Exercise Induced Collapse: Hypothermia

See also Hypothermia (Accidental)

Pathophysiology

1. More prevalent in winter sports
2. Defined as core body temperature <35 °C (<95 °F)
    - Mild = 32-35 °C (90-95 °F)
    - Moderate = 28-32 °C (82-90 °F)
    - Severe ≤28 °C (<82 °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
    - Keep moisture away from skin
2. Also cover head, neck, legs, hands

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