

Basic Disaster First Aid Environmental Issues

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Goals

- List ways to prevent heat illnesses
- Describe signs/symptoms and treatment for heat exhaustion, heat stroke, dehydration, and hyponatremia
- List issues of cold stresses in the tropics
- Demonstrate and/or describe ways to treat cold
- List four ways to treat water

Heat Related Injuries/Illnesses

Prevention

- Stay hydrated – drink plenty of water
- Try to work in coolest parts of the day
- Take regular breaks, especially in hottest part of the day
- Use the buddy system – keep an eye on one another

Heat Related Injuries/Illnesses

- Heat Exhaustion
- Heat Stroke
- Dehydration
- Hyponatremia

Heat Exhaustion

- Signs/Symptoms
 - Lowered performance in hot weather
 - Profuse sweating, possible dizziness and nausea
- Treatment
 - Have patient stop working
 - Get patient out of sun, in a breeze, in AC
 - Get patient wet and aggressively fan

Heat Stroke

- Signs/Symptoms
 - Altered mental status! The umbles
 - May be sweating, or often no longer sweating
- Treatment
 - Immediately and aggressively get patient wet and fan
 - This is **life-threatening!**
 - One of the few times in disaster medicine when minutes make a difference
 - Emergency evacuation

Dehydration

- Signs/Symptoms
 - Dry mucus membranes (mouth, tongue, gums)
 - Dizziness, nausea, thirst, lowered performance
- Treatment
 - Rehydration
 - Don't let patient gulp water – small sips best
 - Consider adding electrolytes and/or small quantities sugar

Hyponatremia

- Causes/Signs/Symptoms
 - Caused by drinking too much water
 - Altered mental status – the umbles
- Treatment/Concerns
 - No more liquid consumption
 - Salty foods, bullion cube dissolved in tablespoon H₂O
 - Emergency evacuation
 - Be careful altered mental status isn't from heat stroke

Cold Issues

- Even in tropical CNMI cold can be an issue
- If there is trauma patients have trouble regulating heat
- Liquids transfer heat 25x faster than air – patients in the water or wet will be or get colder much faster
- A patient on the ground can lose heat quickly from conductive heat loss

Cold Issues - Treatment

- Insulate patient from the wet or cold ground
- Remove any wet clothing, get patient dry
- If dry clothing not available consider vapor barrier (tarp, rain suit, shower curtain, etc.)
- Place patient in sun or add heat (hot water bottles for example) to armpits, groin, kidney areas
- Cover head and neck
- Treat gently

Water Treatment

- In disasters, water systems may fail
- Water from taps may not be safe to drink
- Ways to treat suspect water from taps or surface water
 1. Boiling
 2. Bleach
 3. Filters
 4. Ultra-Violet Light (UV)
- Treatment will not work for salt water or chemically tainted water

Water Treatment

- Boiling
 - Big bubbles, no troubles
 - Probably most fool-proof way to treat
- Bleach
 - 2 drops per quart/liter
 - Needs to bleach with no fragrance
 - If lots of sediments, may need to pre-filter
 - Wait 30 minutes to drink

Water Treatment

- **Filtering**
 - If lots of sediments, need to pre-filter with towel, clothing, bandana, etc.
 - Charcoal or Brita type filters don't protect against water borne illness
- **Ultra Violet (UV) Light**
 - If lots of sediments, need to pre-filter with towel, clothing, bandana, etc.
 - Put suspect water in clear plastic (not glass) container or zip lock bag and leave out in direct sunlight for at least 4 hours (more better)
 - Works better or faster with warmer water