MEDICAL DECISION MAKING CASE STUDIES
MATTERS OF JUDGEMENT

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NOLS WILDERNESS MEDICINE

WILDERNESS RISK MANAGEMENT CONFRERENCE

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This workshop will explore medical decision making through discussion of illustrative NOLS case studies. We will look at how medical protocols can be used to guide decision-making and the reality of clinical judgment in the field.
THE WFR VERSUS REALITY

In WFR courses patients have classic symptoms, treatments usually work, and time is compressed.

In the real world patients aren’t “textbook” and changes in presentation can occur slowly.

In WFR courses we often stop at the EVAC decision.

In the real world evacuation can be difficult, lengthy, and stressful and long term care is a reality.
THE WFR RECERT VERSUS REALITY

In the WFR Recert we start trying to predict patterns and looking for “the answer”.

In the real world patients aren’t “textbook” and often there is no “answer”.

In WFR Recert courses we equate our limited experience for clinical judgment.

In the real world our decision-making is easily hijacked when we make the patient fit out experience base.

How can you prepare for the tough decisions? What can we learn from others’ experience?
Day 2: “My belly hurts”  ➔  He’s homesick.  No PAS
Day 3: “My belly hurts”  ➔  He’s homesick.  No PAS
Day 4: “My belly hurts”  ➔  He’s homesick.  Or is he?
CONFIRMATION BIAS v. CONFLICTING DATA

- The group was homesick
- Lots of students complained of belly aches, headaches, difficulty sleeping
- This student had some tough challenges at home
- There was a mechanism of injury
- The student has a rigid abdomen
- The student’s left testicle was approximately 3x larger than his right
ALWAYS DO AN ASSESSMENT
TO IMMOBILIZE OR NOT TO IMMOBILIZE?
A TALE OF 3 MOIs

MOI?
Student flipped his kayak and struck his head on a rock under the water then swam to shore.

MOI?
Student slipped off a log landing on his back, paddled 12 miles to camp, then informed instructors of his fall.

MOI?
Student tripped and fell, hit her head on a rock, passed FSA. Later immobilized when neck became sore.
MECHANISMS FOR SPINAL INJURY
(Canadian Spine Rules)

- Falls associated with loss of responsiveness/altered mental status

- High velocity impact (e.g., car/ATV crash, climbing falls, high speed skier/biker crashes)

- Falls from greater than 3 feet (1 meter) landing on the head, back/side or buttocks
"…any impact of more than 5mph or fall from more than 5ft should be backboarded automatically…." 

-Paramedic

“There has been exactly ONE study done asking if our paranoid obsession with spine immobilization is justified by evidence (Hauswald, 1998)… Progressive EMS doctors are questioning the idea that we need to be so freaked out by possible spine injuries AND the idea of board and collar for all on mechanism alone has long been shown to cause more harm than benefit. The paradigm is shifting.”

-MD
GOOD FIELD IMMOBILIZATION IS TOUGH
FEAR IS A TRAP
POST SURGERY
RISK VERSUS BENEFIT
Anaphylaxis at NOLS 2005-2017

- Environment: 2
- Unknown: 3
- Bees: 6
- Food: 10

Bar chart showing the number of anaphylaxis incidents by year from 2005 to 2017.
<table>
<thead>
<tr>
<th><strong>Anaphylaxis</strong></th>
<th><strong>Dehydration, Exhaustion, Viral Illness?</strong> <strong>Not Anaphylaxis</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>peanut exposure</td>
<td>sunflower exposure 6 hours earlier</td>
</tr>
<tr>
<td>neck, throat, and tongue swelling</td>
<td>sore throat last night and this morning</td>
</tr>
<tr>
<td>throat hurt with swallowing and talking</td>
<td>cold but can hike</td>
</tr>
<tr>
<td>cold</td>
<td>cold after crossing a creek</td>
</tr>
<tr>
<td>difficulty breathing and talking</td>
<td>severe shivering</td>
</tr>
<tr>
<td>hives on throat and neck</td>
<td>wavers between verbally responsive and alert for 4 hours</td>
</tr>
<tr>
<td>nauseous, vomited once</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>75 mg of Benadryl</th>
<th>0.3 mg of Epinephrine</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 mg of Prednisone</td>
<td>50 mg of Benadryl</td>
</tr>
<tr>
<td>0.3 mg of personal Epinephrine</td>
<td>60 mg of Prednisone</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>40 mg of Prednisone 24 hours after</th>
<th>evacuated by helicopter 24 hours later</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 mg of Prednisone 48 hours after</td>
<td></td>
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</table>
BEWARE OF PRIMING
DAY 14 OF A 29 DAY ALASKA WILDERNESS COURSE

J was found sitting in the dark…hands over his ears…
crying…responding only with a nod or shake…
in obvious emotional distress…
PSYCHOLOGICAL FIRST AID

Create a Safe Environment
  Reduce chaos
  Remove patients from perceived threats

Create Calm
  Calm yourself
  Emphasize the present, the practical, the possible

Create Self-Efficacy
  Involve patients in their own care and rescue
  Remind patients of their strengths

Create Connection
  Build relationships, use names
  Help people contact family and friends

Create Hope
  Reflect accurate, positive facts
  Communicate hope and evidence things will improve
PFA TOOLS ARE GOOD FOR EVERYONE
IT WAS A HOT JULY DAY...

“first you slow down and can't move
your body drops and you're so tired
your mind slows you don't panic you just
can't think
noise drowns out and your vision becomes narrow and smaller like a tunnel
the room tilts and slowly turns on its side as everything fades to black”
SYNCOPE
EVACUATION GUIDELINES

- Evacuate all syncope that occurs during exertion.
- Evacuate all events of syncope that are accompanied by: chest pain, headache, SOB, abdominal pain, known pregnancy, or with signs and symptoms of shock.
- Evacuate all patients with syncope that occurs without the presence of prodromal symptoms such as dizziness, light-headedness, pallor, diaphoresis, vision changes.
- Evacuate all patients with a syncopal episode who complain of residual signs and symptoms.
- Consider evacuating all patients over 65 years of age who have experienced a syncopal episode.
UPDATE YOUR PROTOCOLS
1. Recall a patient you managed. Identify at least one thing that was different between providing care and your training. Share that with your peers.

2. In a remote setting, step away from the patient/scene, review/verbalize your notes, and create physical or temporal distance before making key decisions. Treat the situation like a case study.

3. Add an extended (12 or more hours) scenario into staff training to prepare instructors for long term care responsibilities and stressors.
QUESTIONS?

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