

□ Perioperative Planning

□ Definition

Perioperative planning is the systematic process of preparing, optimizing, and managing a patient before, during, and after surgery to minimize risks, enhance outcomes, and ensure patient safety.

It involves **multidisciplinary coordination**, individualized risk assessment, and structured protocols that span the **preoperative, intraoperative, and postoperative** phases.

□ Phases of Perioperative Planning

1. □ Preoperative Phase

- **Clinical assessment:**
 1. Medical history, physical exam, medication review
 2. Anesthesia evaluation
 3. Risk scores (ASA, frailty index, cardiac risk)
- **Laboratory and imaging:**
 1. CBC, coagulation panel, renal function
 2. ECG, chest X-ray if indicated
 3. Neuroimaging (MRI, CT) in neurosurgical cases
- **Optimization:**
 1. Control of comorbidities (e.g., hypertension, diabetes)
 2. Correction of coagulopathies or anemia
 3. Smoking/alcohol cessation
- **Medication management:**
 1. Hold anticoagulants/antiplatelets if needed
 2. Evaluate NSAID use (bleeding risk vs. analgesic benefit)
- **Informed consent:**
 1. Explanation of risks, benefits, and alternatives
 2. Documentation of patient understanding and agreement

2. □ Intraoperative Phase

- **Anesthetic plan:**
 1. General, regional, or local anesthesia
 2. Airway and pain control strategies
- **Surgical safety protocols:**
 1. WHO Surgical Safety Checklist
 2. Sterile field, instrument count
- **Hemostasis and fluid management:**
 1. Blood pressure control
 2. Coagulation monitoring
 3. Use of antifibrinolytics or hemostatic agents

- **Positioning and neuromonitoring** (in neurosurgery):
 1. Prevent nerve injury
 2. Use of MEPs/SEPs if applicable

3. **Postoperative Phase**

- **Pain management:**
 1. Multimodal analgesia (e.g., acetaminophen, NSAIDs, opioids)
 2. Monitor for bleeding if NSAIDs used
- **Monitoring and early detection:**
 1. Vitals, neurological status, wound checks
 2. Post-op imaging (e.g., CT brain if craniotomy)
- **Mobilization and nutrition:**
 1. DVT prophylaxis
 2. Early ambulation
 3. Return to oral intake
- **Discharge planning:**
 1. Wound care instructions
 2. Medication reconciliation
 3. Follow-up appointments and red-flag education

Importance in Neurosurgery

- Reduces morbidity from complications (e.g., hemorrhage, infection, seizures)
- Allows early recognition of neurological decline
- Supports precise coordination between neurosurgeons, anesthesiologists, intensivists, and rehabilitation teams

Summary

Perioperative planning is a cornerstone of modern surgical practice. It ensures that every phase—from preoperative optimization to postoperative recovery—is **customized to the patient's risk profile**, enhancing safety, efficiency, and outcomes, especially in complex fields like **neurosurgery**.

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