

Hypothermia | Cold Exposure

Hypothermia may be primary (i.e. due to increased loss of heat) or secondary (i.e. due to another condition causing decreased heat production). Consider secondary causes in your differential diagnosis: sepsis, toxins, psychiatric illness, hypoglycemia, hypothyroidism, CNS dysfunction (e.g. stroke, head injury)

Early signs of Frostbite/Frostnip

- Numbness
- Clumsy feeling in affected part
- White, blanched skin

Late signs of Frostbite/Frostnip

- Dark, hard, woody skin
- Decreased or loss of sensation
- Bruising or blistering skin

Routine Medical Care / Trauma Care¹

- Include temperature & CBG
- Look for associated injuries/illnesses
- Consider **Spinal Motion Restriction**, if trauma is suspected

Hypothermia can occur even in normal temperatures

Clinical classification:

- **Mild:** normal mental status, shivering, normal VS including body temp 32.1-35°C (89.8-95°F)
- **Moderate/Severe:** altered LOC, no shivering, ↓BP, ↓HR, ↓RR, temp <32.1°C (89.8°F)

Remove wet garments & dry patient

Localized Cold Injury (frostbite, frostnip)

Determine Severity of Exposure

Systemic Hypothermia

- Dress injured area in clean cloths
- Do not rub skin
- Do not break blisters

- Cover patient with dry sheets or hypothermic blanket(s); apply hot packs³ if available
- **Obtain 12-lead EKG²**
- Start IV, apply cardiac monitor
- Monitor VS, including EtCO₂
- **Do not allow patient to walk or stand**
- Transport to local facility

Is patient alert?

No

- Monitor for signs of worsening hypothermia
- Consider transport to a Burn Center for frostbitten extremities

- Cover patient with dry sheets or hypothermic blanket(s); apply hot packs³ if available
- **Obtain 12-lead EKG**
- Start IV, apply cardiac monitor
- Monitor VS, including EtCO₂
- **Consider/treat causes of Altered Mental Status**
- Transport to local facility

Is there a pulse?²

No

Contact Medical Control if additional orders are needed

Limit patient movement
Initiate CPR
Treat as per **Hypothermia Induced Cardiac Arrest** protocol

Hypothermia can happen even in warmer regions – especially if person is elderly, septic, homeless, immersed, or altered.

¹ Pulse oximetry may be inaccurate if patient is cyanotic. Give oxygen if patient has any respiratory distress.

² Hypothermia may produce severe bradycardia – **take at least 45 seconds to palpate a pulse**. Do not treat physiologic bradycardia unless there is also profound hypotension unresponsive to fluids.

³ Hot packs can be activated and placed in the axillary and groin areas. Care should be taken not to place the packs directly against the patient's skin. Warm the patient compartment of ambulance during transport