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## Pressure Ulcer Prevention in the O.R. Recommendations and Guidance

*These recommendations are intended to provide guidance to improve the consistency of pressure ulcer prevention in operating rooms and other invasive procedure areas across Minnesota hospitals and to address issues identified through the reporting of pressure ulcer events. The recommendations are not intended to address all of the AORN Perioperative Standards and Recommended Practices or other regulatory surgical requirements.*

### **Risk Assessment, Skin Inspection and Communication — Prior to Hand-off to Perioperative Team**

- A thorough preoperative skin inspection should be performed the day of the procedure prior to hand-off to the perioperative team.
- *Sample scripting for staff conducting skin inspection*  
*“Because we know that being in one position for a period of time such as in surgery can put you at risk for getting a bedsore or what we call a pressure ulcer, I am going to take just a couple of minutes and check your skin from head to toe now before you go into surgery.”*

#### *Hand-off Communication:*

- Upon transfer of patient care to perioperative staff, staff transferring care should communicate:
  - Most recent Braden Assessment information (this information will be communicated to postoperative staff)
  - Any history of previous pressure ulcers
  - Location of any existing pressure ulcers

### **Risk Assessment — Perioperative Staff**

- All surgical patients should be considered at risk for pressure ulcer development and standard pressure ulcer prevention precautions should be followed.

- Perioperative staff should assess the patient’s surgical risk factors for pressure ulcer development. Patients with the following risk factors should be considered high-risk for pressure ulcer development:
  - Any procedure lasting longer than four hours
  - Cardiac, vascular, trauma, transplants, bariatric surgeries or procedures involving at-risk positioning such as those requiring patient to be in a sitting position.
  - Patient with weight or nutritional extremes — obese or thin, small in stature

### **Intraoperative Surface Selection**

- If a patient is assessed to be at high-risk for pressure ulcer development, it is strongly recommended that an OR table mattress pad with pressure redistributing properties greater than the standard\* OR mattress pad be used during the procedure.
- See the results from an April 2009 survey of OR surfaces currently in use at Minnesota hospitals: [\[PDF\]](#)

*\*A standard OR mattress usually is constructed of one to two inches of foam covered with a vinyl or nylon fabric. Research studies have found that foam overlays or replacement pads do not have effective pressure redistribution capabilities.*

### **Additional Considerations:**

- The number of pads, blankets and warming blankets placed **beneath** the patient between the patient and the OR table mattress interferes with the pressure redistribution properties of the mattress.
- If a cooling blanket is placed between the patient and the OR table mattress, a higher grade surface should be considered to account for the change in pressure redistribution.
  - Suggestion: Explore using Bair Hugger warming system vs. water-filled warming blanket.

### **Lateral Transfers — preventing lateral shear during patient transfer**

- Facilities should have a policy addressing patient transfer processes to prevent shearing of patient’s skin during transfers. The policy should address, at minimum:
  - The number of staff required during transfer based on patient’s weight
  - Appropriate transfer devices
  - Repositioning of patient after transfer
- Examples of transfer devices:
  - Samarit Rollboard
  - HoverMatt
  - AirMatt
  - Z-Slider

## **Patient Positioning**

- Perioperative team should anticipate any positioning equipment needed for the procedure specific to pressure redistribution.
- Patient's pressure ulcer risk, correct patient position and related equipment should be communicated and verified during the preoperative/pre-procedure briefing or during the time-out.
- The perioperative team should implement general positioning safety measures as defined in positioning standards.
- Responsibility for positioning and repositioning the patient should be assigned and well defined.
- When patient is in a supine position, the patient's heels should be suspended off the surface.
- Other areas of increased risk for pressure ulcers, based on patient position include:

<b>Position</b>	<b>Areas of increased risk for pressure ulcer development</b>
Supine/Lithotomy	Scapula, occiput, elbows, sacrum, coccyx, heels
Lateral	Ear, acromion process, trochanter, medial and lateral condyles of the knee, malleolus, foot edge on involved side
Prone/Jackknife	Nose, forehead, chest, acromion process, genitalia, breasts, iliac crests, patella, foot edge and toes

### **Additional Considerations:**

- Pillows and molded-foam devices may produce only a minimum amount of pressure redistribution and are less effective during long procedures.
- Blankets, towels and sheet rolls do not reduce pressure injury and may contribute to friction injuries.
- When using positioning devices, the positioning devices should be placed underneath the patient and **not** beneath the mattress or overlay.

## **Patient Repositioning**

- The perioperative team should communicate planned strategies for repositioning the patient during lengthy procedures (>4 hours). Examples of repositioning, *if not medically contraindicated*:
  - Anesthesia care provider moves patient's head when in a supine position to prevent pressure ulcers on the occiput.
  - Circulating nurse performs range of motion of patient extremities on patient in a lateral position.

## **Postoperative Surface Selection**

- Patients meeting the following criteria should be considered for a Group II\* pressure redistribution surface for postoperative care:
  - Expected postoperative hemodynamic instability, e.g., IABP, dissection case, ALVAD procedure or trauma
  - Medical contraindications to turning patient
  - Surgeon/RN discretion

\*Examples of Group II pressure redistribution surface include: low air loss, alternating pressure and fluid air.

- Patient should be transferred from OR table to Group II surface

Following surgery, patients often remain immobile for extended periods of time, e.g., time in PACU + time getting settled in back on the floor. Effective postoperative communication and appropriate surface selection are vital to preventing pressure ulcer development during this postoperative time period.

## **Postoperative Hand-off Communication, Surface Selection and Positioning**

- The perioperative nurse should communicate to the postoperative nurse the following information related to pressure ulcers:
  - Patient positioning in the OR, e.g., lateral, prone
  - Any existing pressure ulcers
  - Patient's preoperative Braden Score
- Suspend heels off the bed/surface
- If not medically contraindicated, reposition patient from alternate position than OR position
- Consider upgrading surface for patient at-risk for pressure ulcer development, e.g., gurney with upgraded pressure redistribution surface

### **PACU Hand-off Communication**

- The postoperative nurse should communicate to the floor nurse the following information:
  - Patient positioning in the PACU, e.g., lateral, prone, with suggestion to place patient in alternate position if not medically contraindicated
  - Any existing pressure ulcers
  - Patient's preoperative Braden Score