London Health Sciences Centre
Southwest Ontario Regional Base Hospital Program

Leadership of optimal prehospital care systems

SWORBHP LINKS

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Inside this issue:

Autumn in all it's beauty!

Problems With Patches

Clear paramedic-physician telecommunication is critical when on-line medical advice is required or where a "patch point" is mandated in the provincial medical directives. Paramedics within the SWORBHP region use medical directives for their ALS calls and therefore patch infrequently.

A year ago, while patch tapes were listened to as part of several call investigations, it was noted that difficulties encountered during patching contributed to the problematic outcomes. Patching is assumed to be a straight forward, routine occurrence in prehospital practice. Other than the occasional patch failure for technical reasons patching is rarely identified as a problem and has never been systematically studied.

A retrospective analysis of transcriptions made from patch tapes recorded by the Central Ambulance Communication Centre (CACC) during January-March 2014 was completed. All calls when telecommunication occurred between paramedics from Grey, Bruce, Huron, and Perth Paramedic Services and Base Hospital physicians in Owen Sound were included.

All 42 patches identified were transcribed and used for analysis. 36 (85.7%) were for termination of resuscitation orders, 4 (9.5%) were for advice, and 2 (4.8%) were for orders not covered by medical directives.

Communication problems were identified in 40 (95.2%) of the patches. Most had multiple problems. These included disconnections (23.8%), difficulty hearing one another (40.5%) - indicated by phrases such as "sorry?" "what?", "I can't hear you" - or caused by individuals interrupting each other (83.3%), and talking simultaneously (47.6%).

When communication went awry, time was spent trying to 'repair' the break down in communication. This led to repeating information or attempting to 'sell' the case by providing information unnecessary for decision making. For example, during a request for termination of resuscitation, a paramedic felt the need to add that "there is vomit on the floor".

The pilot study indicated that paramedic-physician telecommunication problems are extremely common. They involved technical (mechanical problems) and human factors (disorganized radio 'technique').

The high incidence of telecommunication problems identified is concerning. Critical clinical decisions (e.g. ceasing resuscitation) depend on clear communication. The patch process is being studied further as part of a larger project and recommendations for improving patching will be forthcoming. Stay tuned.

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When Things Go Wrong

You may not think so, but we really do get it. The medical directors at SWORBHP all work clinically in acute care medicine. We understand the stress of resuscitation with multiple competing priorities, patients who don't follow the textbook, airways, needles, drugs, dosages, sharps, blood: we get it.

Ok, yes, we don't deal with the austere environment that you confront in the prehospital setting, and typically we have help in the ED with other team members. No question, there are additional significant challenges that paramedics face. On the other hand, as physicians, sometimes the ED has us pulled in multiple directions simultaneously given the sheer volume of patients (and the occasional lost medical student). So here is my point: we understand when (and how) things can suddenly go wrong.

What should happen, when despite our valiant efforts to provide optimal care, something goes wrong? For instance, a drug error happens (wrong drug, wrong route, wrong dose, etc.). At the center of all of this must be the patient. When this happens, you need to let the receiving ED team know immediately. We understand that for some of you this is really difficult, and you're not going to feel good about it (we know this from our own practice), but it's something you must do. The ongoing care of the patient has to be our foremost priority. When your care of the patient is complete, please remember to let the Base Hospital know what happened. The SWORBHP Communication Line is an excellent resource for this.

"The ongoing care of the patient has to be our foremost priority."

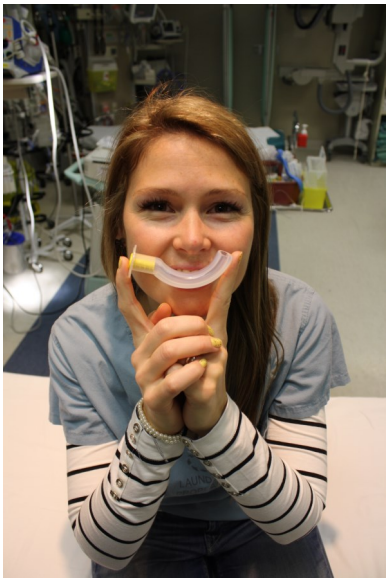
We understand that no one is perfect and that mistakes happen. How we manage them, learn from them, and understand the root cause of how they happened, is how we learn to prevent them in the future. By letting us know what happened, you are letting us help you as well as others who may encounter the same situation. We know that no one goes to work with the intention of providing less than optimal care and we trust that everyone puts patient care first. It's not about blame, it's about solutions. These concepts are part of a "Just Culture".

So here is the issue: how can anyone trust that we are putting patients first if we fail to disclose a patient safety event, leaving the receiving ED team scrambling to solve the mystery of an unexpected clinical deterioration of a patient?

Anyone is willing to help the individual care provider who did their best and is open and honest. Often the root cause and remediation is immediately apparent. The same is not true if we don't put patients first. It shouldn't require an investigation weeks later to find out what happened. By then, it may be too late.

Michael Lewell, B.Sc., M.D., FRCP(C)
Regional Medical Director

Introducing Lauren Leggatt - EMS Fellow



Hi, I'm Lauren Leggatt, one of the fourth year FRCP Emergency Medicine Residents. This year, I'm working with SWORBHP, as an EMS "fellow". As such, you'll be seeing me around quite a bit this year.

A little bit about me: I'm from London, and have had an interest in prehospital medicine since my lifeguarding days. For those of you who hail from London, I may also seem familiar from way back as I worked as a unit clerk at UH Emerg starting in 2001. I completed my medical school training at Western University and was located at the Windsor Campus. Outside of work I continue to enjoy the sun and water and try to stay fit swimming, biking and running.

My focus this year will be on education, so you'll be seeing lots of me at your recerts and hearing my voice on upcoming webinars.

I'm really looking forward to working with all of you this year!

Lauren Leggatt, BHSc., M.D.
SWORBHP EMS Fellow

SWORBHP is Recert Ready!

Preparing for each Recert season is an intense and complicated eight month process that begins in January and ends in August each year. This process includes determining what to teach, how to teach it, whether to evaluate, creation of material, planning, scheduling, practicing and so much more. In the final stages, we (the Prehospital Care Specialists, Medical Directors and myself) take all of this hard work and share it with our Associate Instructors (AIs). These Train-the-Trainer sessions allow us to test the flow of the day, make any required tweaks, and incorporate any feedback from the groups. It allows the AIs to become familiar with the material and flow of the day so when they're out teaching the rest of you, they're more aware of how the material was developed and how to teach it.

When you attend your annual Recert, please remember to utilize your AIs as an additional resource. Your Prehospital Care Specialist (formerly your Educator) is a great asset in the classroom, but there are additional resources available to answer your questions. If your question comes up after class, feel free to call or email us; we're always available and happy to answer your question. If we don't initially have the answer – we'll find it and get back to you. Please don't hesitate to ask – and remember, there are no 'stupid' questions!

We hope you enjoy your 2015-2016 Recert!

Stephanie Romano, M.Sc.Ed., HBSc., AEMCA
Education Coordinator, SWORBHP

Thank you to Fanshawe College for opening their facilities to us for the London Train-the-Trainer sessions.

SWORBHP Education Research

During the 2015-16 recerts, SWORBHP will be asking for your participation in some educational research. The objective of this project is to determine self-perceived knowledge or skill deficits in Primary and Advanced Care Paramedics within SWORBHP, what resources paramedics tend to reach out to in order to fill these gaps, and the types of educational resources and educational modalities paramedics would like to see made available from SWORBHP.

In order for us to determine how we can best meet your educational needs, we are asking that you complete a very short paper based questionnaire at your recert day. Participation in the study is voluntary and information provided will have no bearing on your certification status.

You will be receiving an introductory email in the next few weeks as well as an information letter explaining the purpose of the study, in addition to any potential risks and benefits and how the collected information will be used. Please take a moment to read through these letters prior to your recert day. This letter of information will also be available on the day of your recert. If there are any questions please do not hesitate to contact one of the study team members.

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By undertaking this research project, we hope to improve upon how SWORBHP delivers education in order to meet your needs and how to best tailor it to our paramedics. The only way we can truly accomplish this goal is with your input.

Matthew Davis, M.D., M.Sc., FRCP(C)
Medical Director of Education

How the Search for a Clinical Rule for Recognizing Hyperkalemia Led to a Recipe for a Passable Mojito

Summertime is not just about saving lives and stamping out disease. August seemed to be a specially difficult time for thinking about topics for a newsletter article.

After spending hours attempting to find a validated study describing (in the absence of a portable laboratory) the use of coin tossing for determining the probability of recognizing prehospital hyperkalemia, I became so frustrated I was driven to despair. How exactly this led to a prolonged series of experiments to find the perfect recipe for a Mojito is lost in a dense fog. However at the end of the struggle there emerged a passable recipe for a potion to help contemplate the mysteries of potassium.

45 mls white rum (Appleton Estates is a nice choice)
4 or 5, or even 6 fresh mint leaves
1/4 of a fresh lime (lime juice from a plastic bottle works too - especially for the 3rd or 4th glass)
2 tablespoons white sugar
Ice cubes
120 mls Club Soda

Muddle (crush) the lime, sugar and mint leaves in the bottom of a sturdy glass. Add extra lime if desired. Fill the glass with ice cubes. Pour the rum over the ice and then add Club Soda. Garnish with a sprig of mint or more lime. Sip slowly. Enjoy!!

Now, what was that question about recognizing hyperkalemia again?

Don Eby, M.D., PhD., CCFP(EM), FCFP
Local Medical Director
Grey, Bruce, Huron, Perth

Paramedic Transfer of Care

The transfer of care process has the potential to increase risk to the patient if ongoing patient care and information transfer does not happen effectively. In the prehospital setting, transfer of care typically reflects the process of handing over care to a nurse at a receiving facility. Given the ongoing system constraints and processes, handover can take a considerable period of time, leading to patient safety concerns if appropriate interventions are not initiated or maintained during this time frame.

Lately there have been a number of examples identified during the quality assurance process where patients have not received care that was indicated under the medical directives within the SWORBHP region. This is often due to the attending paramedic's engagement with the triage nurse, occasionally in an area removed from the patient. The most common medical directives found in these audits surround ongoing treatment in the Cardiac Ischemia Medical Directive and the initiation of the Intravenous and Fluid Therapy Medical Directive for hypotension.

To illustrate, consider a patient with ischemic chest pain who received three sprays of nitro by the time the crew arrive in the ED. Once in the ED the patient continues to have pain, however, because the attending paramedic is engaged with the registration and triage process, the patient receives no further treatment during this time despite meeting indications. The expectation in this scenario would see the crew working collaboratively to ensure the registration and triage process, which is part of the formal transfer of care, is completed effectively while still providing interventions as outlined in the medical directives.

...continued on page 5

Paramedic Transfer of Care - cont'd from page 4

To ensure that patients receive optimal care, paramedics need to be mindful of the fact that despite physically being inside the walls of the hospital, the responsibility for the provision of appropriate care within your scope of practice rests with the paramedic until the formal transfer of care has been completed. The paramedic crew should collaboratively work to ensure interventions are delivered in an appropriate and timely manner, and receiving staff are updated regarding changes in patient status, even when the triage/registration or offload delay process is time consuming. Additionally, the importance of accurately documenting the timelines and any complicating factors associated with the transfer of care process cannot be over-emphasized. By ensuring that appropriate resources are attributed to both ongoing patient care and information transfer to the new care provider, and then diligently documenting the exchange on the ACR, we can ensure the transfer of care process does not negatively impact patient safety.

Michael Kennedy, CCP(f)
Prehospital Care Specialist

Michael Peddle, M.D., FRCP(C), Dip. Sport Med.
Local Medical Director
Middlesex-London, Elgin, Oneida, Oxford

SWORBHP MedList - Your Arrhythmia Patient

Have you responded to a call recently for a patient with a pre-existing cardiac arrhythmia? If so, you may have found that he/she was taking a number of medications. Below is a list of the common medications your arrhythmia patient might be taking.

Anticoagulant/Antiplatelet

Brand Name	Generic/Chemical Name
Coumadin	Warfarin
ASA/Aspirin	Acetylsalicylic Acid
Xarelto	Rivaroxaban
Eliquix	Apixaban
Pradaxa	Dabigatran

Antidysrhythmic

Brand Name	Generic/Chemical Name
Lanoxin	Digoxin
Tambocor	Flecainide
Rythmol	Propafenone
Cordarone	Amiodarone
Procan	Procainamide

Calcium Channel Blockers

Brand Name	Generic/Chemical Name
Cardizem	Diltiazem
Isoptin	Verapamil

Beta Blockers (The LOLs)

Brand Name	Generic/Chemical Name
Betapace	Sotalol
Sectral	Acebutolol
Tenormin	Atenolol
Zebeta	Bisoprolol
Lopressor	Metoprolol
Corgard	Nadolol
Inderal	Propranolol

Stephanie Romano, M.Sc.Ed., HBSc., AEMCA
Education Coordinator, SWORBHP

Matthew Davis, M.D., M.Sc., FRCP(C)
Medical Director of Education

Link: www.lhsc.on.ca/About_Us/Base_Hospital_Program/Education/medlist.htm

SWORBHP Supports Newly-Certified Paramedics

In Fiscal 2014-2015, SWORBHP reworked its process for auditing newly-certified paramedic calls. This group consists of new-hire paramedics and certification level changes from PCP to ACP. The Ministry mandates auditing 80% of their ACRs where a controlled act is performed during the first six months of tenure. SWORBHP's approach is to ***audit 100%*** of newly-certified paramedic calls on which a controlled act is performed. Given that part-time paramedics in some of the smaller services might not have many calls during this time period, increasing the percentage is intended to boost sample size to provide better feedback.

Of the approximately 1,200 calls reviewed for benchmarking last year, 91 (or 8%) resulted in a ***potential*** variance being noticed on first-level review. Key to note is that most newly-certified paramedics are performing very well - 92% of ACRs reviewed had no variance compared to 86% for tenured paramedics. Upon further review in second-level auditing, the following trends were observed which helped draft SWORBHP's feedback plan:

	Newly-Certified Paramedics					Tenured Paramedics				
		2nd Level & Closure					2nd Level & Closure			
	1st Level Audits with Variance	None / With Comments	Minor	Major	Critical	1st Level Audits with Variance	None / With Comments	Minor	Major	Critical
1. Documentation Concern	68	54	14	0	0	1,063	963	100	0	0
		79%	21%	0%	0%		91%	9%	0%	0%
2. Patient Care Concern	23	10	12	1	0	616	379	232	5	0
		43%	52%	4%	0%		62%	38%	1%	0%
3. % Documentation of Total	75%	84%	54%	-	-	63%	72%	30%	-	-

Starting in Fiscal 2015-2016, as paramedics complete six months in the role, they will receive the following personalized feedback:

1) **Summary letter follow-up**
   A letter will be sent to the paramedic (copied to the Paramedic Service) congratulating them on reaching their six month mark. It will explain the rationale behind auditing, highlight any exceptional performance, provide an anonymous comparison against a peer group and give contact information in case there are questions. The format is standardized for all Paramedic Services within SWORBHP.

2) **ACR details and highlights**
   The letter will provide statistics and meaningful comparisons to support written commentary. SWORBHP will strive to get these letters to the paramedics in a timely manner but it's important to realize that for any ACRs in 2nd level audit, closure averages 35 days from date of the call.

3) **Value-added commentary**
   More documentation versus patient-care concerns are noted with newly-certified paramedics so commentary will be broken out accordingly and provide relevant examples. SWORBHP will provide an overall summary and strive to include food for thought for paramedics to progress in their practice. Recognition for superior performance will also be captured.

Greg Graham, B.Sc., B.Ed., M.Eng.
Coordinator, Professional Standards

Essex-Windsor Paramedics Support Injury Prevention in Youth

Windsor Regional Hospital's P.A.R.T.Y. program - which stands for Preventing Alcohol and Risk-Related Trauma in Youth – began its reality-based sessions for students in 1994, focusing on the dangers of drinking and driving and other risky activity that can lead to significant injuries. The interactive program includes demonstrations of first response by paramedics, former police officers discussing legal consequences of risky behaviour, a multitude of hospital staff demonstrating trauma care, discussions around organ and tissue donation, and "role playing" where students play the victim as well as other roles. The day wraps up with frank discussions with injury survivors and parents of fatally injured teens, asking for their support in helping local students understand the potential impacts of the decisions they make. More recently the program has focussed on the effects of drugs with driving especially marijuana, which has doubled in frequency for presenting multisystem trauma patients under the age of 25 in the last five years. Distracted driving has also been a newer focus, with the OPP declaring it the number one killer on our roads with 78 deaths in 2013 (D. Bradford personal communication, Sept. 8, 2015).

Essex-Windsor Paramedics have supported the program for over 20 years by providing hands on experience in a group session, demonstrating to the students how they will be treated and immobilized after a trauma scenario. Students have an opportunity to experience being treated in the actual equipment used on a trauma call, giving them an understanding of how paramedics do their job. They talk about the realities of the scene and the challenges paramedics face in these scenarios. Paramedics often see the devastation of alcohol, drugs, and distraction in causing traumatic injuries in youth, and work to extricate, stabilize, resuscitate, and transport on a daily basis. This is a chance to reach out to local youth and help change behaviours before they happen.

Research has shown that the work paramedics have done leaves an impact. A ten year study demonstrated a decrease in traumatic injury in program attendees compared to matched control subjects who did not attend (Banfield, Gomez, Kiss, Redelmeier, Brenneman, 2011). P.A.R.T.Y. Windsor functions in association with the International P.A.R.T.Y. Program. Their main website is a vast resource for teens, parents and teachers (http://www.partyprogram.com). Essex-Windsor paramedics have supported the program for almost 4,500 students, and have worked with over 250 school groups. You can find out more about our local P.A.R.T.Y. Program through Twitter: @PARTY_Windsor, and Facebook: P.A.R.T.Y. Program Windsor, and our Windsor website (http://www.wrhpartyprogram.ca).

Paul Bradford, B.Sc., M.D., CCFP(EM), FCFP, CD
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Essex-Windsor, Chatham-Kent, Lambton

Reference

Banfield, J.M., Gomez, M., Kiss, A., Redelmeier, D.A., Brenneman, F. (2011). Effectiveness of the P.A.R.T.Y. (Prevent Alcohol and Risk-Related Trauma in Youth) Program in Preventing Traumatic Injuries: A 10-Year Analysis. *The Journal of Trauma and Acute Care Surgery,* Vol. 70, Issue 3. Retrieved from: http://journals.lww.com/jtrauma/Abstract/2011/03000/Effectiveness_of_the_P_A_R_T_Y_Prevent_Alcohol.29.aspx)

Cathie Hedges, Captain, Professional Standards Essex-Windsor EMS, demonstrates stabilization of trauma patients to P.A.R.T.Y. Program students.

Upcoming CME Opportunities

Webinars - dates TBA

- **Ethics in EMS**
- **AHA Guidelines Update**
- **Bicarb & Lasix**
- **Excited Delerium**

Click here to visit our website and view the page dedicated to Continuing Education.

Look for us on the Web
www.lhsc.on.ca/bhp

Comments?

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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