NICE National Institute for Health and Care Excellence

NICE guidance

Platelet-rich plasma injections for knee osteoarthritis

HealthTech guidance
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www.nice.org.uk/guidance/htg497

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

This guidance replaces IPG491 and IPG637.

1 Recommendations

1.1 Current evidence on platelet-rich plasma injections for knee osteoarthritis raises no major safety concerns. However, the evidence on efficacy is limited in quality. Therefore, this procedure should only be used with special arrangements for clinical governance, consent, and audit or research.Find out what special arrangements mean on the NICE interventional procedures guidance page.

1.2 Clinicians wishing to give platelet-rich plasma injections for knee osteoarthritis should:

- Inform the clinical governance leads in their NHS trusts.
- Ensure that patients understand the procedure's safety and efficacy, as well as any uncertainties about these. Provide them with clear information to support shared decision making. In addition, the use of NICE's information for the public on platelet-rich plasma injections for knee osteoarthritis is recommended.
- Audit and review clinical outcomes of all patients having platelet-rich plasma injections for knee osteoarthritis, including details of the methods used to prepare and administer the platelet-rich plasma injections. NICE has identified relevant audit criteria and has developed NICE's interventional procedure outcomes audit tool (which is for use at local discretion).

1.3 Further research should be in the form of randomised controlled trials with medium- to long-term follow-up, including validated measures of knee function and patient-reported outcomes.

2 The condition, current treatments and procedure

The condition

2.1 Osteoarthritis of the knee is the result of progressive deterioration of the articular cartilage and menisci of the joint, usually because of trauma, and wear and tear. This leads to exposure of the bone surface. Symptoms include pain, stiffness, swelling and difficulty walking.

Current treatments

2.2 Treatment depends on the severity of the symptoms. Conservative treatments include analgesics and corticosteroid injections to relieve pain and inflammation, and physiotherapy and prescribed exercise to improve function and mobility. When symptoms are severe, surgery may be indicated: options include upper tibial osteotomy and unicompartmental or total knee replacement.

The procedure

2.3 Platelet-rich plasma is prepared by a clinician or a technician. Blood is taken from the patient and centrifuged to obtain a concentrated suspension of platelets in plasma. Different preparation methods may affect the concentrations of platelets and the level of contamination with red and white blood cells. Different agents such as calcium chloride or thrombin may be added.

2.4 The platelet-rich plasma is injected into the joint space in the knee, usually under ultrasound guidance. Platelets contain growth factors that are thought to stimulate chondrocyte proliferation, leading to cartilage repair. The aim is to relieve symptoms, potentially delaying the need for joint replacement surgery. This guidance refers to the use of platelet-rich plasma injections alone and not as

part of a combination therapy.

3 Committee considerations

The evidence

3.1 To inform the committee, NICE did a rapid review of the published literature on the efficacy and safety of this procedure. This comprised a comprehensive literature search and detailed review of the evidence from 8 sources, which was discussed by the committee. The evidence included 3 systematic reviews and 5 randomised controlled trials, and is presented in table 2 of the interventional procedures overview. Other relevant literature is in the appendix of the overview.

3.2 The specialist advisers and the committee considered the key efficacy outcomes to be: reduction in pain and improvement in knee function using validated scores, and quality of life.

3.3 The specialist advisers and the committee considered the key safety outcomes to be: infection, bleeding, pain and inflammation.

3.4 Patient commentary was sought but none was received.

Committee comments

3.5 There are several different treatment protocols with different preparation and administration methods, resulting in higher or lower concentrations of platelets. Some protocols use plasma that has either low or high concentrations of leukocytes (white blood cells).

3.6 This procedure is used for patients with early or mid-stage knee osteoarthritis.

Update information

Minor changes after publication

January 2026: Interventional procedures guidance 637 has been migrated to HealthTech guidance 497. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.