Perioperative Nursing Management

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Outlines

- Introduction.
- Phases of perioperative nursing
- Preoperative nursing management.
- Immediate preoperative nursing intervention.
- Intra operative nursing care.
- Postoperative nursing care.
- Post operative complications.
- WHO surgical safety checklist.

Introduction

- Surgery, whether elective or emergent, is a stressful, complex event. Today, as a result of advances in surgical techniques and instrumentation as well as in anesthesia, many surgical procedures that were once performed in an inpatient setting now take place in ambulatory or outpatient settings.

- **Phases of perioperative nursing**
  - Preoperative phase.
  - Intraoperative Phase.
  - Postoperative Phase.

Definition

- Preoperative care is preparation and management of a patient prior to surgery. It includes both physical and psychological preparation.

Preoperative Nursing Management:

Informed consent:

- Before the patient signs the consent form, the surgeon must provide a clear and simple explanation of what the surgery will entail.
- The surgeon must inform the patient of the benefits, alternatives, possible risks, complications, as well as what to expect in the early and late postoperative periods.

Patient Education:

Deep-Breathing, Coughing, and Incentive Spirometry:

- The nurse then demonstrates how to take a deep, slow breath and how to exhale slowly.
- If a thoracic or abdominal incision is anticipated, the nurse demonstrates how to splint the incision to minimize pressure and control pain.

Deep-Breathing, Coughing, and Incentive Spirometry:

- The nurse also demonstrates how to use an incentive spirometer.
- Is a method of deep breathing that provides visual feedback to encourage the patient to inhale slowly and deeply to maximize lung inflation and prevent or reduce atelectasis.

Mobility and Active Body Movement:

- Encouraging mobility and active body movement.

At first, patient is assisted to perform exercises of the extremities. Then, patient is encouraged to do them independently.

- Compression stockings on their legs to prevent blood clots until they start ambulating.

Pain Management

- The patient is instructed to take medication as prescribed during the initial postoperative period for pain relief.

General Preoperative Nursing Interventions

Maintaining Patient Safety

- Improve the accuracy of patient identification
- Improve safety of using medications
- Improve safety of using infusion pumps
- Reduce risk of health care–associated infections
- Reduce the risk of surgical fires

Complete medical history and physical exam:

- Including the patient's surgical and anesthesia background.
- Assessment of nutritional and fluid status, respiratory cardiovascular status, hepatic and renal Function and immune Function.
- laboratory tests: CBC , electrolytes, prothrombin time, urinalysis, electrocardiogram (EKG) and chest X- ray.

Managing Nutrition and Fluids

- Withholding food and fluid before surgery is to prevent aspiration.
- Specific recommendations depend on the age of the patient and the type of food eaten. For example, adults may be advised to fast for 8 hours after eating fatty food and 4 hours after ingesting milk products.

Preparing the Bowel

- Enemas are not commonly prescribed preoperatively unless the patient is undergoing abdominal or pelvic surgery to allow satisfactory visualization of the surgical site and to prevent trauma to the intestine or contamination of the peritoneum by feces.

Preparing the Skin

- The patient may be instructed to use a soap containing a detergent-germicide to cleanse the skin area to reduce the number of skin organisms; this preparation may be carried out at home.
- Hair is removed if the hair at or around the incision site is likely to interfere with the operation.

Psychological preparation:

- Patients are often fearful or anxious about having surgery. It is often helpful for them to express their concerns to health care workers. In some cases, the procedure may be postponed until the patient feels more secure.

Immediate preoperative nursing intervention:

- patient changes into a hospital gown, remove hairpins, and cover the head completely.
- The mouth is inspected, and dentures are removed.
- Jewelry is not worn to the OR.
- Patients should void immediately before going to the OR to promote continence during low abdominal surgery and to make abdominal organs more accessible. Urinary catheterization is performed in the OR as necessary.

Immediate preoperative nursing intervention:

Administering Preanesthetic Medication:

- If a preanesthetic medication is administered, the patient is kept in bed with the side rails raised, because the medication can cause lightheadedness or drowsiness.
- Maintaining the preoperative record.

  e.g. Final checklist, consent form, identification, with all laboratory reports and nurses' records.

- **Intraoperative Phase:**

The intraoperative phase begins when the patient is transferred onto the OR table and ends with admission to the post anesthesia care unit (PACU).

Intra operative care

- The "**scrub nurse**" pass instruments, supplies, and suture to the surgeon during the procedure.
- The "**circulating nurse**" will provide for the safety and comfort of the surgical patient and will be alert to the needs of the other members of the surgical team.

The Scrub Nurse

- Perform a surgical hand scrub; set up the sterile tables; prepare sutures, and special equipment (eg, laparoscope).

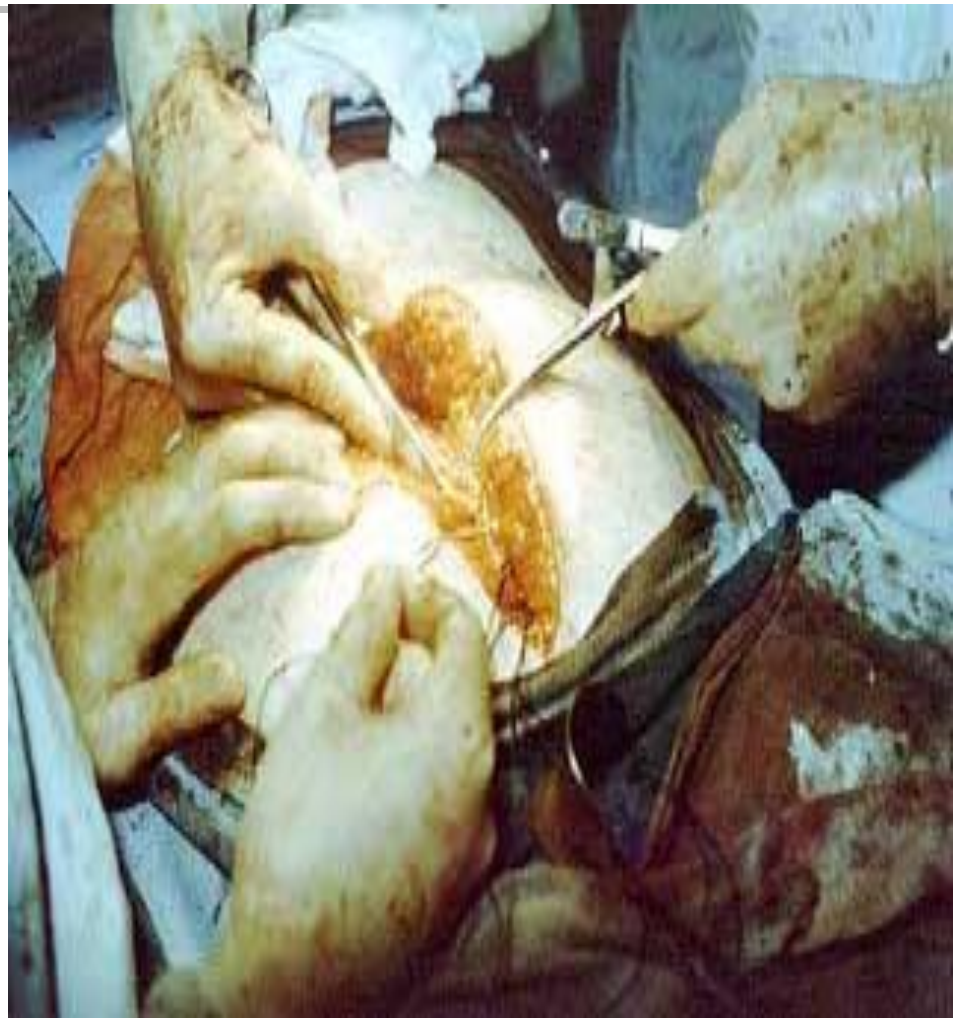
- The scrub nurse and circulating nurse perform a sponge, needle, and instrument count before the initial incision is made.

- Following the surgical scrub, the surgeon enters the operating room and is gowned, gloved by the scrub nurse.

- Draping of the patient according to procedure and the surgeon's preference.
- The scrub nurse should know the draping routine and have all necessary drapes ready in proper order.

- The scrub nurse assists by observing the operative procedure and passing the appropriate instruments to the surgeon and first assistant.

- As the surgical incision is closed, the scrub person and the circulator count all needles, sponges, and instruments to be sure they are not retained as a foreign body in the patient



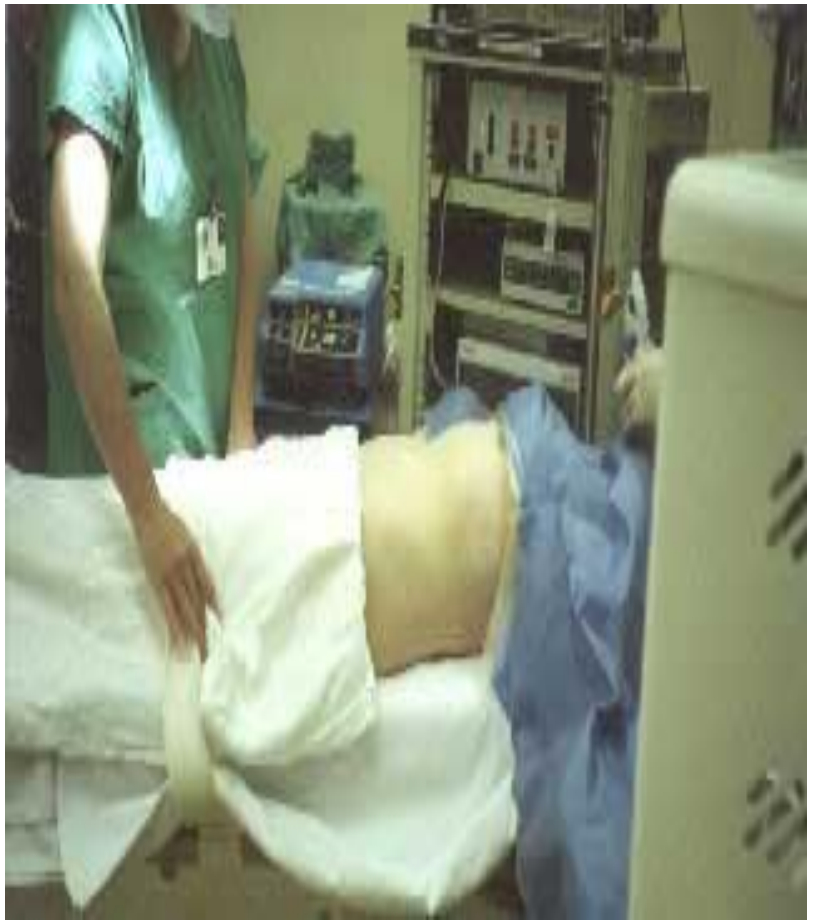
- Tissue specimens obtained during surgery are labeled by the scrub person and sent to the laboratory by the circulator.

The Circulating Nurse (the circulator)

- The circulating nurse obtains the patient's x-rays if necessary and checks on any blood products that may have been ordered.

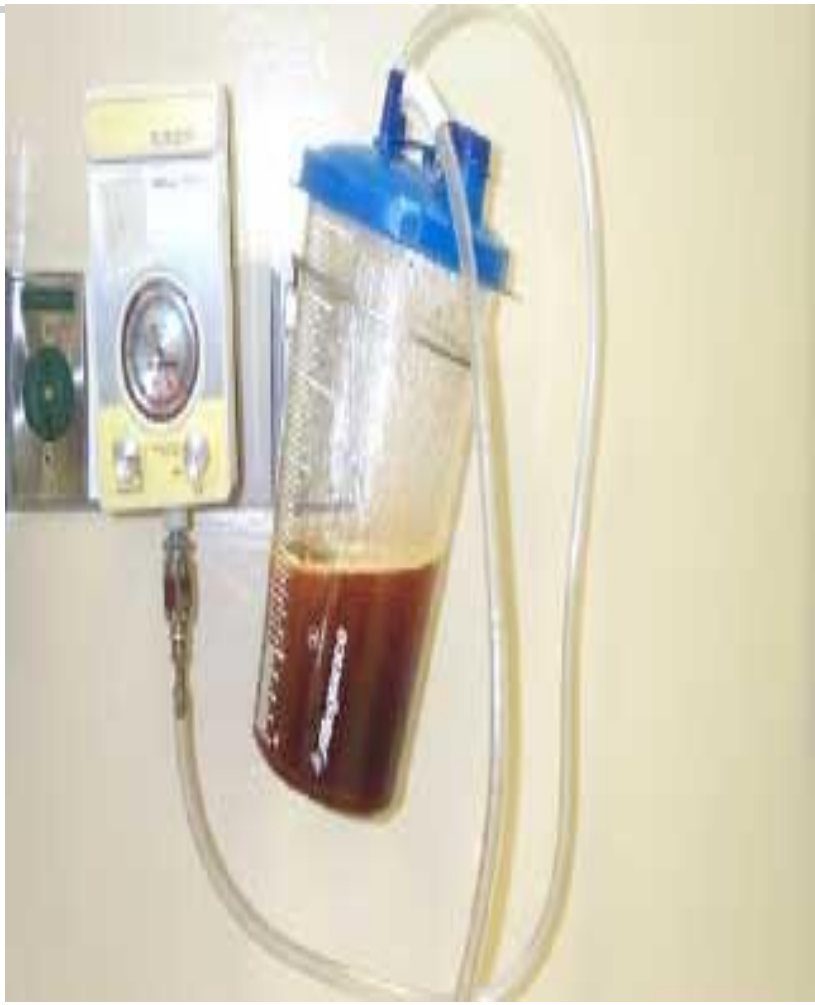
- Positioning is performed two persons. A safety strap is placed 2-3 inches above the patient's knees and the patient's arms are placed on arm boards. Monitoring devices such as BP cuff, ECG pads, and pulse oxymeter are placed on the patient by the circulating nurse

- The circulating nurse may insert a Foley catheter, exposes the operative site, and performs the skin prep.



- The circulator activates the overhead spot lights then move into position over the operative field.

- Circulating nurse suction blood from the operative site.
- Prior to suctioning the saline from the wound, the scrub nurse should note the amount of blood in the suction canister and record this blood loss.



- The circulating nurse retrieve the used sponges by using a sponge stick or gloved hand, should be placed in a clear sponge counting bag. surgeon will need to view the sponges to determine the patient's estimated blood loss (EBL).
- All sharps are placed in an appropriate sharps container.

- Other duties of the circulating nurse include keeping accurate records of the case. This may be done with the help of a computer.

- The circulating nurse maintains communication with other areas of the operating room suite and may be responsible for sending for the next patient.

- When the anesthesia personnel gives permission, the patient is moved to the recovery room bed.
- All linen is placed in an impervious bag and sent to the laundry to be washed.
- Cleaning of the room is next. Walls are not considered contaminated and require no cleaning unless they have been splashed with blood. Flat surfaces, and OR table are cleaned with a hospital grade disinfectant.

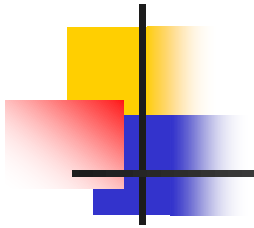
Postoperative care

Postoperative care is the management of a patient after surgery. This includes care given during the immediate postoperative period, both in the operating room and postanesthesia care unit (PACU), as well as during the days following surgery.

Post anesthesia care unit:

Assessing the Patient:

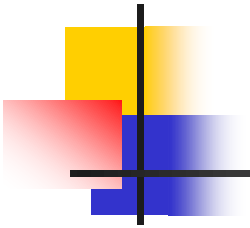
- Frequent, skilled assessments of the blood oxygen saturation level, pulse rate and regularity, depth and nature of respirations, skin color, level of consciousness, and ability to respond to commands are the cornerstones of nursing care in the PACU.



- The nurse checks the surgical site, drainage tubes, any IV fluids or medications currently infusing.
- Vital signs and general physical status are assessed at least every 15 minutes.

Maintaining a Patent Airway:

- Assess respiratory rate and depth, ease of respirations, oxygen saturation, and breath sounds.
- The head of the bed is elevated 15 to 30 degrees unless contraindicated.
- Turning the patient to one side allows the collected fluid to escape from the side of the mouth.



- Respiratory exercises (coughing, deep breathing, and incentive spirometry) every two hours.
- Careful splinting of abdominal or thoracic incision sites.
- Analgesic agents are administered to permit more effective coughing.
- Administer supplemental oxygen.

Maintaining Cardiovascular Stability:

- The nurse assesses the patient's mental status; vital signs; cardiac rhythm; skin temperature, color, and moisture; sensation in extremities, urine output, and Central venous pressure

Cardiovascular complications

- The primary cardiovascular complications seen in the PACU include hemorrhage, hypotension and shock
- **Signs of hypovolemic shock:**

Pallor, Cool, moist skin

Rapid breathing

Cyanosis of the lips, gums, and tongue

Rapid, weak, thready pulse and Low blood pressure

Concentrated urine

Relieving Pain and Anxiety

- Opioid analgesics are administered by IV in the PACU. IV opioids provide immediate pain relief.
- The PACU nurse monitors the patient's physiologic status, manages pain, and provides psychological support in an effort to relive the patient's fears and concerns.

Controlling Nausea and Vomiting

- The nurse should intervene at the patient's first report of nausea before progressing to vomiting.
- Many medications are available to control nausea and vomiting; they are commonly administered during surgery as well as in the PACU.

Maintaining Normal Body Temperature

- Patients who have been anesthetized are susceptible to chills and drafts.
- Signs of hypothermia are reported to the physician.
- The room is maintained at a comfortable temperature, and blankets are provided to prevent chilling.

Determining Readiness for Discharge from the PACU

- Uncompromised pulmonary function
- Stable vital signs
- Adequate blood oxygen saturation
- Urine output at least 30 mL/hour
- Nausea and vomiting absent or under control
- Minimal pain
- Orientation to person, place, events, and time

Nursing Diagnoses

- **Acute pain** related to surgical incision.
- **Decreased COP** related to shock or hemorrhage.
- **Impaired skin integrity** related to surgical incision and drains
- **Ineffective thermoregulation** related to surgical environment and anesthetic agents.

- **Risk for ineffective airway clearance** related to depressed respiratory function, pain, and bed rest.
- **Risk for activity intolerance** related to generalized weakness secondary to surgery.
- **Risk for imbalanced nutrition, less than body requirements** related to decreased intake and increased need for nutrients secondary to surgery

- **Risk for constipation** related to effects of medications, dietary change, and immobility
- **Risk for urinary retention** related to anesthetic agents
- **Risk for injury** related to surgical procedure/positioning or anesthetic agents

Promoting Cardiac Output:

- Assess the patency of the IV lines.
- Intake and output to determine fluid balance.
- Electrolyte levels and hemoglobin and hematocrit levels are monitored.
- Leg exercises and frequent position changes to stimulate circulation.
- Venous return is promoted by elastic compression stockings and early ambulation

Encouraging Activity

- Most surgical patients are encouraged to be out of bed as soon as possible. (i.e., on the day of surgery, or no later than the first postoperative day).
- Early ambulation reduces the incidence of postoperative complications, such as atelectasis, hypostatic pneumonia, gastrointestinal discomfort, and circulatory problems

- Gradual position change gives the circulatory system time to adjust. If the patient becomes dizzy, he or she should be returned to the supine position, and getting out of bed should be delayed for several hours.
- Assessing the patient's vital signs before, during, and after a scheduled activity helps the nurse and patient determine the rate of progression.

Promoting Wound Healing:

- Ongoing assessment of the surgical site involves inspection for approximation of wound edges, integrity of sutures, redness, discoloration, warmth, swelling, unusual tenderness, or drainage.
- The area around the wound should also be inspected for a reaction to tape.
- Change the dressing, teach the patient how to care for the incision and change the dressings at home.

Managing Gastrointestinal Function and Resuming Nutrition

- A nasogastric tube inserted before surgery may remain in place until full peristaltic activity has resumed.
- Liquids are usually the first substances tolerated by the patient after surgery. Water, juice, and tea may be given in increasing amounts.

- Soft foods (gelatin, custard, and milk) are added gradually after clear fluids have been tolerated. As soon as the patient tolerates soft foods well, solid food may be given.
- Abdominal distention may be avoided by having the patient turn frequently, exercise, and ambulate as early as possible.

Promoting Bowel Function

- The combined effect of early ambulation, improved dietary intake, and a stool softener (if prescribed) promotes bowel elimination.
- If the abdomen is not distended and bowel sounds are normal, and if the patient does not have a bowel movement by the second or third postoperative day, the physician should be notified so that a laxative can be given.

Managing Voiding

- Bladder distention and the urge to void should be assessed.
- All methods to encourage the patient to void should be tried (eg, letting water run, applying heat to the perineum). The bedpan should be warm; a cold bedpan causes discomfort and automatic tightening of muscles.

- If the patient cannot void, the patient is catheterized and the catheter is removed after the bladder has emptied.
- The nurse notes the amount of urine voided.

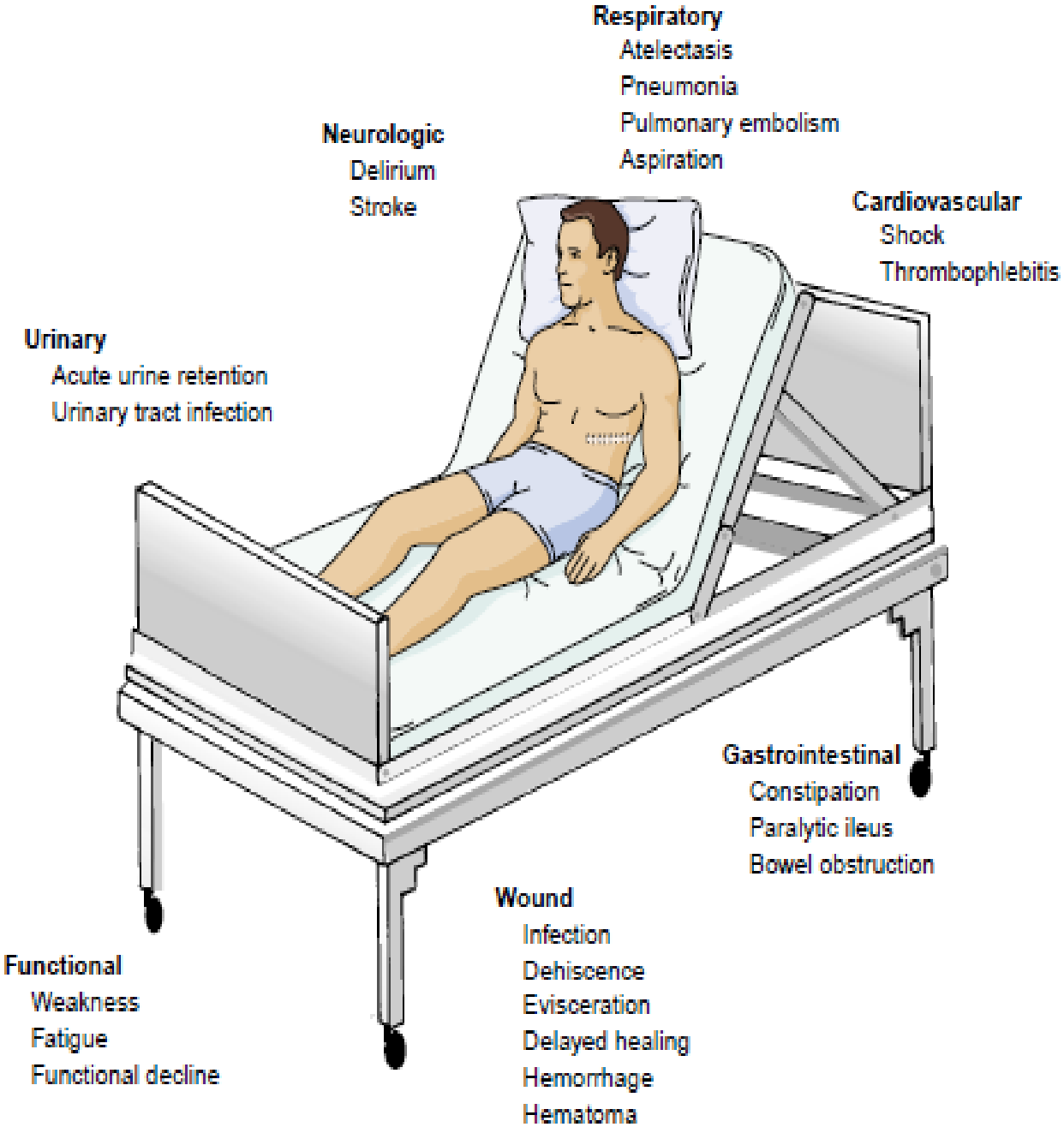


FIGURE 20-4 The postoperative patient is subject to a number of potential complications.


Thank you

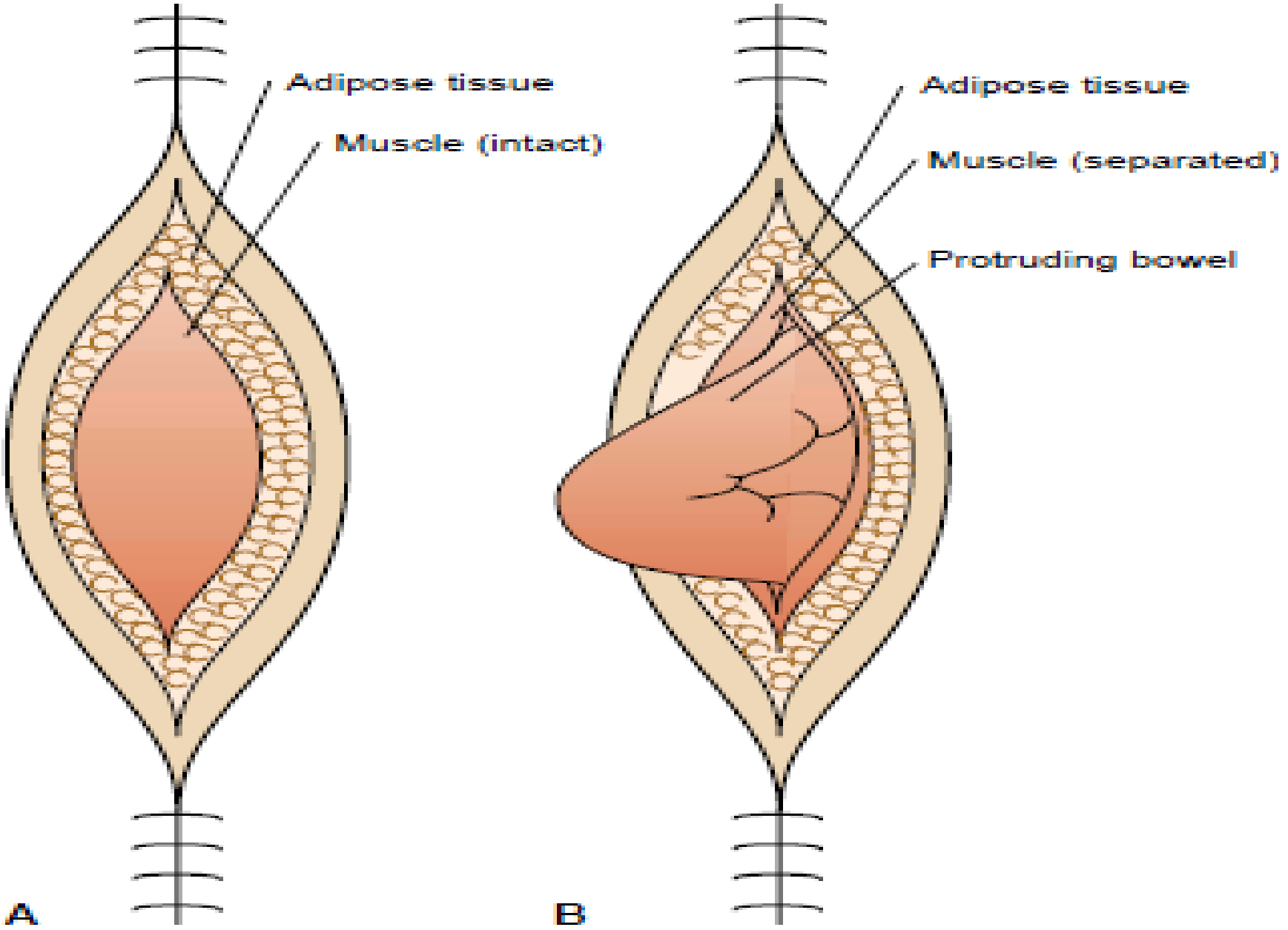


FIGURE 20-9 (A) Wound dehiscence; (B) wound evisceration.

Before induction of anaesthesia

- **Has the patient confirmed his/her identity, site, procedure and consent?**
- **Is the surgical site marked?**
- **Is the anaesthesia machine and medication check complete?**
- **Does the patient have a:** Known allergy?

Difficult airway/aspiration risk?

Risk of >500ml blood loss (7ml/kg in children)?

Before start of surgical intervention: for example, skin incision

- **Have all team members introduced themselves by name**
- **Surgeon, Anaesthetist and Registered Practitioner**

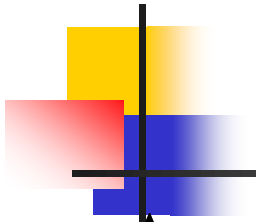
verbally confirm:

What is the patient's name?

What procedure, site and position are planned?

- **Anticipated critical events**

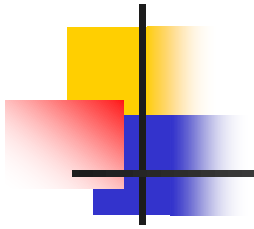
Surgeon: How much blood loss is anticipated?



- Are there any specific equipment requirements or special investigations?
- Are there any critical or unexpected steps you want the team to know about?

Anaesthetist:

- Are there any patient specific concerns?
- What is the patient's ASA grade?



- What monitoring equipment and other specific levels of support are required, for example blood?

Nurse:

- Has the sterility of the instrumentation been confirmed (including indicator results)?
- Are there any equipment issues or concerns?

- **Has the surgical site infection (SSI) bundle been undertaken?**

  - Antibiotic prophylaxis within the last 60 minutes
  - Patient warming
  - Hair removal
  - Glycemic control

- **Has VTE prophylaxis been undertaken?**
- **Is essential imaging displayed?**

Before any member of the team leaves the operating room

- **Registered Practitioner verbally confirms with the team:**

Has the name of the procedure been recorded?

Has it been confirmed that instruments, swabs and sharps counts are complete (or not applicable)?

Have the specimens been labelled (including patient name)?

Have any equipment problems been identified that need to be addressed?

- **Surgeon, Anaesthetist and Registered Practitioner:**

What are the key concerns for recovery and management of this patient?

Assessment of Health Factors That Affect Patients Preoperatively

- Nutritional and Fluid Status
- Respiratory Status
- Cardiovascular Status
- Hepatic and Renal Function
- Endocrine Function
- Immune Function
- Previous Medication Use