1. **Statement**

Queensland Health is committed to providing safe, quality, timely and equitable care for patients within a fiscally responsible environment. Hip and Knee Arthroplasty surgery is evidenced to decrease pain, improve function and enhance quality of life and is clinically indicated for advanced joint degeneration. Prosthetic joint infection is a significant complication post arthroplasty surgery and evidence supports that patient optimisation and modification of risk factors preoperatively, perioperatively and post-operatively improves outcomes for the patient and decreases the economic burden for the health care system. This guideline clearly defines patient suitability and access criteria and perioperative management guidelines aimed at preventing infection, enabling consistency in care and ensuring equitable access to services for hip and knee arthroplasty surgery.

This guideline was developed to support, not replace, clinical judgement and decision-making.

2. **Scope**

Compliance with this guideline is not mandatory, but sound reasoning must exist for departing from the recommended principles within a guideline.

3. **Requirements**

   3.1. **General requirements**

   3.1.1. Elective hip and knee arthroplasty surgery may be performed on patients who have:

   - Moderate to severe degenerative change of the hip or knee that is affecting their quality of life and
   - Failed non-operative management

   3.2. **Patient eligibility criteria and preoperative optimisation**

   3.2.1. The Clinical Prioritisation Criteria (CPC) for hip and knee pain are to be applied in the management of referrals for hip and knee arthroplasty surgery.

   3.2.2. The following body mass index (BMI) requirements are to be applied:

   - BMI > 40 is a relative contraindication to hip and knee arthroplasty surgery due to the up to 6 x fold risk of revision for prosthetic joint infection.
   - For patients with a BMI >35, an attempt should be made to optimise the patients prior to surgery to improve their risk profile.

   3.2.3. Smoking is a contraindication to hip and knee arthroplasty surgery.
3.2.4. The following diabetic control principles should be applied:
  o All diabetic patients should have a HBA1C done prior to being placed on the elective surgery wait list.
  o A HbA1C > 8.5 is a contraindication to arthroplasty surgery.
  o A HbA1C > 7.5 is a relative contraindication to arthroplasty surgery and should be improved prior to surgery proceeding.

3.2.5. Preoperative anaemia, as defined by a haemoglobin of < 13.0g/dL in men and 12.0g/dL in women, should be identified, investigated and corrected where possible, prior to placement on the elective surgery wait list.

3.2.6. An attempt should be made to optimise all other preoperative medical co-morbidity risk factors prior to surgery.

3.2.7. Patients who do not meet criteria for BMI, smoking and diabetes, as above, should not be routinely transferred to another hospital for care until a robust attempt at optimisation is made. This information should be made clear on referral.

3.2.8. Patients who do not meet criteria for BMI, smoking and diabetes, as above, and who are therefore deemed unsuitable for arthroplasty surgery should be managed according to standard non-operative pathways.

3.2.9. Preoperative decolonisation, either universally or after screening, should be strongly considered in arthroplasty patients.

3.3. Clinical urgency categorisation

3.3.1. Hip and Knee Arthroplasty cases are to be assigned clinical urgency category 3 (clinically indicated within 365 days) as per the National Elective Surgery Urgency Categorisation Guideline, unless there is a clinical reason not to do so, which must be documented.

3.4. Perioperative management

3.4.1. All patients should have a full body wash, if possible, the morning of surgery and, at a minimum, the evening prior to surgery.

3.4.2. Prophylactic antibiotics are required within an hour prior to skin incision and should not be continued routinely past 24 hours post-operatively.

3.4.3. Intra-operative surgical site preparation must be completed with an alcohol-based solution.

3.4.4. Normothermia should be maintained and supplemental oxygen used as required throughout the procedure.

3.4.5. Operating theatre traffic should be limited during arthroplasty surgery.

3.4.6. Patients undergoing arthroplasty surgery should be nursed in a ring-fenced environment on the ward. Ring-fencing requires arthroplasty patients and the nursing staff caring for them to be separated from trauma patients, outliers and non “clean” elective patients.
4. Aboriginal and Torres Strait Islander peoples considerations

Queensland public hospital services and staff recognise and commit to the respect, understanding and application of Aboriginal and Torres Strait Islander peoples’ cultural values, principles, differences and needs when caring for Aboriginal or Torres Strait Islander peoples.

Each individual HHS is responsible for achieving successful provision of culturally appropriate services to and with Aboriginal and Torres Strait Islander peoples within the respective HHS catchment.

Equally, the respect and acknowledgement extended to Aboriginal and Torres Strait Islander peoples will be extended to all participants, irrespective of ethnic background or membership of community group.

5. Legislation

- Hospital and Health Boards Act 2011

6. Supporting documents

6.1. Procedures, guidelines and protocols

- World Health Organisation (WHO) Global Guidelines for prevention of Surgical Site Infection
- International Consensus on Orthopaedic Infections – General Assembly 2018
- Clinical Prioritisation Criteria (CPC)
- National Elective Surgery Urgency Categorisation Guideline
- Elective Surgery Services Implementation Standard
- Specialist Outpatient Services Implementation Standard

6.2. References

- Kelly et al. The Role of Pre-operative assessment and Ring fencing of services for the control of MRSA in orthopaedic patients. The Surgeon2012. Vol10, 2 75-79.

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