

First Aid and Safety



Philmont Advisor Training
Baltimore Area Council
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Attributions: Thanks to Coop Wright for sharing his First Aid template;
Thanks to SOLO for great stats & facts about Wilderness First Aid

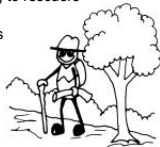
Objectives

- WILL TEACH:
 - Recognizing Backcountry Emergency Situations
 - Environmental First Aid (Prevent, Spot, Treat)
 - Safety Issues
- WILL NOT TEACH:
 - How To perform First Aid
 - How to Perform CPR
(That's why your crew medic(s) gets certified!)



EMERGENCIES: Backcountry vs "Civilization"

- Time & Distance
 - "Golden Hour" vs "Golden Day"
- Environmental Concerns
 - Impact of weather & exposure on patient **and** rescuers
- Equipment & Resources
 - Improvisation & duplicate use items
- Difficult or Hazardous Terrain
 - Means rough handling of patient and difficult footing to rescuers
- Specialized Techniques
 - Longer-term care; team management; outdoor skills



EMERGENCIES: Patient Assessment

- Survey the Scene: Is It Safe?
- Survey the Patient (1st): Are They Alive?
- Survey the Patient (2nd): What Is Wrong?
- Organize Patient Info & Care
- Monitor Patient

GIVE EVERYONE A TASK!



EMERGENCIES: How Bad Is It?

- What is shock? _____
- Why does shock happen? _____
- Signs & Symptoms of Shock
 - Restless, anxious, spacey, disoriented
 - Rapid shallow respiration; rapid, weak HR
 - Pale, cool, clammy, possibly nauseous
- Care & Treatment of Shock
 - Maintain open airway
 - Treat underlying cause
 - Keep flat with elevated legs
 - Maintain body temp, monitor vitals, reassure, transport



EMERGENCIES: How Bad Is It?

Burns

- 1st degree (red) = evacuate if over 80% of body
- 2nd degree (blisters) = evacuate if over 5% of body
 - Difficult to maintain temperature and hydration
- 3rd degree (charred) = evacuate if size of quarter

- A PERSON'S PALM SIZE REPRESENTS
1% OF THEIR BODY SURFACE.



EMERGENCIES: How Bad Is It?

Blood Loss

- 1 liter blood loss = severe shock for adult
- 16 oz. "Coke can" = severe shock for child

Blood Pressure

- No radial pulse in wrists = BP < 80*
- No femoral pulse in both legs = BP < 70*
- No carotid pulse = CPR!

(*These are systolic BP figures)



EMERGENCIES: How Bad Is It?

Always evacuate for:

- Facial injury
- Nose & mouth burns
- Lacerations greater than 2" in length



Evacuate for stitches if:

- If cut goes through skin (gapes) and is > ½ inch
- If cut is on face, hands, or over a joint
- If injury to blood vessel, ligament, or tendon

EMERGENCIES: How Bad Is It?

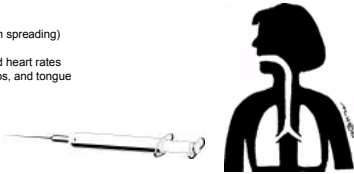
ANAPHYLAXIS: An overwhelming allergic reaction to a protein introduced into the body. Common allergens include bee/wasp venom; medication; food. This is life-threatening!

Progressive Stages:

- Itchy, red skin (local, then spreading)
- Runny eyes and nose
- Increased respiratory and heart rates
- Swelling of face, neck, lips, and tongue
- Anxious & agitated
- Pale, ashen skin color
- Low blood pressure
- Difficulty breathing

Treatment:

- Oral antihistamine
- Administer epinephrine syringe prescribed to patient & EVACUATE
- NOTE: A potential anaphylactic patient may never have experienced this level of extreme allergic response before



ENVIRONMENT: Too Wet - Too Cold

HYPOTHERMIA: Lowering core body temp to level where brain and muscle function are impaired

- How to prevent it
 - Stay warm and dry; Wear layers; Use rain gear in time
 - Maintain sufficient pace on the trail to generate body heat
 - Stay fed and hydrated
 - Stay attentive to self, crew, and environment
- How to spot it
 - Symptoms can sneak up gradually
 - Problems with shivering, judgment, coordination, speech
- How to treat it
 - Take immediate action to get crew member dry and warm
 - When one member gets hypothermia, check the entire crew



ENVIRONMENT: Too Hot - Too Dry

DEHYDRATION: Rapid loss of fluids due to low humidity, wind and sun

- How to prevent it
 - Camel up before leaving camp
 - Drink often, before getting thirsty, 4-8 quarts/day (1 per hr.)
 - Self-monitor urine output and color; "clear and copious"
 - Avoid hiking in the heat of the day
- How to spot it
 - Crew member complains of nausea, dizziness and general weakness
- How to treat it
 - Encourage fluid intake and rest
 - Replace salt lost, via food, Gatorade, etc. (1 tsp per quart)



ENVIRONMENT: Too Hot - Too Dry

HEAT EXHAUSTION – A heat injury that usually occurs in people not acclimatized to heat, caused by a combination of salt and water loss secondary to sweating. May occur with heat cramps.

- How to prevent it
 - Hike early, not in the heat of the day; use 5/20 rest breaks
 - Stay hydrated & maintain sodium intake
 - Wear light colored, loose clothing while hike
 - Cover head
- How to spot it
 - Restless, anxious, spacey, disoriented
 - Slightly increased, but normal respiration & HR
 - Pale, cool, clammy, possibly dizzy and nauseous
- How to treat it
 - Get in shade and rest
 - Replace lost fluid & salt
 - Not life-threatening; will recover in 24 hours



ENVIRONMENT: Too Hot - Too Dry

HEAT STROKE: A life-threatening heat injury, caused by a person "over-sweating" until their sweat mechanism fails and their body temp rises rapidly

- How to prevent it: See "Heat Exhaustion"
- How to spot it
 - Skin is red, hot, and dry (50%); other 50% are wet
 - Disoriented, confused, combative, hallucinating, eventually unconscious - coma - death
- How to treat it
 - Cool immediately by soaking with water & fanning to accelerate evaporation
 - Vigorously massage limbs
 - Beware of shivering – shivering produces heat
 - Get help, a medical emergency



ENVIRONMENT: Too High

ALTITUDE SICKNESS - body's inability to adjust to reduced oxygen pressure; usually occurs above 8000'

- How to prevent it
 - Cannot predict who will be affected
 - Maintain good fluid and food intake
 - Increase elevation gradually
- How to spot it
 - Crew member may develop a headache; experience nausea or vomiting; have a general lack of appetite
- How to treat it
 - Increase fluid intake and rest or sleep
 - Take minor pain reliever; aspirin or ibuprofen
 - If symptoms persist, decrease altitude



ENVIRONMENT: Too High

NOSEBLEEDS: Lack of humidity breaks down nose lining; usually affects those with previous nasal problems; possible sign of dehydration

- How to prevent it
 - Put light coat of Vaseline jelly in each nostril
- How to treat it
 - Have crew member sit, lean head forward and gently pinch nostrils together for 15 minutes
 - OB tampons



ENVIRONMENT: Too High

SUNBURN: High elevation increases effect of UV light

- How to prevent it
 - Use sunblock on top of ears, nose and backs of legs
 - Wear clothing, including shirt
 - Cover head
 - Use good sunglasses



ENVIRONMENT: Too Dirty

- Personal cleanliness - remove salt buildup and prevent hiker's rash
 - Wash PTA and clothes each day
 - Use bottom of plastic milk container or Ziploc as wash basin
 - Use unscented biodegradable soap...or none
 - Dry clothes in camp and on the trail
- Crew gear cleanliness - avoid the "dirty pot trots"
 - Supervise dishwashing, make sure final rinse is hot
 - Pre-meal sterilization is single-most important factor!
- Water purification
 - Treat drinking water and water for cold desserts with Polar Pure or filtration to avoid giardiasis and other nasty critters.
 - No need to cook with purified water, since you're boiling it



ENVIRONMENT: Too Dirty

SIGNS AND STAGES OF INFECTION:

- Red; due to increased blood flow to area
- Warm; due to increased blood flow
- Swollen; due to increased blood flow
- Painful; due to swelling
- Pus formation; collection of white blood cells
- Streaking; due to infection traveling up lymphatics
- Swollen lymph nodes; infection in lymphatics
- Fever & chills; infection is spreading systemically
- Septic shock; infection is in blood stream



PREVENTION & TREATMENT OF INFECTION:

- Clean/dress wounds; keep clean/dry; change dressings daily
- Apply moist heat
- If topical antibiotic is ineffective, may need oral antibiotic
- If wound is closed, may need to gently open and drain

ENVIRONMENT: Too Clumsy

STRAIN - stretch injury (pull) to muscle or tendon
SPRAIN - stretch injury (tear) to ligament

- How to prevent it
 - Stretch before and after you hike each day
 - Make sure that boots provide adequate support for ankles
 - Watch where you walk; watch how you pick up your pack
 - Consider use of hiking stick or poles for stability
- How to spot it
 - Development of pain, swelling and tenderness
 - Difficulty using or placing weight on injured area
- How to treat it
 - RICE and use a mild anti-inflammatory (aspirin and ibuprofen)
 - Rest - limited use, get backpack off and into camp
 - Ice - cold compresses for first 24 hours (wet cotton substitutes)
 - Compression - ACE bandage the injured area
 - Elevation - keep injured limb elevated



ENVIRONMENT: Too Clumsy

MUSCULOSKELETAL INJURIES: Fractures and dislocations of bones and joints

- How to prevent it (see Strains and Sprains)
- How to spot it
 - Did victim feel snap, crack or pop?
 - Is there decrease in normal function?
 - Is victim "guarding" that body part
 - Any deformity, angulation, discoloration or swelling?
 - What is the Mechanism of Injury?
 - Is there good C/S/M - Circulation, Sensation and Motion?
- How to treat it
 - At Philmont, you should be within several hours of assistance by trained WFR or doctor; use judgment
 - When in doubt, splint, creating rigid & well-padded splint
 - Check C/S/M below site every 15 minutes until help arrives



ENVIRONMENT: Too Clumsy

CONTUSIONS: Bumps and bruises

- Treat with R.I.C.E.
- Cylindrical bleed means length=depth

ABRASIONS: Scrapes, "trail rash" and similar

- Can easily become infected
- SCRUB thoroughly w/soap & water and air dry before bandage

FLAP AVULSION: Three-sided tear; one side attached

- Rinse under flap with sterile water irrigation
- Bandage in its proper anatomical position



ENVIRONMENT: Too Clumsy

IMPALED OBJECTS: Something stuck in the body that doesn't belong there

- Usually best to stabilize object & evacuate
- If involving eye, stabilize object and close second eye
- Consider removing if:
 - It is in an extremity
 - It is too large or difficult to cut off
 - It is in the cheek



ENVIRONMENT: Too Much Friction

BLISTER: skin irritation caused by friction

- How to prevent it
 - Wear socks with liners and well-fitting boots
 - Toughen feet up during pre-Philmont training
 - Treat "hot spots" before they become blisters
 - Remove socks & boots during 20 min. rest stops & lunch
- How to spot it
 - Monitor crew performance on the trail
 - Stress individual responsibility, if some has a "hot spot", the crew stops until it is fixed
- How to treat it
 - Use antibiotic ointment, tincture of benzoine, moleskin, Second Skin, and molefoam
 - May have to drain rather than have uncontrolled opening



ENVIRONMENT: Too Many Critters

SNAKE BITES: Less than 30 people die each year (1 fatality in 300 bites)

- How to spot it
 - Look for one or two small puncture wounds
 - Try to identify snake type without risking victim or rescuer
 - If venom was injected, victim should experience immediate swelling and pain (less than 40% of bites involve venom poisoning)
- How to treat it
 - Keep patient calm and relaxed; evacuate
 - Keep area of bite below level of heart
 - (Forget about Sawyer Extraction or "Cut, Suck & Spit"!)
 - If bite appears to involve venom, place constriction bandage between bite and heart while awaiting help



ENVIRONMENT: Too Many Critters

INSECT BITES: More than 70 people die each year from insect stings, due to anaphylaxis



- How to spot it
 - Local reaction involves only the site of the bite and may cause itch and swelling
 - Systematic reaction or allergic reaction involves entire body with rapid generalized swelling, hives, respiratory distress, nausea and shock.
- How to treat it
 - Local reaction - use cool soaks & sting stick; mild pain reliever; administer oral antihistamine for relief
 - Systematic reaction - a true medical emergency, crew member should have medication (epinephrine) with him/her; crew advisor must be aware of this pre-condition

ENVIRONMENT: Too Much Weather

- Lightning
 - Storms usually occur mid to late afternoon each day; get into camp early
 - If thunderstorm approaches, immediately seek protection away from single tall trees, exposed ridgelines or open meadows. Don't be the highest object around!!!
 - Spread crew out in evenly-sized tree stand, remove packs and squat on sleeping pad hugging knees, keeping feet together
 - Calculate distance by counting delay between flash and rumble...5 seconds=1 mile ("one thousand one, one thousand two...") Storms travel around 20-25 mph.
- Hail
 - Some thunderstorms can bring hail
 - Seek protection
 - Watch for hypothermia, it will be cold



SAFETY: Crew Advisor's Role

- Training
 - Crew meets Philmont's first aid and CPR requirements
 - Spend some time before Philmont reading some good Wilderness First Aid books
 - Be prepared to provide first aid support from your very first shakedown
- Awareness
 - Review medical forms
 - Discuss medical and emotional issues with parents
 - Observe crew on shakedowns
 - Ensure an adequate supply of individual medications
 - Discuss use of over-the-counter drugs with parents and get a sign-off
- Prevention
 - Monitor yourself and your crew on the trail and in camp
 - Stress individual responsibility
- Management
 - Handle those situations within your capabilities
 - Know when and how to get help (part of Ranger training)



SAFETY: First Aid Kits

- If you don't know how to use it, don't bring it!
- See PHILMONT ADVISOR GUIDE for Suggested First Aid Kit contents
- Check kit for expiration dates on over-the-counter meds
- Check and replace items used after each shakedown
- Stress individual responsibility; each crew member should have his own "hot spot" kit



SAFETY: Self Medication

- Crew members, including youth, are responsible for administering their own medication at Philmont
- Inability to do so is grounds for dismissal from crew; parents must understand this
- Urgent-care medications don't go in bear bag
- Redundant medications should be carried
- Tent-mate and advisors should know where individuals carry their urgent-care medication
- At least one other crew member should be aware of how to administer a medication in cases of incapacitation (anaphylaxis, diabetic reaction, etc.)
- No one takes medicine prescribed to another



SAFETY: In & Around Camp

- No bare feet in camp; put on camp shoes!
- Supervise filling, lighting and operating stoves. Always have a safety pot to throw over an out of control stove
- Avoid the frisbee and football games in camp
- Watch crew members around cliffs
- Observe ALL bear procedures
- Make sure if a crew member leaves the campsite, s/he lets the crew leader know and goes with a buddy

