Purchasing Guidance: Considered Judgement Form

This form is a checklist of issues that may be considered by the Purchasing Guidance Advisory Group when making purchasing recommendations

Meeting Date:	**21 June 2017**
Topic:	**The effectiveness of injection of steroid into the hip as a form of interventional pain management**

Purpose

This purchasing guidance (considered judgement) document accompanies a systematic review commissioned by ACC Research from the International Centre for Allied Health Evidence, University of South Australia.

The objective of this review is to critique and summarise the evidence regarding:

- Efficacy of steroid injections, with or without local anaesthetic, into the hip in relieving pain and/or in improving functional outcomes in patients with pain; and

- Safety of steroid injections into the hip

There were no recommendations made in the 2005 Interventional Pain Management guidelines for steroid injections to the hip (code IN30/31).

Background

The most common sources of hip pain include pain in the hip joint secondary to osteoarthritis, and greater trochanter pain syndrome. Osteoarthritis is associated with signs and symptoms of inflammation including joint pain, swelling and stiffness. Greater trochanter pain syndrome, including trochanteric bursitis, involves inflammation in one or more of the several peritrochanteric bursae. Injection with steroid with or without local anaesthetic is used to reduce the inflammation and thereby reduce levels of pain associated with these conditions.

1. Effectiveness, Volume of Evidence, Applicability / Generalisability and Consistency / Clinical impact

Comment here on the extent to which the service/product/ procedure achieves the desired outcomes. Specific reference needs to be made to safety. Report number needed to treat and harm where possible, any issues concerning the quantity of evidence and its methodological quality and the extent to which the evidence is directly applicable or generalisable to the New Zealand population, and the degree of consistency demonstrated by the available evidence. Where there are conflicting results, indicate how the group formed a judgement as to the overall direction of the evidence. Comment on the clinical impact e.g. size of population, magnitude of effect, relative benefit over other management options, resource implications, balance of risk and benefit.

Volume and quality of evidence:

The evidence base identified by the systematic review was low volume for this topic. No publication date limitations were set as there were no 2005 recommendations for the hip.

Ten systematic reviews and two randomised controlled trials met inclusion criteria and were summarised in the review. Two of the systematic reviews presented a meta-analysis of the effect of intra-articular steroid injections (Zhang et al 2007; 2010) but failed to separate findings for the knee and hip, so were excluded from the overall evidence findings and recommendations. One systematic review was rated high quality

(McCabe et al, 2016); three were acceptable quality (Lustenberger et al, 2011; Del Buono et al, 2012; Barratt et al, 2016) and four were low quality (Kruse, 2008; Peterson and Holder; 2010; Hirsch et al, 2013; Chandrasekaran et al, 2015). Both the RCTs were rated as acceptable quality (Lee et al, 2016; Ribeiro et al, 2016).

Effectiveness (in terms of pain relief and/or improved function):

Hip Osteoarthritis

The four low quality systematic reviews had various shortcomings which limited the strength of their findings e.g. inclusion of case reports and case studies; failing to quality appraise included studies; failing to specify how hip osteoarthritis was diagnosed or what their inclusion criteria were. The best evidence was from McCabe et al (2016), a high quality systematic review which identified five prospective, double-blind RCTs comparing intra-articular steroid injection with a placebo injection to treat hip pain. The five RCTs all reported a reduction in pain at 3-4 weeks post-injection compared with the placebo injection group. There tended to be a moderate to large treatment effect 1 week post-injection and it declined after that up to 4 weeks. Two of the RCTs reported a moderate reduction in pain (approximately 20% decrease in pain score) effect up to 8 weeks post-injection. By three months post-injection only 20% of patients were classed as 'responders' and there was no significant difference in pain or function scores between the steroid and placebo groups. In two of the studies patients were awaiting hip replacement and had severe osteoarthritis. In all five RCTs injections were performed using ultrasound or fluoroscopy to guide the injection. None of the RCTs specified which patients, if any, had post-traumatic osteoarthritis.

Greater Trochanteric Pain Syndrome

Three systematic reviews of acceptable quality reported a reduction of pain in the short term (1 – 3 months) with a single injection of steroid to the greater trochanter area, but potentially worse outcomes in the long-term. Only two of the included studies in the reviews were RCTs and case reports and case series were also included (DelBuono et al, 2012; Lustenberger et al, 2011). Most of the studies included patients with at least 6 months duration of symptoms, but one study included patients with 7 weeks duration of symptoms.

One of the included RCTs (Rompe et al, 2009) suggested steroid injection resulted in a greater reduction in pain at 1 month follow-up than conservative treatment (home exercises) or shockwave therapy but no significant difference at 4 months post-treatment, and at 15 months post-treatment the steroid group was significantly worse than the shockwave therapy or home training groups. One double-blind RCT reported no significant difference in outcomes between fluoroscopic-guided and unguided injections.

The authors of one of the systematic reviews (DelBuono et al 2012) reported that the marked short-term benefits of corticosteroid injection were reversed after a few months, with high rates of recurrence.

Safety and Risk

Volume and quality of evidence:

The evidence base on safety of steroid injections was moderate to low quality and consisted of retrospective cohort studies and some case reports. Specific to the hip, the three adverse events which were highlighted were septic arthritis, osteonecrosis, and the risk of post-operative joint infection following pre-operative steroid injection. The rates of all of these adverse effects were not reported well in the literature and varied from study to study. The hip seems to be more open to infection than other joints but the rate of infection was still considered low in patients without compromised immunity or other

contraindications to steroid injection. Some authors cautioned against giving injections less than 2 months before hip surgery. Additional adverse effects such as calcifications, Charcot's arthropathy, and avascular necrosis were identified, and the authors suggested these are more likely with repeated injections. Rapid destruction of the femoral head can occur following just one steroid injection, but it is rare.

2. Cost

Where possible and reported in the published research literature any economic analysis of the new treatment is considered. Where possible the following will be considered; total costs of the new intervention and number of claimants likely to be affected are considered, along with comparison with the cost of current treatments or interventions, actuarial assessment of the impact of the intervention on scheme liability (including direct and indirect impact e.g. other services and access), expected "accrued benefit" in terms of quality of life, longer life or speedier return to the workforce, implications of cost to the wider health sector.

When steroid injections to the joint with or without imaging (IN30/31) were examined by body site, there were none for the hip joint. However, it is likely that these joint injections are being requested by other specialist groups, e.g. radiologists, orthopaedic specialists, using other codes specific to their contracts.

3.Equity

The extent to which the intervention reduces disparities in health status; in particular equity of access and health outcome.

No equity issues found

4.Consistency with the intent of the AC Act

Purchasing decisions made by ACC must be consistent with and reflect consideration of factors described in the AC Act, Schedule 1, clause 2(1 and 2) and these decisions must be defensible against this statutory requirement in respect of individual claimants.

5.Possible purchasing options

The options are:

1. Purchase,

2. Don't purchase, or

3. Purchase on a case by case basis on the decision of the Corporate Medical Advisor (or equivalent).

6.Evidence statements

Summarise the advisory group's synthesis of evidence relating to this service, product or procedure, taking the above factors into account, and indicate the evidence level that applies.

From the University of South Australia review:

- **The evidence indicates that intra-articular steroid injection to the hip joint is effective in reducing pain and improving function in the short term (<8 weeks) in patients with hip osteoarthritis. They were not effective in reducing pain and improving function in the longer term (>8 weeks)** *Level A recommendation based on 1 x HQ SR (McCabe et al., 2016) and 3 x LQ SRs (Kruse 2008, Peterson and Holder 2010, Hirsch et al., 2013)*

- **The evidence indicates that the effectiveness of intra-articular steroid injection to the hip joint was not related to radiographic grade of osteoarthritis and clinical or sonographic evidence of inflammation or synovial hypertrophy** *Level B recommendation based on 1 x LQ*

SR (Hirsch et al., 2013)

- **The evidence indicates that steroid injection to the hip is effective in reducing pain and improving function in the short term (up to 12 weeks) in patients with Greater Trochanter pain syndrome. They were not effective in reducing pain and improving function in the longer term (> 12 weeks)** *Level A recommendation based on 2 x AQ SR (Barratt et al., 2016, DelBuono et al., 2012)*

- **Minor complications associated with intra-articular steroid injections into the hip are not uncommon but rarely require significant medical attention. Whilst serious complications are rare, the hip joint appears susceptible to conditions such as calcifications and necrosis of the femoral head. Increased risk appears related to technique and repeated injections.** *Level A recommendation*

7. Recommendation

Taking the evidence into account, PGAG advises that ACC adopts the following purchasing recommendation:

Steroid injections for hip pain caused by osteoarthritis:

- **Purchase a single intra-articular steroid injection for short term (up to eight weeks) relief of hip pain caused by osteoarthritis to enable participation in further rehabilitation.**
- **Injections for hip pain due to osteoarthritis should be image-guided.**
- Good practice point: intra-articular steroid injections are considered the third line intervention for the treatment of symptoms of hip osteoarthritis (BPAC recommendations, 2012) and therefore should only be considered following the failure of conservative treatment options such as exercise, weight loss, paracetamol, topical non-steroidal anti-inflammatory drugs and capsaicin cream.

Steroid injections to the greater trochanter area

- **Steroid injections to the greater trochanter area *may* be considered for the treatment of lateral hip pain presenting as trochanteric bursitis or Greater Trochanteric Pain Syndrome (GTPS) where there is a clear causal link between the pathology being treated and a covered injury.**
- **Purchase a single steroid injection to the greater trochanter area for short term (up to twelve weeks) relief of hip pain presenting as trochanteric bursitis or GTPS to enable participation in further rehabilitation.**
- **Do not purchase imaging for injections for hip pain presenting as trochanteric bursitis or GTPS, as the evidence indicates that effectiveness for these conditions is not improved by using image-guided techniques.**
- Good practice point:
    - Corticosteroid injections are only effective for short-term relief of symptoms and are associated with high rates of recurrence. Other conservative treatment options e.g. activity modification,

stretching and strengthening exercises and non-opioid pain relief should be considered before steroid injections for the management of trochanteric bursitis/GTPS.

- Identification and correction of the underlying causes is an important part of the management of this condition.

These recommendations were ratified by the Clinical Governance Committee in September 2017.