

Exercise Induced Collapse: Hypothermia

See also Hypothermia (Accidental)

Pathophysiology

1. More prevalent in winter sports
2. Defined as core body temperature $<35^{\circ}\text{C}$ ($<95^{\circ}\text{F}$)
 - Mild = $32\text{-}35^{\circ}\text{C}$ ($90\text{-}95^{\circ}\text{F}$)
 - Moderate = $28\text{-}32^{\circ}\text{C}$ ($82\text{-}90^{\circ}\text{F}$)
 - Severe $\leq 28^{\circ}\text{C}$ ($<82^{\circ}\text{F}$)
3. Mild symptoms
 - Usually conscious
 - Shivering
 - May have some confusion/disorientation
4. Moderate symptoms
 - Decreased metabolism
 - Low BP/heart rate/respiratory rate
 - Severe delirium/confusion
 - Occasionally combative
5. Severe
 - Usually comatose
 - Muscles are rigid/areflexic

Diagnostics

1. Measuring core body temperature:
 - Use low register thermometer
 - Standard body thermometers do not read in hypothermic range
2. Feel for pulse
 - Performing CPR in hypothermic patient WITH pulse may precipitate fatal arrhythmia
 - Myocardium extremely sensitive
3. Many ACLS protocols ineffective on profoundly hypothermic patient until core temperature increased

Therapeutics

1. Rewarm as soon as possible:
 - Remove all wet clothes
 - Move athlete to a warm, sheltered location
 - Cover with dry blankets
 - Use warm, humidified oxygen
 - IVF NS at 40°C (105°F)
 - DO NOT warm too rapidly-can cause rewarming shock
 - Increased blood flow to periphery
 - Causes return of cold peripheral blood to core
 - Causes drop in temperature and blood pressure

Prevention

1. Multilayered clothing with linings
 - o Keep moisture away from skin
2. Also cover head, neck, legs, hands

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