Recomanació Essencial
Afegint valor a la pràctica clínica

Knee osteoarthritis and arthroplasty

In people with mild to moderate knee osteoarthritis, knee arthroplasty is not recommended as a first-line treatment.

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- **Knee arthroplasty** should not be considered the first option in the treatment of mild or moderate knee osteoarthritis. Surgery should be limited to severe cases where pain or loss of function compromises the person's quality of life.
- **Conservative measures**, such as education about the condition, structured physical exercise and weight loss, should be prioritised and applied for an appropriate period of time before other options are considered. **Pharmacotherapy** is indicated when lifestyle changes have not led to an improvement in symptoms or while they are not effective. It may also be necessary in episodes of acute pain.
- If arthroplasty is indicated, a **shared decision-making** process between the professional and the patient is necessary, balancing the benefits and risks of the different therapeutic options and incorporating the person's values and preferences.
- In Catalonia, the incidence of knee arthroplasty **varies greatly** between different basic health areas and hospitals. This variability is mainly explained by differences in organisational circuits and in the clinical criteria used by professionals.

Why is knee arthroplasty as a first-line treatment a practice of little value?

Osteoarthritis is a degenerative disease that affects the entire joint, characterised by cartilage degradation, bone remodelling, osteophyte formation and synovial inflammation, leading to pain, stiffness, inflammation, and loss of normal joint function.[1] Knee osteoarthritis is one of the leading causes of joint pain and functional disability among the adult population, especially those over the age of 50.

This pathology represents one of the most common musculoskeletal conditions treated in primary care and hospital settings, and has a significant impact on quality of life and healthcare resource consumption.

Clinical practice guidelines do not establish universal criteria for defining the severity of knee osteoarthritis (mild, moderate or severe), as this is determined based on a set of clinical, functional and, to a lesser extent, radiological criteria. The criteria are therefore multidimensional and based on pain intensity, degree of functional limitation and response to conservative treatments.

In people with mild or moderate knee osteoarthritis, knee arthroplasty as a first-line treatment is considered a clinical practice of little value, since conservative measures can significantly improve symptoms and joint function. In contrast, arthroplasty surgery carries significant risks, especially in people with risk factors for complications, and its long-term benefits may be limited and variable.[1-9]

What does the scientific evidence say about the treatment of knee osteoarthritis?

Clinical practice guidelines strongly recommend **conservative strategies** as the first line of treatment for knee osteoarthritis.[1-9]

Following a **personalised structured exercise plan** is essential for reducing pain and improving function in people with knee osteoarthritis. Programmes that include aerobic exercise, strength training, joint mobilisation and flexibility exercises are recommended,[3,4,6,8] combining sessions supervised by health professionals with exercises performed independently.[8] It is also recommended that people with knee osteoarthritis maintain a **healthy weight**, as weight loss can significantly reduce the load on the knee, improving quality of life and reducing pain.[2,4-6,9]

Education and self-management programmes, delivered by trained professionals, are particularly recommended.[1,3,4,6] It should also be noted that these programmes involve a lower cost compared to other types of interventions, such as surgery.[8]

The use of **orthoses** (such as splints), **walking sticks** and other aids should be assessed and adapted to each patient's situation and comorbidities.[1,4-6] These aids act as support elements to prevent overload that increases pain, improve autonomy and prevent falls.

Cognitive behavioural therapy is also a recommended intervention in some guidelines, especially in situations of widespread pain and depression, and in combination with other interventions.[1,3,4]

Pharmacotherapy should be considered when non-pharmacological interventions have not been sufficient or as support until lifestyle changes take effect. It may also be an option in episodes of acute pain. Analgesics such as paracetamol and non-steroidal anti-inflammatory drugs (NSAIDs), topical or oral, may be used provided there are no contraindications,[2,3,5-7,9] prescribing the lowest effective dose and for the shortest possible time.[5,9]

When oral treatment is ineffective, or in cases of moderate to severe osteoarthritis, **intra-articular corticosteroid injections** may be considered to relieve pain, although their effect is limited (up to 3 months).[6,7] **Hyaluronic acid injections** are not routinely recommended,[1,5,6] but may be an option in selected patients.[3,9] **Platelet-rich plasma** may offer similar pain relief and improved function, especially when combined with hyaluronic acid or corticosteroids.[10] Opioids are generally not recommended for knee osteoarthritis.[3,5,6] Pharmacological treatment should always be personalised and regularly re-evaluated.[7]

The therapeutic decision should be individualised and coordinated between the specialists who will treat the person during the rehabilitation process: family medicine, rehabilitation medicine, geriatrics, rheumatology, traumatology and pain units, within an integrated functional model.[11]

For patients with severe osteoarthritis who had not achieved symptom improvement despite following conservative treatments for an appropriate period of time (e.g., 3 to 6 months with good adherence), the guidelines recommend that **arthroplasty** be considered based on the impact of the disease on the person's quality of life and functional capacity.[5,7,12] Surgery should be approached with rigorous planning that includes patient education and pre-surgical physical preparation supervised by healthcare professionals.[8] In patients with comorbidities or risk factors such as smoking, diabetes, or obesity, it is recommended that these conditions be optimised before surgery.[12] Absolute and relative contraindications to surgery related to the patient's overall clinical condition must be considered, such as active infections, severe uncontrolled comorbidities, vascular or muscular insufficiency of the limb, or functional limitations that could hinder rehabilitation.[4-6]

The guidelines recommend **shared decision-making between the professional and the patient** to identify the most appropriate treatment, especially when considering knee arthroplasty surgery. Patients

should be provided with clear and detailed information about the risks and benefits of surgery and conservative alternatives, so that the choice of treatment reflects their preferences and values.[1,2,4,5,7,13] The use of patient-reported measures, such as the WOMAC (Western Ontario and McMaster Universities Osteoarthritis Index scales)[14] and KOOS (Knee Injury and Osteoarthritis Outcome Score),[15] which assess pain, function and other dimensions, as well as other validated generic health-related quality of life questionnaires, is essential for assessing the impact of the disease and the appropriateness of interventions within a shared decision-making framework.

What is the scope of knee arthroplasty in Catalonia?

In Catalonia, knee osteoarthritis affects 13.4% of the population over the age of 15. Its prevalence increases with age and is more common in women than in men, reaching 30.2% in men over the age of 65 and 47.7% in women in the same age group.[16]

According to data from the Catalan Arthroplasty Registry (RACat) collected between 2005 and 2014, there was an increase in the number of procedures, both primary and revision, over the 10 years of the registry. The highest number of primary procedures was recorded in 2010, when more than 7,000 procedures were performed. More women (71.2%) underwent surgery than men.[17]

In primary knee arthroplasties, osteoarthritis was the main cause (98.1% of cases), while the most frequent reason for revision was mechanical complications of the orthopaedic device (54.6%). 17.3% of revisions were due to infection and inflammatory reaction caused by the prosthesis.[17]

The rate of knee arthroplasty procedures varies according to the basic health area and the hospital centre. According to data from 2023, the variability observed between centres, with rates ranging from 50 to 150 procedures per 100,000 inhabitants, is mainly explained by differences in professional practices and the organisation of services, rather than by socioeconomic factors or the ageing of the population (own unpublished data). This variability could be reduced by implementing common care pathways and protocols between centres, as well as through continuous training of professionals involved in the continuum of care for the disease.

What adverse events are associated with knee arthroplasty?

Knee arthroplasty is a major operation that requires hospitalisation and involves a long recovery process (six months or more). The surgery carries short- and long-term risks that must be taken into account. In addition, people with pre-existing medical conditions such as heart or lung problems, diabetes, smoking, or overweight have a higher risk of complications.[12]

Possible post-operative complications include, among others:[18]

- Problems with healing or infection of the surgical wound: these can increase the risk of deep joint infection.
- Infection of the prosthesis.
- Deep vein thrombosis.
- Pulmonary embolism.
- Surgical injuries.
- Persistent pain: 20% of patients may continue to experience chronic pain after total knee arthroplasty.[19]
- Prosthesis wear or loosening: Over time, this may require further replacement surgery. A systematic review of records and clinical studies published between 2004 and 2023 showed that 5.6% of total knee prostheses and 11% of unicompartmental prostheses require revision surgery after an average follow-up of 5.7 and 4.9 years, respectively.[20] According to data from Catalonia,

the cumulative incidence of revision in knee arthroplasties was 0.7–0.8% in the first year, reaching 4.4–5.1% in the tenth year, depending on whether the cruciate ligament was preserved (with no significant differences).[17]

In which situations can knee arthroplasty be considered as the first therapeutic option?

The 2023 guidelines from *the American College of Rheumatology* and the *American Association of Hip and Knee Surgeons*[12] indicate that certain situations may justify earlier arthroplasty, such as severe osteoarthritis with substantial pain and loss of function, and documented failure of conservative treatment after an adequate period of time.[12] The guideline also states that surgery should not be unnecessarily delayed in cases with severe deformities or neuropathic arthropathy.

In conclusion

Knee arthroplasty should be reserved for cases of severe osteoarthritis in which conservative treatments have not been effective. Conservative treatment options such as education about the condition, physical exercise and weight loss should be prioritised, given their effectiveness and lower risk. If surgery presents a favourable risk/benefit balance, it should be assessed within the framework of shared decision-making, incorporating the values, preferences, and expectations of the individual.

With the collaboration of

- Master Plan for Rheumatic and Musculoskeletal Diseases
- Catalan Society of Orthopaedic Surgery and Traumatology (SCCOT)
- Catalan Society of Rheumatology
- Catalan Society of Physical Medicine and Rehabilitation

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- Catalan Society for Healthcare Quality
- Catalan Society of Geriatrics and Gerontology
- College of Physiotherapists of Catalonia
- Catalan-Balearic Society of Physiotherapy

Sources

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Links of interest

- Shared decision-making tool for knee osteoarthritis. Barcelona: Department of Health. Government of Catalonia.

It is recommended that this document be cited as follows: Knee osteoarthritis and arthroplasty. Essencial Recommendation. Barcelona: Agency for Health Quality and Assessment of Catalonia. Ministry of Health. Government of Catalonia; November 2025.

Essencial is an initiative that identifies low-value clinical practices and promotes recommendations to avoid them.

This fact sheet is a recommendation to aid decision-making in healthcare. It is not mandatory and does not replace the clinical judgement of healthcare professionals.

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