

Perioperative Nursing Practice: Bridging the Gap Between Surgery and Recovery

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Abstract

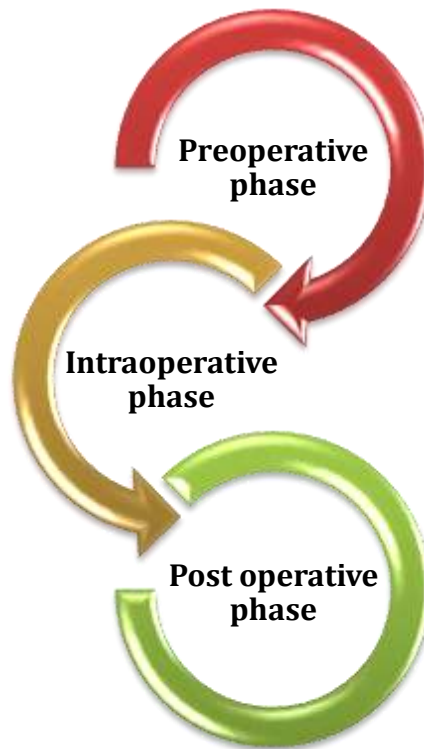
Perioperative nursing encompasses comprehensive care provided before, during, and after surgical procedures. This specialized field of nursing plays a crucial role in ensuring patient safety, promoting positive surgical outcomes, and supporting multidisciplinary teamwork in the operating room. The article highlights the historical evolution of perioperative nursing, defines its three distinct phases—preoperative, intraoperative, and postoperative—and emphasizes the critical roles nurses perform in each. It also outlines the goals, procedures, and responsibilities of scrub, circulating, PACU, and ward nurses, aiming to bridge the gap between surgical intervention and holistic patient recovery. The article concludes with a focus on managing complications and reinforcing patient education for seamless post-discharge recovery.

Keywords: Perioperative Nursing, Preoperative Care, Intraoperative Care, Postoperative Recovery, Scrub Nurse, Circulating Nurse, PACU, Surgical Nursing, Anesthesia, Patient Safety

1. Introduction

History of Perioperative Nursing:

- Journey from Shadows to Spotlight Perioperative nursing has come a long way from being in the background to becoming the **Heart of the operating room**.
- Once upon a time, Surgeries were done without the comfort of anesthesia, Sterile instruments or even without trained health care personnel. In late 1800s, operating rooms were disorganized. But as medicine advanced, so did the need for skilled hands beside the surgeon and OT Team members – and that's where perioperative nursing has taken its place.
- “Perioperative Nursing” is a term used to describe the nursing care provided in the **total surgical experience of the patient**. It reflects their full circle care – before, during and after surgery .it also involves the use of operative techniques to investigate or treat conditions such as injuries or diseases.
- It consists of three phases that begin and end at a particular point in the chain of events in the total surgical experience of patient.



Preoperative Preparations

- **Preoperative Phase:** The period of time from when decision for surgical intervention is made to when the patient is shifted to the operation theater's table.
- **Intraoperative Phase:** Period of time from when the patient is transferred to the operating room table to when she or he is admitted to the post anesthesia care unit (PACU).
- **Postoperative Phase:** Period of time that begins with the admission of the patient to the post anesthesia care unit and ends after follow-up evaluation in the setting of clinic.



PREOPERATIVE

INTRAOPERATIVE

POSTOPERATIVE

Intraoperative anesthesia

Preoperative Phase

Goals:

- Assessing physiological and psychological aspects of patient which might increase surgical risk.
- Health history obtained.
- Nutritional and fluid status.
- Respiratory and cardiovascular status.
- Informed consent.
- Complete teaching/ learning guidelines regarding surgery.

Preparing the patient the evening before surgery:

- Bathing or scrubbing a local skin area with an antiseptic.
- Perform enema for Gastrointestinal surgeries.
- Restriction of food and fluid patient should be on NPO (Nothing per oral)
- Promote rest and sleep through:
 - ✓ Back massage
 - ✓ Ventilated room
 - ✓ Comfortable and clean environment
- Bathing or scrubbing a local skin area with an antiseptic.
- The surgeon will usually specify the site for local skin scrub if indicated.
- Restricted fluid and food: Nothing per oral after midnight.

Preparing the patient on the day of surgery:

- Make sure the patient has had no solid food for at least 6 hours and no water for at least 2 hours before surgery.
- Make sure the chart contains all necessary information, such as signed surgical consent, diagnostic test results, history of health and physical examination.
- Inform the patient to remove hairpins nail paint and all jewelry as well as makeup.
- Perform mouth care.
- Ask the patient to empty the bladder if catheter is not.
- Put on surgical cap and gown.
- Instruct patient to remove dentures or partial plates, contact lenses, glasses, or prostheses (such as an artificial eye). You may remove his hearing aid. However, if the patient wishes to keep his hearing aid in place, inform operating room and PACU staff of this decision.
- Take and record vital sign.
- Make sure the informed consent form is signed by the patient or a responsible family member.
- The site of surgery should be marked with a permanent marker by the surgeon.
- Check for and carry out special orders (administering enema, feeding tube insertion, Iv Line)
- Check for identification band.
- As per order **administer preoperative medication.**

Intraoperative Phase**Goals:**

- Ensure patient safety.
- Maintain a sterile field to prevent infection.
- Assist the surgical team.
- Collaborate with anesthesia personnel for continuous monitoring and management.
- Prepare for post operative transfer .

Anaesthesia

- All types of anaesthesia are administered to keep the patient comfortable and pain-free during surgery, medical procedures or tests.
- The type that patient will receive depend on factors like the procedure, health and their preference.

FOUR TYPES OF ANESTHESIA

- General Anesthesia
- Sedation
- Regional Anesthesia
- Local Anesthesia

1. General Anesthesia

- General anaesthetics are drugs which produce reversible loss of all sensations and consciousness

Cardinal features:

- loss of all sensory and autonomic reflexes
- amnesia-hypnosis
- immobility and muscle relaxation
- it is administered by a physician anaesthesiologist through a mask or an IV placed in the vein
- most frequent side effect is drowsiness afterward
- other possible symptoms are nausea, vomiting or chills

2. Sedation

- also known as “monitored anesthesia care or twilight sedation”
- one common type of pain control which makes the patient relaxed and feel sleepy
- sedation and analgesics are usually provided through an IV placed in a vein
- possible side effects include headache, nausea, and drowsiness

Main level of sedation:**1. Minimal**

- help you relax but you will likely be awake
- typically used when your doctor needs you to be involved in the procedure

2. Moderate

- you will feel drowsy and may even fall asleep during the procedure
- you may or may not remember some of the procedure

3. Deep

- won't actually be unconscious, but you'll sleep throughout the procedure and probably will have little or no memory of it

4. Regional anesthesia

- type of pain management for surgery that numbs a large part of the body, such as from the waist down
- delivered through an injection or small tube called a catheter

Two common types of regional anesthesia

1. Epidural Anesthesia

- is injected outside of the sac fluid around your spinal cord
- medicine begins to take effect in about 10-20 mins
- a catheter is often left in place to receive more medicine to help control the pain during of after the procedure

2. Spinal Anesthesia

- medicine is injected into the fluid around your spinal cord and is done only once so it will not need to have a catheter placed
- medicine takes effect right away

4. Local Anesthesia

- an anesthetic drug that numbs only a small, specific area of the body and may provide enough pain relief
- lasts for a short period of time
- often used for minor outpatient procedures

Intraoperative staff:

- Surgeon, surgical assistant
- Anesthesiologist
- Holding area nurse
- Circulating nurse
- Scrub nurse
- Specialist nurse

Role of nurse in operating room:

Introduction

- The operating room (OR) is a critical environment where a multidisciplinary team works collaboratively to ensure the safe and effective performance of surgical procedures. Among the essential members of this team are scrub nurses and circulatory nurses, who play distinct yet complementary roles to support the surgical team and ensure patient safety.

1. Scrub Nurse

- The scrub nurse is a sterile team member who works directly within the sterile field during surgery. Their main responsibility is to support the surgeon and maintain a sterile environment.

Maintaining Sterility:

- Ensures the sterile field is never compromised.
- Stays alert to any breaks in aseptic technique and immediately reports or corrects them.

Instrument Handling:

- Anticipates the surgeon's needs and passes instruments, sponges, sutures, and other sterile supplies efficiently.
- Ensures each item is handled in a way that maintains sterility and safety.

Surgical Assistance:

- Holds retractors, cuts sutures, and assists in other minor surgical tasks as per surgeon's request.
- Helps with wound irrigation and hemostasis if required.

Counting Protocol:

- Performs surgical counts (with the circulatory nurse) for instruments, sponges, needles, and other items before, during, and after surgery to avoid retained items.
- If count discrepancy occurs, immediately informs the surgeon and initiates protocol.

Specimen Handling:

- Properly handles, labels, and passes specimens to the circulatory nurse for documentation and transport to the lab.

Team Communication:

- Maintains clear and concise communication with the surgeon and operating team.
- Signals when assistance or supply is required from the circulator.

2. Circulatory Nurse

- The circulatory nurse is a non-sterile team member who manages everything outside the sterile field. Their key role is to ensure smooth coordination, documentation, and patient safety.

Patient Monitoring and Advocacy:

- Continuously monitors the patient's condition and comfort.
- Acts as the patient advocate while the patient is unconscious under anesthesia.

Assisting the Surgical Team:

- Provides additional sterile instruments or supplies to the scrub nurse by opening them without entering the sterile field.
- Adjusts lighting, equipment, and environmental conditions as per surgical needs.

Documentation:

- Maintains an accurate record of:
 - Procedure time (start and end),
 - Medications given,
 - Sponge and instrument counts,
 - Surgical team members present,
 - Specimen details,
 - Any intraoperative complications or incidents.

Coordination and Communication:

- Communicates with other departments (lab, blood bank, radiology, etc.) as needed during surgery.
- Informs the post-anesthesia care unit (PACU) nurse regarding patient's intraoperative status.

Handling Specimens:

- Collects specimens from the scrub nurse.
- Labels correctly and ensures proper documentation and transport to lab.

Ensuring Safety Measures:

- Verifies proper function of suction, cautery, and other equipment.
- Ensures safety measures like grounding pads, positioning devices, and safety straps are in place.

Goals:

The goal of the postoperative phase is to ensure the safe recovery of the patient from anesthesia and surgery, monitor for any complications, manage pain, restore physiological stability, and provide emotional support and education to the patient and their family.

Phases of Postoperative Care:

- **Immediate Postoperative Phase** – In the Post Anesthesia Care Unit (PACU)
- **Intermediate Phase** – Transfer to surgical/ward unit
- **Extended/Post-discharge Phase** – Recovery at home or rehab (as applicable)

Nursing Roles in the Postoperative Phase:**1. Scrub Nurse – Postoperative Duties (in OR):**

- Final sponge/instrument count with circulatory nurse
- Assists in wound dressing and drape removal
- Hands over specimens to circulatory nurse
- Cleans and prepares instruments for sterilization
- Helps clear the sterile field

2. Circulatory Nurse – Postoperative Duties (in OR):

- Documents the entire procedure and ensures correct records
- Transfers patient safely to PACU with the anaesthesia team
- Provides a detailed handover to PACU nurse
- Ensures specimens are labelled and sent to lab
- Prepares the OR for the next case

3. PACU Nurse (Post Anaesthesia Care Unit Nurse):

This nurse plays the most **critical role** in the immediate recovery of the patient.

Key Responsibilities:

- **Assessment and Monitoring:**

Postoperative Phase

- Monitor **vital signs** (every 15 mins or as per protocol)
- Check **airway, breathing, circulation**, and level of consciousness
- Assess for signs of **postoperative complications** like bleeding, shock, respiratory distress

- **Airway Management:**

- Ensure patency of airway
- Suction secretions if necessary

- Administer oxygen as prescribed
- **Pain and Comfort:**
 - Assess pain levels using standard scales
 - Administer analgesics as prescribed
 - Reassure and comfort the patient
- **Fluid and Electrolyte Balance:**
 - Monitor IV fluids, urine output, and drainage (catheter or surgical drain)
 - Identify signs of dehydration or fluid overload
- **Wound and Dressing Care:**
 - Check surgical site for bleeding or drainage
 - Ensure dressing is dry and intact
- **Nausea/Vomiting Management:**
 - Administer antiemetics as needed
 - Monitor for aspiration risks
- **Neurological Checks:**
 - Monitor consciousness using the **Glasgow Coma Scale (GCS)** if needed
 - Check for orientation and pupil reactions
- **Documentation:**
 - Record all assessments, medications given, and patient responses
- **Patient and Family Communication:**
 - Communicate recovery progress to the family (as per hospital policy)
 - Educate the patient (once awake) about postoperative expectations

4. Ward/Unit Nurse – Postoperative Care After Transfer from PACU:

After PACU, the patient is transferred to a **surgical or recovery unit**, where the ward nurse continues care.

Responsibilities:

- Receive handover from PACU nurse
- Continue **monitoring vitals and wound**
- Assist with **early ambulation and mobility** (as per surgeon's advice)
- Provide **oral fluids or diet** once allowed
- Educate on:
 - **Wound care**
 - **Medications**
 - **Activity restrictions**
 - **Signs of complications**
- Coordinate with physiotherapist, dietitian, and surgeon as part of multidisciplinary care
- Prepare for discharge by reinforcing instructions and follow-up appointments

Nurse Role	Main Area of Work	Key Duties
Scrub Nurse	OR (End of Surgery)	Final counts, sterile field clearing, specimen prep
Circulatory Nurse	OR + Transfer	Handover, documentation, transport, OR prep

Nurse Role	Main Area of Work	Key Duties
PACU Nurse	Recovery Room	Vitals, pain relief, airway, monitoring
Ward Nurse	Postoperative Unit/Ward	Continued recovery, education, discharge planning

Common Postoperative Complications to Watch For:

- Hemorrhage
- Deep vein thrombosis (DVT)
- Respiratory distress or hypoxia
- Wound infection
- Urinary retention
- Nausea/vomiting
- Pain or discomfort
- Shock or altered mental status

Conclusion

Perioperative nursing is a pivotal component of surgical healthcare, ensuring that patients receive comprehensive and continuous care throughout their surgical journey. By coordinating the efforts of nurses across preoperative, intraoperative, and postoperative phases, perioperative nursing supports optimal outcomes, reduces complications, and enhances patient satisfaction. The specialized roles of scrub and circulating nurses in the operating room, along with PACU and ward nurses in the recovery phase, collectively ensure patient-centered, evidence-based, and safe surgical practices. As healthcare continues to evolve, the role of perioperative nurses remains indispensable in delivering high-quality surgical care.

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