Hamilton Health Sciences
CENTRE FOR PARAMEDIC EDUCATION AND RESEARCH

Centre for Paramedic Education and Research

Patch Point

newsletter

FALL 2016 | ISSUE 6

INSIDE THIS ISSUE

FALL ISSUE

Provincial App

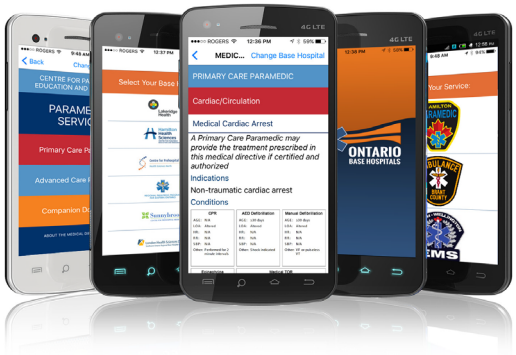
The Centre for Paramedic Education and Research has been designated as the project lead in the creation of a Provincial Medical Directives App. You will recall that CPER circulated a Paramedic survey asking you, the Paramedics, what you would like to see in an App. From this survey feedback and based on the CPER Medical Directives booklet, the Ontario Base Hospital Group has been working on developing a Provincial App which will give Paramedics access to Medical Directives right from their mobile devices. Paramedics in our region will also have access to a variety of reference material including dosing charts, waveforms, formulas and guideline.

Stay tuned in the coming weeks for it's official release!

INTRODUCING

MediConnect

THE MEDICAL DIRECTIVES APP



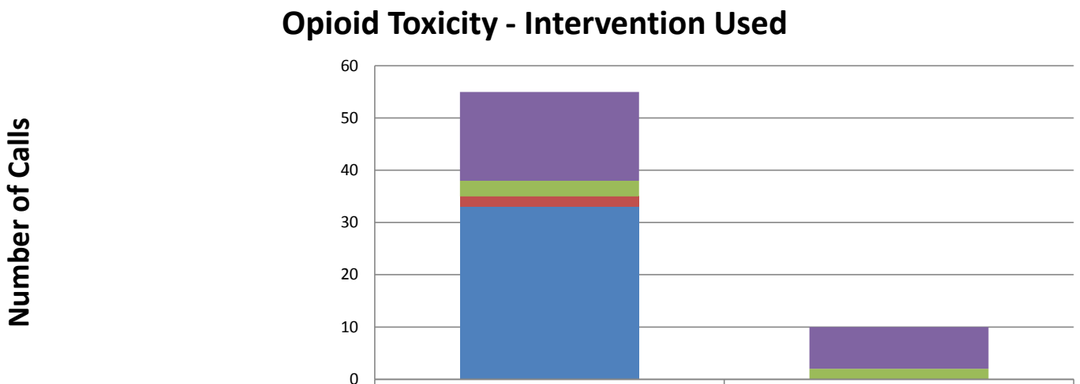
MediConnect, the new medical directives App produced by the Ontario Base Hospital Group, has been designed to provide the medical directive content to Ontario Paramedics in the palm of their hands.

Opioid Toxicity

The CPER Quality program often completes focused call reviews to provide a "snapshot" of current care and this can help to determine if we need to adjust a directive, policy or to help create education. Following the recent education on opioid toxicity at the 2015/16 Annual Practice Review (APR), introduction of the PCP Opioid Toxicity directive in February, and in anticipation of removing the patch points for ACPs and PCPs in 2017, we undertook a review of the use of naloxone and possible opioid toxicity patients. Below you will find the results of our 3-month focused call review for May 1, 2016 – July 31, 2016. Data was collected from Dufferin, County of Brant, Guelph-Wellington, Haldimand County, Hamilton, Niagara and Six Nations.

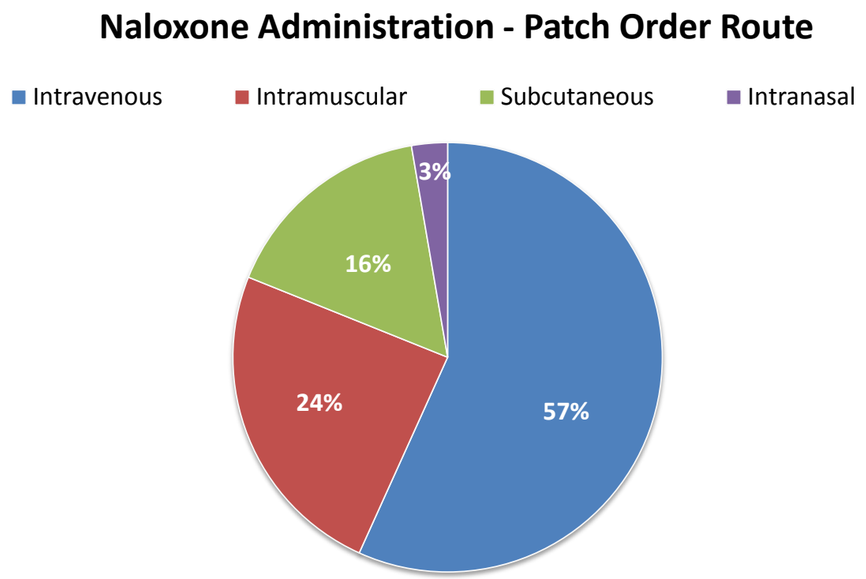
The specific search parameters included; 1. Any call with documented procedure code 610 – naloxone, 2. Any call with final primary problem code 81 – Overdose and the procedure code 141 – Oxygen and BVM, 3. Any call with procedure code 400 – BHP patch and final primary problem code 81 – Overdose. We think you will agree that we found some interesting things. We thought we would share our findings and kudos to the Paramedics and you will hear more about removing the patch points at the 2016/17 APR.

We are very pleased that the focused call review confirmed that a large portion of patients were managed by PCPs and ACPs without pharmacologic reversal. The Paramedics utilized their enhanced skills in initial airway management, and BVM ventilatory support. This review also identified that naloxone was appropriately requested where oxygenation and supportive ventilations were not adequate, or when unable to be sustained. This management was in line with the APR education and Opioid Toxicity Medical Directive.



	ACP	PCP
Managed without Naloxone - No patch	17	8
Patch - Naloxone ordered but not required	3	2
Patch - No Order	2	0
Patch - Naloxone given	33	0

It appears that the care is exactly where it should be: use supportive or ventilatory care for a substantial proportion of these patients and where it is inadequate to support the patient, cautious titration of naloxone. Paramedics continue to appropriately administer "only enough" naloxone to reverse the respiratory depression, and try to avoid opioid withdrawal for patient and paramedic safety.



Next steps are to ensure consistent documentation and coding techniques. Documentation should include the appropriate Final Primary Problem code 81 (Drug Overdose) with a Procedural code of 141 (Oxygen and BVM), and where applicable, Procedure code of 400 (Base Hospital Physician Patch) and Treatment code of 610 (naloxone) to distinguish your patient and the care that was provided.

When receiving a BHP order for naloxone or in the future when a patch is no longer required (ALS PCS pending release 2017), remember that the intravenous (IV) administration route requires cautious titration (for example start at 0.04 mg) only to restore the patient's respiratory status where the standard dose of 0.8 mg (subcutaneous (SC) and intramuscular (IM) routes) work very well.

Ang Burgess and Jen Charlton

How-To: Read a Paper

When you read a research paper, your goal is to understand the scientific contributions the authors are making to the field. This may require going over the paper several times. You should expect to spend several hours to read a complex paper, such as ones describing large randomised controlled trials or large systematic reviews. Learning to read a paper is a vitally important, but unfortunately rarely taught skill.

There are many different approaches to reading a paper; this happens to be my favoured approach. It is a combination of a number of different readings on approaching evidence-based papers. This method is not perfect – whatever method works best for you is the one that you should use.

Step 1. Glance at the paper

I find that it is always helpful to do a "quick-glance" of a paper prior to getting deeper into analyzing it. Firstly look at:

- Title, abstract and introduction
- Headings of sections and sub-sections
- Statistical methods used, mathematical and data content
- Conclusion
- References

At this stage you can note any references that you've read already. Having done your first quick glance over the paper, you should now be able to determine what type of paper it is (e.g. systematic review, original research, RCT, animal study, study description etc.).

You should also be able to determine if the paper and its conclusions are valid to you and your practice. It is also useful at this stage to determine what other papers it is related to, either by building upon them, citing them or refuting them.

Finally, you should be able to determine if the assumptions made are valid – e.g. are the statistical methods used reliable (this may not always be possible and may require further learning on your part), and are they applicable to this methodology.

Now you can decide if this paper is worth reading or not. Is it useful to you? If yes, read on. If no…maybe there's a better paper lying in the reference list somewhere! For print types, this will help you to decide whether to print this paper or not. You've decided it is? Great, on to the next step! Whether you decide to print it out and read a hard-copy, or use a PDF reader, a healthy dose of skepticism is required,

Step 2. Read the paper

Reading a research paper must be a critical process. Don't assume the authors are always correct. Instead, become skeptical – apply the rigours of the scientific model to all research. Critical reading involves asking appropriate questions. Here are some questions you should ask yourself when critically reading a paper:

- If the authors attempt to solve a problem, are they solving the right problem?
- Are there other solutions the authors do not seem to have considered?
- What are the good ideas in this paper?
- What are the limitations of the solution (including limitations the authors might not have noticed or admitted)?
- Are the assumptions the authors make reasonable?
- Is the logic of the paper clear and justifiable, given the assumptions, or is there flaw in the reasoning?
- If the authors present data, did they gather the right data to substantiate their argument?
- Collection of data be more compelling?
- Can the results or ideas be generalised to wider populations?
- Are there improvements that might make important differences?
- If you were going to start doing research from this paper, what would be the next thing you would do?

During this reading, you should make notes either in the margin, on sticky notes, or annotate the document if using a tablet device. In addition, go through the references in the paper, marking those you've read, or if the paper makes claims regarding any of them, you can highlight them for future reading.

Highlight any key points made by the authors, and key data such as population size, sample size, inclusion and exclusion criteria, limitations, data collection methods used. Any statements, data or results that are questionable to you should be noted for follow-up.

You may need to read the paper again having completed this reading. Some papers may require a number of readings to fully understand what the authors were trying to achieve, and to fully understand the results. A good trick to test your knowledge and understanding of the paper is to try to summarise it in 2-3 sentences.

Step 3. Compare the paper

Now that you've read and understand the paper, you should try to compare it to similar papers. Are the ideas presented in this paper really novel, or have they appeared before? Some papers offer new ideas; others examine the practical implementation of previous research ideas, and show how they work and others bring previous studies or research together and unite them. Knowing other important works in your area of interest can help you to determine the kind of contribution a paper actually makes.

Step 4. Archive

Personally, I keep a running library in Mendeley (http://www.mendeley.com), a free reference manager for Windows, Mac, iOS and Android where I archive all papers I have read and analysed. I annotate the PDF copy whilst reading on a tablet device, which I then attach to the reference record in Mendeley.

The free Mendeley web account allows me to access all my papers across all my devices seamlessly. This allows me to search through articles, find the paper, and see my notes with ease. I also arrange papers into folders within Mendeley by type/subject, allowing me to quickly compare related papers. After much trial and error I found this system works best for me – here's why:

1. It's easy to add new references to Mendeley from PubMed, journal websites etc.
2. I always have access to my library PDFs with my own annotations.
3. I nearly always have my phone or tablet with me.
4. I don't need to print reams of paper.
5. By using Mendeley, I can also easily insert the articles as references in any writing I'm working on (if you haven't tried the cite-while-you-write feature of these reference managers yet you need to!).
6. Did I mention Mendeley was free?

Further reading…on reading papers!

Alan Batt

1. Lee P. Understanding and critiquing qualitative research papers. Nurs Times. 2006 Jul 18-24;102(29):30-2. PMID: 16895246.
2. Sale JE. How to assess rigour . . . or not in qualitative papers. J Eval Clin Pract. 2008 Oct;14(5):912-3. PMID: 19018925.
3. Greenhalgh T, Taylor R. Papers that go beyond numbers (qualitative research) BMJ. 1997 Sep 20;315(7110):740-3. PMID: 9314762.
4. Greenhalgh T. Papers that summarise other papers (systematic reviews and meta-analyses). BMJ. 1997 Sep 13;315(7109):672-5. PMID: 9310574.
5. Greenhalgh T. Assessing the methodological quality of published papers. BMJ. 1997 Aug 2;315(7103):305-8. PMID: 9274555.
6. Greenhalgh T. How to read a paper. Getting your bearings (deciding what the paper is about). BMJ. 1997 Jul 26;315(7102):243-6. PMID: 9253275.

Change

"There is nothing permanent except **change"**, Heraclitus

Medicine is ever **changing** and evolving due to new discoveries and evidence of benefit or harm. Promising new therapies may be heralded and we **change** our practice to incorporate them. However, these therapies do not always provide the same benefit as we first thought and we may need to **change** again.

This next year will see numerous advances and **changes** in paramedic care in Ontario as we incorporate those therapies with evidence of benefit and modify those that have not proven to be beneficial. In 2017, we will be implementing **changes** to the ALS PCS, BLS PCS, ACR/ePCR, and the Equipment Standards as well as implementing the new provincial STEMI protocol.

The main impetus for updating the ALS PCS was to align the cardiac arrest medical directives with the 2015 Heart & Stroke Foundation of Canada's (HSFC) Guidelines on emergency cardiovascular care. In addition to **changes** in cardiac resuscitation, new evidence on the traditional therapies of nitroglycerin and morphine in ACS and STEMI patients will be incorporated into the ALS PCS. For hypoglycemia, an infusion of D10W as an alternative to preloads of D50W has shown promise and benefit and thus will be launched as an optional **change**. Lastly, following evidence of exemplary assessment and care by paramedics of opioid toxic patients, the Opioid Toxicity directive will be **changed** and the patch points for naloxone will be removed (for both ACPs and PCPs). All of these **changes** are part of the ALS PCS 4.0 due to be implemented by July 2017.

At this year's Annual Practice Review, paramedics in the CPER region will be discussing and practicing the many updates and **changes** in the medical directives and ALS PCS. We are working with the Paramedic Services and the Emergency Health Services Branch to implement these **changes** as soon as the education is complete and any medication/equipment is updated. We hope to implement these **changes** as soon as possible so that our patients may benefit from this up-to-date and evidenced based care.

There is a new provincial STEMI triage protocol that joins the other provincial triage tools for trauma and stroke and will be implemented by February, 2017. Although this will be a new program and a big **change** for some, many regions have had strong paramedic STEMI programs for years and this new provincial tool was built on those successes. This will allow provincial implementation of a common, evidenced-based process for STEMI recognition and transport for timely reperfusion. An educational update on STEMI recognition and management will be launched on e-Medic in the fall of 2016 to support the transition to this new protocol.

The new BLSPCS 3.0 is poised to be implemented by December, 2017. This document is much leaner (condensed) and focuses on the essentials to support the care paramedics provide daily. Last updated in 2007, there have been numerous medical updates that were submitted as critical **changes** that are being rolled out in 2017. The most important **changes** include oxygen titration based upon oxygen saturation that will reduce the need for oxygen administration dramatically, and a reworking of the spine immobilization section to a more up-to-date spinal motion restriction section. These **changes** will make the BLS PCS much more concise and allow paramedics to focus on best patient care.

Lastly, obstetrical care will be moving from the BLS PCS to the ALS PCS. This **change** has an anticipated implementation date of early 2018. The Emergency Childbirth Medical Directive will provide specific direction for paramedics on routine and complicated deliveries. The Base Hospitals are working on a provincial standardized hands-on education program to roll-out this significant **change**. Look for more information about this initiative early in 2017.

Medicine is always **changing** as new evidence becomes available. 2017 will be an unprecedented year of **change** as paramedics will be implementing the new ALS PCS and BLS PCS. Join me in embracing these **changes** as we move forward with the latest evidence to improve patient care.

Michelle Welsford

Quality Award Recipients

The CPER Quality Award is given to a selection of paramedics, on a quarterly basis, who have provided exemplary patient care, advocated for their patients and / or completed excellent documentation.

Peter Ross, ACP
Guelph Wellington EMS

Paul Short, PCP
Guelph Wellington EMS

Laura Dahmer, PCP
Guelph Wellington EMS

Jennica Boyle, PCP
Guelph Wellington EMS

Matthew Reid, ACP
Niagara EMS

Jason Murray, PCP
Niagara EMS

WELCOME TO OUR NEW STAFF

Stephanie Orr

Paramedic Educator

Stephanie comes to us from Peel Region with over 17 years of paramedic experience. Stephanie is a certified ACP and has both supervisory and education experience. She has worked on multiple Regional level committees, dedicated to improving paramedic-hospital relations and improving paramedic working conditions. Stephanie has also worked with the Sunnybrook Base Hospital program as an instructor, developing and delivering curriculum. Most recently, she has spent the majority of the past 4 years in Paramedic Education, focusing on initiatives to improve recruitment and retention processes.

Stephanie resides with her paramedic husband and young son in Milton. She loves everything baseball but especially the Boston Red Sox and Fenway Park. As much as she loves summer, she loves the winter – only because she gets to proudly cheer on her budding goalie star! Stephanie is excited to be a part of the CPER team and welcomes any questions

John Gyuran

Paramedic Educator

John comes to us from Southwest Base Hospital, where he recently served as the Interim Education Coordinator.

John is an Advanced Care Paramedic having worked as a Forestry and Industrial EMT-Paramedic in Alberta since 2013. Prior to that he worked 10 years with Region of Waterloo Paramedic Service (RoWPS) and 5 years with Peel Paramedic Services. While working for RoWPS, he has also held the role of Peer Auditor and Instructor with CPER.

John is the co-author of a WSIB of Ontario approved First Aid/CPR/AED program and has over the years held the role of Instructor and Instructor Trainer with Vital Response.

His education credentials include, a Bachelor of Physical and Health Education (BPHE) degree from the University of Toronto, an AEMCA from Humber College and an ACP certificate from the Michener Institute. He is currently licensed as an ACP in BC and as an EMT-P in Alberta. In his spare time, John is a dedicated husband and father of two girls.

PARAMEDIC RESEARCH CORNER

Kudos to the Paramedics at Haldimand County EMS who volunteered their time in January 2014 and participated in a research study designed to explore the barriers in use of the original Adult Analgesia Medical Directive. McMaster University Resident Dr. Dean Vlahaki conducted the interviews and determined areas where we could improve. We listened and updated the provincial directive to expand the indications and make it simpler. We also incorporated more education on the benefits of these medications and reviewed that these are the same medications that patients will receive in the Emergency Department. Thanks again to the paramedics for volunteering for the study and to Chief Rob Grimwood for his support of this project. The study was published in August this year.
Check out the study at the following link: http://tinyurl.com/z7tmas9

Vlahaki D, Vlahaki E, Welsford M. Paramedic perceptions of barriers to prehospital oral analgesia administration. Australasian Journal of Paramedicine. 2016;13(3 (2)):1–8.

Shout out to those paramedics in our region who volunteered to participate in a study a few years ago on their thoughts and views on how to reduce misuse of EMS. This was part of a PhD project led by Deirdre DeJean that was recently published. She found some very interesting concepts on how a patient's coping strategy may be associated with misuse of EMS. Check out the discussion at: http://www.longwoods.com/content/24535

Dejean D, Giacomini M, Welsford M, Schwartz L, Decicca P. Inappropriate Ambulance Use: A Qualitative Study of Paramedics' Views. Healthc Policy. 2016 Feb;11(3):67–79.

Involved in a study that you would like to highlight? Send along the info and we may highlight in a future edition. Want to get involved in research? We are looking for paramedics that are interested in performing research. Contact Dr. Welsford and get involved: dr.m@welsford.ca

Follow us @CPER_HHS

JOIN US! November 15, 2016

AskMED

CPER's Medical Council will be fielding your questions related to prehospital care in a live Q&A session via Twitter and Periscope.

Submit your questions to AskMED@cper.ca

For more information and instructions on how to participate in this event please visit our website at www.cper.ca

CONTACT US

If you have any questions, comments or have a suggestion for a Patch Point article submission, please contact:

JULIE LANGDON
Administrative Assistant
jlangdon@cper.ca

Hamilton Health Sciences
CENTRE FOR PARAMEDIC EDUCATION AND RESEARCH