

Introduction to Perioperative Theatre Safety

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(Designed as quick-reference notes for students, new staff, or anyone needing a concise overview.)

1. Why Theatre Safety Matters

- **Patient protection** – Prevents surgical site infections, medication errors, and intra-operative injuries.
 - **Staff well-being** – Reduces exposure to hazardous chemicals, radiation, and ergonomic strain.
 - **Legal & regulatory compliance** – Meets standards set by bodies such as the WHO, Joint Commission, CQC, and national health ministries.
 - **Financial impact** – Fewer adverse events = lower costs for re-operations, litigation, and extended hospital stays.
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2. Core Safety Domains

Domain	Key Elements	Typical Checks/Actions
Environment	• Clean, well-lit, temperature-controlled space • Adequate ventilation (air changes, laminar flow where required) • Noise and clutter control	• Verify temperature (18-24°C) and humidity (30-60%). • Confirm air filter integrity & flow rates. • Remove unnecessary equipment before "scrub-in".
Equipment	• Functional surgical tables, lights, monitors, anesthesia machines • Sterile instruments & supplies • Backup power & emergency equipment	• Perform pre-op equipment checklist (e.g., "Surgical Safety Checklist – Equipment"). • Test alarms, battery life, and suction. • Keep a fully stocked emergency cart within reach.

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Domain	Key Elements	Typical Checks/Actions
Personnel	• Trained surgical, anesthesia, nursing, and support staff • Clear role allocation (lead surgeon, circulating nurse, scrub tech, etc.) • Proper PPE use	• Conduct a “time-out” to confirm team members and roles. • Verify hand-washing, glove donning, and gowning.
Processes & Protocols	• Standard Operating Procedures (SOPs) • WHO Surgical Safety Checklist (Sign-in, Time-out, Sign-out) • Incident reporting & root-cause analysis	• Run the checklist at the three critical points. • Document any deviations and corrective actions.
Communication	• Closed-loop verbal orders • Use of standardized language (e.g., “read-back”) • Briefing & debriefing sessions	• Repeat critical information (drug dose, patient ID). • Conduct a post-op debrief to capture lessons learned.
Infection Control	• Sterile field maintenance • Antibiotic prophylaxis timing • Surgical hand antisepsis	• Apply WHO “Five Moments for Hand Hygiene”. • Verify prophylactic antibiotic administered within 60-min of incision.
Patient Identification	• Two-identifier verification (name + MRN, or name + DOB) • Wristband check	• Confirm identifiers at sign-in, before induction, and before skin closure.
Medication Safety	• Double-check high-risk drugs (e.g., muscle relaxants, opioids) • Use of barcode scanning where available	• Perform “read-back” of drug name, concentration, dose, route.
Radiation Safety (if applicable)	• Lead shielding, dosimeters, ALARA principle	• Verify equipment settings, wear personal dosimeters, document exposure time.