
GOALS:

The goals of this learning activity seek to establish the need for preoperative nursing assessment, evaluation of chart review and considerations for plan of care and information sharing with surgical team members to ensure safe, quality surgical care and outcomes.

LEARNING OBJECTIVES:

1. Demonstrate understanding of the value of preoperative assessment by the circulating nurse.
2. Integrate knowledge, facts and chart review knowledge into perioperative plan of care.
3. Identify information to be shared with surgical team during the briefing/time out.

CONCEPTS:

Interdisciplinary collaboration-focus on latex allergy and implications for health care team, Growth & Development-Aging, Safety, Teamwork, Home Care, Nutrition, Thermoregulation.

These concerns are important for every patient entering the perioperative area, but more so for the elderly. The cognitive ability to retain and assimilate basic pre and post-operative care may be constrained in the aging population. Baroreceptor function, important for BP regulation, changes with age and may put the elderly more at risk for falls or cardiovascular responses to drugs and anesthesia. Respiratory muscle strength and endurance might be more diminished with the aging process but pre-operative teaching about post-operative inspirator use may assist in prevention of complications.

Establishing baseline nutritional status, history of falls, medication use and compliance will aid the team in providing the best care for each patient undergoing a surgical procedure. Many of the above factors also correlate to thermoregulation. Anesthesia, anxiety, wet skin preparations, and skin exposure in cold operating rooms can cause patients to become hypothermic during surgery. Normal changes that occur with aging affect the body's ability to regulate temperature. Decreased muscle tissue, decreased muscle activity, diminished peripheral circulation, reduced subcutaneous fat, and decreased metabolic rate affect the amount of heat produced and retained by the body and shivering diminishes. Studies demonstrate body temperatures < 36.7 degrees Celsius increase the risk for infections.

Case Study: Anne introduces herself to Mr. J, an 85 year old male scheduled for a bilateral inguinal hernia procedure. Mr. J presents as awake & alert but is described by the anesthesia resident as 'a bit off' and a tad crabby. Mr. J admits to being NPO since 8 pm the evening prior, he has no hearing aid, no glasses, and his dentures have been removed and safely added to his belongs list. There is a note of 'one prior surgery years

Case Study

ago' for tonsils; his PMH includes nocturnal frequency and bilateral hand arthritis for which he uses capsaicin cream two times daily. Mr. J's BMI is noted as 23 and he has been assigned an ASA of 2 by the anesthesiologist. Mr. J has lab work that includes essentially normal CBC and INR and a recent albumin level noted as 3.3 g/dl (normal = 3.2 – 5 g/dl).

Anne notes the patient will be returning home after the surgery. She verifies the patient's identity using two identifiers, correct consent and site marking by the surgeon. Mr. J denies known drug allergies, and as Anne has been taught by her preceptor she asks about food allergies. Mr. J admits he cannot eat bananas or strawberries **ever** due to 'horrible rashes'. Anne checks and realizes this information is not noted in Mr. J's record.

Marie has been listening to Anne's assessment questions and when Anne asks Marie what to do about the food allergies is abruptly told by Marie, "I have no intention of feeding him, who cares?"

Student Questions:

1. Identify 10 items that need to be documented preoperatively with rationale provided on WHY these questions are important to a perioperative plan of care.
2. You note, in a chart review, an albumin level of 3.3 on Mr. J. What is your concern as a perioperative nurse?
3. Are you concerned about Mr. J's BMI? What room setup or changes would you consider?
4. Describe how food allergies are related to possible latex allergies?

Teachers Guide:

1. 10 items:

- a. *NPO status*

Rationale: American Society for Anesthesiologists recommend for non-emergent surgeries, patients are asked to fast in order to allow for sufficient gastric emptying time to prevent aspiration. A minimum of six (6) hours from food intake is suggested.²

- b. *Allergies*

Rationale: Patients are questioned about known drug allergies and reactions to prevent the use of these drugs or those with similar chemical components.

- c. *Metal implants*

Rationale: Electrical surgical units (ESU, Bovie©) use requires a grounding pad which should not be placed over metal implants, shrapnel or non-intact skin.

- d. *Weight*

Rationale: A recent JAMA article suggests patients with low BMI (< than 23) face an increased risk of death as those with BMI > 30.

e. *Previous surgeries*

Rationale: Previous surgeries and any complications aids in the prevention of reoccurrences. Malignant Hyperthermia is a known familiar risk and important to ascertain family problems during anesthesia.

f. *Skin integrity*

Rationale: Current status of skin integrity to include ecchymoses, burns, scars, pressure sores assists in the perioperative team to document skin status, and protect already damaged skin. In the elderly, many skin changes due to loss of elasticity and subcutaneous tissue added to decreased circulation and lack of fat pads on bony prominences increase the potential for skin problems during surgical procedures.

g. *Eye wear or contacts*

Rationale: Allowing patients to keep contact lenses in place during short procedures is a growing practice but awareness of the use of contacts can help prevent damage to the cornea. Eye glasses might be important to the visual acuity and even mental status in the aging population.

h. *Hearing aids or other prosthesis*

Rationale: Diminished hearing is common in the elderly and might prevent compliance and understanding of care and instructions. Hearing aid (devices) left in place in the ear canal could cause harm or be lost during procedures.

i. *Informed Consent (surgical procedure and blood transfusions)*

Rationale: Informed consent is the documentation that a conversation occurred between the provider and the patient regarding the upcoming procedure. The surgeon is responsible to make the proper judgment regarding decisional capacity. Mental status and awareness of the procedure to take place is assessed and passed along to the team during briefing.

j. *Family presence and contact information*

Rationale: Family and contact information provide awareness of support to the patient post procedure.

A preoperative assessment is useful to identify factors associated with increased risks of specific complications and to recommend a management plan that minimizes the patient risks. Every patient should be assessed individually, and judgments should be based on an individual's problem and physiologic status, not on age alone. Advanced age, poor functional status at baseline, impaired cognition, and limited support at home are risk factors for adverse outcomes in the elderly.

2. You note, in a chart review, an albumin level of 3.3 on Mr. J. What is your concern as a perioperative nurse?

Nutritional status should be determined because nutritional deficiencies are common in elderly persons. Although no one laboratory test has shown to have good sensitivity and specificity for identifying persons at risk, the laboratory assessment of malnutrition generally includes a complete blood cell count, albumin level, and cholesterol determinations. Albumin levels of less than 3.2 g/dL in hospitalized older persons are highly suggestive of subsequent mortality. A cholesterol level of less than 160 mg/dL in a frail elderly person has also been shown to be a risk marker for increased mortality (Shippee-Rice, Fetzer & Long, 2012).

3. Are you concerned about Mr. J's BMI? What room setup or changes would you consider?

A body mass index of less than 25 kg/m² in the elderly also suggests a problem (Jensen, 2011). Low BMI or weight loss may lead to complications such as delayed wound healing and thermoregulation issues. Nutritional debilitation may add to skin integrity issues in the elderly leading to high concern for pressure ulcers, shear and friction injuries.

Mr. J's is at risk for thermoregulatory issues given his age, low BMI and albumin levels. The 3 mechanisms of heat loss: radiation, convection and conduction, put him at high risk for post-operative hypothermia. These issues might best be addressed by: pre-warming the patient, operating room warming, and intra-operative forced air-warming devices despite the fast operating time suggested by the surgeon.

Because of Mr. J's BMI, special attention by way of gel-pads or appropriate foam pads, should be placed at bony prominences. Skin assessment should be documented both pre and post operatively noting any injuries, pink or red demarcations, skin shear injuries or breakdowns.

4. Describe how food allergies are related to possible latex allergies? Cross-reactivity with foods is relevant to latex allergy because a number of common plant proteins are potent allergens. The tendency of latex-sensitive individuals to express allergic reactions after ingestion of certain foods has been recognized for many years. Close structural similarities between any two allergens from divergent sources can produce similar allergic reactions in sensitive patients, and is termed cross-reactivity or cross-sensitization.

Postoperative Complications to be considered include:

Unplanned Hypothermia
Delayed surgical wound healing secondary to nutritional deficiencies
Pain management

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References: Catherine C. Barbieri, DNP, RN, CNOR

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