Hamilton Health Sciences
CENTRE FOR PARAMEDIC EDUCATION AND RESEARCH

Centre for Paramedic Education and Research

Patch Point newsletter

FALL 2015 | ISSUE 3

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FALL ISSUE

The Lives You Save May Not be Your Patients'!

A Case Study of Lives Saved

This case began with a not so uncommon event - a very young person experienced an unwitnessed cardiac arrest at home and EMS were called. Despite maximal, expert CPR and ACLS resuscitation performed by the paramedics who responded, this patient ultimately did not survive.

However, sometimes the perseverance of paramedics, fire fighters and hospital personnel makes a difference in a way that many could not have imagined.

The patient in this case had return of spontaneous circulation on scene and was transported to the hospital.. Two intensivists, following a carefully designed protocol, declared her dead by neurological criteria about three days following her cardiac arrest. At this time, the family were approached by one of the Trillium Gift of Life Network's Organ and Tissue Donation Coordinators and offered the opportunity of organ and tissue donation. The family consented.

This patient donated heart-lungs to one patient, each kidney to two additional patients, liver to an additional patient, and pancreas to an additional patient. Five lives were saved through the actions of those first responders who provided optimal care for their patient. Without this care, all would have been lost.

Organ donation in Ontario is offered as an opportunity to families of patients who have died by neurological criteria or in whom invasive physiologic support (e.g. ventilation, vasopressors, etc.) will be withdrawn (donation after death by circulatory criteria). Tissue donation is offered to all eligible patients who die in a hospital in Ontario.

We know that organ donation has a beneficial impact on bereavement. Organ donation gives families of the deceased an opportunity for good to come from tragedy, for the last wishes of their loved ones to be honoured, for their grief to be lessened and for lives to be saved. Too often paramedics do not realize how far-reaching their work can go.

How can paramedics help facilitate organ donation? The expert care you offer to your patients every day is the most important step. Our first priority is to the patient in front of us – resuscitate maximally, ensure every opportunity for optimal neurological outcomes, and save lives like we are trained to do. Without expert resuscitation, patients do not recover from cardiac arrest. Without expert resuscitation, if the patients do not recovery neurologically, no organ would be transplantable. Your work matters in ways you will never know.

While this case is a reminder that sometimes our best efforts do not result in survival for the patient before us, it too is a reminder that when hope for the patient's recovery is lost, hope for others is born. Your efforts matter, even when your patient dies.

Thank you to the two paramedics (and many others) who saved the lives of the five individuals on the transplant list and preserved the opportunity for organ and tissue donation for a family experiencing an already devastating loss.

Andrew Healey MD FRCPC
Specialist in Emergency and
Critical Care Medicine
Regional Medical Lead – Donation,
Trillium Gift of Life Network

You can register consent to organ and tissue donation at: http://beadonor.ca

Welsford's Words

Welsford's Words = "Evidence-Based"

From wikipedia: "Evidence-based medicine (EBM) is an approach to medical practice intended to optimize decision-making by emphasizing the use of evidence from well designed and conducted research."

In honour of Dr. David Sackett, a Canadian physician from McMaster University who is known as the father of evidence-based medicine and who died this year at the age of 80, I would like to focus my newsletter submission on evidence-based updates in prehospital care.

We are pleased that all 9 of the paramedic services in our region have implemented the 2015/2016 ALS PCS. As you are already aware, some of the updates include expanding the use of the evidence-based analgesia directives to a wider group of patients. Kudos to Haldimand County EMS Paramedics for piloting the original directive and their feedback to make the new directive even better.

The new evidence-based 2015 Guidelines for CPR and Emergency Cardiovascular Care (ECC) will be released October 15, 2015. Every 5 years, the International Liaison Committee on Resuscitation (ILCOR) publishes a scientific, evidence-based, summary of resuscitation research. Several Canadian physicians, nurses and paramedics were involved in the latest review over the last 3+ years.

For 2015, this international group of resuscitation experts performed an "update" of the 2010 document focusing on those areas with new evidence.

The ILCOR scientific summary is used as the basis for the updated guidelines co-published by the American Heart Association and the Heart & Stroke Foundation of Canada (HSFC).

These guidelines will form the basis of CPR, First aid, and ACLS training courses that will be launched in early 2016. Be sure to look out for a HSFC webinar on October 15th beginning at 1300 (check out the heartandstroke.com website for more info which will be posted soon), and several conferences and journal updates that will highlight the updates to the 2015 CPR and ECC guidelines. The provincial Medical Advisory Committee will have a working group this fall of physicians, educators and paramedics to review these updates to determine if there is a need to update the ALS PCS to ensure we have the most up-to-date and evidence-based Medical Directives across Ontario.

On a related item, the long-awaited update to the BLS PCS is nearing completion. I hope we will see the updated document released by winter with revised evidence-based sections on oxygen administration and spinal motion restriction.

The Centre for Paramedic Education & Research is committed to evidence-based practice and highlights this in our education, quality management, and research projects. If you have any ideas or suggestions for updated evidence-based practice, I would love to hear from you.

Michelle Welsford

Quality Award Recipients

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

This quarter's recipients are:

Matt Wiedrick, PCP
Norfolk County EMS and County of Brant Ambulance Service

Steve Weinstein, PCP
Norfolk County EMS

Elaine Elliott, PCP
Haldimand County EMS

Sarina Drehmer, PCP
Haldimand County EMS

The History of the Ontario Ambulance Program

Part 1

For Ontario's working paramedics and emergency health care workers, the concept of prehospital care and the role of paramedics has been a key part of the treatment of the critically ill and injured. However the concepts and technology that have enabled care for cardiac and trauma patients, is actually quite new.

In the case of cardiac care, cardiac monitors for in-hospital AMI patients was not common until the late 1950's and the first external defibrillators pioneered by Dr. Bernard Lown were not even invented until the early 1960's.

In the case of trauma prehospital care the casualty care systems for various world conflicts have honed our current trauma care. In the Boer War in the late 1880's, falling off your horse and breaking your femur carried an 85% mortality rate.

The Thomas splint applied at the front in World War I reduced that mortality to 15%. The Allied forces in the Second World War had a system of rapid transport to a surgical center close to the front line for definitive surgery. The MASH units of the Korean conflict of the late 1950's and the perfection of that system by U.S. forces in the Vietnamese war in the 1960's and early 70's was a system much like ours today with paramedic field stabilization, rapid transport and definitive trauma center care within the "golden hour".

In fact it was the highly skilled ACLS, ATLS trained U.S. military paramedics returning home in the 1970's that lobbied government and helped pass the U.S. EMS Act of 1974. This legislation provided matching federal funding to all ambulance systems who added "paramedics" to their EMS service. This led to a huge expansion of advanced prehospital care in the U.S. … and of course the weekly TV exploits of Johnny and Roy on Emergency!, from 1971 -77.

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With the advent of provincial funding for ambulance services in the mid-sixties, the Department of Health embarked upon a path to develop a universally accessible ambulance service for the residents of Ontario with a mandate to introduce provincial standards for training, vehicles and service delivery.

Prior to that undertaking, Ontario ambulance services were by and large operated by funeral home owners, private operators, and in some instances by municipalities usually under the Fire Department. Minimum qualifications for employment varied widely and were dependent on the requirements of the local operator.

In 1965 vehicles in the system ranged from converted limousine and station wagon chassis, to half ton truck chassis, and the patient equipment varied immensely from community to community.

Prerequisite entry qualifications were comprised of a first-aid certificate, a valid driver's license, and a minimum age of 18 years.

To head up this new initiative, a number of staff with a background in the armed forces were brought together to coordinate and administer Ontario's new ambulance program. Work rapidly began to move toward the development and deployment of standards for vehicles, equipment, training and communications systems.

In December, 1968, a Provincial training program funded by the Ontario Health Services Commission (OHSC) had been established at Canadian Forces Base Borden. This four week "Fundamentals of Casualty Care Program" (FCC) brought together ambulance officers from across Ontario and provided them with didactic and practical instruction on anatomy and physiology, basic assessment and the fundamentals of the management of medical and traumatic conditions. The move toward provincial standardization continued with the primary objective being the integration of the ambulance services into community hospitals to be operated on a shared cost basis. In services which were absorbed into hospitals, staff became hospital employees and were often integrated into other roles in the hospital, principally as orderlies.

Concurrent with the developments in Ontario, other jurisdictions internationally recognized the need for advancing the standard of care provided in the emergency room to the scene of the patient. Additionally, portable equipment was now becoming available. Notably, the celebrated program in Belfast Northern Ireland introduced in the late 60's by Pantridge, Geddes, et al demonstrated the positive effect on outcomes of cardiac emergencies with advanced prehospital interventions.

Similar initiatives were undertaken in the U.S. and other international communities, and programs in Jacksonville, Florida; King County, Washington, and L.A. County, California began to flourish. These programs did not go unnoticed by the province and in 1970 a "paramedic" program was started up in Kingston, Ontario under the auspices of Kingston General Hospital and Queen's University and sponsored by OHSC. In adopting a principle of hospital based services, this program would serve to produce limited numbers of paramedics, whom on "down-time" could assist in the provision of more sophisticated care in the hospital setting.

This program ran for four consecutive years, ultimately graduating some 46 highly skilled paramedics. Upon return to their services, however, these graduates were never able to practice their trade as there was no prepared system in which these individuals could perform. The lack of provincial standards regarding the delegation of medical acts also made it difficult to gain the recognition of local medical staffs. In concert with the rational development of the ambulance system, a data collection system called OASIS (Ontario Ambulance Service Information System) was introduced.

This system permitted senior staff and management to move ahead with a variety of plans based on sound information, and initiatives such as vehicles and base locations could be justified using OASIS data which identified high call volume areas.
In 1972, the pilot Ambulance and Emergency Care program began at Humber College in Toronto and continued throughout the mid-seventies. College programs then began to proliferate in regions across Ontario.
Further strides were also made at this time when OHSC gave way to the newly formed E.H.S. Commission and the move toward standardization in training, employment, vehicles and equipment. The goals of this newly formed E.H.S. Commission included the "take-over" of services to be operated by E.H.S. with a strong local affiliation with the medical/hospital community. This did occur in ten communities and these services eventually became known as the "Ministry" services.
In 1973, a major reorganization occurred in the Provincial government and the emergence of the super-ministries saw the ambulance program now fall under the aegis of the Ontario Ministry of Health (M.O.H.).

New and controversial directions began to emerge, principally the move to "privatize" the operation of ambulance services. Under this policy, private citizens were invited to tender for "ownership" of services to operate on a franchise basis. Other health services (e.g. labs, nursing home section) were similarly affected. Many physicians with an interest in emergency care condemned this policy suggesting that the loss of hospital affiliation and the isolation of ambulance staff from the emergency department would adversely affect the skills and knowledge of the ambulance "officer".

During the mid seventies the ambulance program continued to evolve, however, physicians in several communities who had a special interest in emergency care were becoming increasingly frustrated with the lack of direction in Prehospital Advanced Life Support (A.L.S.). Communities in Sault Ste. Marie, North Bay and Oshawa developed "unofficial" programs focusing primarily on ACLS interventions.

The Emergency Medical Services Systems Act (1974) in the U.S. was now law and it delineated the "15 points" necessary to provide optimal prehospital A.L.S. Other provinces had adopted advanced paramedic services initially in B.C. and Alberta, and international CPR and ACLS standards had emerged . Community based CPR programs began to expand. While there was little advancement toward the integration of prehospital A.L.S. in the mid to late seventies, the M.O.H. was continuing with the development of a system for Ontario. Sophisticated central ambulance communications systems utilizing "state of the art technology" were in the planning stages with the terminal objective of optimum utilization of vehicles and the provision of a central focus for area planning and ambulance coverage.

The helicopter program was introduced at Buttonville Airport in 1978 and staffed with highly skilled paramedics, followed by Sioux Lookout, Thunder Bay, Sudbury, and Timmins. This important program provided a high standard of care and transportation to trauma victims in South Central Ontario. Sunnybrook Medical Centre became the first Trauma Centre for Ontario.

To be continued...

Doug Munkley

Welcome to our new staff

Dr. Abdullah AlZaben

Fellow

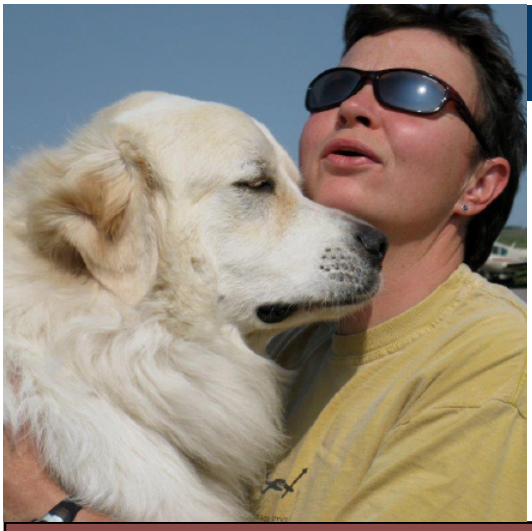
Dr. Abdullah AlZaben is McMaster University's latest Prehospital Care Fellow. "Fellows" are physicians that have finished their specialty training and are completing subspecialty training. CPER is pleased to participate in the education and subspecialty training of Prehospital Care/EMS physicians. Abdullah moved from Saudi Arabia with his family to learn more about the EMS system in Canada and work with the great EMS leaders and paramedics in our region. He graduated from King Saud University in 2008 and completed his residency training at King Abdulaziz Medical City in Riyadh. Abdullah became Saudi and Arab Emergency Board Certified in 2014. He is looking forward to meeting many of you during his field observation shifts, education events and meetings.

Quality Specialist

Kristy Smaggus recently moved to the area from Ottawa where she worked as a Primary Care Paramedic with the County of Renfrew, a Research Coordinator with their local Base Hospital (Regional Paramedic Program for Eastern Ontario) and as Network Coordinator for the Champlain LHIN's Emergency Network. She is presently a Quality/ Research Specialist with the Centre for Paramedic Education and Research (CPER) and is part of the Canadian EMS Research Network (CERN) steering committee as the Communications Lead. Kristy is passionate about paramedic research, evidence based practice and supporting paramedics to do their own research.

If you share an interest in research and would like to discuss opportunities with Kristy, please feel free to contact her at ksmaggus@cper.ca.

Kristy Smaggus



Outreach Co-Ordinator

Laurie Middlhurst was hired in July to oversee and co-ordinate the CPER Outreach Program. Her EMS career to date has spanned more than 25 years with experience including frontline land, air and industrial EMS, Paramedic Educator at public and private institutions, EMS Management, and business ownership. Laurie is working as a part time CCP with ORNGE, based out of London on 792. Laurie is looking forward to the new challenges and experiences here at CPER and is confident the Outreach Program will be very successful.

Laurie Middlehurst

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Join us!

November 16, 2015

for Ask MED

(Michelle - Erich - Doug)

On November 16, 2015 CPER will be hosting an Ask MED session via Twitter and Periscope.

CPER's Medical Council will be fielding your quesitons related to prehospital care

Dr. Michelle Welsford

Dr. Erich Hanel

Dr. Doug Munkley

Starting at 1600 hrs, submit your questions using the hashtag #cperaskmed to @CPER_HHS and watch the live event on your Periscope App!

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

CONTACT US

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

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