



NHS Birmingham and Solihull CCG
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Policy for the use of Image Guided Therapeutic Intra- Articular Joint Injections

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The CCG policy has been reviewed and developed by the Treatment Policies Clinical Development Group in line with the groups guiding principles which are:

9. CCG Commissioners require clear evidence of clinical effectiveness before NHS resources are invested in the treatment;
10. CCG Commissioner require clear evidence of cost effectiveness before NHS resources are invested in the treatment;
11. The cost of the treatment for this patient and others within any anticipated cohort is a relevant factor;
12. CCG Commissioners will consider the extent to which the individual or patient group will gain a benefit from the treatment;
13. CCG Commissioners will balance the needs of each individual against the benefit which could be gained by alternative investment possibilities to meet the needs of the community
14. CCG Commissioners will consider all relevant national standards and take into account all proper and authoritative guidance;
15. Where a treatment is approved CCG Commissioners will respect patient choice as to where a treatment is delivered; AND
16. All policy decisions are considered within the wider constraints of the CCG's legally responsibility to remain fiscally responsible.

Category: Restricted

The causes of joint pain are numerous. Joint pain can be related to osteoarthritis or inflammatory joint disorders such as rheumatoid arthritis and psoriatic arthritis. Joint pain can also be as a result of traumatic injury, joint surgery or crystal deposition in the joints such as gout or chondrocalcinosis. Other causes of joint pain include sports injuries, general sprains and strains, frozen or unstable shoulder, and bleeding into joint spaces caused by torn ligaments.

Arthritis is a chronic musculoskeletal disorder, which may be either degenerative or inflammatory in nature and is characterised by involvement of all joint structures including the synovial membrane, cartilage and bone. People often have joint pain, reduced mobility, reduced participation in daily activities and poor quality of life [1].

The joints most commonly affected by arthritis are the knees, hips and small joints of the hand, although most joints can be affected. Pain, reduced function and effects on a person's ability to carry out their day-to-day activities can be important consequences of arthritis. Pain in itself is also a complex biopsychosocial issue, related in part to a person's expectations and self-efficacy (that is, their belief in their ability to complete tasks and reach goals), and is associated with changes in mood, sleep and coping abilities. There is often a poor link between changes visible on an X-ray and symptoms of arthritis: minimal changes can be associated with a lot of pain, or modest structural changes to joints can occur with minimal accompanying symptoms [2].

Contrary to popular belief, arthritis is not just caused by ageing and does not necessarily deteriorate. It is believed that a variety of traumas and inflammation may trigger the need for a joint to repair itself which may result in a structurally altered but symptom-free joint. However, in some people, because of either overwhelming trauma or ongoing inflammation or compromised repair, the process cannot fully compensate, resulting in eventual presentation with symptomatic arthritis.

Treatment options

A range of lifestyle, pharmacological, non-pharmacological, surgical and rehabilitation interventions are effective for controlling symptoms and improving function in both degenerative and inflammatory arthritis (NICE 2012) Conventional conservative therapies include the use of simple analgesics, non-steroidal anti-inflammatory drugs, physical therapy and intra-articular (IA) corticosteroid administration [3].

NICE published Clinical Guideline (CG177) - Osteoarthritis: care and management in February 2014 [2]. The guidelines made the following recommendations regarding intra-articular injections;

- Intra-articular corticosteroid injections should be considered as an adjunct to core treatments for the relief of moderate to severe pain in people with osteoarthritis.
- Do not offer intra-articular hyaluronan injections for the management of osteoarthritis.

Intra-articular injections of corticosteroids have been used for several decades in the management of inflammatory and degenerative joint conditions when first line conservative therapies fail to provide adequate symptom relief [4].

Intra-articular injections are performed using anatomical landmarks to identify the correct trajectory for needle placement. However, inaccurate corticosteroid injections may result in complications such as post-injection pain, crystal synovitis, haemarthrosis, and steroid articular cartilage atrophy, as well as systemic effects, including fluid retention or exacerbation of hypertension or diabetes mellitus. Therefore, identification of methods and proper training to aid in correct needle placement during these procedures is warranted [4, 6].

The purpose of image guidance during corticosteroid joint injections is to allow visualisation, normally of the joint line typically in real time, so that the operator can achieve potentially safer and more effective injection [4, 5].

Clinical Evidence Review.

No high-quality evidence to support the clinical effectiveness of image guided intra-articular corticosteroid injections, compared to non-image guided intra-articular corticosteroid injections, was found, although some lower quality evidence was found.

Evidence from a low quality study (retrospective chart review) [14] suggests that ultrasound guided intra-articular corticosteroid injections for osteoarthritis of the AC joint significantly improves some clinical outcome measures (VNSIp score and SPADI score at six months and VNSaat score at three months and six months), compared to palpation guided intraarticular corticosteroid injections. The clinical relevance of the difference seen in these outcome measures is uncertain.

In addition, a moderate quality study (single-blinded RCT) [16] also suggests that sonographic guided intra-articular corticosteroid injections significantly improves pain relative to palpation guided injections in patients with osteoarthritis of the knee after two weeks (although this was not sustained at six months follow-up), reduces reinjection rates within 12 months and increases the time to the next procedure. However, the lack of blinding of the participants to the treatments they received means that there was potential for bias in the results.

These findings conflict with those from a moderate quality prospective single-blinded randomised controlled study [15] which reported no difference in the clinical outcomes measured between US guided and palpation guided intra-articular corticosteroid injections for patients with distal radioulnar joint disorder (DRUJ).

Evidence from this study of distal radioulnar joint disorder (DRUJ) injections [15] suggests that US guided intra-articular corticosteroid injections into the distal radioulnar joint (DRUJ) have a higher accuracy rate relative to palpation guided intra-articular corticosteroid injections (100% versus 75%; $p < 0.05$). The authors also suggest a positive correlation between accuracy and improvement in clinical outcomes measured ($p < 0.05$). However, the study may not have been sufficiently powered to show any differences between outcomes for US guided compared to palpation guided injections due to the relatively small number of inaccurate injections in the latter group.

Conclusion

In conclusion there was not a significantly robust evidence base to support the use of image-guidance in delivering intra-articular joint injections.

However, the use of image guidance for hip and spinal intra-articular injections are outside the scope of this policy.

Eligibility Criteria

Therapeutic image guided intra-articular corticosteroid injections are **Restricted**.

Therapeutic image guided intra-articular corticosteroid injections should only be undertaken in the small joints (defined as joint of the hands & feet)

AND

Therapeutic image guided intra-articular corticosteroid injections should be offered **ONLY** to patients who have failed to respond to conventional pharmacological and non-pharmacological interventions due to the limited quality of evidence of the clinical and cost effectiveness of this intervention.

Pharmacological and non-pharmacological interventions are defined as:

- Analgesics/nonsteroidal anti-inflammatory drugs (NSAIDs)
- Domestic exercise programme
- Supervised physiotherapy/manual therapy
- Non-image guided (palpated) steroid injections

N.B.

- Diagnostic image –guided injections are not within the remit of this policy.
- The use of image guidance for hip and spinal intra-articular injections is outside the remit of this policy.

This means **(for patients who DO NOT meet the above criteria)** the CCG will **only** fund the treatment if an Individual Funding Request (IFR) application proves exceptional clinical need and that is supported by the CCG.

N.B. investigation for suspected or proven malignancy is outside the scope of this policy and should be investigated in line with the relevant cancer pathway.

Guidance

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