

Importance of Perioperative Theatre Safety

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Key concepts, why it matters, and practical takeaways for staff

1. Overview

Aspect	What it means	Why it matters
Perioperative	All phases surrounding the surgical act – pre-op, intra-op, and post-op in the operating theatre (OT).	Safety must be continuous; a lapse at any stage can compromise the whole case.
Theatre safety	Measures that protect patients, staff, and equipment from preventable harm.	Directly impacts morbidity, mortality, legal risk, and cost of care.

2. Core Benefits

Benefit	Description	Impact
Reduced adverse events	Fewer wrong-site surgeries, medication errors, infections, and equipment failures.	Improves patient outcomes and satisfaction.
Enhanced staff wellbeing	Clear protocols, ergonomic layout, and proper PPE lower fatigue and injury.	Increases staff retention and morale.
Cost containment	Preventing complications shortens hospital stay and avoids re-operations.	Saves resources for the institution.
Regulatory compliance	Meets standards set by bodies such as the WHO Surgical Safety Checklist, Joint Commission, and national health agencies.	Avoids penalties and maintains accreditation.
Legal protection	Documented safety processes provide evidence of due-diligence.	Reduces malpractice claims.

3. Safety Pillars in the Theatre

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1. Team Communication

- Structured briefings (pre-op) and debriefings (post-op).
- Closed-loop communication for medication and instrument requests.
- Use of standardized language (e.g., "time out," "confirm").

2. Standardized Checklists

- WHO Surgical Safety Checklist (sign-in, time-out, sign-out).
- Procedure-specific checklists (e.g., spine, cardiac).
- Checklist compliance audit (95% adherence target).

3. Environment & Equipment

- Regular maintenance & calibration of anaesthesia machines, monitors, and surgical tools.
- Clear labeling of gas lines, electrical outlets, and suction devices.
- Adequate lighting, temperature control, and noise reduction.

4. Infection Control

- Strict aseptic technique (hand hygiene, surgical attire, sterile fields).
- Laminar flow and air-change monitoring for orthopaedic/implant cases.
- Prophylactic antibiotics administered within 60 min of incision.

5. Patient Identification & Site Verification

- Two-identifier verification (name + MRN).
- Marking of operative site on the patient and on the surgical diagram.
- Cross-check with imaging and operative notes.

6. Medication Safety

- Double-check high-risk drugs (e.g., neuromuscular blockers, opioids).
- Use of barcode scanning or electronic MAR (Medication Administration Record).
- Clear labeling of syringes and infusion pumps.

7. Emergency Preparedness

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- Readily accessible crash cart, defibrillator, and airway equipment.
- Regular simulation drills (e.g., malignant hyperthermia, massive hemorrhage).
- Clear roles assigned for “code” situations.

8. Human Factors & Ergonomics

- Layout that minimizes reaching and twisting.
 - Adjustable operating tables and instrument trays.
 - Fatigue management (shift limits, break policies).
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4. Workflow Integration

4.1 Preoperative Phase

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