

Chapter 25: Cold Related Emergencies

Frostnip and Frostbite

- Frostnip: relatively minor, local cold injury that results from local vasoconstriction of blood vessels in response to cold (superficial)
- Frostbite: actual freezing of body tissue

Severity of Tissue	Signs and Symptoms
Superficial (frostnip)	Cool, pale, painful skin, remains intact and pliable
Partial Thickness (frostbite)	Skin is white/gray colored patches, not painful, tissue may indent if pressed
Full Thickness (frostbite)	Skin is cold, feels hard or woody, tissue is white or gray and will not rebound when pressed, numb, no pulse detected in area

Hypothermia

- Abnormally low core body temperature (less than 95°F)
- Primary
 - Immersion Hypothermia: occurs when body is submerged in water
 - Non-immersion Hypothermia: occurs more slowly but may be accelerated by wind, rain, or snow
- Secondary
 - Systemic disorders and is frequently associated with traumatized or critically ill patients

Severity of Cold Exposure	Patient Presentation	Core Body Temperature
Cold stressed	Alert, starting to shiver, can help themselves	95-97°F
Mild Hypothermia	Alert but may be confused, shivering	90-95°F
Moderate hypothermia	Drowsy, decreased LOR, not shivering	82-90°F
Severe hypothermia	Unresponsive, may not be breathing	<82°F

- Afterdrop: continued drop in core body temperature after removal from exposure to cold

Patient Care:

- Frostnip and frostbite
 - Rapid warming (will be very painful!)
 - Do not rewarm tissue if there is a risk of it refreezing
 - Suspend affected body part in warm water for 20-30 minutes
- Cold Stress and Mild Hypothermia
 - Prevent further heat loss
 - Passive (retaining body heat) and active (applying external heat) to raise core temperature
- Severe Hypothermia
 - Same as above
 - Take vitals for at least a minute (heartbeat and breathing can be very slow)
 - Not dead until warm and dead
 - Transport to a higher level of care

Avalanche Burial Victims

- Asphyxiation is main cause of death
- Hypothermia will depend on duration of burial
- Manage airway, control bleeding, take vitals for at least 1 min