Al-Mustaqbal University

College of Health and Medical Technology

Anesthesia Techniques Department

Practical Lecture

Anesthesia for Orthopedic Surgery Part (2)

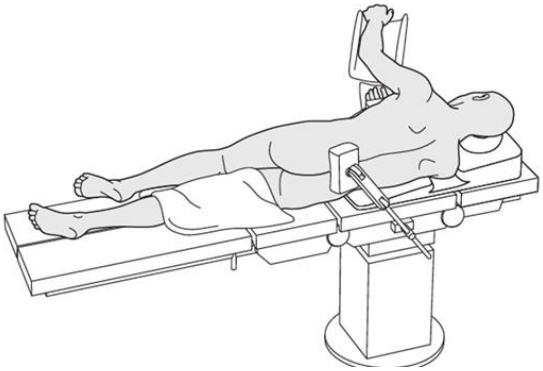
BSc. Anesthesia & Intensive Care

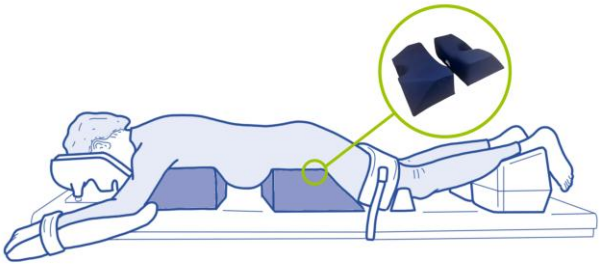
Prepared by: Mohammed Khudair, Ali Rasoul

2026–2025

Positioning:

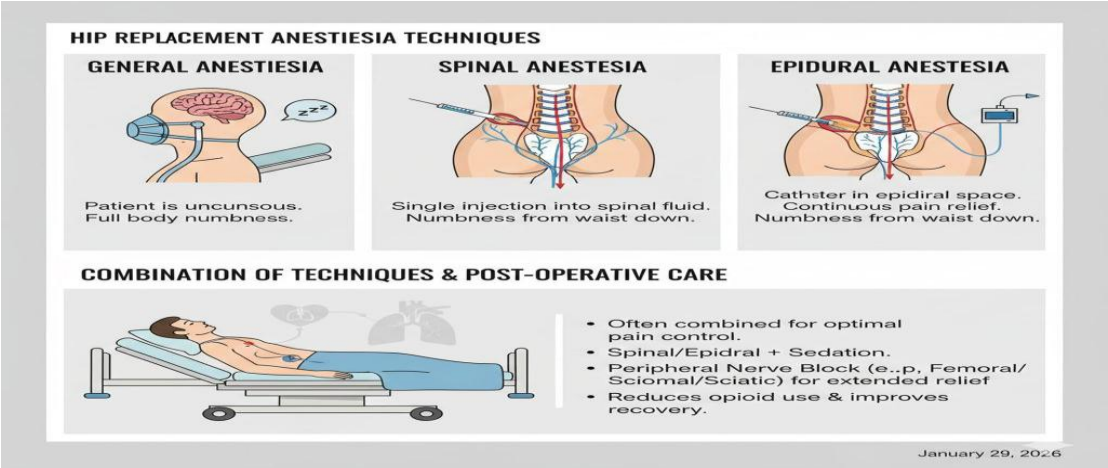
Orthopedic surgery often requires the use of unusual positions, some of which carry risks of nerve damage, soft tissue ischemia, electrical and thermal injury, and jointpain. Care must be taken in protecting areas at risk of injury.. These postures include the lateral position for hip surgery, the sitting position for shoulder surgery, and the prone position for spinal surgery.





ANAESTHESIA FOR HIP REPLACEMENT :

❖ Hip replacement can be performed under general, spinal, or epidural anesthesia, and a combination of techniques is often used.



♣ The advantages of regional techniques include:

• Reduced blood loss, reducing the need for transfusion.

- Avoids effects of general anaesthesia on pulmonary function.
- Avoids intubation · Good early postoperative analgesia.
- Reduced incidence of postoperative venous thrombosis and pulmonary embolism.

♣ The advantages of general anaesthesia include:

- Easier for patients who cannot tolerate lying flat.
- Safer in patients with fixed output states like **aortic stenosis**, where maintenance of normal sinus rhythm, heart rate, and intravascular volume is critical.

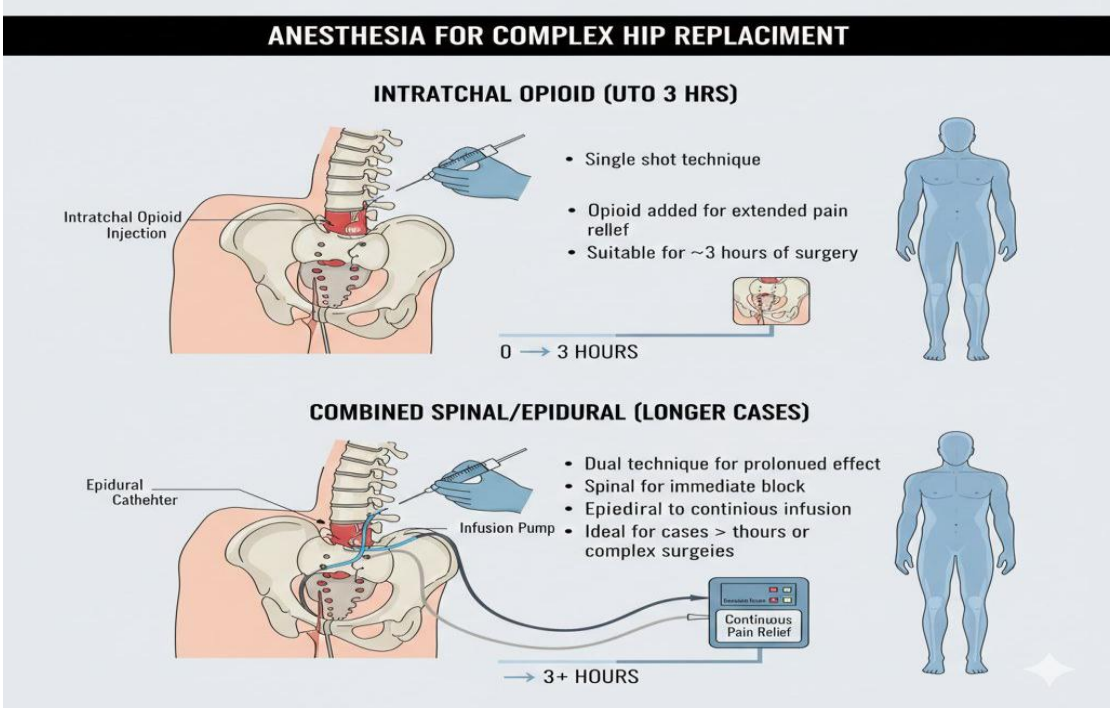
- **Patient preference**

Spinal anesthesia:

- Target-Controlled-Infusion (**TCI**) propofol is useful for sedation for the lateral position, using a facemask and supplemental oxygen. Intermittent doses of midazolam can also be used.

- For the supine position in a patient who wishes to be asleep during surgery, consider an LMA with a light GA to maintain the airway.

- The addition of an intrathecal opioid helps cover the longer duration of surgery necessary for a more complex primary hip replacement. It is a suitable technique for up to 3 hours of surgery. Alternatively, or for longer cases, a combined spinal/epidural technique can be used.



- **GA** (rather than sedation) may be combined with an epidural for any complex primary operation because of the prolonged surgical time. An LMA, or endotracheal tube, and IPPV may be considered.

Intraoperative:

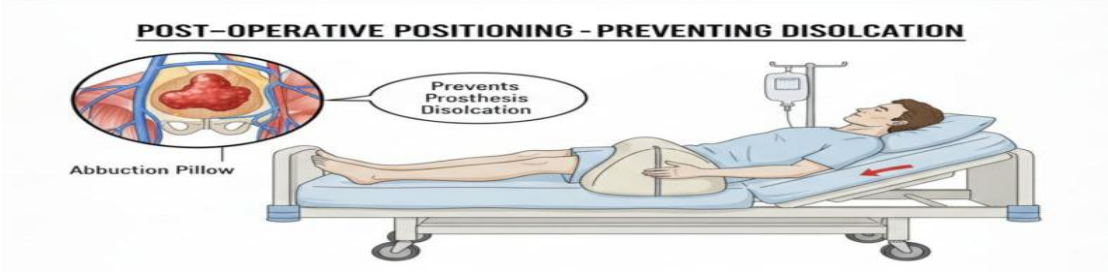
- Inserting a urinary catheter will help to monitor fluid balance.
- Aim to maintain blood pressure at an adequate level based on preoperative readings. In elderly patients with vascular disease , hypotension should be treated immediately.
- Intraoperative antibiotic prophylaxis will be required.
- Ensure adequate IV loading prior to cementing of the femoral component.

- **Hypotension** can occur on pressurisation of the cement into the femur, usually due to vasodilatation and direct myocardial depression from the monomer.

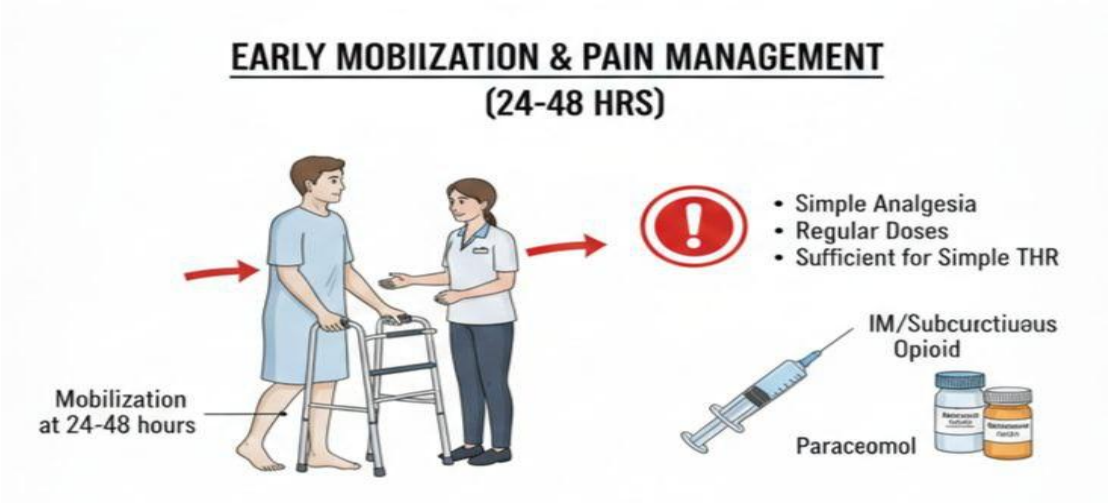
- The transient hypotension does not correlate with the level of monomer in the circulation, but with a deficit in blood volume.

Postoperative:

♣The surgeon usually prefers the patients to be placed on their bed in the supine position with the legs abducted using a pillow to prevent dislocation of the prosthesis.



♣ Patients are usually mobilized at 24-48 hours, and simple IM/ subcutaneous opioids with regular paracetamol or NSAIDs are usually sufficient for postoperative analgesia in a simple THR.



♣ If an epidural has been inserted, a postoperative infusion can be used**,** but it needs to cease prior to mobilization. PCA is a suitable alternative if pain relief is needed for an extended period


Thank you
for listening