

SHIP8 Clinical Commissioning Groups' Priorities Committee

Policy Recommendation 003: The Use of Partial Knee Arthroplasty in patients with Osteoarthritis of Knee

Date of issue: April 2015

The Priorities Committee has reviewed the evidence of clinical and cost effectiveness for unicompartmental partial knee arthroplasty (UKA) in patients with arthritis of the knee and recommends its use for carefully selected patients:

- Patients and their doctors should have fully explored the use of conservative management (for example, analgesia, physiotherapy, weight loss) prior to referral to secondary care.
- Patients may only be considered for partial knee arthroplasty if the osteoarthritis is confined to the medial compartment only and confirmed by standing knee X ray.
- Partial knee surgery should only be performed by an orthopaedic surgeon experienced in this technique, who can demonstrate a high volume of successful partial knee arthroplasty procedures.

In addition, it is recommended that a common protocol for patient referral and selection be developed for use across all SHIP8 CCGs (with involvement of both GPs, physiotherapists and specialist orthopaedic surgeons) in order to promote equitable access. The pathway should be audited and the audit outcomes made available to commissioners.

Supporting information:

Osteoarthritis of the knee is very common affecting 0.7% of men and 1% of women in the UK. It often results in pain, considerable loss of function, independence and quality of life.

Total knee arthroplasty (TKA) has become the standard procedure for end stage knee arthritis. More minimally invasive procedures that seek to treat only the diseased compartments of the knee and retain the anterior and posterior cruciate ligaments have been developed. These procedures are referred to as partial knee arthroplasty (PKA).

Partial knee arthroplasty (PKA) is a safe and effective alternative to total knee replacement in people who have osteoarthritis (OA) which is confined to the medial compartment only. It is associated with better functional outcomes, lower mortality, lower length of stay, reduced complications (including thromboembolism, myocardial infarction and stroke) but higher revision rates.

This policy recommendation refers to unicompartmental knee arthroplasty; bicompartiment knee arthroplasty is outside of the scope of the review. *Continue to page 2.*

NOTES:

Exceptional circumstances may be considered where there is evidence of significant health impairment and there is also evidence of the intervention improving health status.

This policy may be reviewed in the light of new evidence or guidance from NICE.

Clinical and cost effectiveness of partial knee arthroplasty compared to total knee arthroplasty.

Both procedures are well established treatment options for patients with medial compartment osteoarthritis. However, there is limited evidence from good quality RCTs about the relative effectiveness of unicompartmental partial knee arthroplasty compared to total knee arthroplasty.

There is compelling evidence from a large, matched cohort study¹ in the UK including 101,330 National Joint Registry patients (25,334 UKAs were matched to 75,996 TKAs) which showed UKA to be associated with worse implant survival both for revision (subhazard ratio [SHR] 2.12, 95% CI 1.99—2.26) and for revision/reoperation (1.38, 1.31—1.44) than TKAs at 8 years.

However, mortality was significantly lower for UKA at all timepoints than for TKA (30 day post-operative mortality: hazard ratio 0.23, 95% CI 0.11—0.50; 8 year: 0.85, 0.79—0.92). Length of stay, complications (including thromboembolism, myocardial infarction, and stroke), and rate of readmission were all higher for TKA than for UKA. The authors estimated that if 100 patients receiving TKA received UKA instead, the result would be approximately one fewer death but three more reoperations in the first 4 years after surgery.

There is uncertainty and variation in how to interpret these outcomes for clinical decision-making as the lower incidence of complications, readmission, and mortality, together with known benefits for UKA in terms of postoperative function are also associated with higher revision/reoperation rates.

There is currently no reliable evidence comparing the cost effectiveness of UKA with TKA.

One year results from an important clinical trial (TOPKAT²) are expected to be published in 2015. This RCT (n=500) is specifically designed to address the clinical and cost effectiveness of UKA compared to TKA for patients with medial OA.

1. Liddle AD, Judge A, Pandit H, Murray DW. Adverse outcomes after total and unicompartmental knee replacement in 101 330 matched patients: a study of data from the National Joint Registry for England and Wales. *Lancet* 2014; 384: 1437–45
2. Beard D, Price A, Cook J et al. Total or Partial Knee Arthroplasty Trial - TOPKAT: study protocol for a randomised controlled trial. *Trials* 2013, 14:292 <http://www.trialsjournal.com/content/14/1/292> (last accessed 25 November 2014).

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