Medical Oversight for Wilderness EMS

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www.wildernessdoc.com
Take Home Points

- Do what is right for the patient!
- Practice and know what your field providers do!
- Avoid applying ‘front country’ EMS protocols to the wilderness – They need special attention!
Objectives

- Discuss medical oversight 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 (OEC Instructor)
- University of Washington School of Medicine – M.D.
- Medical College of Wisconsin, Milwaukee, WI
  - Emergency Medicine Residency
Experience

- Medical Advisor, Grand Teton National Park
- Member, 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
Experience

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

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

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

Fire/EMS, Jackson Hole

Article 4 - Treatment Protocols

- Abdominal Pain
- Acute Coronary Syndromes
- Airway Management
- Allergic Reaction
- Altered LOC
- Altitude Illness
- Burns - Chemical
- Burns - Electrical
- Burns - Thermal
- CHF
- Diabetic Emergencies
- Fractures
- Head Injury
- Hypertensive Emergency
- OB Emergencies
- Patient Assessment
- Respiratory Distress
- Stroke / CVA
- Severed Body Parts
- Smoke Inhalation - CO Poisoning
- Syncope
- Toxic Ingestion - Poisoning
- Traumatic Arrest

Calendar

Move your mouse over dates to show events for that day. Click on a date to see all information on events for that day.

December 2009

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Upcoming Events

No events were found
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
STAGING - GO OR NO GO?
HIKING THE RIDGE OF GLORY BOWL (TETON PASS)
ACCESSING THE RESCUE CACHE
SKIING WITH RESCUE EQUIPMENT
TOE OF AVALANCHE
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)
TREATMENT

- Hypothermia
- Backboard - ? Spine Injury
  - No C-collar Used, Transported Supine
  - Rolled on side during night for comfort
- Oxygen ???
  - Only 1 ‘D’ bottle
  - 15 min NRFM 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
PACKING HELICOPTER LZ
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
INJURIES

- Pelvis Fracture
- Wide Pubic Symphysis - Non-operative
INJURIES

- Ruptured Spleen  
  Non-operative
- Pneumomediastinum
- Petechial Cerebral Bleeds
- Multiple muscle tears
HOSPITAL COURSE

- Several Day Hospitalization
- Doing well with some mild rehab

So Medical Directors... Would your providers be allowed to do these things?
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
- Maine – www.maine.gov/dps/ems
- Wilderness EMS institute - www.wemsi.org
- NOLS-WMI – www.nols.edu/wmi/
- WMA – www.wildmed.com
- WMS – www.wms.org
- NPS – www.nps.gov
- ICAR-MEDCOM - 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 luck’s 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
- Depending on what kind of person you are:
  - Don’t Ask, Don’t Tell Policy
- Do what is right for the patient!
Standard of Care

- Wilderness Setting
  - Greater than 2 hours?

- Evidence Based 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 5\textsuperscript{th} 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](http://www.naemsp.org)

- Wilderness EMS Institute – Wilderness Command Physician Class
  - [www.wemsi.org](http://www.wemsi.org)

- NAEMSP/Wilderness Medical Society
  - Wilderness EMS Medical Directors Course - Nov 2011
Provider Courses

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

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

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

- Search and Rescue (Urban, Disaster, Rural, Wilderness)
- EMS agencies interfacing with the Wilderness
- National Park Service
  - 388 National Parks, Monuments, etc.
- Wilderness Groups
  - Camps, Boy Scouts, etc.
  - Guides (mountain, rafting, etc.)
- International Expeditions
EMS agencies interfacing with the Wilderness

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

- Unified Medical Oversight
  - Disasters???

- Combat/Tactical EMS
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

- Do what is right for the patient!

- Practice and know what your field providers do!

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Questions/Discussion

Lecture notes: www.wildernessdoc.com