

## WATER DISINFECTION

	BACTERIA	VIRUS	PROTOZOA	CRYPTO-SPORIIDIUM	
<b>HEAT</b>	Yes	Yes	Yes	Yes	
<b>FILTRATION</b>	Maybe	Maybe	Yes	Yes	
Chemical Disinfection	Halogens • Iodine • Chlorine	Yes	Yes	Yes	No
	• Chlorine Dioxide	Yes	Yes	Yes	Maybe
	• UV Light	Yes	Yes	Yes	Yes

Adapted from Field Water Disinfection in Auerbach, *Wilderness Medicine* 5th ed. 2007

## EMERGENCY RESPONSE & EVACUATION PLAN

### GO FOR HELP OR DO IT YOURSELF?

- Consider the condition of the patient. Is a rapid or routine evacuation needed?
- Use your WFA Pocket Guide to guide your treatment and evacuation decisions
  - Most evacuations are not urgent; there is no life or limb threat
  - If life or limb is in jeopardy a rapid evacuation is warranted
- Consider the terrain, your resources, distance to road, weather, available shelter, food, and water
- If calling for help with cell/radio/satellite phone:
  - Prepare your call
  - Be able to describe your location
  - Use coordinates if possible
  - Provide radio report of the problem
  - Clearly state your needs and/or plan

## RADIO REPORT

### SUBJECTIVE/SUMMARY/STORY

*Who, What, Where*

"This is (name) \_\_\_\_\_  
with a patient report/evac request."  
"We are currently located at \_\_\_\_\_."  
"I have a \_\_\_\_\_ year-old whose chief complaint is \_\_\_\_\_."  
"The cause of the injury/illness is \_\_\_\_\_."  
"The patient is currently (LOR) \_\_\_\_\_."

### OBJECTIVE/OBSERVATIONS/FINDINGS

*Head to Toe, Vitals, Patient History*

"Patient has (list key injuries/signs of illness) \_\_\_\_\_."  
"The patient's vital signs are (LOR, HR, RR, SCTM)."  
"Relevant SAMPLE history includes \_\_\_\_\_."

### ASSESSMENT

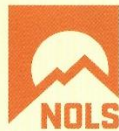
*Problem List*

"We suspect the following problems \_\_\_\_\_."

### PLAN

*Treatment and Evacuation*

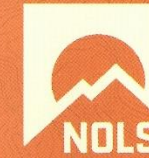
"Our treatment includes \_\_\_\_\_."  
"Our evacuation plan is to \_\_\_\_\_."  
"We request the following supplies/support \_\_\_\_\_."



WORLD HEADQUARTERS

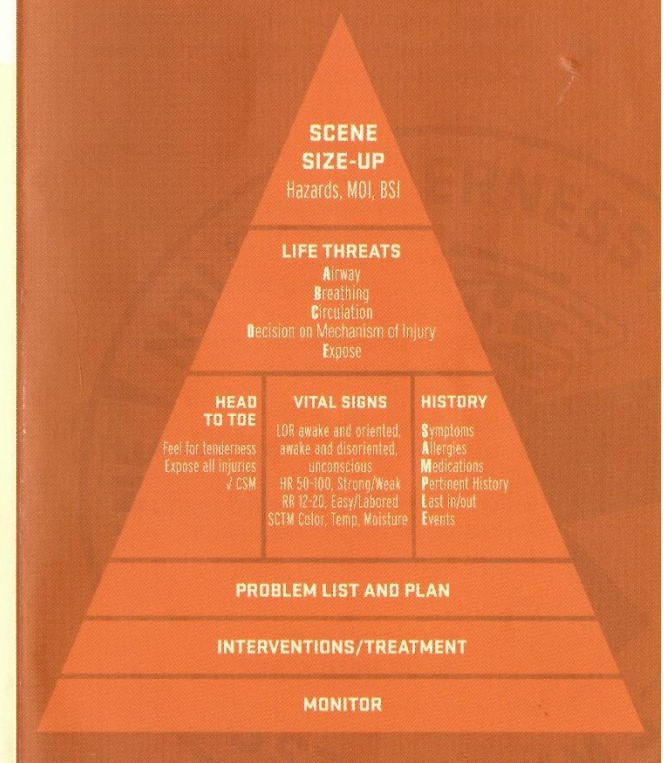
284 LINCOLN ST.  
LANDER, WY  
82520, USA

1.800.710.6657  
NOLS.EDU



# WILDERNESS FIRST AID POCKET GUIDE

Rob Adams



## SHOCK

- S/S**
- LOR: anxious, restless, confused
  - HR and RR: rapid
  - SCTM: pale, cool, and clammy
  - Nausea, vomiting, dizzy, thirsty

- Tx**
- Treat underlying condition
  - Shock position
  - Keep patient calm and warm
  - Oral fluids if patient can hold cup and swallow

- EVAC**
- Rapidly evacuate any patient whose vital signs do not stabilize or improve over time

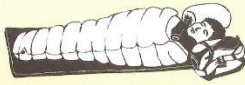
## SPINE INJURY

- MOI**
- These increase risk of injury, they are not always a cause of injury
    - Trauma to the head with loss of responsiveness/ altered mental status
    - High velocity impact
    - Falls from greater than 3ft (1m) landing on the head or buttocks
    - Falls for a patient over 65 years of age

- S/S**
- Pain, tenderness on spine
  - Altered CSM
  - Weakness or paralysis

- Tx**
- Protect the spine
  - ✓ CSM
  - BEAM (lift carefully) or log-roll onto a pad
  - Protect and access help to evacuate

- EVAC**
- If spine injury suspected



**STEP FORWARD  
IN AN EMERGENCY**

## HEAD INJURY

- S/S**
- Mild confusion
  - Nausea and/or vomiting
  - Headache, dizziness, lethargy
  - Amnesia
  - Blurred vision
  - Serious signs: LOR not awake and oriented
  - Skull fracture: blood from ears/nose, obvious injury

- Tx**
- Protect airway and monitor

- EVAC**
- If any loss of consciousness or S/S of mild head injury. Rapidly if S/S of serious head injury or changes in the patient's mental status (disoriented, irritable, combative)

## WOUND MANAGEMENT

- Tx Control Bleeding**
- Direct pressure and elevation
  - Tourniquet

### Prevent Infection

- Clean around wound with soap and water
- Pressure irrigate wound with drinkable water
- Cover wound with clean dressing and monitor CSM

- EVAC**
- If the wound can't be closed, is infected, contaminated, opens a joint space, is on the face, has an impaled/embedded object, or was caused by an animal bite or crushing mechanism

## WOUND INFECTION

- S/S**
- Redness extending beyond the wound
  - Warmth, swelling, tenderness
  - Pus formation

- Tx**
- Clean the wound again

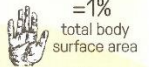
- EVAC**
- If infected and no improvement after 12-24 hours

## BURNS

- S/S**
- **Superficial:** red, painful, swollen
  - **Partial thickness:** red, painful, swollen, blistered
  - **Full thickness:** may be painless, no blisters, pale or charred

- Tx**
- Cool the burn
  - Assess airway and breathing and treat for shock
  - Estimate extent: palm and fingers = 1% surface area
  - Assess depth and location
  - Dress and bandage, monitor, hydrate

- EVAC**
- If pain is unmanageable. Rapidly if burn is >10% total body surface area, is circumferential, or on hands, feet, face, armpits, groin, or airway



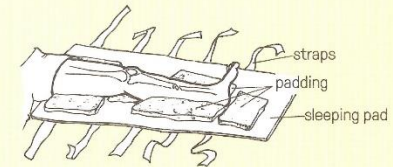
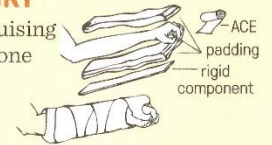
## MUSCULOSKELETAL INJURY

- S/S**
- Pain, swelling and/or bruising
  - Deformity, protruding bone
  - Altered CSM

- Tx**
- Assess for usability
  - ✓ CSM

If usable: Support (tape, elastic wrap, knee brace)  
If unusable: Splint (padded, rigid, lightweight, adjustable, ✓ CSM, immobilize bone or joint above and below)

- EVAC**
- If unusable. Rapid evac if open fracture, unreduced dislocation, altered CSM



## LIGHTNING

- Tx**
- ABCs
  - PAS and Tx of injuries
  - Monitor
- Px**
- Urban: buildings (not small sheds), vehicles  
“When thunder roars, go indoors”
  - Know local weather patterns
  - Plan ahead, avoid dangerous places
  - Monitor approaching storms since lightning can strike miles ahead or behind a storm
  - Thunder is a clear sign of danger
  - Seek uniform cover: trees about the same height or rolling hills
  - When impractical to move to a safer location, insulate yourself from ground current, stay low (lightning position), disperse group
- EVAC**
- If injured by lightning

## ALTITUDE ILLNESS

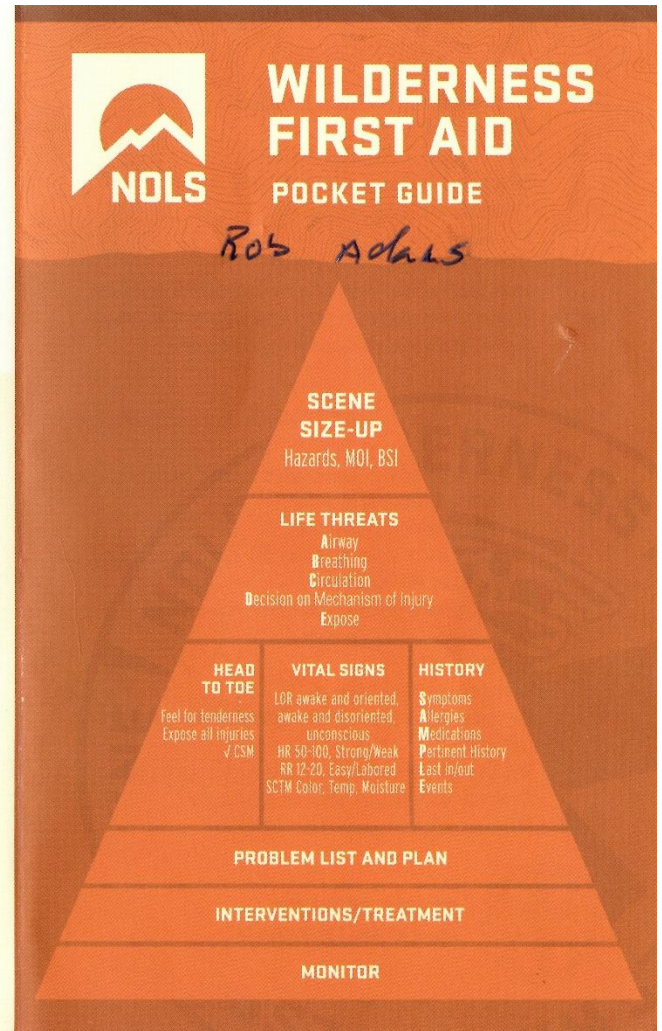
- S/S**
- Recent change to higher elevation
  - Headache
  - Nausea and/or vomiting
  - Loss of appetite
  - Low energy, fatigue, or weakness at rest
  - Insomnia
- Tx**
- Stop ascent until S/S resolve
  - Descend if S/S don't improve over 24-48 hours
- EVAC**
- Descend immediately if:
    - Loss of balance
    - Shortness of breath at rest
    - LOR changes

## THE MEDICAL PATIENT

- S/S**
- Chief complaint: “Can't breathe,” “Chest pain,” “My belly hurts,” altered mental status.
- Tx**
- Place patient in position of comfort
  - If patient has a prescribed inhaler (puffer) allow/assist them in using it
  - If patient has prescribed nitroglycerin or aspirin allow/assist them in using it
  - If patient has altered mental status, may have diabetes, give sugar. Consider recovery position
  - Monitor the patient's LOR
- EVAC**
- Chest pain that might be cardiac
  - Shortness of breath of increasing frequency or severity
  - Altered mental status: not awake and oriented
  - Abdominal pain that is: persistent for >12 hours, localized, guarding, tender, distended, rigid, made worse by movement, jarring or foot strike

## ANAPHYLAXIS

- S/S**
- Flushed and itchy skin, hives and/or welts on the skin
  - Any airway swelling (lips, tongue, difficulty swallowing)
  - Large areas of swelling
  - Shortness of breath
  - Shock
- Tx**
- If patient can speak and swallow, give oral antihistamines
  - Inject epinephrine (adult dose = 0.3ml/1:1000) with auto-injector into lateral thigh
- EVAC**
- Rapidly



## SHOCK

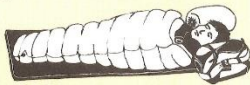
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## HEAT EXHAUSTION & DEHYDRATION

- S/S**
- LOR: dizziness with fainting
  - HR and RR: rapid
  - SCTM: pale, cool, clammy or flushed
  - Nausea and/or vomiting
  - Fatigue, thirst, muscle cramps
- Tx**
- Rest in a cool, shady spot
  - Hydrate
- EVAC**
- If no improvement with treatment

## HEAT STROKE

- S/S**
- LOR changes: disoriented, irritable, combative
  - Hallucinations, seizures, poor balance
  - HR and RR: rapid
  - SCTM: hot, dry, and red (possibly moist and pale)
  - Temperature above 104°F (40°C)
- Tx**
- Aggressive cooling: spray the patient with water and fan, or immerse in cool water
- EVAC**
- Rapidly

## HYPOTHERMIA

- S/S**
- **Mild:** shivering, apathy, confused and sluggish thinking, slurred speech, stumbling, “the umbles”
  - **Moderate:** uncontrollable violent shivering, worsening “umbles”
  - **Severe:** shivering stops, muscles stiff, stupor progressing to unconsciousness
- Tx**
- Find shelter and move the patient gently
  - Replace wet with dry clothing
  - Insulate the patient
  - Hypothermia wrap
  - Give food and fuel the shivering
  - Give warm, sweet, non-caffeinated, non-alcoholic liquid
- EVAC**
- If severe hypothermia, avoid rough movement

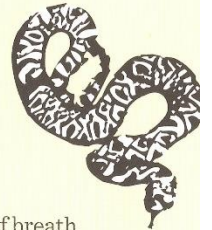


## LOCAL COLD INJURY

- S/S**
- Cold, waxy, pale, or mottled
  - Tingling, numbness, or pain
  - Blisters may form if frostbite has been thawed
- Tx**
- If not frozen: skin-to-skin warming
  - If frozen: ideally warm water bath 99-102°F (37-39°C), skin-to-skin warming okay
  - Protect from re-freezing
- EVAC**
- If blisters form, or for pain

## NORTH AMERICAN SNAKEBITE

- S/S Pit Viper**
- Fang marks
  - Swelling and pain
  - Bruising and blister formation
  - Weakness, sweating, and chills
  - Nausea and perhaps vomiting
- Coral Snake**
- Local swelling, nausea, vomiting
  - Dizziness, weakness, shortness of breath (up to 12 hours after bite)
- Tx**
- Avoid walking
  - Remove constricting clothing/jewelry
  - Splint the extremity. Avoid elevating the injury
  - Avoid any harmful and unproven Tx
  - For coral snake, a wide elastic bandage on limb with firm, uniform pressure
- EVAC**
- If bitten by a snake



*Disclaimer: This field guide is a reference. It is intended for NOLS Wilderness Medicine course graduates. It is not a substitute for current training, nor does it qualify anyone to perform the procedures described or substitute for experience, critical analysis, and the continuing education and training needed to keep skills sharp and make good decisions.*

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