

**DRAFT**

**Policy for the use of Image  
Guided Therapeutic Intra-  
Articular Joint Injections.**

## Document Details:

<b>Version:</b>	DRAFT v1.
<b>Ratified by (name and date of Committee):</b>	Treatment Policy Clinical Development Group
<b>Date issued for Public Consultation:</b>	23.05.2019
<b>Equality &amp; Diversity Impact Assessment</b>	

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

1. CCG Commissioners require clear evidence of clinical effectiveness before NHS resources are invested in the treatment;
2. CCG Commissioner require clear evidence of cost effectiveness before NHS resources are invested in the treatment;
3. The cost of the treatment for this patient and others within any anticipated cohort is a relevant factor;
4. CCG Commissioners will consider the extent to which the individual or patient group will gain a benefit from the treatment;
5. 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
6. CCG Commissioners will consider all relevant national standards and take into account all proper and authoritative guidance;
7. Where a treatment is approved CCG Commissioners will respect patient choice as to where a treatment is delivered; AND
8. All policy decisions are considered within the wider constraints of the CCG's legally responsibility to remain fiscally responsible.

## Category: Restricted

Osteoarthritis (OA) refers to a clinical syndrome of joint pain accompanied by varying degrees of functional limitation and reduced quality of life. It is the most common form of arthritis, and one of the leading causes of pain and disability worldwide. It is a chronic musculoskeletal disorder characterised by involvement of all joint structures including the synovial membrane, cartilage and bone. People with osteoarthritis often have joint pain, reduced mobility, reduced participation in daily activities and poor quality of life [1].

The joints most commonly affected by OA 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 osteoarthritis. 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 osteoarthritis: 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, OA is not just caused by ageing and does not necessarily deteriorate. It is believed that a variety of traumas 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 compromised repair, the process cannot fully compensate, resulting in eventual presentation with symptomatic osteoarthritis; this might be thought of as 'joint failure'. This in part explains the extreme variability in clinical presentation and outcome that can be observed between people, and also at different joints in the same person [2].

## Treatment options

A range of lifestyle, pharmacological, non-pharmacological, surgical and rehabilitation interventions are effective for controlling symptoms and improving function (NICE 2012). Conventional 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 including OA when first line conservative therapies fail to provide adequate symptom relief [4].

Although osteoarthritis is generally thought to be of degenerative rather than inflammatory origin, there is evidence that an inflammatory component may be present in at least some phases of the disease. Corticosteroids are known as potent anti-inflammatory agents that act through a variety of mechanisms [5].

Traditionally, intra-articular injections have been performed using anatomical landmarks to identify the correct trajectory for needle placement. However, different anatomical-guided injection techniques have yielded inconsistent intra-articular needle positioning due, in large part, to the fact that the physician cannot directly visualize the area of interest, and variations in anatomy are common. Incorrect needle placement has been partially associated with variable clinical outcomes.

Furthermore, inaccurate corticosteroid injections may result in complications such as post-injection pain, crystal synovitis, haemarthrosis, joint sepsis, necrosis, 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 guidance during corticosteroid joint injections is to allow visualisation, normally of the joint line typically in real time, so that the operator can achieve a more accurate and 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 intraarticular corticosteroid injections was found, although some lower quality evidence was found.

Evidence from a low quality study (retrospective chart review) [14] suggests that US guided intra-articular corticosteroid injections for osteoarthritis of the AC joint significantly improves some clinical outcome measures (VNSlp 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 IA 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.

## Eligibility Criteria

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

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.

AND

Therapeutic image guided intra-articular corticosteroid injections should only be undertaken in the small joints (defined as joint of the hands & feet) by a suitably qualified clinician with experience in undertaking injections into the small joints and has maintained clinical practice by undertaking an adequate number of interventions with evidence which demonstrates successful outcome of symptom control and improved function.

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.

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.

## Guidance

1. National Institute for Health and Clinical Excellence (NICE). Final Scope Osteoarthritis: the care and management of osteoarthritis. London, UK :NICE; 2012 <https://www.nice.org.uk/guidance/cg177/documents/osteoarthritis-update-final-scope2>
  - a. Last accessed 27 September 2018
2. National Institute for Health and Clinical Excellence (NICE). Osteoarthritis: the care and management of osteoarthritis. Clinical Guideline 177. London, UK: NICE; 2014
3. Griesser MJ, Harris JD et al. Adhesive capsulitis of the shoulder: a systematic review of the effectiveness of intra-articular corticosteroid injections. *J Bone Joint Surg Am* 2011; 93: 1727-1733.
4. Berkoff DJ, Miller LE, Block JE. Clinical utility of ultrasound guidance for intra-articular knee injections: a review. *Clin Interv Aging*. 2012; 7:89-95.
5. Jüni P, Hari R et al. Intra-articular corticosteroid for knee osteoarthritis. *Cochrane Database of Systematic Reviews* 2015, Issue 10. Art. No.: CD005328
6. Nam SH, Kim J et al. Palpation versus ultrasound guided corticosteroid injections and short-term effect in the distal radioulnar joint disorder: A randomized, prospective single-blinded study. *Clin Rheumatol* 2013; 12:1807-1814.
7. Arthritis Research UK, Osteoarthritis in General Practice. 2013.
8. Wluka A, Lombard C, and Cicuttini F. Tackling obesity in knee osteoarthritis. *Nature Reviews Rheumatology* 2013; 9(4): 225-235.
9. Kearns K, Dee A et al. Chronic disease burden associated with overweight and obesity in Ireland: the effects of a small BMI reduction at population level. *BMC Public Health* 2014; 14(143)
10. Clemence P, Nguyen C et al. Risk factors and burden of osteoarthritis. *Annals of Physical and Rehabilitation Medicine* 2016 59 (3): 134–138.
11. Spector T and MacGregor A. Risk factors for osteoarthritis: genetics. *Osteoarthritis and Cartilage* 2004; 12: 39-44.
12. Berkoff DJ, Miller LE, Block JE. Clinical utility of ultrasound guidance for intra-articular knee injections: a review. *Clin Interv Aging*. 2012; 7:89-95
13. Jüni P, Hari R et al. Intra-articular corticosteroid for knee osteoarthritis. *Cochrane Database of Systematic Reviews* 2015, Issue 10. Art. No.: CD005328

14. Park KD, Kim TK et al. Palpation versus ultrasound-guided acromioclavicular joint intra-articular corticosteroid injections: a retrospective comparative clinical study. *Pain Physician*. 2015;18(4):333–341
15. Nam SH, Kim J et al. Palpation versus ultrasound guided corticosteroid injections and short-term effect in the distal radioulnar joint disorder: A randomized, prospective single-blinded study. *Clin Rheumatol* 2013; 12:1807-1814.
16. Sibbitt WL Jr, Band PA et al. A randomized controlled trial evaluating the costeffectiveness of sonographic guidance for intra-articular injection of the osteoarthritic knee. *J Clin Rheumatol*. 2011; 17(8):409–415.
17. Fraenkel L. Ultrasound (US)-Guided Versus Sham Ultrasound Corticosteroid (CS) Knee Injections. <https://clinicaltrials.gov/ct2/show/NCT01032720>
18. John Hopkins University. "Blind" vs. Fluoroscopy-Guided Steroid Injections for Knee Osteoarthritis. <https://clinicaltrials.gov/ct2/show/NCT02104726>
19. National Collaborating Centre for Chronic Conditions (UK). Osteoarthritis: National clinical guideline for care and management in adults. London: Royal College of Physicians (UK), 2008
20. Neogi T. The epidemiology and impact of pain in osteoarthritis. *Osteoarthritis Cartilage* 2013; 21: 1145-1153.