Hertfordshire and West Essex Integrated Care System

NHS Hertfordshire and West Essex Integrated Care Board

Evidence Based Intervention

Primary Knee Replacement

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Version:	V2.0
Approved By:	Strategic Finance and Commissioning Committee
Date of Approval:	8th April 2025
Date of Review:	March 2028 If the review date has exceeded, the published policy remains valid

Policy: Primary Knee Replacement

Primary elective knee replacement is most performed for knee joint failure caused by osteoarthritis (OA); other indications include rheumatoid arthritis (RA), juvenile rheumatoid arthritis, osteonecrosis, and other types of inflammatory arthritis.

Recommendations

The aims of knee replacement are relief of pain and improvement in function, and this operation can be very successful for the appropriate patients. A small number of patients who have elective knee replacement experience complications which can be devastating and for this reason patients should not be considered for joint replacement until their condition has become chronic and conservative methods have failed.

Guidance to Primary Care on the treatment of knee pain due to osteoarthritis

The Musculoskeletal Services Framework from the Department of Health (DH), and guidance from NICE, the GP Training Network and the National Institute of Health (NIH) Consensus Panel suggests that:

- Management of common musculo-skeletal problems, including knee pain, in primary care is ideal.
- Primary Care practitioners need to have direct access to therapy, walking aids, dietetic and health promotion services.
- Management within primary care should seek to maximise the benefits of surgery and minimise the complications when this becomes necessary.

The initial non-surgical management of knee pain due to osteoarthritis should be provided by a package of care which may include weight reduction, activity modification, patient specific exercise programme, adequate doses of non-steroidal anti-inflammatory drugs (NSAIDs) and analgesics, joint injection, walking aids (contralateral hand), other forms of physical therapies within a package of care.

GP's must not refer patients directly to secondary care.
All patients should be referred to community MSK services in the first instance.
Referral to community MSK services should be considered when other pre-existing medical conditions have been optimised, and there has been evidence of weight reduction to an appropriate weight. Patients who are overweight (BMI 25 – 29.9) or obese (BMI >30) should be encouraged and supported to reduce their BMI[6]. Equally, patients who smoke should be encouraged to stop smoking at least 8 weeks before surgery to reduce the risk of anaesthetic or operative complications.

There are few absolute contraindications for knee replacement other than active local or systemic infection and other medical conditions that substantially increase the risk of serious peri-operative complications or death. Advanced age and obesity are not a contraindication to knee replacement; however, there may be an increased risk of delayed wound healing and peri-operative infection in obese patients. Severe peripheral vascular disease and some neurological impairments are both relative contraindications to knee replacement.

Referral criteria for immediate or urgent referral to orthopaedics services should be based on NICE referral guidance[1]

NICE recommendations state that the threshold for immediate referral to orthopaedic services is when there is evidence of infection in the knee joint.

Symptoms that are suggestive of a rapid deterioration in the joint or persistent symptoms which are causing severe disability to necessitate urgent referral to orthopaedic services.

Referral criteria for routine referral from MSK to orthopaedic services

Candidates for elective knee replacement should have:

- Moderate-to-severe persistent pain not adequately relieved by a course of non-surgical management lasting at least 6 months*
- **AND** Clinically significant functional limitation resulting in diminished quality of life*
- **AND** Radiographic evidence of joint damage.

*The severity of pain should be assessed using Oxford Knee Score. http://www.orthopaedicscore.com/scorepages/oxford_knee_score.htm. For patients with a score of 0-19 consideration should be given for orthopaedic surgical opinion and the patient meets local BMI criteria. For patients with a score of 20-29 conservative measures should be continued for 3-6 months, with referral if no improvement after this time.

Guidance for secondary care on thresholds for knee replacement surgery

Evidence suggests that the following patients would benefit from knee replacement surgery[6,7].

1. Where the patient complains of
   a. At least intense symptomatology *(please refer to the appendix for a detailed definition)*
   b. **AND** has radiological features of severe disease *(please refer to the appendix for a detailed definition)*
   c. **AND** has demonstrated disease within all three compartments of the knee (tricompartmental) or localised to one compartment plus patello-femoral disease (bicompartmental)

2. Where the patient complains of
   a. At least intense symptomatology
   b. **AND** has radiological features of moderate disease
   c. **AND** is troubled by limited mobility or stability of the knee joint

3. Where the patient complains of
   a. Severe symptomatology
   b. **AND** has radiological features of slight disease
   c. **AND** is troubled by limited mobility or stability of the knee joint

Unicompartmental knee replacement

In some patients with arthritis affecting the medial compartment of the knee but not the lateral compartment, a unicompartmental knee replacement (UKR) may be suitable[8]. A UKR is less invasive than TKR and is associated with a faster recovery and lower risk of postoperative

complications and mortality. However, UKR is also associated with a higher rate of revision. Surgeon usage of UKR has an impact on outcomes, and so cost-effectiveness of the procedure[9]. To achieve the best results, surgeons need to perform a sufficient proportion of knee replacements as UKR.

Recommendations

- UKR may be considered for patients with knee osteoarthritis who would otherwise be eligible for knee replacement (as per this policy) AND have arthritis in the medial compartment but not the lateral compartment.
- Patellofemoral osteoarthritis is not considered an absolute contra-indication to unicompartmental knee replacement, providing the patient has been counselled on the uncertainty of the evidence and potential increased risk of further surgery.
- Initial non-surgical management must have been provided as outlined earlier in this guidance.
- The procedure must be undertaken by a surgeon who can evidence that they complete a minimum of 12 unicompartmental knee replacements per year[9,10].
- Surgeons must have an audit dataset that they will submit to commissioner for review on an annual basis.

NOTE: The Fitness for Elective Surgery policy must be applied to all patients alongside this policy.

1. Exclusions to the BMI restriction are:

    - patients whose pain is so severe and/or mobility so compromised that they are in immediate danger of losing their independence and that joint replacement would relieve this threat. i.e., definition for the purpose of this policy would be unable to self-care.

    - patients in whom the destruction of their joint is of such severity that delaying surgical correction would increase the technical difficulty of the procedure e.g., those with bone on bone arthritis, obliteration or complete loss of joint space, collapse or necrosis of the femoral head.

These exclusions must be supported with clear evidence.

Patella Resurfacing

We will expect patellar resurfacing to be done at the time of TKR.

Due to lack of sufficient evidence of clinical benefit and cost effectiveness to support routine resurfacing of the patella alone, patellar resurfacing is LOW PRIORITY and will not be funded. There is no OPCS code for patella resurfacing.

Notes

Patients who are assessed by the criteria to be inappropriate for knee replacement surgery should not be listed.

Patients who partially fulfil the criteria for appropriate knee joint replacement surgery may benefit from the operation and a decision will need to be taken on an individual basis.

For all patients who fulfil all the criteria for surgery as indicated above, or only partially fulfil the appropriate criteria for surgery, clinicians are required to document in the medical record that they have fully informed the patient of the risks and benefits of the procedure and have offered a patient information leaflet prior to listing the patient for surgery.

Relevant OPCS(s):

W40 – Total prosthetic replacement of knee joint using cement.
W41 – Total replacement of knee joint not using cement.
W42 – Other total replacement of knee joint

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Change History:

Version	Date	Reviewer(s)	Revision Description
2.0	March 2025	J. Oliver S. Chepkin	Addition of requirement to refer to community MSK first. Addition of statement that fitness for surgery policy must also be followed, as well as exclusions to the BMI criterion. Removal of “if the patient has anterior knee pain” for patella resurfacing. Change (following an evidence review) to allow UKR in the presence of patellofemoral osteoarthritis. Updated reference list.

Appendix

Variable	Definition
Mobility and Stability	
- Preserved mobility and stable joint	Preserved mobility is equivalent to minimum range of movement from 0° to 90° Stable or not lax is equivalent to an absence of slackness of more than 5mm in the extended joint
- Limited mobility and/or stable joint	Limited mobility is equivalent to a range of movement less than 0° to 90° Unstable or lax is equivalent to the presence of slackness of more than 5mm n the extended joint
Symptomatology	
- Slight	Sporadic pain Pain when climbing/descending stairs Allows daily activities to be carried out (those requiring great physical activity may be limited) Medication; aspirin, paracetamol or NSAID to control pain with no side effects
- Moderate	Occasional pain Pain when walking on level surfaces (half an hour, or standing) Some limitation of daily activities Medication; aspirin, paracetamol or NSAID to control pain with no/few side effects
- Intense	Pain of almost continuous nature Pain when walking short distances on level surfaces or standing for less than half an hour Daily activities significantly limited Continuous use of NSAIDs for treatment to take effect Requires the sporadic use of support systems (walking stick, crutches)
- Severe	Continuous pain Pain when resting Daily activities significantly limited constantly Continuous use of analgesics – narcotics/NSAIDs with adverse effects or no response Requires more constant use of support systems (walking stick, crutches)
Radiology	
- Slight	Ahlback grade I
- Moderate	Ahlback grade II and III
- Severe	Ahlback grade IV and V
Localisation	
- Unicompartmental	Excluded patello-femoral isolated
- Bicompartmental	Unicompartmental plus patello-femoral
- Tricompartmental	Disease affecting all three compartments of the knee

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