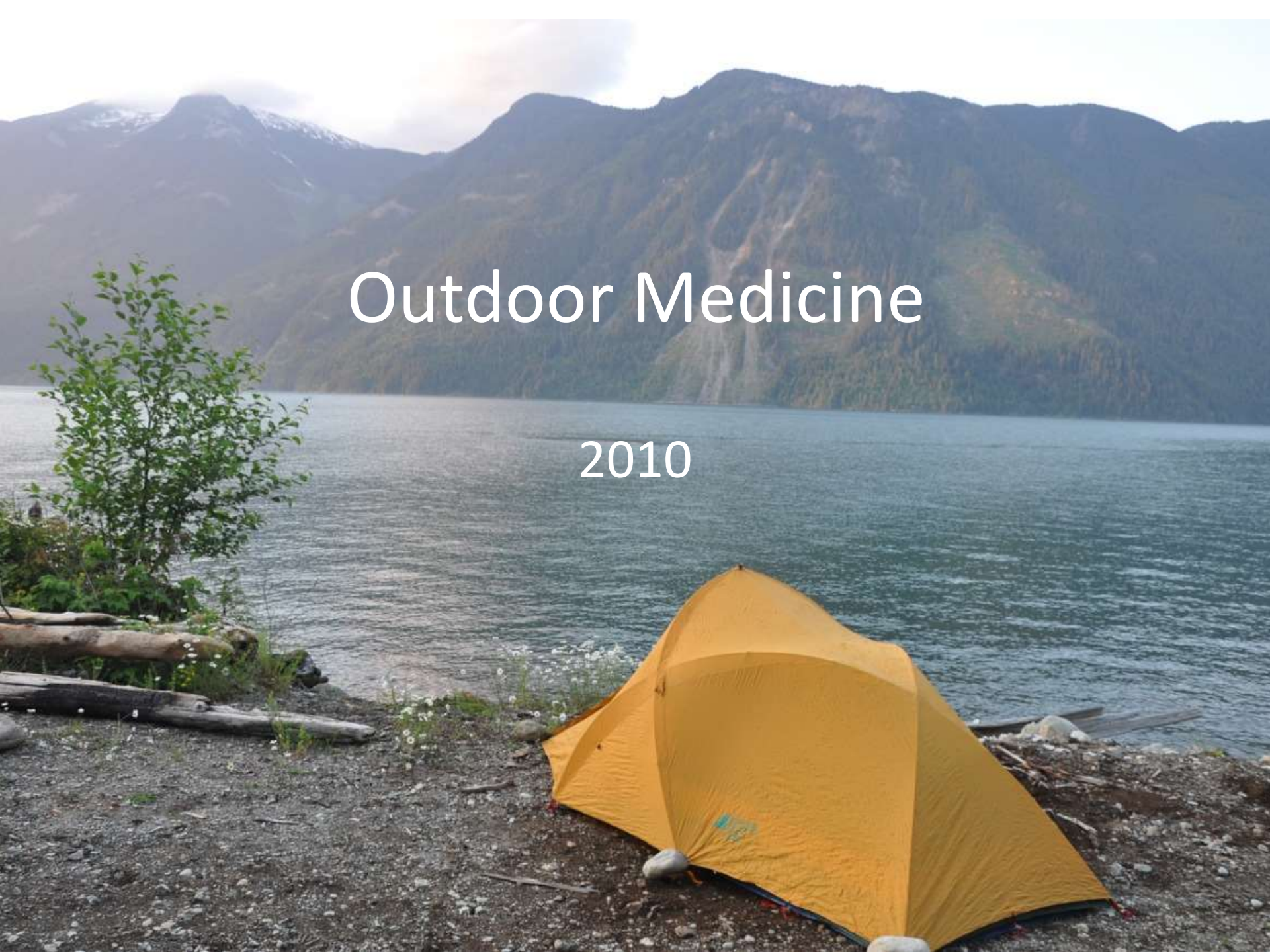


Outdoor Medicine

2010



Outdoor Medicine

- Preparation
- Priorities
- Common injuries and illnesses
- High altitude illness

Preparation

- Itinerary
- Extra food and water, filter or iodine
- Clothes – base layer, insulation, waterproof
- Fire
- Compass, knife, emergency blanket, light, string
- 1st aid kit

1st aid kit

- Waterproof bag
- Separate supplies in ziplock bags
- Continually restock
- Personal touch – family, daytrip, medications

Wound Care

- Adhesive tape – electrical or duct tape
- 4" x 4" sterile gauze pads
- Tensor bandages
- Band-aids (all sizes)
- Exam gloves
- Nonadhesive pads (Telfa)
- Pocket mask for [CPR](#)
- Resealable plastic bags
- Safety pins (large and small)
- Triangular bandages
- Moleskin

Miscellaneous

- Tweezers
- Knife or razor blades
- Waterproof matches or lighter
- Flashlight
- Scissors
- Sunscreen
- Iodine tablets
- Alcohol hand wash
- Thermometer

Medications

- Benadryl
- Tums
- Pepto Bismol
- Gravol
- Immodium
- Aspirin
- Ibuprofen
- Polysporin
- Electrolyte tablets
- Personal meds + rescue meds – epi pen, puffer

Priorities in Care

- Hazards
- ABCDE

Priorities in Care

- Airway and cervical spine
- Breathing
- Circulation
- Disability
- Environment and Exposure

Airway and C spine

- Awake and talking
- Non tender
- Normal rotation

- Foreign bodies, jaw lift
- Immobilize neck or recovery position





Breathing

- Look listen and feel
- Artificial respiration
- Heimlich/CPR
- Position – sitting, recovery, splinting

Circulation

- Shock?
- Bleeding?
- Check pulse
- Precordial thump, CPR

Disability

- Awake?
- Responding to pain or questions?
- Moving all 4 limbs?

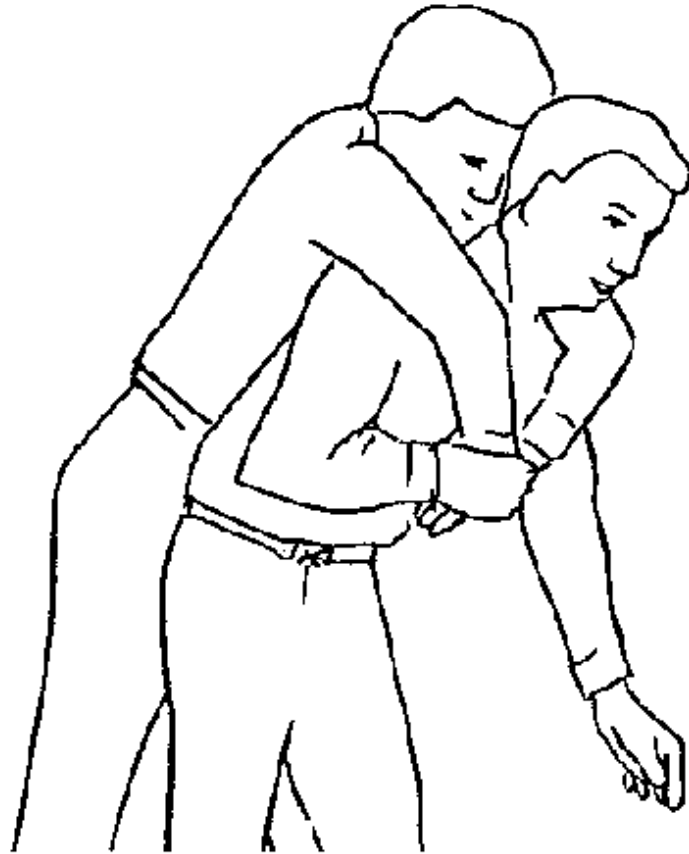
Environment and Exposure

- Examine entire body
- Limit heat loss
- Should I stay or should I go?

Casualty transport

- Drags
- Carries
- Stretchers

Packstrap Carry

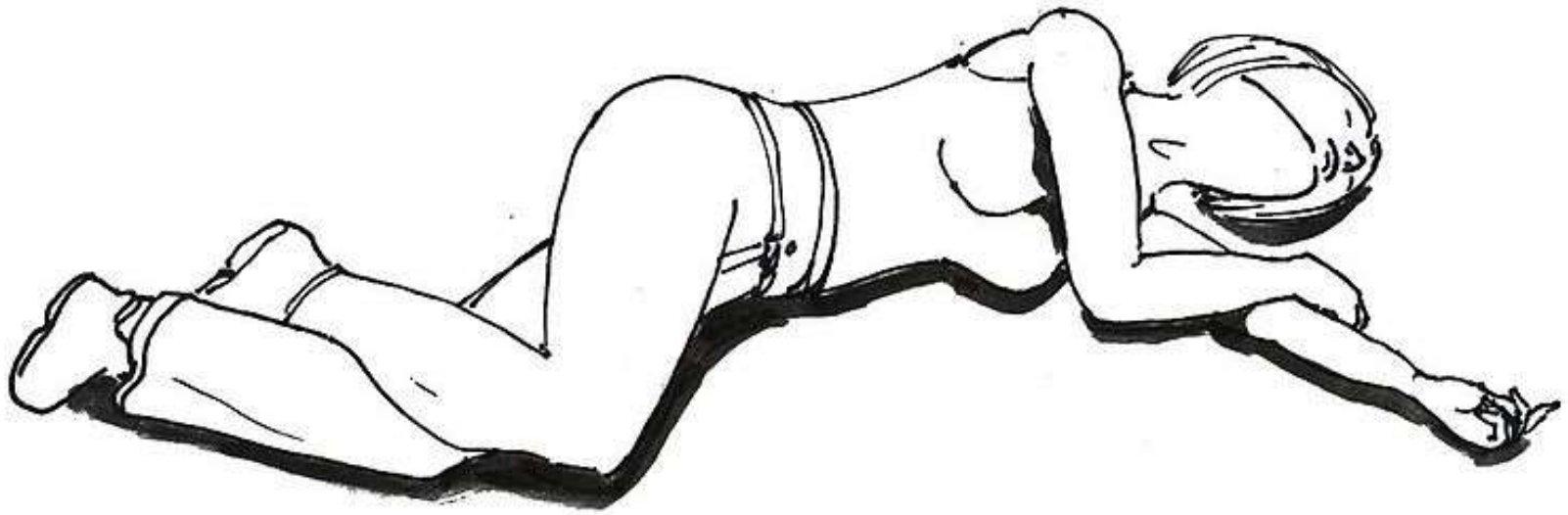


Blanket Drag





Recovery Position



Shelter

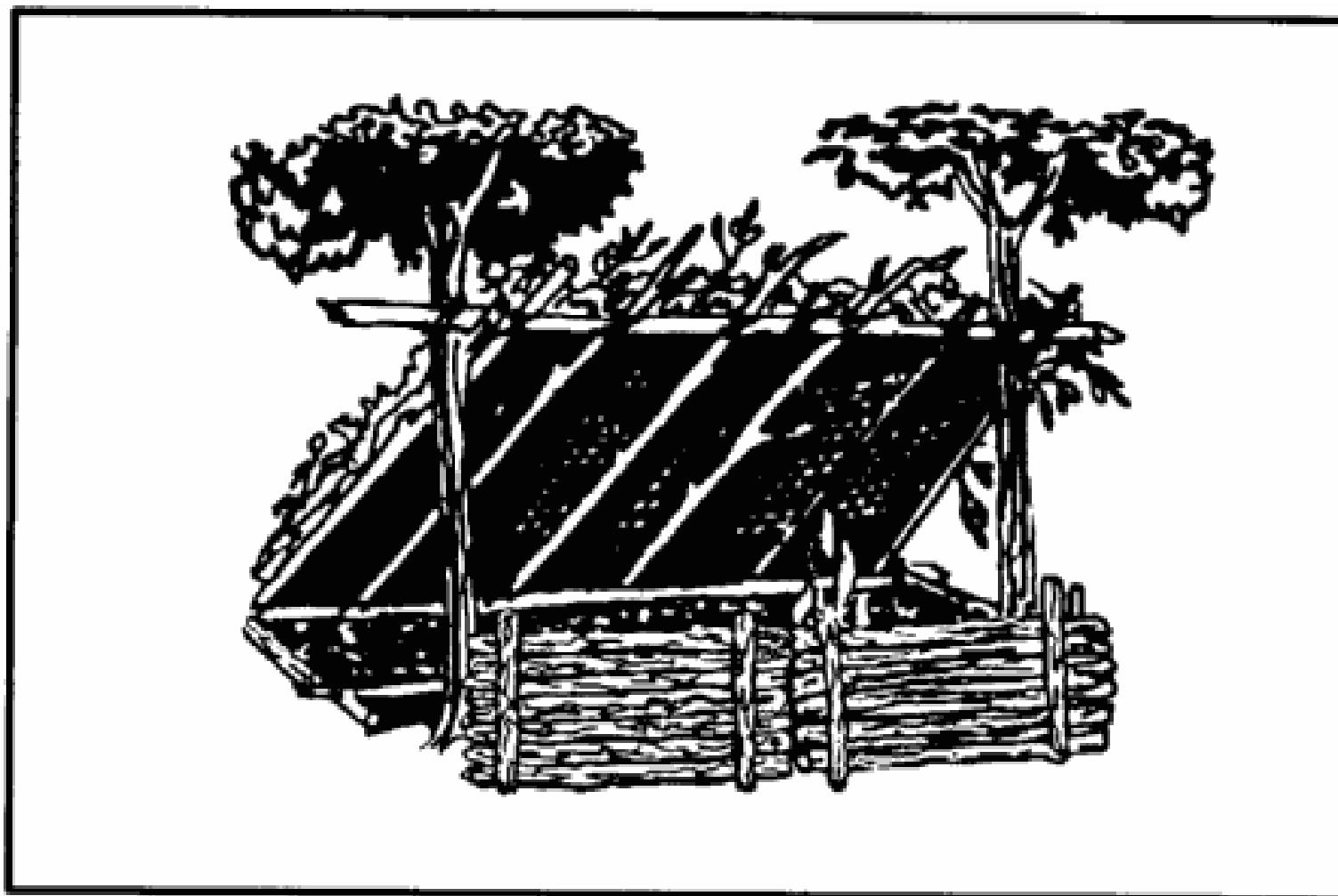


Figure 5-9. Field-expedient lean-to and fire reflector.

Heat

- Fire – tinder, kindling, fuel
- Reflector
- Nalgean bottle
- Skin to skin

Injuries and Illnesses



Head injury

- No treatment possible in the field
- Evacuate for any head injury
- Reasonable to wait several hours for casualty to wake up before departing





Neck Injury

- Immobilize
- Get out

Chest Injury

- Penetrating – 3 sided dressing
- Flail chest – splint
- Pneumothorax

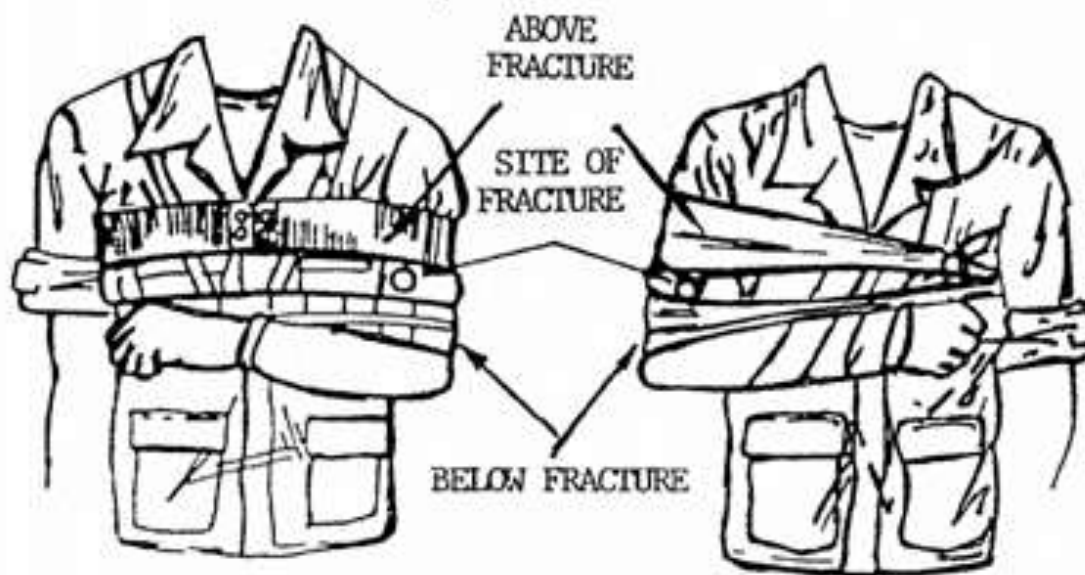
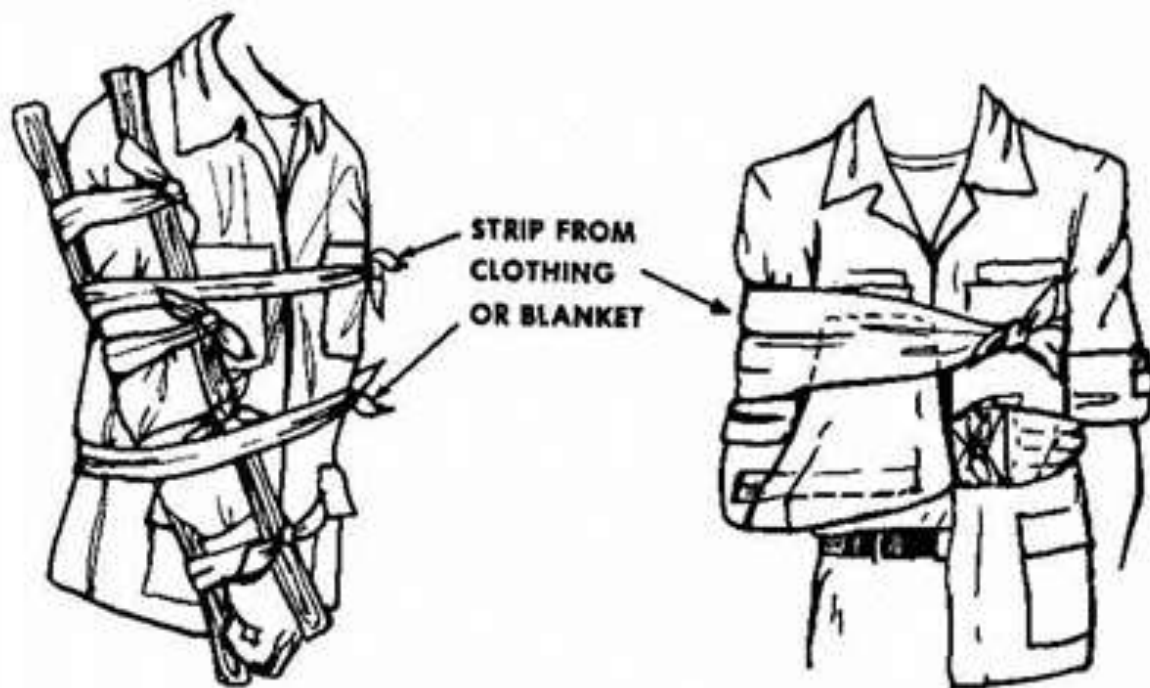
Abdominal Injury

- Penetrating
- Cover it
- Get out

- Blunt
- Get out if pain worsening or abdomen firm

Extremity Fractures

- Splinting
- Above and below
- ? Reduction
- Only if cold, white, ++painful



BELT, PISTOL BELT,
AND BANDOLEER

STRIP FROM CLOTHING
OR BLANKET

Diarrhea

- Prevention – clean water and handwashing
- Fluids
- Electrolytes
- Immodium if unbearable
- No role for antibiotics in the bush

Hypothermia

- Prevention – water, food and clothing
- Mild vs. Severe

Hypothermia

- Mild
- Feeling cold
- Shivering
- Painful hands and feet

Hypothermia

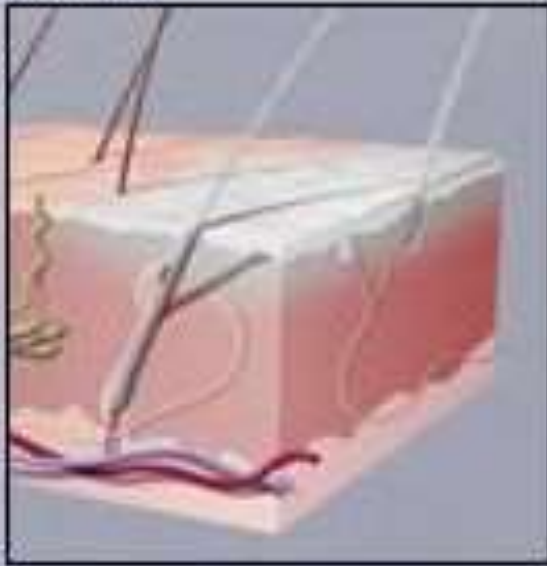
- Severe
- Apathy
- No shivering
- Confusion
- Difficulty walking

Hypothermia treatment

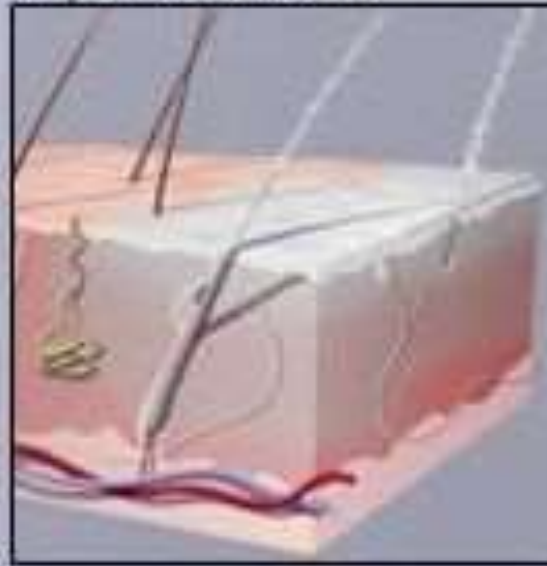
- Rewarming in the field
- Mild
 - Exercise, food, hot tea, warm clothes
 - Put your hands in your pants and dance!
- Severe
 - Risk of ventricular fibrillation
 - Strip and dry, skin to skin
 - Hot water (nalgean bottle or boiled clothes in bags) neck, armpits, groin

Frostbite

Frostnip



Superficial frostbite



Deep frostbite



Frostbite

- Don't rewarm until you can stay warm
- Aspirin

Heatstroke

- Shade
- Rest
- Sunscreen
- Water
- Electrolytes

Infections

- Take little cuts seriously in the bush
- Rinse and polysporin
- Red, hot, swollen, pus means it's infected

Panic

- Sympathetic vs. Parasympathetic
- Talk down
- Breathing out slowly





Altitude Physiology

- Problem is not with percent O_2 but with partial pressure.



Altitude Physiology

- Your body adapts to this low pressure of oxygen by:
 - ↗ Increasing your breathing rate
 - ↗ Increasing how much blood your heart is pumping
 - ↗ Changing your urine and how much you urinate

Altitude Illness

When your body does not respond well enough, several illnesses can occur:

- ↗ Acute mountain sickness (AMS)
- ↗ High altitude pulmonary edema (HAPE)
- ↗ High altitude cerebral edema (HACE)

Acute Mountain Sickness

Most common of altitude illnesses (40-50% of climbers at 15,000ft)

Symptoms include headache, GI symptoms (nausea, vomiting, anorexia), fatigue or weakness, dizziness or lightheadedness, and difficulty sleeping

“Cheyne-Stokes” breathing during non-dreaming sleep

Acute Mountain Sickness

Prevention:

- ↗ Slow ascent
 - ↗ Ascend less than 1000 ft sleeping altitude per day
 - ↗ “Climb high, sleep low”
- ↗ Copious hydration
 - ↗ Keep urine “Gin Clear”
- ↗ Acetazolamide (Diamox)
 - ↗ 125-250mg once or twice a day
- ↗ Ginkgo Biloba has shown to be ineffective, though many climbers still use it

Acute Mountain Sickness

Treatment:

- ↗ **Do not proceed to higher sleeping elevation for 24 hours**
- ↗ Immediately descend if symptoms worsen
- ↗ Start Diamox, if not taking already
- ↗ Take Tylenol for headaches
- ↗ Avoid sleeping pills
- ↗ Consider descending 500-1000m

Questions?