Medical Advisors in Wilderness Risk Management

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Wilderness Risk Management Conference 2012

October 26, 2012
Objectives

- Define and describe medical advisor
- Describe benefits to medical advisor role
- Describe medical advisor operational considerations
- Discuss specific models
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Emphases
- Expanded role medical advisors
- Partnership
What is a medical director?

- **Medical Director**
  - EMS context
  - Protocols
  - On-line direction
  - Off-line direction

- **Medical Advisor**

- **Health Care Providers (HCPs)**
What is wilderness medicine?

- Medical care influenced by:
  - Environmental factors
  - Resource deficiencies
    - “austere environment”
  - Prolonged extrication

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Austere Medical Care

Fig. 1. Overlapping realms of wilderness tactical/military and disaster medicine.

Who Should Consider Medical Advisors?

- Camps
- Parks and Recreation Departments
- Colleges and Universities
- Guiding Services
- Conservation Corps
- Expeditionary Programs
- International Trips
- Outdoor Adventure & Education Programs
What are Common Medical Conditions?

- Overuse injuries
- Burns
- Infections
  - GI
  - Skin
  - Appendicitis/Ulcers
- Abdominal Pain
- Sprains and Strains
- Mental Illness
NOLS Incident Reporting

- Database initiated 1984
- 3.5 million+ person days experience
  - 15000 incidents
- Data Publication
Illness Profile 2002-2005

- N/V/D
- Infection
- Flu Sx
- Allergy
- Abd Pain
- Gender
- UTI
- Resp Sx
- AMS
- Asthma
- HA
What Activities Were Involved with Injury?

Activity During Injury 2002-2005

- Hike w/ Pack
- At camp
- Nonspecific
- Rock climbing
- Hike w/o Pack
- Cooking
- Mountaineering
- Sea Kayak
- Ski w/ Pack
- Canoeing
- Swimming
Increasingly High Stakes to Manage Situations

- Market is increasingly competitive
Increasingly High Stakes to Manage Situations

- Different markets have different cultures
  - Epinephrine
    - Adventure Travel vs Adventure Education
    - Different Vehicles
Clinical Tidbit 1: EpiPen vs Sumatriptan

Increasingly High Stakes to Manage Situations

- Societal expectations
  - Unrealistic?
  - Disaster model
  - Staff has high quality medical education
  - Physician-level resources?
Traditional HCP Role

• Informal or Part-time Relationships
• Organized Training
• Medical Screening
• Medical Advisory Role
• Convenience Consultations
Evolving Drivers

- Insurance requirements
  - Insurer requirements
  - HCP requirements
  - Insurance benefits?
- Consumer expectations
- Sophistication of wilderness medical care

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EDITORIAL

The Relationship Between Ski Patrols and Emergency Medical Services Systems

The precise relationship between ski patrols and Emergency Medical Services (EMS) systems is a controversial topic. Ski patrols are represented by various organizations, including the National Ski Patrol (NSP), the Association of Professional Skiing Patrols, and the Professional Ski Patrol Association. The NSP is the oldest and largest of these groups, with more than 20,000 members and more than 600 affiliated ski areas (although the number may be decreasing with the current economy and area closures). The NSP is also the only ski patrol organization... and indeed one of the only non-government Wilderness EMS (WEMS) groups... with a specific federal charter for their work from the US government. The NSP is often associated with volunteer patrollers, but also has a professional division and is thus equipped to represent both volunteer and professional patrol services. The NSP also has the only training program uniquely tailored to the resort area environment: Outdoor Emergency Care (OEC).

Ski area requirements for patrollers vary, but many ski patrollers operate under OEC Technician (OEC-T) certification through the NSP’s OEC course—now in its fifth edition—with or without additional certification(s) of various providers and certification types required to respond to areas such as “outcountry” or areas out of bounds areas have been raised.

Finally... and interestingly... the OEC-T curriculum is evolving to cover non-ski resort environments, and NSP is marketing it as the national standard for all types of outdoor care, and not just non-ski specific care. The National Ski Patrol states: “OEC has evolved to address the needs of other outdoor-based emergency care providers too, including wilderness medical technicians, first-aiding and mountaineering guides, members of search and rescue groups, mountain bike patrollers, and parks and recreation employees. Today, OEC is considered the standard of training for emergency care in the outdoor environment.”

In this issue of Wilderness & Environmental Medicine, the study by Constance et al. “Prehospital medical care and the National Ski Patrol,” addresses the certification and training aspect of these questions head on. The authors meticulously evaluate the hours, inputs, skills, and information included in the EMT, EMT-B, and OEC curricula. They conclude that the OEC-T curriculum includes a skill set and a fund of knowledge that exceed...
New Technologies

- **Miniaturization:** availability of medical equipment
  - AEDs, GPS gear, airway devices (BIAD)

- **Communications equipment**
  - Telephone, Radio

- **Telemetry**
  - Skype, Tango, FaceTime
  - Internet Accessibility

- **Advanced Rescue/Evac Tools**
  - Helicopters
  - International Medical Evacuation (eg Global Rescue)
  - Geopolitical awareness
Medical Science & Medicolegal Considerations

- **Medications**
  - Rx (epinephrine)
  - OTC
- **Field clearance/refusal**
- **Hemostasis**
- **AEDs**
- **Infectious Diseases**
  - MRSA
  - Influenza
- **Selective Spinal Immobilization**
Real-world Benefits

- **Head injury consultations**
  - Hong Kong-NYC/CXR: 0.1 mSv
  - Average US background: 3 mSv
  - CT Head: median 3 mSv (1-6)
  - Average trauma workup: 40.2 mSv
  - Hiroshima survivors: 50-150 mSv

- **Futile Rescues**
  - Rescue vs Recovery
Selection

• Physician-level HCP

• Mid-level HCP
  ○ independent or dependent practitioners

• Field HCP
  ○ EMS model

• Staff trained in wilderness medicine
Terms: Insurance

- **Covered by HCP**
  - “real job” coverage
  - purchased
  - self-insured ("going bare")

- **Covered by Organization**
  - rider on standard coverage
  - purchased individually
  - self-insured
Insurance Companies

- Wilderness EMS
  - LapreScali Insurance Services LLC
    - emsmdinsurance.com

- Wilderness Medical Advisors
  - Evolution Insurance Brokers
    - Xinsurance.com
    - “Specializing in Hard-to-Place Risks for Liability, Professional & Property Insurance”
Good Samaritan Protection

- 5 principles must apply for Good Samaritan protection
  - Provider must not have caused emergency
  - Provider must act in “good faith”
  - Provider must not be compensated
  - Provider must not commit gross negligence
  - Provider must not have a preexisting duty to care for patient
Good Samaritan Protection

5 principles must apply for Good Samaritan protection

- Provider must not have caused emergency
- Provider must act in “good faith”
- Provider must not be compensated
- Provider must not commit gross negligence
  - abandonment
- Provider must not have a preexisting duty to care for patient
  - contract law
Terms: Compensation
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- Stipend
- In-Kind Support
  - **partnership**
- Atypical HCPs
  - Resident physicians
  - Retired HCPs
  - Clients
  - EMS physicians
Terms: Availability

- **On-site**
  - Expeditions, adventure races

- **24/7 coverage**
  - How’s that working out for you?
  - Professional consultation services
    - WEMSI, WMA

- **Call schedule/rotations**

- **Convenience availability**
  - Passive
  - Aggressive
Terms: Role/Activities

- **Patient Care**
  - On-line (direct)
    - radio, telemetry, on-site (field)
  - Off-line (indirect)
    - medical screening, protocols, training

- **Other activities**
  - Risk management consultations
  - Employee health
Controversial Roles

- **Patient Care**
  - **On-line** (direct)
    - radio, telemetry, on-site (field)
  - **Off-line** (indirect)
    - medical screening, protocols, training

- **Other activities**
  - Risk management consultations
  - Employee health
Expectations

- HCP
- Clients
  - disaster model
- Staff
- Administration
- Marketing
  - contractual obligation for specific outcome
    - Guilmet v Campbell 1971
  - “implied contracts”
Case Study

• May 2, 2007

• 15 year old male with MRSA infection dies on a youth adventure program in Colorado
HCP Indictments

- **Medical Director**
  - felony child abuse resulting in death
  - criminally negligent homicide

- **WEMT**
  - felony child abuse resulting in death
  - manslaughter
Clinical History

- **April 23, 2007**
  - journal entry: small blister on ankle; “burning up, vomiting and having trouble hiking”

- **April 26, 2007**
  - examined by WEMT, returned to basecamp
Clinical History

• April 27, 2007
  o no longer able to control bodily functions
  o considered “defiant” group member, separated from others, placed on suicide watch and given diapers
  o “Staff felt Caleb was faking his discomfort” per indictment

• April 29, 2007
  o talking to people who weren’t there
Clinical History

- **May 1, 2007**
  - had not eaten for 24 hours; staffer helped him drink some water

- **May 2, 2007**
  - found unresponsive; helicopter called; pronounced dead at the scene
  - Cause of death: disseminated MRSA

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Father

- Staff “basically said he was whining and trying to get out of the program. Ten minutes later, he was dead.”
- Parents “think they’re giving their kids some help, and [serious incidents] happen all the time. If we don’t speak up against it, it’s never going to stop.”

Montrose Daily Press 8/26/07
"We are at a loss to see how this was preventable. It was something the staff just could not tell was there."

“From what we know, the staff acted appropriately, in line with their track record.”

Denver Post, 5/11/07
Medical Director

- indicted by grand jury
- organization shuts down 7/07
- arraigned September 2008 in CO
- 9/7/08: pleads not guilty
- 11/08: Judge dismisses case
- 9/23/09: mother files civil suit
  - wrongful death, gross negligence, battery, assault, inflicting emotional distress
Medical Director Update

- **2011**
  - State of Utah Physician of the Year

- **12/30/11**
  - Dismissed from wrongful death lawsuit
Specific Models

- **NOLS**
  - “Orders”, default to evacuate, >20yr medical advisor
  - WMI
- **NC Outward Bound**
  - Some of the first WM classes in country
- **Other Outward Bound programs**
  - Alabama OB: Long Leaf Wilderness Medicine
- **Military**
- **Expedition**
- **Summer camps**
- **Others**
Research

- **NOLS**
  - Wilderness Incidents and Evacuations

- **NCOBS:**
  - Screening and Participation of Anticoagulated Participants in Wilderness Activities
Conclusion

- Medical Directors/Advisors may be helpful
- There are many considerations and logistical components that need attention
- Partnership and expanded scope
Resources

- Wilderness EMS Medical Director Course
- Wilderness Medical Society
  - www.wms.org
- Wilderness & Environmental Medicine
  - www.wemjournal.com
- National Association of EMS Physicians
  - www.naemsp.org
- Wilderness Medicine Sections
  - American College of Emergency Physicians
    - www.acep.org
  - Society of Academic Emergency Medicine
    - www.saem.org

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Questions, Further Dialogue

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www.blueridgehealth.org/wildems