council:

Jamie Walter (Oxford County Paramedic Services)

Jason Angus (Bruce County Paramedic Services)

Shannan Fyfe (Perth County Paramedic Services)

Quality Council:

Brad Jackson (Bruce County Paramedic Services)

and Cathie Driedger (Essex Windsor EMS)

Since combining the Education and Quality Council, we are happy to announce 3 new Paramedic Advisors to the SWORBHP Joint Council.

We are looking forward to their contributions to the group and working with them on the joint initiatives going forward!

The new representatives for the Joint Council are:

Deanna Owen (Essex-Windsor EMS)

Ryan Orton (Oxford County Paramedic Services)

Collin Young (Grey County Paramedic Services)

Lyndsey Longeway, A-AEMCA
Education Coordinator, SWORBHP
Co-Chair, Southwest Education and Quality Council

Deb Janssen, BMOS
Coordinator, QA & Business Functions, SWORBHP
Co-Chair, Southwest Education and Quality Council

OBHG Medical Advisory Council

Endorses i-Gel Supraglottic Airway Alternative

On September 18, 2019, after reviewing current medical evidence, the Ontario Base Hospital Group Medical Advisory Committee (OBHG MAC) unanimously endorsed the i-gel supraglottic airway (SGA) as a suitable alternative to the King LT SGA.

The OBHG MAC reviewed the medical evidence behind the i-gel SGA in 2008 and again in 2017. At those times, the OBHG MAC did not feel there was enough evidence and no identified prehospital literature to support its use. After the AIRWAYS 2 study was completed in 2018 which was a large trial that compared the use of the i-gel to endotracheal intubation in the setting of cardiac arrest, SWORBHP once again brought forward the recommendation to endorse the i-gel as a suitable alternative to the King LT.

In general, the Base Hospital does not need to approve the specific medical devices that are utilized by Paramedic Services (although we are always willing and happy to provide any advice/opinions surrounding medical equipment when asked). The Provincial Equipment Standards for Ontario Ambulance Services outline the requirements that must be met in order for a specific medical device to be utilized by Paramedic Services. However, a gap currently exists in the Equipment Standard as there is no specific Standard for SGAs.

As such, current direction from the Emergency Health and Regulatory Advisory Branch (EHRAB) regarding the use of specific SGA devices in the absence of a SGA Equipment Standard has been that “The use of supraglottic airways is authorized through the Advanced Life Support Patient Care Standards, and therefore oversight of that procedure falls under the purview of the local Base Hospital Program. With that in mind, provided the local Base Hospital has authorized the Ambulance Service Operator to use the i-gel SGA and the Ambulance Service Operator is adhering to the responsibilities listed in paragraph 6 of the Provincial Equipment Standards for Ontario Ambulance Services – that Service is able to use the i-gel SGA”.

As such, given the current evidence, SWORBHP has authorized the use of the i-gel as an approved alternative to the King LT. SWORBHP also continues to support the use of the King LT as a SGA device.

In addition, the OBHG MAC has re-iterated to EHRAB the need for a SGA Equipment Standard to be developed to ensure that any SGA that meets the Standard can be utilized by Paramedic Services.

Dr. Matthew Davis, M.D., M.Sc., FRCPC
Regional Medical Director, SWORBHP

SWORBHP PARAMEDIC RECOGNITION AWARDS

We believe that being recognized for the excellent work you do as a paramedic is very important, not only to you but to us as well!

SWORBHP honours paramedics for Prehospital Saves, Prehospital Newborn Deliveries as well as our Annual Medical Director Awards. We encourage both paramedics and Paramedic Service leaders to submit recipients via our website: www.lhsc.on.ca/southwest-ontario-regional-base-hospital- /paramedic-recognition-awards.

If you have any questions or concerns regarding SWORBHP Paramedic Recognition Awards please contact Julie Oliveira, SWORBHP Planning & Support Specialist at julie.oliveira@lhsc.on.ca.

UPCOMING CME EVENTS

MARK YOUR CALENDARS

For a complete list of upcoming CME events, visit our online events calendar:

http://www.lhsc.on.ca/About_Us/Base_Hospital_Program/Upcoming%20Events/index.htm

STAY CONNECTED WITH SWORBHP:

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COMMENTS OR SUGGESTIONS

SWORBHP LINKS is a Newsletter developed by the Southwest Ontario Regional Base Hospital Program.

If you have comments or feedback on the newsletter, or have an article you would like to have considered for publication in a future edition of **LINKS**, please send to:

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