South African Society of Anaesthesiologists
Guidelines for Total Hip and Total Knee Arthroplasty in South Africa 2024

Total hip arthroplasty (THA) together with total knee arthroplasty (TKA) are the most common major joint arthroplasties undertaken globally. [1, 2]

Studies looking at utilisation rates for these surgeries, show an increased number of THA and TKA procedures taking place annually, a trend that is expected to continue unabated.[1, 2]

The demands on healthcare services for these surgeries is driven by an ageing population, together with a growing younger group of patients requiring arthroplasty surgery, which will result in a greater number of revision surgeries as well.

Most developed nations can point to osteoarthritis as the primary indication for these surgeries.[2] South Africa is expected to face both osteoarthritis and avascular necrosis as driving forces in the rapidly expanding numbers of patients requiring lower limb arthroplasty.

Arthroplasty teams need to ensure reproducible and consistently safe patient care, while addressing the backlog of arthroplasty surgeries and massive demands placed on our healthcare services, both in the public and private domains.

Healthcare practitioners (HCPs) should consider the benefits of enhanced recovery after surgery (ERAS) protocols in all major surgeries.[43]

As the provision of arthroplasty services increases, involving a diverse range of healthcare facilities, the objective is to improve both short- and long-term patient outcomes, reduce hospital stay and optimise analgesic management, through efficient use of our available resources.

This will ensure this life changing surgery can be equitably offered to as many of our citizens as possible.

Why was this guideline developed?

These guidelines aim to provide evidence-based best practice in our unique environment of resource-rich and resource-limited facilities, to enable the provision of quality anaesthetic care.

Lower limb arthroplasty is associated with significant postoperative pain.[3] Good perioperative pain control allows for early mobilisation, reduced length of stay and improved patient satisfaction. This guideline will aim to implement achievable ERAS principles in the South African setting.

What other guidelines are available?

Several guidelines and systematic reviews have been published on this topic. They address ERAS,[4] anaesthetic techniques,[5] perioperative pain management focussing on single interventions,[3,6,7] perioperative pain management with multimodal components and specific opioid-sparing strategies.[3, 6]

SUMMARY OF RECOMMENDED COMPONENTS FOR TOTAL JOINT ARTHROPLASTY PATHWAYS:

Preoperative

- Patient education and discussion regarding postoperative outcomes and expectations
- Optimization of modifiable risk factors (detect and correct anaemia, smoking and alcohol cessation, nutritional support, cardiopulmonary prehabilitation where feasible)
- Avoid prolonged fasting and encourage clear fluids until 2 hours before surgery
- Pre-emptive analgesia
- Use of validated tools for screening for dementia/delirium

Intraoperative

- Antibiotic administration ≥ 30 minutes prior to incision
- Antifibrinolytic administration for both THR and TKR
- Short-acting anaesthetics agents for both sedation and general anaesthesia. Examples include Propofol (induction/TIVA/sedation) or volatile based general anaesthesia
- Multimodal analgesia
- Maintain euvolemia and normothermia
- Peripheral nerve blocks, intrathecal analgesia
- Local infiltration analgesia for TKR

Postoperative

- Continuation of multimodal analgesia
- Early mobilization
- Early intravenous/arterial line/catheter removal
- Early oral nutrition
- Delirium screening and continuation of a multi-component delirium prevention programme