HYPOTHERMIA, MANAGEMENT OF- ICU/ED

PURPOSE: To outline the management of hypothermic patients.

SUPPORTIVE DATA: Hypothermia is defined as a temperature of less than 35°C and is associated with bradycardia, thrombocytopenia and acidosis. Rapid rewarming can lead to ventricular fibrillation and rewarming shock. Hypothermic patients in asystole are not pronounced dead until rewarmed to 36°C. Initial attempts of defibrillation and advanced cardiac life support drugs may not be effective until the temperature is greater than or equal 30°C.

This standard is **NOT** to be used for patients who are receiving Targeted Temperature Management (TTM) for post cardiac arrest.

ASSESSMENT:

1. Obtain baseline temperature via pulmonary artery catheter/rectal/nasoesophageal probe/indwelling bladder catheter probe a **minimum** of **every hour** until greater than 36°C.
    - Peds: every 30 minutes, PICU continuous
    - Post-op: every 15 minutes times 4, every 30 minutes times 2, then every hour
2. Assess for signs of hypothermia a minimum of every 2 hours, including:
    - Neurologic
        - Decreased level of consciousness
        - Shivering (absent at temperatures less than 31°C.
    - Cardiovascular
        - Bradycardia, atrial/ventricular fibrillation
        - Elevated pulmonary/systemic vascular resistance
        - Decreased cardiac output
3. Monitor for hematologic/metabolic laboratory indicators of hypothermia as drawn:
    - Thrombocytopenia
    - Metabolic acidosis
    - Hyperkalemia

REWARMING:

4. Assess for signs of rewarming shock a minimum of every hour:
    - Tachycardia
    - Hypotension
5. Initiate **passive external** rewarming methods
    - Remove all wet clothing/sheets
    - Apply blankets
    - Apply warm towels around head
    - Apply the Thermoflect ® hypothermia cap
    - Increase room temperature if possible
6. Initiate the following **active external/internal** methods of rewarming as ordered:
    - Warming blanket/mattress (e.g. Bair Hugger™)
    - Heated humidified air/oxygen
    - Gastric lavage/bladder irrigation with warm normal saline
    - Pleural lavage with warm normal saline (ED only)
    - Rapid fluid infuser/warmer (e.g. Level 1)
    - Warmed fluids, e.g., intravenous (IVP/Peritoneal dialysis)
        - Recommend intravenous fluid temperature of 40-42°C
        - Hemolysis occurs at 48°C

SAFETY:

7. Rewarm no faster than 0.25-1°C/hour.
    - Cardiac arrest patients should receive rapid core rewarming until temperature reaches 33.3°C. **Then** continue warming no faster than 1°C/hour.
    - Rewarm no faster than 0.25 degree C every hour (1 degree C every 4 hours) or as ordered after TTM

8. Do not use microwave oven to warm fluids.
9. Restrict unnecessary movement and manipulation while patient is hypothermic and during rewarming.

REPORTABLE CONDITIONS:

10. Notify the provider immediately for:
    - Dysrhythmias
    - Increased bleeding from wounds, drains
    - Abnormal laboratory values
    - Decreasing temperature
    - Signs of rewarming shock, e.g., B/P and decreased SVR, tachycardia

PATIENT/CAREGIVER EDUCATION:

11. Instruct on the following:
    - Purpose of treatment
    - Expected outcome

ADDITIONAL STANDARDS:

12. Implement the following as indicated:
    - Immobility
    - Pressure Injury Prevention & Management

DOCUMENTATION:

13. Document in accordance with documentation standards.
14. Go to Lines and Devices -> Warming/cooling -> warming measures

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