

Introduction to Perioperative Theatre

Introduction to Perioperative Theatre Instruments & Apparatus

(Designed as a quick-reference guide for students, theatre staff, and anyone new to the operating room environment)

1. Overview of the Perioperative Environment

Phase	Primary Goal	Typical Personnel	Key Activities
Pre-operative	Verify patient, plan procedure, set up equipment	Surgeon, anesthetist, scrub nurse, circulating nurse, techs	Patient consent, site marking, instrument checklist, equipment calibration
Intra-operative	Perform safe, sterile surgery	Surgeon, assistants, anesthetist, scrub & circulating nurses, techs	Maintaining sterility, instrument handling, monitoring vitals, suction & irrigation
Post-operative	Recover patient, clean theatre, maintain inventory	Anesthetist, recovery nurse, theatre tech, housekeeping	Transfer to PACU, instrument decontamination, documentation

2. Classification of Instruments

Category	Purpose	Representative Instruments
Cutting & Dissection	Incise tissue, separate structures	Scalpels, Metzenbaum scissors, Mayo scissors, surgical knives
Grasping & Holding	Secure tissue, provide traction	Tissue forceps (Adson, Gerald), Allis clamps, Kocher forceps
Clamping & Occluding	Control bleeding, isolate vessels	Hemostatic clamps (Kelly, Doyen, Bulldog), vascular clamps
Retracting	Hold back tissues/organs for exposure	Handheld retractors (Richardson, Army-Navy), self-retaining retractors (Balfour, Bookwalter)
Suturing & Stapling	Approximate tissue, close wounds	Needle holders, suturing forceps, staplers (linear, circular)

Introduction to Perioperative Theatre

Category	Purpose	Representative Instruments
Measuring & Marking	Defining incision lines, guide cuts	Calipers, rulers, marking pens, templates
Specialty	Procedure-specific tasks	Orthopaedic drills, laparoscopic trocars, neurosurgical microscopes

Tip: Instruments are usually **color-coded or numbered** in sets to speed identification and reduce errors.

3. Core Apparatus in the Operating Theatre

3.1 Anesthesia Workstation

- **Components:** Gas supply (O₂, N₂O, air), vaporizers, ventilator, breathing circuit, monitoring module.
- **Key Checks:** Gas flow, leak test, ventilator alarms, vaporizer calibration.

3.2 Surgical Tables

- **Features:** Adjustable height, tilt, Trendelenburg/Reverse Trendelenburg, radiolucent surface for imaging.
- **Safety:** Secure patient positioning devices (gel pads, straps) to prevent falls.

3.3 Lighting Systems

- **Overhead Surgical Lights:** Adjustable intensity, color temperature ~4,300K, shadow-free illumination.
- **Auxiliary Lights:** Headlamps, fiber-optic illumination for deep cavities.

3.4 Electrosurgical Units (ESU)

- **Modes:** Cutting, coagulation, blend, bipolar, monopolar.
- **Safety:** Grounding pad placement, current settings per tissue type, smoke evacuation.

3.5 Suction & Irrigation Devices

Introduction to Perioperative Theatre

- **Suction:** Wall-mounted or portable units, Yankauer, Frazier, and deep suction tips.
- **Irrigation:** Pulsed lavage, manual syringe systems, sterile saline bottles

Instruments and Apparatus

3.6 Imaging & Navigation

- **