Civilian trauma care - learning from the military experience

Vivian C. McAlister
Civilian trauma care - learning from the military experience

Vivian McAlister
University of Western Ontario
Canadian Forces Medical Service
In the 21st century, military and civilian trauma surgeons bring similar solutions to similar problems, learning one from another.
IN HONOUR AND MEMORY OF THOSE
WHO SERVED IN THE GREAT WAR
EMBARKATION ROLL 1916 UNIVERSITY OF WESTERN ONTARIO
CANADIAN EXPEDITIONARY FORCE
NO 10 STATIONARY HOSPITAL

1914 1918

PT. H. PEACH
PT. E. SPRING

PT. J. T. JARROTT
PT. E. TAYLOR

CPL. V. A. JAMES
CPL. F. A. M'CANN

PT. J. T. PURDON
PT. C. ROBERTS

CPL. R. D. HARDING
CPL. E. T. BROWN

CPL. W. A. PARK
CPL. W. E. WILSEY

CPL. W. A. PARISH
CPL. H. C. WILSON

CPL. E. J. HUBERT
CPL. J. T. PATON

CPL. A. E. WOOD
CPL. J. W. WRIGHT

* DIED IN SERVICE

DIEHARD
W. E. WILSEY
W. H. WILSON

W. R. E. GAUGHAN
W. R. W. WILSON

W. B. HUNTER
W. T. WILSON

W. R. H. HUNTER
W. H. WILSON

W. R. H. HUNTER
W. H. WILSON

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W. H. WILSON

W. R. H. HUNTER
W. H. WILSON
Nursing Sisters of No. 10 Canadian General Hospital, RCAMC landing at Arromanches, France, July 23, 1944.
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In-Theater Peritoneal Dialysis for Combat-Related Renal Failure

Joseph S. Pina, MD, Soraya Moghadam, MD, Howard M. Cushner, MD, Greg J. Beilman, MD, and Vivian C. McAlister, MB

**Background:** Complications of renal failure may prevent timely evacuation of injured soldiers. Conventional renal replacement therapy is not available in forward surgical units.

**Methods:** Records of in-theater improvised peritoneal dialysis (IPD) in level III hospitals or forward surgical units in Iraq or Afghanistan were reviewed to determine the following: cause of renal failure and associated injuries; type of dialysate, peritoneal access, and exchange technique; and patient outcome. These data were used to propose method for IPD using commonly available materials.

sisted of HD or continuous renal replacement therapy (CRRT) and was supplied either on the USNS Comfort or in Landstuhl Regional Medical Center in Germany. Despite the paucity of literature on the use of PD in a combat hospital, PD can be provided easily in a deployed setting since the supplies required to perform this procedure are readily available at combat support hospitals and probably available at FST facilities. Other types of renal replacement therapy, such as CRRT and HD require dialysis filters and blood pumps,
**Objective**: review military trauma care in Afghanistan / Iraq for aspects that may influence civilian practice at home

- Comprehensive trauma care system: guidelines, registry, review
- Protocols for care: damage control; massive blood transfusion policy; mass casualty care
- Techniques: resuscitative thoracotomy; decompressive craniectomy; pelvic-gluteal hemorrhage control
- Rehabilitation: Mild traumatic brain injury
- Delegated medical acts: medics / PAs
Wherever the Dart Lands: Toward the Ideal Trauma System

A Brent Eastman, MD, FACS

I can't express strongly enough how honored I am to be standing before you, my peers and friends and patients, to speak about an issue that has absorbed my professional life: the development of trauma systems in North America and beyond. I accept the responsibility of giving the Scudder Oration recognizing it is meant to be a seminal address on the care of the injured patient, meant to carry a message to the people in this room and to trauma surgeons and trauma teams in the United States, Canada and around the world.

This 77th Scudder Oration will be built around surgeons, patients, and maps. I'll begin with my mantra, which some have said may be engraved on my tombstone. My wife, Tica, who is my editor and a master of brevity, says it's too long for a mantra, or a tombstone, for that matter, but here it is: my concept of an inclusive trauma system is thought, if nothing else, there's original material here. Evanston was my hometown, population 3,000. I was inspired by you, Anna Ledgerwood, when you began your Scudder Oration talking about your beginnings in rural America, and I wish to emulate your approach.

Evanston and southwest Wyoming, when I was growing up, had a trauma system that was mostly my uncle Gilbert. Gilbert was county coroner and owned the funeral home, but he also taught first aid, and whenever there were injuries on the roads or ranches, he and his mortuary helper could slip out the coffin rollers in his 1951 Cadillac combination hearse and ambulance, slip in a gurney, stick on the flashing red light, and be on their way. His son and sometime assistant told me they occasionally had to interrupt a funeral for a trauma call. It was a somewhat delicate

Our challenge, as trauma surgeons of the United States and Canada, is to persuade the powers that be to support inclusive trauma systems for every citizen and traveler in every state and province, wherever the dart lands and when asked, to share our knowledge around the globe.

“This military trauma system provides a model for our civilian systems in this country”

Joint Theater Trauma System

Developed by United States Army Institute of Surgical Research to reduce ‘mortality and morbidity of trauma to its lowest levels’

• Clinical practice guidelines
• JTTR
• Weekly teleconference

Search: “JTTS CPG”
CPG: ‘not a substitute for clinical judgment’

- Acoustic Trauma and Hearing Loss
- Amputation
- Blunt Abdominal Trauma
- Burn Care
- Catastrophic Care
- Cervical Spine Evaluation
- Compartment Syndrome / Fasciotomy
- Nutrition
- Damage Control Resuscitation
- Emergent Resuscitative Thoracotomy
- Fresh Whole Blood (FWB) Transfusion
- Frozen Blood
- Hypothermia Prevention
- Infection Control
- Ocular and Adnexal Injuries
- Transfer and Trauma Patients
- Severe Head Trauma
- Management of War Wounds
- Pelvic Fracture Care
- Post Spleenectomy Vaccination
- Prevention of Deep Venous Thrombosis (DVT)
- Spine Injury Surgical Management and Transport
- Trauma Airway Management
- Urologic Trauma Management
- Use of Electronic Documentation
- Use of Trauma Flow Sheets
- VAP
- Inhalation Injury and Toxic Industrial Chemical Exposure
Pelvic-gluteal hemorrhage: 
personal observations

- Open blast injuries more common in war
- Ipsilateral internal iliac artery ligation very useful in open injuries to groin, pelvis and buttock
- Extraperitoneal approach to internal iliac artery quickest route to ligation and allows packing
- Ligation in continuity preferable to angioembolization
Pelvic-gluteal hemorrhage

• Bilateral Internal Iliac Artery Ligation as a Damage Control Approach in Massive Retroperitoneal Bleeding After Pelvic Fracture. Dubose J, Inaba et al. J Trauma 2010 May (e-pub)

Disasters – RVH is ready to respond

By Donna Danlyuk

Not only medical staff but volunteers, students, and even pets are on-hand to assist in cases of disaster. The staff at RVH is prepared, says Hellden.

In fact, by helping other hospitals in North America, Niagara Health System is sharing its expertise in emergency preparedness with other health care networks.

The crisis management team includes senior staff, doctors, nurses, and ancillary staff who are trained and prepared to respond to a variety of disaster situations.

The staff and volunteers are trained in a variety of disaster scenarios, including natural disasters, pandemics, and other catastrophic events.

RVNs – It’s time you explored all that Niagara Health has to offer!

An article in this issue of Niagara Health News discusses the variety of opportunities available to registered nurses in the region.

Niagara Health System is one of the largest health care providers in Ontario, offering a wide range of services for patients of all ages.

The system is dedicated to providing high-quality care and innovative programs to meet the needs of the community.

For more information, please visit our website: niagarathalional.health.ca
Thurs 15 Sep 2011

Postgraduate course:

Mass Casualty Exercise

Participants from all disciplines incl. local hospital nurses, technicians and directors

Based on CF training exercise: Maple Guardian

Medical student participants and role-players

Faculty to learn observer-controller-trainer role

Goal to develop a travelling course

1911 London Ontario: Canadian Army Medical Corps holds its first exercise
Rehabilitation from stress and injury

• Begins in the field
• Involves the unit and the family
• Goal is to restore the injured patient to productivity within the organization
• Requires expertise and transparency
MTBI: mild traumatic brain injury
Overlapping symptoms of PTSD, mTBI and depression

• Headache
• Lack of concentration
• Difficulty learning
• Irritability
• Sleep disorder
Response to mTBI (concussion)

• Compulsory screening of injured and also soldiers associated with event

• Compulsory rest
  – 1st episode: 'Take a knee' 3 day rest
  – 3 counts and your out
E. Harvey Estes and Eugene A Stead, Jr begin the physician assistant training program in USA after the Vietnam War.
Delegated medical tasks

• Self care / buddy care
• Who should be trauma team leaders: consultants (British Army) or physician assistants (CF)
• Medical technicians:
  – 'Stop and treat' versus 'scoop and run'
  – Which interventions are useful? tourniquet, surgical airway, needle decompression