

PROTOCOL FOR: Thermoregulation & Prevention of Unplanned Perioperative Hypothermia

POLICY

- STATEMENTS:
1. Patients will be assessed for intrinsic risk factors for unplanned perioperative hypothermia, including
 - a. very young and elderly
 - b. thin / small stature
 - c. physical status or co-morbidities, especially endocrine disorders.
 2. Patients will be assessed for extrinsic risk factors for unplanned perioperative hypothermia, including
 - a. cold OR environment
 - b. length and type of the surgical procedure
 - c. major fluid or blood loss
 - d. infusion of cold fluids or blood products
 - e. large volumes of irrigation into body cavities
 - f. exposure of a large body cavity.
 3. Basic nursing approaches to decrease anxiety and increase thermal comfort will be used with all patients.
 4. Nursing will collaborate with the perioperative team to take active measures that reduce the risk of unplanned perioperative hypothermia.

DESIRED PATIENT
OUTCOMES:

1. The patient's core temperature will be maintained at 36°C (96.8°F) or above during the intraoperative phase unless hypothermia is indicated.
2. The patient's core temperature will be a minimum of 36°C (96.8°F) prior to discharge from the PACU.
3. All signs and symptoms of hypothermia should be resolved before discharge.
4. The patient should describe feeling an acceptable level of warmth.
5. Preventive warming measures and observation for hypothermia will continue on the inpatient unit for patients who remain in the facility after discharge from PACU.

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CLINICAL
ASSESSMENT

AND CARE: PREOPERATIVE ASSESSMENT / INTERVENTIONS

1. Identify patient's risk factors for unplanned perioperative hypothermia. Communicate factors during hand-off, as appropriate.
2. Measure patient's temperature upon admission.
3. Determine patient's thermal comfort level by subjective report.
4. Assess for other signs and symptoms of hypothermia, such as shivering, piloerection, and / or cold extremities.
5. Institute preventive warming measures for patients who are normothermic, such as applying warmed cotton blankets, socks, head coverings, limited skin exposure, and increase in ambient temperature.
6. Institute active warming measures for patients who are hypothermic, such as application of forced air convection warming system, and warmed IV fluids.

INTRAOPERATIVE ASSESSMENT / INTERVENTIONS

1. Identify patient's risk factors for unplanned perioperative hypothermia, via hand-off communication and patient assessment.
2. Determine patient's thermal comfort level by subjective report. Assess for other signs and symptoms of hypothermia, such as shivering, piloerection, and / or cold extremities.
3. Monitor patient's temperature intraoperatively.
4. If procedure is performed by local / topical anesthesia only and no anesthesia provider is present, monitor temperature at beginning and end of procedure. If case lasts longer than 30 minutes, serial temperatures should be obtained at least every 30 minutes to monitor temperature trends.
5. Apply appropriate passive insulation, such as warm blankets, socks, head covering, and limited skin exposure.
6. Increase ambient room temperature, as necessary. AORN Guidelines recommend 20°C - 24°C or 68°F - 75°F.
7. Institute active warming via forced air warming system.

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8. Limit the amount of skin surface exposed during positioning and skin prepping, and limit time between prepping of the skin and draping.
9. Prevent surgical drapes from becoming wet and provide warmed irrigation fluids, *prn*. Anesthesia provider to administer warmed IV fluids and humidified / warmed anesthesia gases, *prn*.
10. Apply warmed blankets after sterile drapes are removed and dressings are secured in place.

POSTOPERATIVE ASSESSMENT & INTERVENTIONS

1. Identify patient's risk factors for unplanned perioperative hypothermia, via hand-off communication and patient assessment.
2. Assess temperature on admission.
 - a. if hypothermic (< 36°C), monitor serial temperatures q 30 min. until normothermia is achieved.
 - b. if normothermic, assess temperature again prior to discharge and as ordered by physician.
3. Determine patient's thermal comfort level by subjective report. Assess for other signs and symptoms of hypothermia, such as shivering, piloerection, and / or cold extremities.
4. If normothermic, institute preventative warming measures:
 - a. apply warm blankets, socks, head covering, and limited skin exposure
 - b. increase ambient room temperature
 - c. assess patient's thermal comfort level q 30 mins
 - d. observe for S/S of hypothermia (shivering, piloerection, and / or cold extremities)
 - e. reassess temperature if patient's thermal comfort level decreases and / or signs of hypothermia are present
 - f. measure patient's temperature prior to discharge
5. If hypothermic, initiate active warming measures such as:
 - a. apply forced air warming system
 - b. apply warm blankets, socks, head covering, and limited skin exposure
 - c. increase ambient room temperature
 - d. warm IV fluids
 - e. humidify and warm oxygen
 - f. assess temperature and thermal comfort q 30 mins until normothermia is achieved.
6. Exceptions to expected outcomes in postoperative phase include:

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- a. patient is unable to verbalize feeling cold (e.g. intubated patient)
 - b. patient may be discharged to a critical care unit despite being hypothermic, where active warming measures will continue
7. Discharge instructions will include reviewing with the patient and / or responsible adult being able to describe methods of maintaining normothermia at home.

REPORTABLE

CONDITION: 1. Persistent hypothermia (below 36°C core temperature < 30 mins) despite implementing measures to achieve normothermia.

APPROVAL: Nursing Standards Committee

EFFECTIVE DATE: 11/90

REVISION DATE: 5/93, 7/97, 5/00, 2/08, 9/09