Chapter 06: Positioning the Patient for Surgery

Test Bank

MULTIPLE CHOICE

1. A 325-pound male is scheduled for a 6-hour abdominal surgery. While assessing the patient in the preoperative holding area, the perioperative nurse is concerned about the risk for pressure injury because of the weight of the patient’s body pressing against the surface of the operating room (OR) bed for a long surgery. Which of these other factors may also produce pressure?
   a. The scrub person leaning with his or her forearm on the Mayo stand
   b. A self-retaining retractor post clamped to the OR bed rail and tightened against the patient’s side
   c. A Deaver retractor and two right angle clamps placed on the patient’s thighs when draped
   d. Full-leg sequential compression wraps on both legs throughout the entire surgery

ANS: B

Pressure comes from the weight of the body as gravity presses it downward toward the surface of the bed. Pressure also comes from the weight of equipment resting on or against the patient, such as drills, Mayo stands, surgical instruments, rigid edges of the OR bed or its attachments, or vertical posts for self-retaining retractors. Positioning devices, such as stirrup bars, leg or arm holders, and edges of laminectomy frames, can rest or press against the patient under tension.

REF: p. 155

2. A 325-pound male is undergoing a 6-hour abdominal surgery. While asleep and intubated, the surgeon requests the patient to be placed in lithotomy position for a sigmoidoscopy before the open procedure. The team of five nonscrubbed persons lifts the patient with the lift sheet, slides the patient down toward the foot of the OR bed, and places him into position. After the sigmoidoscopy, the perioperative nurse has the team roll the patient to his side for a skin assessment of his back before he is repositioned supine. What injury is the perioperative nurse concerned that she might see?
   a. A shearing force injury to the tissue from having been slid into position
   b. Skin creases from wrinkled sheets
   c. Incontinence from an inadequate bowel prep
   d. Side-to-side striations across his back and buttocks from the lifting sheet

ANS: A

Shear is the folding of underlying tissue when the skeletal structure moves while the skin remains stationary. A parallel force creates shear, unlike the perpendicular force created by pressure. As gravity pulls the skeleton down, any stretching, folding, and tearing of the underlying tissues, as they slide with the skeleton, can occlude vascular perfusion, which can lead to tissue ischemia.
3. The perioperative nurse noticed abrasions on a patient’s elbows when she visited him in the intensive care unit (ICU) the day after his 6-hour abdominal surgery. The patient told her that the ICU nurses had difficulty pulling him back up in bed every time he slid down toward the bottom, and he was not able to be much help in moving himself. This skin injury was probably the result of which physical force?

a. Heat and moisture from prolonged bed rest
b. Pressure of his elbows resting on the bed for 2 days
c. Friction from his elbows rubbing over the sheets when slid up in bed
d. Negativity from the bath blankets the nurses stacked to make arm rests for the patient

ANS: C

Friction is the force of two surfaces rubbing against one another. Friction on the patient's skin can occur when the body is dragged across bed linen instead of being lifted. Friction can denude the epidermis and make the skin more susceptible to higher stage pressure ulcer formation, pain, and infection.

REF: p. 155

4. Select the nursing activity that would reduce the impact of an extrinsic factor that could cause a pressure injury to the patient.

a. Assisting the anesthesia provider with checking and hanging albumin before anesthesia induction
b. Washing the patient’s back, heels, scapulae, and elbows with chlorhexidine gluconate (CHG) wipes before transfer to the OR bed
c. Fluffing the surface of the OR bed with warm bath blankets and eggcrate foam before patient transfer to the OR bed
d. Removing all but one layer of linen from the dry polymer elastomer gel mattress surface of the OR bed before patient transfer

ANS: D

Negativity can override the pressure-relieving properties of mattresses and padding. Placing a warm blanket under a patient may be soothing initially, but if a surgical procedure is long, pressure to the bony prominences resting on the blanket will be higher than if only a sheet and draw sheet are used. Additionally, wrinkles and folds can cause further pressure points.

REF: pp. 155-156

5. A 92-year-old frail female nursing home patient was admitted for dehydration, anemia, and respiratory symptoms. She has type 2 diabetes and low albumin levels, is underweight, and continues to smoke cigarettes. The patient is on complete bed rest in a hospital bed with an alternating pressure mattress overlay. She is not able to turn herself in bed and must be assisted to change position. Based on this description of the patient, which factor classification dominates her vulnerability and risk for injury?
a. Shearing force factors

b. Intrinsic factors

c. Bed rest precaution factors

d. Extrinsic factors

ANS: B

Intrinsic factors lower a patient’s tissue tolerance to pressure and decrease the time and pressure required for tissue breakdown. Certain preexisting conditions are regarded as intrinsic risk factors for OR-induced pressure ulcer development. These conditions include diabetes mellitus, smoking, peripheral vascular disease, cerebral vascular disease, urinary or fecal incontinence, anemia, malignancy, sepsis, steroid use, morbid obesity, malnutrition (serum albumin levels less than 3.5 g/dL), advanced age, body size (obesity as well as thin, frail build), and impaired mobility.

REF: pp. 157-158

6. Recent studies on the relevance of the Braden pressure ulcer risk scale in the perioperative and critical care setting are inconclusive. In which perioperative setting would the Braden scale be most predictive as a baseline metric?

a. Postoperative

b. Intraoperative

c. Preoperative

d. Ambulatory

ANS: C

Studies have concluded that not all Braden scale risk factors are predictable in these patients and that other significant risk factors are not identified on Braden or other pressure ulcer predictive scales used in hospital settings. The Braden score may be used as a preoperative baseline, but the OR is unique when compared with other areas of the hospital.

REF: p. 158

7. A patient undergoing a laparoscopic Nissen fundoplication procedure will be positioned in both high and low lithotomy during the procedure. After the patient is repositioned into low lithotomy, the perioperative nurse should:

a. position the patient back in supine before repositioning in low lithotomy.

b. reposition as quickly as possible to avoid pressure latency.

c. reprep and redrape after repositioning.
d. reassess the patient for body alignment, tissue integrity, and pressure areas.

ANS: D

The patient should be reassessed after any adjustment of the position and at appropriate intervals during long procedures as is possible with a draped patient. Assessment for pressure ulcer risk factors and development occurs during three periods: preoperative, intraoperative, and postoperative. Periodically recheck position, straps, and padding to ensure that nothing has slipped or moved. Reassess tissue integrity; document and verbally communicate any changes during hand-off report.

REF: p. 169

8. A 14-year-old patient with marked scoliosis is in prone position with gel bolster rolls, gel pads, and pillows for a spinal fusion. Before the skin prep is begun, the perioperative nurse should check the positioning for pressure areas on the:

a. genitals, knees, toes, and eyes.

b. breasts, forehead, and knees.

c. genitals, breasts, toes, eyes, and all areas in contact with the OR bed or accessories.

d. forehead, toes, and knees.

ANS: C

A final check of all areas of vulnerability should be conducted before the prep begins and the patient is draped. The male genitals, female breasts, and eyes are vulnerable to injury in the prone position. Eyes should be checked to ensure that they are not under pressure when the prone or lateral position requires the face to be in a dependent position.

REF: p. 155

9. The circulating nurse instructed the new anesthesia resident in the proper positioning of the arm and hands on the OR bed armboards. She cautioned him to avoid pressure on the elbow to prevent:

a. ulnar nerve injury.

b. radial artery tension.

c. radial nerve compression.

d. pressure sore of the elbow.

ANS: A
The most common OR-related nerve injuries are to the ulnar nerve and brachial plexus. There is a good reason for this. As the ulnar nerve circles behind the elbow, it lies superficially in the shallow cubital tunnel of the humerus, where it is subject to pressure and to stretching from flexion of the elbow.

REF: p. 161

10. Prolonged lithotomy positioning can result in neuropathies of the legs. The most frequently injured nerves are the obturator, sciatic, femoral, and _____________ nerve, which can result in injury from ______________.

a. tibial; hyperextension
b. common peroneal; full leg pneumatic compression sleeves
c. ilioptsoas; hyperabduction and contact with candy cane stirrup pole
d. patellar; deep tissue injury from contact pressure with underside of Mayo stand

ANS: B

The common peroneal nerve branches from the sciatic nerve behind the knee and becomes superficial as it wraps around the lateral head of the fibula. At this level, it is vulnerable to direct compression by stirrup bars. This risk may be increased in extremely thin patients who have minimal overlying tissue in this area. It is important to ensure that the lateral head of the fibula does not rest against stirrup bars or any other rigid surface. Compressive leg wraps (i.e., intermittent pneumatic compressive devices, graduated compression stockings) also can put pressure on this nerve if the wrapping is too tight in this area.

REF: p. 164

11. The lateral kidney position allows approach to the retroperitoneal area of the flank. To render the kidney region readily accessible, the _______________ is raised, and the bed flexed so that the area between the twelfth rib and the iliac crest is elevated. Compression of the _____________ can occur when the flank is raised too high.

a. head; vena cava
b. foot; dependent ureter
c. kidney bridge; vena cava
d. kidney bridge; renal artery

ANS: C

Raising the kidney bridge depends on the cardiovascular response of the body to increased pressure transmitted from this area. It should be raised slowly, and the anesthesia provider should monitor blood pressure frequently. The OR bed is flexed to lower the patient’s head and legs. The patient’s affected side thus presents a straight horizontal line from shoulder to hip. In this position the gravitational force on the head and torso opposes that on the extended limb to
facilitate operative exposure. Increased intra-abdominal pressure evoked by the kidney bridge and by flexion of the lower limbs toward the abdomen limits diaphragmatic movement. The acute angulations of the body in the lateral kidney posture and the effect of gravity also may decrease blood return to the right side of the heart.

REF: pp. 183-184

12. While Fowler’s position offers the best respiratory excursion for the patient, the patient is at higher risk for ______________ because of dependent pooling in the hips and legs.

a. venous thromboembolism (VTE)
b. sacral ischemia
c. restless leg syndrome
d. compartment syndrome

ANS: A

This position poses significant circulatory compromises and risks. Blood pooling occurs in the lower torso and legs, which in turn causes significant orthostatic hypotension and diminished perfusion to the brain. Venous return from the lower extremities also lessens, and such hindrance increases the threat of venous thrombosis.

REF: p. 179

13. Lateral, lateral chest, and lateral kidney positions all place pressure on structures of the dependent side: ears, shoulder, ribs, hips, greater femoral head, knees, and ankles. The potential for injury to the patient is significant, based on these pressure areas. Which resultant injury or harm could be related to these lateral positions?

a. Diminished lung capacity of nondependent lung
b. Celiac plexus injury
c. Decreased blood return to the right side of the heart
d. Scalene node rupture

ANS: C

A respiratory effect of lateral chest position is that the dependent lung is more perfused because of gravitational pooling of blood. The nondependent lung is more easily ventilated, however, because it is less compressed. This results in a ventilation-perfusion mismatch. Increased intra-abdominal pressure evoked by the kidney bridge and by flexion of the lower limbs toward the abdomen limits diaphragmatic movement. The acute angulations of the body in the lateral kidney posture and the effect of gravity also may decrease blood return to the right side of the heart.
14. While tucking the arms at the sides of the patient in supine position offers comfort, safety, and easy access to the patient by the scrubbed team, improper positioning and securing of the arms can result in significant injury. Injury can be avoided by tucking the draw sheet ________ the arm and under the _________.

a. around; body  
b. under; mattress  
c. over; mattress  
d. around; OR bed rail

ANS: A

Many OR-induced peripheral upper extremity nerve injuries can be avoided by properly securing the arms if there are procedure-related reasons to tuck them at the patient’s side. The arms should be tucked in such a way as to prevent them from sliding down the side of the OR bed and contacting the bed edge or rigid bed attachments. An effective technique to prevent arm slippage during surgery is to wrap the draw sheet smoothly around the arm, extending to above the elbow, and then tuck the draw sheet under the patient’s body instead of under the mattress.

REF: p. 163

15. A 52-year-old 425-pound male patient is scheduled for surgery at the bariatric surgery center in 3 days. He has osteoarthritis and had a spinal fusion when he was 13. His long-time neighbor, a perioperative nurse at the bariatric center, has asked to be the patient’s circulating nurse and is contemplating his plan of care. He shared his concern that he would not be able to move himself over to the OR bed and would be embarrassed if the nurses could not lift him. Based on this information, the nurse has identified this nursing diagnosis: ___________________ and these three positioning-relevant nursing interventions: _______ _______ _______. Select from the options to fill in the blanks.

a. impaired transfer ability; lock OR bed and transport vehicle during transfer; use at least four people to assist with lift and transfer; use OR bed to accommodate patient weight and size  
b. anxiety; reassure patient with calm and appropriate touch; remain at patient’s side during induction; use at least four people to assist with lift and transfer  
c. impaired physical mobility; reassure patient with calm and appropriate touch; remain at patient’s side during induction; use OR bed to accommodate patient weight and size  
d. impaired physical mobility; lock OR bed and transport vehicle during transfer; reassure patient with calm and appropriate touch; remain at patient’s side during induction

ANS: A

He will not be able to transfer himself to the OR bed from the transport vehicle without considerable assistance. The encompassing nursing diagnosis related to the care of the patient during surgical positioning is the risk for perioperative positioning injury. Other potentially applicable nursing diagnoses are: impaired comfort, impaired transfer ability, and risk for falls. During transfer the OR bed and transport vehicle should be next to each other and locked. At
least one individual should stand on either side to assist the patient in the transfer. Beds and accessories must accommodate the width and weight of morbidly obese patients.

REF: p. 168

16. A frail and thin 91-pound, 83-year-old woman is scheduled for a right pneumonectomy for non–small cell lung cancer. She will be positioned in left lateral position for her procedure. Based on the perioperative nurse’s preoperative assessment, identify three position-related nursing diagnoses for this procedure and four relevant nursing interventions. Select from the options to fill in the blanks.

a Falls; pain; impaired physical mobility; remain at patient’s side during induction; use under- and over-body forced air–warming blanket; prevent fluid pooling under dependent areas; pad all bony prominences with foam or gel pads

b Hypothermia, impaired skin integrity; impaired comfort; use under- and over-body forced air–warming blanket; prevent fluid pooling under dependent areas; pad all bony prominences with foam or gel pads; unlock OR bed and transport vehicle after transfer

c. Impaired skin integrity; falls; pain; remain at patient’s side during induction; use at least four people to assist with lift and transfer; pad all bony prominences with foam or gel pads; unlock OR bed and transport vehicle after transfer.

d. Hypothermia; impaired skin integrity; falls; remain at patient’s side during induction; use under- and over-body forced air–warming blanket; use at least four people to assist with lift and transfer; pad all bony prominences with foam or gel pads

ANS: D

The patient is at risk for hypothermia because of her age, weight, and amount of skin that will be exposed in the skin prep before draping. Falls are a risk during all stages of patient transfer and positioning and for a patient positioned in lateral position if not properly secured. A team member must stand on either side of the patient until the safety strap is applied. The patient’s thin frame is at risk for pressure injury and requires padding of all dependent bony prominences including her left hip, lateral knee, and ankle.

REF: p. 168

17. Positioning devices should be used according to the original equipment manufacturer’s instructions to reduce the capillary interface pressure to below:

a. 40 mm Hg.

b. 32 mm Hg.

c. 50 mm Hg.

d. 100 mm Hg.

ANS: B

Pressure is the major physical force responsible for pressure ulcer formation. Its intensity and duration affect the ultimate outcome of whether the tissue suffers damage. An inverse relationship exists between pressure and time: the greater the pressure, the shorter time it takes
to cause ischemic changes. Pressures greater than 32 mm Hg (capillary interface pressure) can occlude flow of the arterioles, which nourish and oxygenate the tissue at the capillary level.

REF: p. 156

18. Select three basic criteria requirements that an OR bed mattress must meet.

a. Nonallergenic, pressure-reduction capabilities, radiolucent
b. Electrically conductive, latex-free, black
c. Nonflammable, compatible with warming/cooling devices, black
d. Fluid resistant, bactericidal, pressure-reduction capabilities

ANS: A

OR mattresses should be durable, versatile for many uses, nonflammable, resistant to bacterial growth, radiolucent with low x-ray attenuation, compatible with warming and cooling devices, and covered with flexible nonallergenic antistatic fabric. Many mattress pads are now made without latex. OR mattresses should also have pressure-reduction capabilities.

REF: p. 172

19. Select the positioning device and accessory commonly used for neurosurgical procedures.

a. Cavitron ultrasonic surgical aspirator (CUSA) head positioner
b. Crutchfield cranial tongs
c. Mayfield head positioner
d. Cushing head stabilizer

ANS: C

Pin fixation of the head (e.g., Mayfield head positioner) is frequently used for craniotomies in prone position (as well as in other positions). The head is supported by three pins that are tightened into the skull. This allows complete stabilization of the head without the risk of pressure to the eyes or other facial structures.

REF: p. 181

20. Select the positioning devices and accessories commonly used for bariatric surgery.

a. Air-filled, roller, or slider transfer device
b. Lower body ramp
c. Elevated padded heel supports with foot board
d. Abduction pillow

ANS: A

Bariatric patients present a higher risk of injury to both patient and staff during transfers. Special air-assisted transfer devices enable the patient to “float” on a small cushion of forced air. These devices may be placed deflated under the patient on the OR bed. After the procedure they can be inflated and used to transfer the patient onto the PACU bed.

REF: p. 167

MULTIPLE RESPONSE

1. A 68-year-old, American Society of Anesthesiologists (ASA) physical status (PS)-2 male with early-stage prostatic cancer, was intubated and positioned for a robotic-assisted laparoscopic radical prostatectomy. The initial position for insertion of the trocars was supine with arms tucked and secured within under-mattress sled arm positioners padded with gel. His hands were placed in a natural position with the fingers wrapped around gauze rolls and touching his lateral thighs. The new anesthesia provider, who had never seen a robotic prostatectomy, was concerned about anesthesia implications when the patient would be repositioned into extreme Trendelenburg for the dissection and anastomosis. The circulating nurse assured her that they would implement protective measures and work together to ensure the best patient outcome. Select all of the potentially harmful effects of extreme 45-degree Trendelenburg in a robotic procedure. (Select all that apply)

a. Respiratory compromise and ventilation resistance
b. Pelvic pressure from abdominal organs
c. Shearing injury to soft tissues
d. Heel pressure injury from stirrup boot

ANS: A, C

Positioning can compromise the respiratory system. In almost all types of positions, except semi-Fowler, sitting, and reverse Trendelenburg, the abdominal viscera shift upward toward the diaphragm. Subsequently, the diaphragm shifts upward and outward such that it contributes only about two-thirds of the ventilatory force and significantly reduces tidal volume. Although the head-down position facilitates drainage of secretions from the bases of the lungs and the oropharyngeal passages, the weight of the abdominal viscera further impedes diaphragmatic movement; as abdominal viscera push the diaphragm up and compress the lung bases, pulmonary compliance and tidal volume diminish. Fluid shifts into the alveoli, causing edema, congestion, and atelectasis. Shearing is a significant risk in this position. The skeletal structure slides up toward the head of the bed. If the patient is draped, lifting the patient to realign the tissue cannot be done.

REF: p. 165
2. A circulating nurse and anesthesia provider employed protective measures for a 68-year-old, ASA PS-2 male with early-stage prostatic cancer positioned in extreme 45-degree Trendelenburg for a robotic-assisted laparoscopic radical prostatectomy. These measures included (Select all that apply):

a. Locking the remote control for the OR bed and placing it in a secured area.

b. Place patient directly on gel overlay without a sheet

c. Use a vacuum-packed positioning device (beanbag)

d. Padded cross-chest straps secured to the bed

ANS: A, B, C, D

Accidental deployment of the remote can cause significant injury and death; therefore the remote should be removed or locked. A vacuum-packed positioning device (i.e., beanbag) that is approved for use in lithotomy position with steep Trendelenburg is used to prevent sliding while protecting the nerves of the brachial plexus. Another method is to place the patient directly on a gel overlay (without a sheet) to create a high friction coefficient and to counteract some of the effects of shear and pressure. Additionally, padded cross-chest straps secured to the bed after the arms have been padded and tucked at the sides can further secure the patient.

REF: p. 175

- alexander’s care of the patient in surgery 15th edition test bank download
- alexander’s care of the patient in surgery 15th edition pdf download
- alexander care of the patient in surgery 2014 15th edition test bank download
- alexander’s care of the patient in surgery 15th edition pdf

0/5 (0 Reviews)