Medical Oversight for Wilderness EMS

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Take Home Points

- Do what is right for the patient!
- Medical Directors should practice and know what their field providers do!
- Avoid applying ‘front country’ EMS protocols to the wilderness – They need special attention!

Objectives

- Discuss EMS medical oversight and issues for Wilderness EMS
- Provide overview of Wilderness EMS protocols and groups
Experience

- NREMT-Paramedic
- Started as EMT-Basic in 1990
- University of Wyoming – B.S. Molecular Bio/Pre-Med
- National Ski Patrol (WEC/OEC Instructor)
- University of Washington School of Medicine – M.D.
- Medical College of Wisconsin, Milwaukee, WI
  - Emergency Medicine Residency

Experience

- National Park Service
  - Medical Advisor, Grand Teton National Park, SEAZ Parks
  - National Park Service EMS Advisory Council
  - Medical Director, Teton County, WY Search and Rescue
  - Medical Director, Jackson Hole Fire/EMS – Jackson, WY
  - Emergency Department Physician - Jackson, WY

St John’s Medical Center

Experience

- Member, American Heart Association First Aid Subcommittee - 2010 Guidelines
- Member, International First Aid Science Advisory Board
  - NAEMSP Representative
- Military Experience – MAJ, Medical Corps, US Army Reserve
  - Iraq Deployments 2005-6, 2008-9
  - Operation Brightstar (Egypt) 2007
  - El Salvador MEDRETE 2009
  - Panama MEDRETE 2010
  - Croatia Immediate Response 2011
Wilderness EMS

- ≥ 2 hour transport
- Resource limited environment

NAEMSP/NASEMSO Operational EMS Position Statement

- Function within and not outside of mainstream health care system
- Have a qualified medical director (Medical Oversight)
- Established standards are met
- Providers should function within defined scope of practice

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www.naemsp.org/position.html

Medical Oversight

- Direct
  - On-scene
  - On-line (radio or other communication)

- Indirect
  - Protocols
  - QA review
  - Teaching
  - Participant Screening
  - Other Wilderness Specific Items
EMS Providers

- Emergency Medical Responder (EMR)
- EMT
- Advanced EMT (AEMT)
- Paramedic

Wilderness EMS Providers

- Wilderness First Aid (WFA) - 16-24 hours
- Wilderness Advanced First Aid (WAFA) - 30-40 hours
- Wilderness First Responder (WFR) - 40-80 hours
- Wilderness EMT (WEMT) - 180 hours
- Wilderness Advanced Life Support - 36 hours

Front Country EMS providers in the ‘Wilderness’

Wilderness First Responder

- 5-7 day course (40+ hours)
- Focus on decision making in wilderness
- Basic treatment protocols and common sense
- Skill and Scenario based
- 2 year certification
Wilderness Medical Oversight

- Physicians need:
  - Appropriate medical knowledge
  - Wilderness experience
    - Alpine, dive, space
    - Swiftwater, cave, international
    - Military, disaster, etc.

Direct Wilderness Medical Oversight

- On Scene
  - Appropriate technical skill and experience
  - Training with team
  - Know your limitations

- On Line (radio or other communication)
  - Great if available (However, 'radio failure' is common)
  - Multiple services try to provide this option

AVALANCHE CASE
15:30
23 yo Male caught in avalanche after cornice broke
- Carried 1,300 ft
- Buried - Self recovered
- Severe pelvic pain - pt. didn’t want to move

20:45
HIKING THE RIDGE OF GLORY BOWL
(TETON PASS)

ACCESSING THE RESCUE CACHE
0018
PATIENT FOUND AND EXTRICATED

PATIENT ASSESSMENT

- Alert - Brief LOC
  Intermittent nausea - No Vomiting
- ABC's Intact
  Strong Radial Pulse - 80
- Head - Normal
  No Helmet
- Chest - Normal
- Abdomen - Bilateral lower quad pain
- Genitalia - significant scrotal hematoma and perineal ecchymosis
- Pelvis Stable
  AP/Lat Compression

PATIENT ASSESSMENT

- No C-spine or T-spine pain/deformity
- L-spine with lower midline pain/abrasion
  No step-off/deformity
- Normal Neuro Exam
- Extreme pain with movement of legs and pelvis
TREATMENT

Hypothermia

- Remove wet clothing
- Insulate from ground/surroundings
- External heat input
  - Fire (psychological comfort, light)
  - Heat packs (chemical, water, charcoal)
- Calories (eating/drinking)

Backboard - ? Spine Injury

No C-collar Used, Transported Supine
Rolled on side during night for comfort

Oxygen ???

- Only 1 'D' bottle
- 15 min NR FM at 15 lpm
- 2 hrs NC at 2 lpm

ALS Treatment???

Very limited supplies
Airway supplies - ETT/King
Pain Medications

No IV
Morphine IM (5mg x 4 doses)
20 mg total
(IntraNasal Fentanyl)
(?? IN Ketamine/Versed)

Vitals remained stable
Alert, HR 80
MORNING - FINALLY ...

TIMELINE
1530 - Injury
1803 - SAR callout
2045 - Ground Team Departs
0018 - Ground team reaches pt.
0200 - Base camp established
0745 - Helicopter extraction
0752 - Arrive hospital

HOSPITAL COURSE

☐ Several Day Hospitalization
☐ Doing well with some mild rehab

So, Would your Medical Oversight and Protocols allow this patient treatment?

Indirect Wilderness Medical Oversight

☐ Indirect (more common)
   ☐ Protocols
   ☐ Teaching/Training
   ☐ QA review

☐ Provide expectations of field providers
☐ Level of care you feel comfortable to authorize
☐ Support your providers
Wilderness Protocols

- Avoid applying ‘front country’ EMS protocols to the wilderness – They need special attention!
- Risk vs. Benefit
- Special training and/or procedures
- Expectation to do ‘What is right for the patient’
- What to do in communication failure
- Support from medical oversight in unique settings

Protocols

- Some ‘wilderness EMS protocols’ exist
  - Maryland - [www.miemss.org](http://www.miemss.org)
  - Maine - [www.maine.gov/dps/ems](http://www.maine.gov/dps/ems)
  - Wilderness EMS institute - [www.wemsi.org](http://www.wemsi.org)
  - NOLS-WMI – [www.nols.edu/wmi/](http://www.nols.edu/wmi/)
  - WMA – [www.wildmed.com](http://www.wildmed.com)
  - WMS - [www.wms.org](http://www.wms.org)
  - NPS - [www.nps.gov](http://www.nps.gov)
  - ICAR-MEDCOM - [www.ikar-cisa.org](http://www.ikar-cisa.org)
  - Others...

Protocols

- Wilderness Provider Protocols
  - Anaphylaxis
    - Epinephrine, Benadryl, Prednisone
  - Wound Management
  - CPR cessation (>30 min)
  - Selective Spinal Immobilization (Clearance)
  - Joint Dislocations
    - Shoulder, Patella, Digits (Hip)
  - Severe Asthma
    - Oxygen, Epi, Prednisone, MDI (usually pt's own)
QA Review

- Every Case
  - Documentation (risk vs. benefit)
    - Same documentation standards as 'Front Country'
  - What worked, what didn’t
  - What you would want for next time
    - Equipment, meds, etc.

QA Review

- How did you get lucky
  - Take it out of lucks hands next time
  - Plan for it – avoid near misses

- Share experience with others!!

Liability

- Do what is right for the patient!
- Check malpractice coverage
  - May or may not be covered for additional activities
  - Additional policy or rider may be needed
- Depending on what kind of person you are:
  - Don’t Ask, Don’t Tell Policy

- Do what is right for the patient!
Good Samaritan Laws

- Volunteer comes across an accident
- Some argue that this covers BLS and not ALS
  - But no solid case law exists
- Summary of State Good Samaritan / AED Laws
  - [www.cprinstructor.com/legal.htm](http://www.cprinstructor.com/legal.htm)

Malpractice

- Duty to Act
- Deviation from Standard of Care (negligence)
- Patient harm occurred
- Harm resulted from the negligence

Standard of Care

- Wilderness Setting
  - Greater than 2 hours?
- Evidence Based/Guided Medicine
  - Slowly coming
- Extrapolation from common medical practice
- Practice guidelines and references
References - Books

- Medical Oversight of EMS (Vol 2)
  - Edited by Bass et al. / NAEMSP - 2009
  - Wilderness EMS Chapter (Millin, Hawkins, Smith)

- Wilderness Medical Society - Practice guidelines for Wilderness Emergency Care
  - Edited by Forgey / WMS 5th edition 2006

- Consensus Guidelines on Mountain Emergency Medicine and Risk Reduction
  - Editor Elsensohn / ICAR, UIAA 2001

Oversight Courses

- NAEMSP’s National EMS Medical Directors’ Course and Practicum
  - www.naemsp.org

- Wilderness EMS Institute – Wilderness Command Physician Class
  - www.wemsi.org

Oversight Courses

1st Course - November 2011
Tucson, AZ
Provider Courses

Wilderness Medical Associates - www.wildmed.com
- Wilderness Advanced Life Support (WALS)

Wilderness Medicine Institute (WMI) / NOLS - www.nols.edu/wmi/
- Wilderness Upgrade for Medical Professionals (WUMP)

Advanced Wilderness Life Support (AWLS)
- www.awls.org

Remote Medical Inc. (RMI) - www remotemedical.com
- Remote Medicine for the Advanced Provider (RMAP)

Wilderness EMS Interfaces

- Protocol Conflicts
  - WFR protocols allow Prednisone, Selective Spine Immobilization, etc
  - Abandonment

- Unified Medical Oversight
  - Disasters???

- Combat/Tactical EMS

National Park Service

- 391 National Parks, Monuments, etc.

- Park Medic (UCSF-Fresno) - 1975
  - Advanced scope of practice in wilderness procedures
    - Selective Spinal Immobilization
    - Dislocation Reduction
    - Antibiotics

- Specialty medical training to suite wilderness settings of the national parks and areas

- National Protocols – Local Medical Advisors
Specialty Groups

- Search and Rescue (Urban, Disaster, Rural, Wilderness)
- National Ski Patrol
  - OEC 5e2011 - Meets national EMR
- Divers Alert Network (DAN)
- Wilderness Groups
  - Camps, Boy Scouts, etc.
  - Guides (mountain, rafting, etc.)
- International Expeditions

How do you find a Medical Director?

- Find a physician with outdoor interests
  - Expertise in Wilderness Medicine
- Give/Take Benefits and Opportunities
- Develop a relationship
- Discuss comfort level of providers/skills
- Have them contact other Wilderness Physician ‘Experts’
  - Standard of Care

Take Home Points

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Questions/Discussion

Lecture notes: www.wildernessdoc.com