



มหาวิทยาลัยราชภัฏนครปฐม  
Nakhon Pathom Rajabhat University



Chapter 1-2

# Perioperative Nursing

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# Learning Objectives

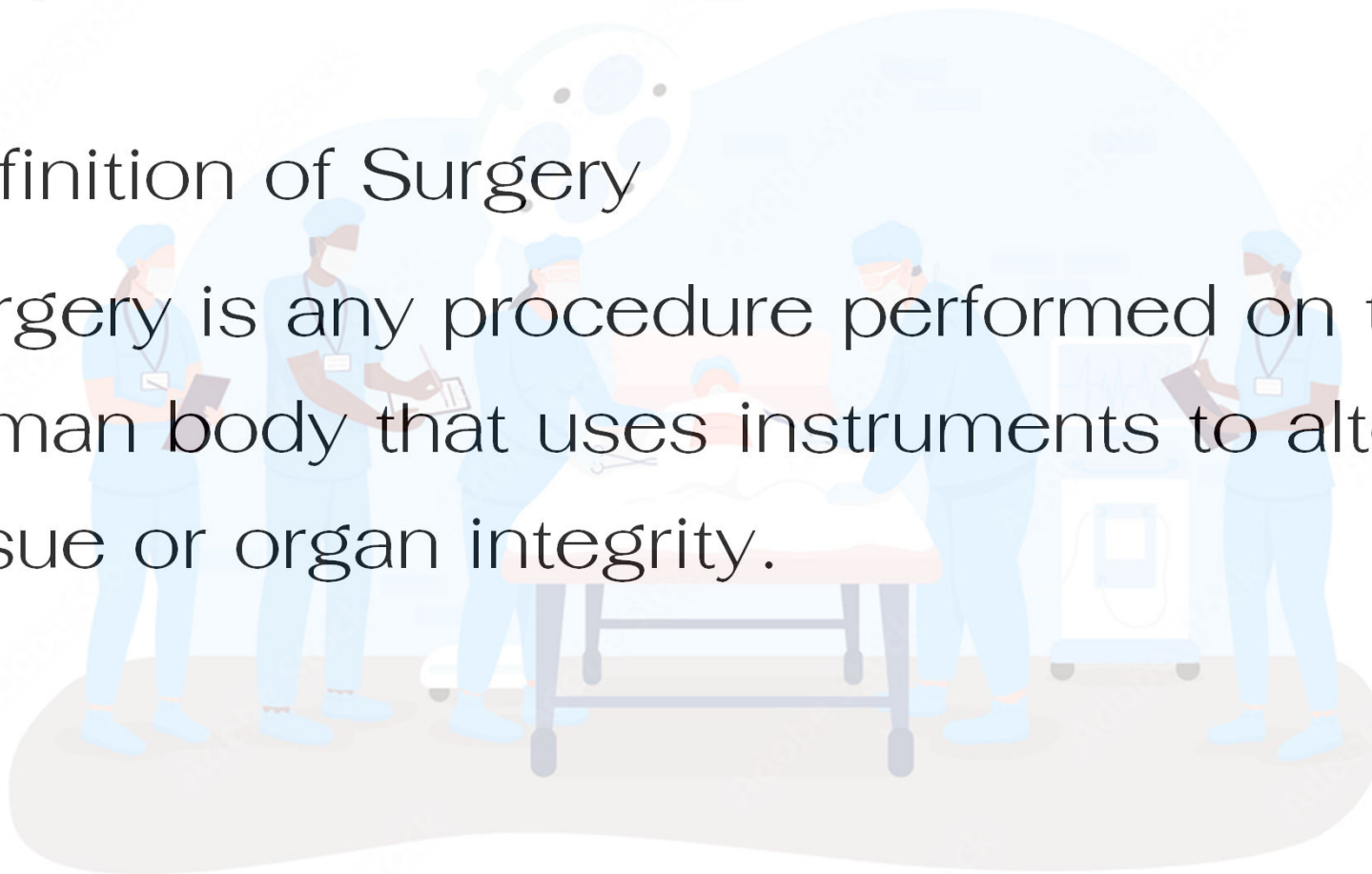
- Define key terms.
- Define the three phases of perioperative care.
- Describe the methods of classifying a surgical procedure and give an example.
- Describe the different types of anesthesia.
- Utilize the nursing process in the care of a surgical patient.
- Describe the nursing intervention for each of the three phases.

## Learning Objectives (Cont.)

- Identify factors and health conditions that may influence or alter the well-being of a surgical patients
- Describe the nurses' legal responsibilities in preparing the patient for surgery.
- Identify the appropriate nursing care in assessing and monitoring for complications.
- Utilize effective communication techniques in teaching clients and families about surgery.

# Perioperative Nursing

- Definition of Surgery
- Surgery is any procedure performed on the human body that uses instruments to alter tissue or organ integrity.





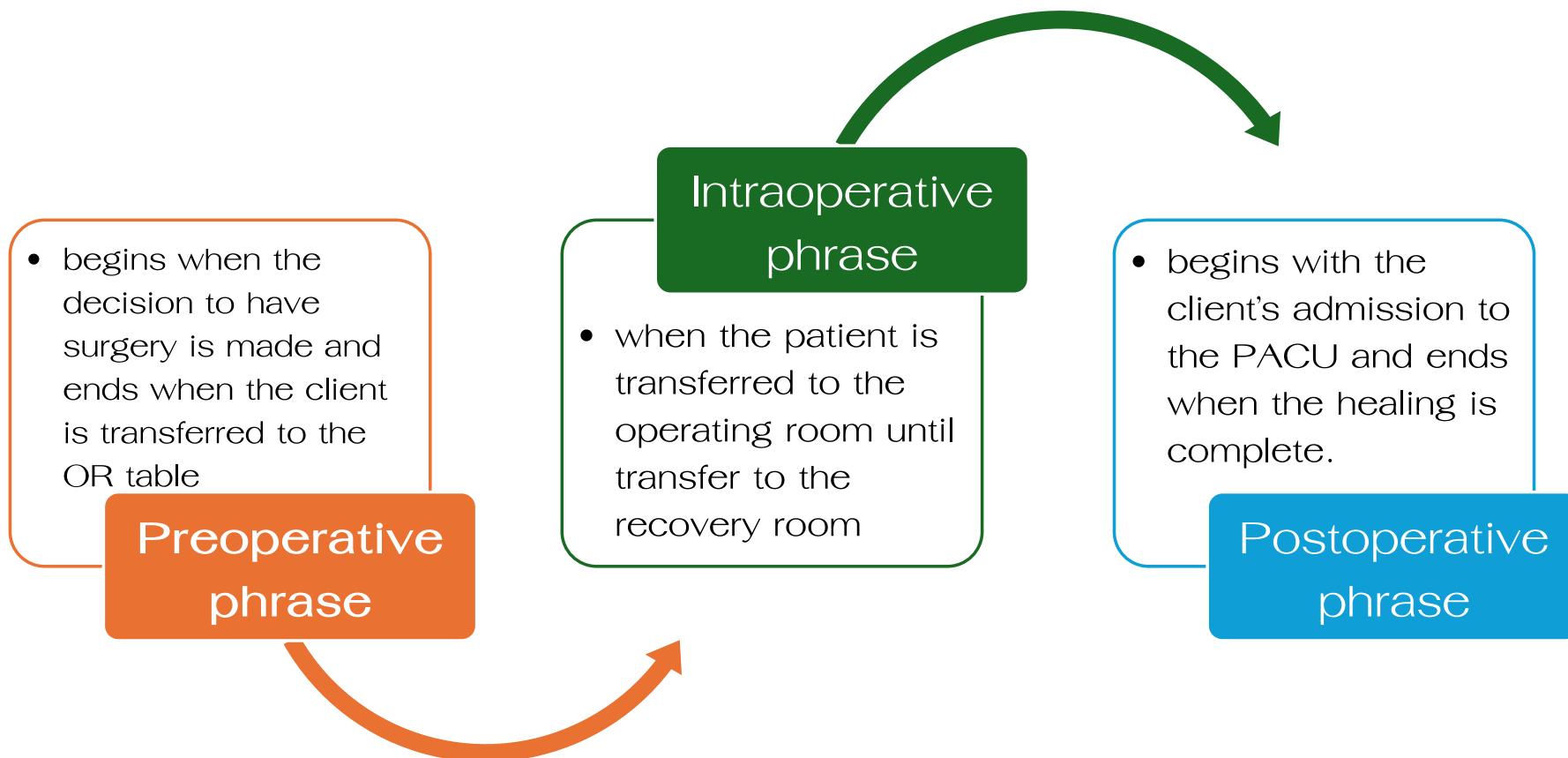
# What is meant by perioperative??



- Perioperative is a term used to describe the entire surgery span, including what occurs before, during, and after the operation.



# Perioperative Nursing





# Phases of Perioperative Nursing



**Preoperative phase:** Activities are performed that prepare the patient for surgery. It begins when the decision to have surgery is made and ends when the client is transferred to the OR table.



**Intraoperative phase:** Activities that occur from the time the patient is transferred to the operating room until transfer to the recovery facility.



**Postoperative phase:** Period after the patient is discharged from the recovery facility until the resolution of all surgical consequences.



# Types of Surgery and Surgical Facilities

Classification	Purpose	Examples
<b><i>Purpose</i></b>		
Diagnostic	Confirms suspected diagnosis	Biopsy, culture, endoscopy, fluid tap
Explorative	Confirms the type and extent of a disease process	Laparotomy, joint exploration
Reconstructive	Repairs physical deformities or improves appearance	Rhinoplasty, mammoplasty, skin grafting
Curative	Removes or repairs diseased or damaged body organs or structures and cures the patient	Appendectomy, hysterectomy, fixation of fractures
Transplant	Replaces diseased or damaged body organs and structures with donated or artificial organs	Heart, kidney, cornea, bone, liver, lung, pancreas, or skin transplants
Palliative	Alleviates pain or other disease symptoms, slows progression of diseases but does not cure	Tumor debulking, nerve blocks, placement of feeding tubes
<b><i>Urgency</i></b>		
Emergent	Preserves function of body parts or life of patient	Repair of major vessel to stop severe bleeding
Urgent	Requires prompt attention within 24–48 h	Repair of fracture, incision and drainage of wound infection
Required	Indicated for health problem but immediacy not necessary to preserve function or life	Gallbladder removal, excision of cancerous growth
Elective	Satisfies patient's desire but not needed to preserve life or function	Cosmetic surgery





# Surgical Effects on Health and Function



HEALTH  
PERCEPTION  
AND HEALTH  
MAINTENANCE



ACTIVITY AND  
EXERCISE



NUTRITION



INFECTION



URINARY  
FUNCTION



BOWEL  
FUNCTION

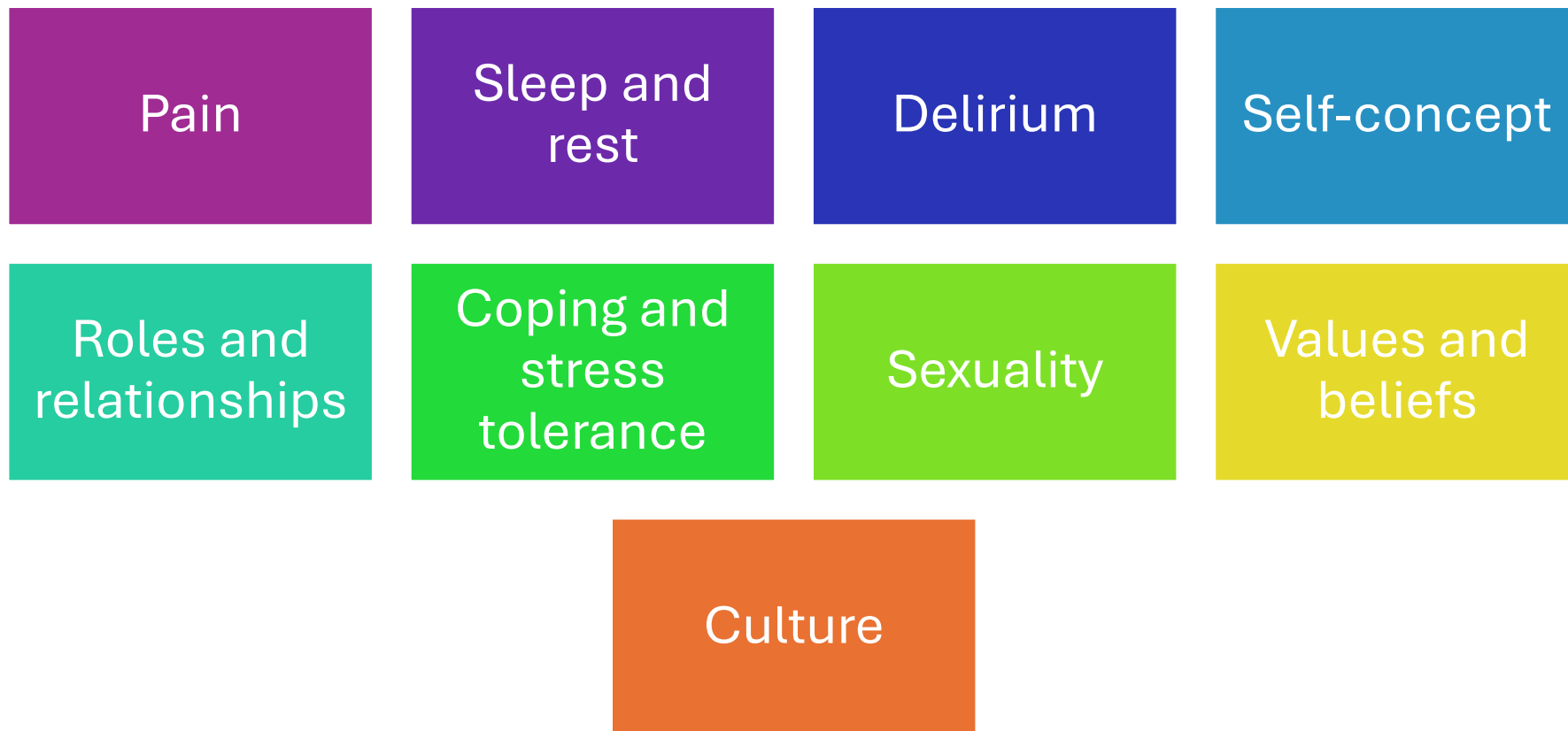


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# Surgical Effects on Health and Function

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# Surgery Categories

- I. Ectomy = removal by cutting**
- II. Orrhaphy = suture of or repair**
- III. Oscopy = looking into**
- IV. Ostomy = formation of a permanent artificial opening**
- V. Otomy = incision or cutting into**
- VI. Plasty = formation or repair**





# Preoperative Nursing

- Nursing assessment
  - ♦ History and physical examination of Allergies
  - ♦ Learning and discharge needs
- Laboratory and Diagnosis test

Data	Rationale
<i>Interview and Physical Assessment</i>	
Proposed surgery	Individualize patient teaching and preoperative preparation
History of previous surgery	Recognize and avoid problems previously encountered
History of allergies	Avoid patient exposure to allergens eliciting allergic response
Chronic disease history	Provide competent care and necessary medications; alert to possible complications
Smoking history	Identify increased risk for postoperative respiratory complications
Current respiratory and cardiac status	Assess safety of anesthetic and medication administration; minimize risk for postoperative complications
Current height and weight	Determine body surface area for drug dosage calculations
Vital signs	Detect abnormalities; provide baseline data
Mobility restriction	Plan for surgical positioning needs and safe transport
<i>Laboratory and Diagnostic Tests</i>	
Blood studies (complete blood count [CBC], electrolytes, coagulation studies)	Evaluate for actual or potential problems with anemia, infection, fluid and electrolyte imbalances, cardiac dysrhythmias, or bleeding disorders
Urinalysis	Evaluate renal function and absence of urinary tract infection
ECG	Evaluate cardiac function and absence of dysrhythmias
Chest radiograph	Evaluate respiratory status
Blood type and crossmatch	Identify blood type; match with potential donor should transfusion be needed



# Preoperative Nursing Diagnosis

- **Possible nursing diagnoses:**
  - Deficient knowledge regarding perioperative procedures related to lack of experience with the procedure
  - Disturbed sleep pattern related to preoperative activities and anxiety
  - Anxiety related to insufficient knowledge, separation from family, fear of death, or disfigurement



# Preoperative Patient Teaching

- **General information:**

- What time the procedure will begin and how long it will take?
  - Where family and friends can wait and when the patient can be visited?
  - How transport to the operating room and back will occur?
  - What type of medications and anesthesia will be administered?
  - Other factors specific to the surgical procedure.
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# Preoperative Patient Teaching

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- **Preoperative protocols:**
  - Specific procedures that need to be performed before surgery (bowel preparation, skin preparation, insertion of urinary or IV catheters or nasogastric tubes)
  - Dietary or fluid restrictions, including NPO status
  - Informed consent



# Preoperative Patient Teaching

Procedure	Rationale
Turning, getting out of bed	Improve postoperative mobility to minimize impact of immobility
Deep breathing, coughing, use of incentive spirometer	Improve postoperative gas exchange and prevent respiratory complications
Leg exercises, SCDs	Improve venous return and prevent deep venous thrombosis postoperatively
Using PCA	Provide optimal pain control postoperatively

## • Postoperative protocols:

- Specific information about post-surgery conditions including:
  - Pain relief
  - Mobility
  - Presence of intravenous and other tubing
  - Dressings/skin closure appearance





# Intraoperative Nursing: Assessment

- **Continuous assessment of:**
  - Vital signs
  - Oxygen saturation
  - Electrocardiogram (ECG)
  - Estimated blood loss
  - Urinary output
  - Arterial and central line pressures
  - Laboratory values



# Intraoperative Nursing: Diagnosis

## Nursing Diagnosis

Risk for injury related to equipment, electrical, or physical hazards during surgery

Risk for infection related to breaches in asepsis or individual risk factors

## Patient Goals

Patient will maintain injury-free during the surgical procedure.

Patient will maintain an infection-free wound site postoperatively.



# Intraoperative Nursing: Interventions

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- Role of the scrub person and circulatory nurse
- Emotional support for patient
  - Patient and staff safety:
  - Equipment
    - Electrical
    - Chemical
    - Radiation
  - Aseptic practice





# Intraoperative Nursing: Interventions

- Role of the scrub person and circulatory nurse (cont.)
  - Patient safety:
    - Surgical verification and positioning
    - Anesthesia monitoring
      - General anesthesia
      - Regional anesthesia
      - Local anesthesia
      - Moderate sedation and analgesia



# Intraoperative Nursing: Anesthesia

## PATIENT RESPONSES IN THE STAGES OF ANESTHESIA

Stage	Reflexes	Heart Rate	Respiration	Blood Pressure	Eyes
I. Analgesia amnesia	Present	Normal	Slow rate Increased depth	Normal	Some dilation Reacts to light
II. Dreams and excitement Frequently bypassed with IV induction agents	Active	Increased	Irregular breathing Breath holding	Increased	Pupils widely dilated and divergent
III. Surgical Involves four planes: plane 2 and plane 3 best for surgery	In progression of loss: 1. Lid reflex 2. Pharyngeal (swallowing) 3. Laryngeal (can tolerate oral airway, suctioning, and then intubation) 4. Gag and corneal reflexes lost	Decreased	Progressively depressed until apneic	Normal to decreased	Early constricted pupils, then slightly dilated and centrally fixed
IV. Toxic Extreme depression	No reflexes	Weak and thready	Completely flaccid	Decreased	Widely dilated pupils

# Intraoperative Nursing: Regional Anesthesia

Type	Definition and Uses	Examples of Use
Topical	The direct application of an anesthetic agent to skin or mucosal surfaces (mouth, throat, nose, cornea)	Often used before injections (nerve blocks, epidurals) or endotracheal tube placement
Nerve or nerve bundle block (local)	The injection of a local anesthetic agent into a nerve bundle or the nerve supply of the operative site	Breast biopsy, lymph node biopsy, ear procedure, cataract extraction, or cornea transplantation
Epidural or peridural	The injection of a local anesthetic agent into the potential space outside the dura	Lower extremity surgery (foot, ankle, knee), lower abdominal procedures, or postoperative pain relief
Spinal	The injection of a local anesthetic agent into the subarachnoid space	Useful for surgeries below the xiphoid process or abdominal surgery

# Appropriate patient position with rationale

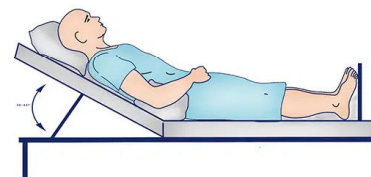
## Supine (Dorsal Recumbent)

**Supine position (dorsal recumbent)** is wherein the patient lies flat on the back with head and shoulders slightly elevated using a pillow unless contraindicated (e.g., spinal anesthesia, spinal surgery).



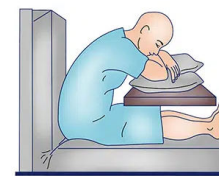
## Fowler's (Low, Semi, and High Fowler's)

**Fowler's position**, also known as **semi-sitting position**, is a bed position wherein the head of the bed is elevated 45 to 60 degrees. Variations of Fowler's position include: **low Fowler's** (15 to 30 degrees), **semi-Fowler's** (30 to 45 degrees), and **high Fowler's** (nearly vertical).



## Orthopneic (Tripod)

**Orthopneic or tripod position** places the patient in a sitting position or on the side of the bed with an overbed table in front to lean on and several pillows on the table to rest on.

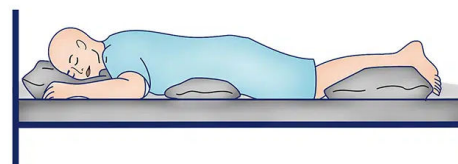


See complete guide at [nurseslabs.com/positioning/](https://nurseslabs.com/positioning/)

# Appropriate patient position with rationale

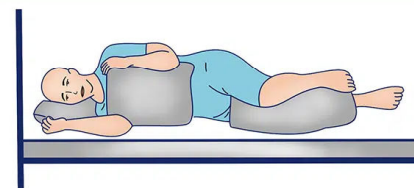
## Prone

In **prone position**, the patient lies on the abdomen with head turned to one side and the hips are not flexed.



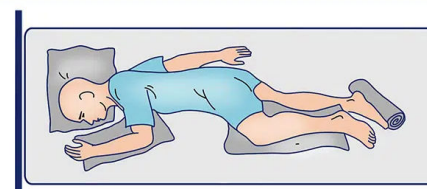
## Lateral (Side-Lying)

In **lateral position**, the patient lies on one side of their body with the top leg in front of the bottom leg and the hip and knee flexed. Flexing the top hip and knee and placing this leg in front of the body creates a wider, triangular base of support and achieves greater stability.



## Sim's (Semiprone)

The patient assumes a posture halfway between the lateral and the prone positions. The lower arm is positioned behind the client, and the upper arm is flexed at the shoulder and the elbow. The upper leg is more acutely flexed at both the hip and the knee, than is the lower one.



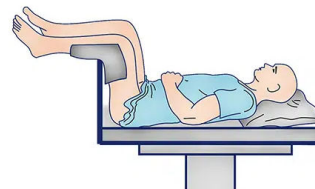
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# Appropriate patient position with rationale

## Lithotomy

**Lithotomy** is a patient position in which the patient is on their back with hips and knees flexed and thighs apart.



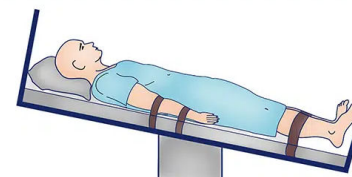
## Trendelenburg's

**Trendelenburg's position** involves lowering the head of the bed and raising the foot of the bed of the patient. The patient's arms should be tucked at their sides



## Reverse Trendelenburg's

**Reverse Trendelenburg's** is a patient position wherein the the head of the bed is elevated with the foot of the bed down. It is the opposite of Trendelenburg's position.



See complete guide at [nurseslabs.com/positioning/](https://nurseslabs.com/positioning/)

# Appropriate patient position with rationale

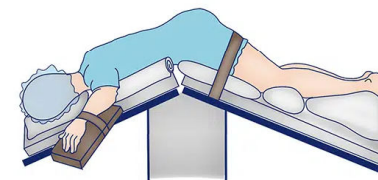
## Knee-Chest Position

**Knee-chest position**, can be in lateral or prone position. In lateral the patient lies on their side, torso lies diagonally across the table, hips and knees are flexed. In prone, the patient kneels on the table and lower shoulders on to the table so chest and face rests on the table.



## Jackknife Position

**Jackknife position**, also known as **Kraske**, is wherein the patient's abdomen lies flat on the bed. The bed is scissored so the hip is lifted and the legs and head are low.



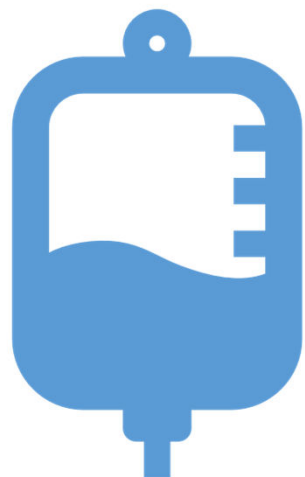
## Kidney Position

In **kidney position**, the patient assumes a modified lateral position wherein the abdomen is placed over a lift in the operating table that bends the body. Patient is turned on their contralateral side with their back placed on the edge of the table.



See complete guide at [nurseslabs.com/positioning/](https://nurseslabs.com/positioning/)

# Common Post Operative Complication



- Post Operative Pain
- Bleeding: Hypovolemia
  - Hematoma, Seroma
- Hypoxia: Hypoventilation
- Hemodynamic Unstable
  - CVS, arrhythmia, Hypovolemia
  - Contractility (MI)
  - Post Op Pulmonary edema, CHF
- Fluid & Electrolyte imbalance

# Common Post Operative Complication

- Wound Complication:
  - Hematoma, infection
  - Dehiscent, Keloid
- Post Operative infection: wound (Site of Operation)
- Post Operative Renal Failure
  - Liver Failure
  - Hematological disorder: Coagulopathy
- Post Operation Sepsis: ARDS
- Post Operative Respiratory Failure: Atelectasis, Pneumonia, MOF

# Postoperative Nursing: Assessment



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Focus Area	Assessments
Respiratory	Check airway patency and monitor respiratory rate and depth. Auscultate breath sounds. Inspect skin color. Observe chest expansion and oxygen saturation.
Cardiac	Monitor blood pressure and heart rate and rhythm at least every 15 min.
Neurologic	Check pupillary response. Monitor muscle strength to determine muscle relaxant reversal, if used.
Dressings and drains	Monitor for drainage on dressing and output from drains. Observe for hemorrhage or hematoma formation.
Pain	Assess for both subjective and objective manifestations of pain. Administer analgesics as appropriate.
Renal function	Monitor amounts of urinary output for patients with indwelling catheter (at least 30 mL/h). For patients without a urinary catheter, palpate and percuss for bladder distention or scan with portable bladder ultrasound.



# Postoperative Nursing: Diagnosis

- Possible nursing diagnoses
  - Impaired gas exchange related to anesthesia, decreased mobility, pain, and pain medications
  - Risk for infection related to surgical wounds, invasive lines, and decreased nutritional status
  - Acute pain related to surgical trauma, inflammation, edema, and invasive procedures
  - Anxiety related to pain and separation from family, job, and normal activities



# Postoperative Nursing: Intervention

- Interventions related to:
  - Respiratory and circulatory maintenance
  - Hydration and nutrition
  - Elimination
  - Wound care
  - Mobility and self-care
  - Comfort and rest



# Postoperative Discharge Planning



- During postoperative evaluation, determine which patient goals have been met and which are still unresolved.
- Develop a plan with the patient and family to meet any unmet goals related to preventing complications and returning the patient to optimum functioning.
  - Determine what resources, including referral to discharge planners, homecare agencies, and other healthcare professionals might be needed.





# Discharge from Ambulatory Surgical Units

## **Before discharge, the patient should:**

- Be able to void
- Be able to ambulate
- Be alert and oriented
- Have minimal nausea and vomiting
- Have adequate pain/comfort control
- Exhibit no excess bleeding or drainage
- Have completed discharge teaching

