

Introduction to Anaesthesia Techniques

Introduction to Anaesthesia Techniques

Designed as a quick-reference guide for students and healthcare professionals.

1. What Is Anaesthesia?

Aspect	Description
Definition	A reversible, controlled loss of sensation (pain, temperature, pressure) and, in many cases, consciousness.
Goals	• Provide analgesia and amnesia • Ensure patient immobility • Preserve vital physiologic functions (airway, breathing, circulation)
Types of Effects	• Analgesia – pain relief • Amnesia – loss of memory for the procedure • Muscle relaxation – facilitates surgical exposure • Unconsciousness – when required

2. Major Categories of Anaesthetic Techniques

Category	Typical Indications	Key Features	Common Agents
General Anaesthesia (GA)	Major abdominal, thoracic, neurosurgery; procedures requiring complete immobility	• Loss of consciousness • Controlled ventilation (often needed) • Requires airway protection	Inhalational: Sevoflurane, Desflurane, Isoflurane IV: Propofol, Etomidate, Ketamine

Introduction to Anaesthesia Techniques

Category	Typical Indications	Key Features	Common Agents
Regional Anaesthesia	Orthopedic limb surgery, lower body cesarean, vascular procedures	• Numbs a specific region • Patient may stay awake • Often combined with sedation	• Spinal (bupivacaine, levobupivacaine) • Epidural (ropivacaine, lidocaine) • Peripheral nerve blocks (ultrasound guided)
Monitored Anaesthesia Care (MAC) / Conscious Sedation	Minor surgeries, endoscopy, dental procedures	• Patient maintains airway and spontaneous breathing • Light to moderate sedation with analgesia	Midazolam, Fentanyl, Dexmedetomidine, Propofol (titrated)
Local Anaesthesia	Small skin procedures, biopsy, minor repairs	• Direct infiltration at the surgical site • No loss of consciousness	Lidocaine, Prilocaine, Mepivacaine (often with epinephrine)

3. General Anaesthesia – Step-by-Step Overview

1. Preoperative Assessment

- Medical history, airway evaluation (Mallampati, neck mobility)
- Review labs, allergies, medication profile

2. Induction

- **IV agents:** Propofol (rapid onset, short duration)
 - **Adjuncts:** Opioids (fentanyl) for analgesia, muscle relaxants (rocuronium) for intubation

3. Airway Management

- Endotracheal tube (ETT) or supraglottic airway (LMA)

Introduction to Anaesthesia Techniques

- Confirmation by capnography, auscultation

4. Maintenance

- **Inhalational:** Sevoflurane 1–2 MAC (minimum alveolar concentration)
 - **Total IV anesthesia (TIVA):** Propofol infusion $\pm$ remifentanyl

5. Monitoring (minimum standards)

- ECG, non-invasive BP, pulse oximetry, end-tidal CO₂, temperature, neuromuscular transmission (if paralytics used)

6. Emergence & Recovery

- Discontinue anesthetics, reverse