Short Question:

Specific Question: In an adult population is a corticosteroid injection a safe and effective treatment for tennis elbow compared to usual care.

Clinical bottom line

There is evidence to suggest that receiving an injection after 6 weeks of symptom duration may result in poorer clinical outcome and greater reoccurrence at 12 months (Coombes 2013). Repeated corticosteroid injections may be associated with poorer long term outcome, and a greater need for surgery when compared to one injection (Bisset 2011).

However a steroid injection will reduce the pain in the short term (Gaujoux-Viala 2009, Coombes 2010), but is effect is similar to NSAIDS. This effect does not last into the medium or long term.

Evidence on complications suggest the most common is post injection pain (10.7%) and skin atrophy or depigmentation (4%). There were no serious adverse incidents reported. (Gaujoux-Viala 2009).

Clinicians should consider the benefits and risks of offering one or more corticosteroid injection for those presenting with symptoms over 6 weeks.

For more detailed evidence on the harm of corticosteroid injections for acute or chronic tendonopathies please see the CAT :

In patients presenting with acute or chronic tendinopathies, what is the incidence of harm for those receiving steroid injections compared to those receiving usual care?

Why is this important?

Lateral epicondylitis is commonly seen by musculoskeletal practitioners. It affects 3% of the population (Bisset et al 2009) of working age, who may undertake repetitive occupations or hobbies. It primarily occurs between the ages of 35 and 64 years and can be a difficult condition to manage.

It is important at that clinicians have up to date information on the evidence underpinning benefits and harms of this procedure to allow patient to make informed choices about treatment options.

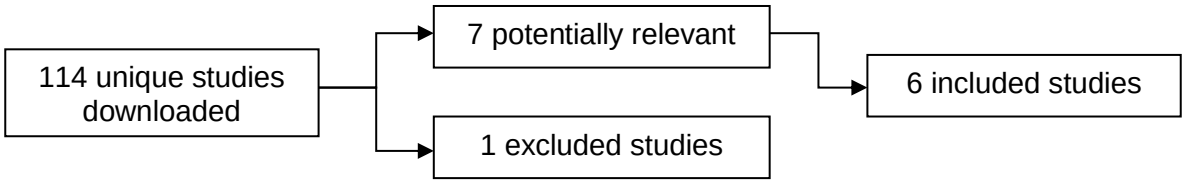
CAT Lead: Kate Norris/Kay Stevenson
Email:kate.norris@uhns.nhs.uk

Date CAT completed: April 2014
Date CAT to be reviewed: April 2016

Inclusion Criteria

	Description	Search terms
Population and Setting	Adults	
Intervention or Exposure (ie what is being tested)	Corticosteroid injection therapy	
Comparison, if any		Placebo, physiotherapy, laser, ultrasound, electrotherapy, shock wave therapy, manual therapy, massage, manipulation, frictions, soft tissue mobilisation, splints, clasps
Outcomes of interest	Pain, function, return to work**,** Quality of life, medical consultations	
Types of studies	SR & RCTs only Observational studies if no RCTs	

Results



CAT Lead: Kate Norris/Kay Stevenson
Email:kate.norris@uhns.nhs.uk
Date CAT completed: April 2014
Date CAT to be reviewed: April 2016

First Author, year and type of study	Population and setting	Intervention or exposure tested	Study results	Assessment of quality and comments
Coombes et al 2013 RCT 2x2 factorial design	165 adults with lateral epicondylitis of > 6/52/duration Community setting Australia	Corticosteroid, placebo injection. Corticosteroid & physio, placebo & physio	1.For chronic LE corticosteroid injection had worse clinical outcomes after 1 year vs placebo injection 2. Adding physio did not result in any significant differences 3. Adding 8 weeks of physio did not affect long-term outcomes but physio alone beneficial in short-term 4. Corticosteroid injection more effective in short term compared with placebo injection but showed moderate to large inferior effects at 6 months across all outcome measures 6. At 1 year 90% reported complete recovery or much improvement but significantly fewer reported this in corticosteroid injection group. 7. 50% who had single corticosteroid injection had recurrence, significantly greater than the placebo group.	Assessor blinded to interventions. Numbers needed calculated to ensure adequate power of study. 99.8% follow up.
Krogh et al 2012 Systematic review	Adults with lateral epicondylitis 17 RCTs included	Corticosteroid & other injections	Unable to confirm or refute a benefit of glucocorticoid for LE	There was a paucity of evidence from unbiased trials to base treatment recommendations regarding injection therapies for LE.
Bisset et al 2011 SR	Adults with lateral epicondylitis	Effective treatments for tennis elbow	80 SRs, RCTs and observational studies identified Corticosteroid injection improves pain, function and global improvement in short term but may increase recurrence when compared to physio and wait and see. Repeated injections may lead to lower pain reduction and grater need for surgery than a single injection	Searched up to 2009, major databases included harms. Used GRADE to evaluate findings. Included studies had at least 20 patient per group and 80% follow up.

Coombes et al 2010 Systematic review	Adults with tendinopathy 41 RCTs included (12 for tennis elbow)	Corticosteroid injection	1. Corticosteroid injections less beneficial than other interventions at 26/52. 2. Inferior reduction in pain at all times up to 1 yr injection compared with no intervention, NSAIDs, physio & platelet rich plasma injection. 3. Repeated corticosteroid injections associated with poorer long term effect on reduction of pain than 1 injection	Strong evidence for a large beneficial effect of corticosteroid injection for all outcomes in short term(<8/52). Response to injection should not be generalised because of variation in effect between sites of tendinopathy
Barr et al 2009 Systematic review	Adults with lateral epicondylitis 5 RCTs included	Corticosteroid injection physiotherapy	1. Corticosteroid injections effective in short term 2. Physio interventions effective in intermediate & long term & more effective than wait & see in short & long term	2 good quality RCTs pooled data As not able to pool all results authors recommend cautious interpretation of results
Gaujoux-Viala et al 2009	RCTs in French or English language	Steroid injection for shoulder or elbow tendonopathies	Steroid improves pain and function in short term (1-8 weeks)	Good quality but high level of heterogeneity (65%)

Conclusions

There is evidence to suggest that receiving an injection after 6 weeks of symptom duration may result in poorer clinical outcome and greater reoccurrence at 12 months (Coombes 2013).

Repeated corticosteroid injections may be associated with poorer long term outcome when compared to one injection. In patients who received corticosteroid injection, significantly fewer reported being completely recovered or much improved, and worst pain levels remained higher 1 year after injection Recurrence rate was higher in those who had received injection therapy.

Physiotherapy did not optimize long-term outcomes but was beneficial in the short term in the absence of injection therapy. Physiotherapeutic interventions were effective in intermediate & long term & more effective than wait & see in short & long term.

A steroid injection may reduce the pain in the short term (Coombes 2010), however this effect does not last into the medium or long term.

CAT Lead: Kate Norris/Kay Stevenson
Email:kate.norris@uhns.nhs.uk

Date CAT completed: April 2014
Date CAT to be reviewed: April 2016

Generally, the levels of complications following a corticosteroid injection for a broad range of soft tissue pathologies remains low (9-10% experienced post injection pain, 4-9%, atrophy and depigmentation and <1% tendon rupture of Achilles tendon) (Gaujoux-Viala 2009, Coombes 2010). In the Coombes review, it was not clear how adverse effect data was collected.

References

Coombes, B. K., Bisset, L., Brooks, P., Khan, A., & Vicenzino, B. (2013). Effect of corticosteroid injection, physiotherapy, or both on clinical outcomes in patients with unilateral lateral epicondylalgia: a randomized controlled trial. JAMA, 309(5), 461-469.

Krogh, T. P., Bartels, E. M., Ellingsen, T., Stengaard-Pedersen, K., Buchbinder, R., Fredberg, U., . . . Christensen, R. (2013). Comparative effectiveness of injection therapies in lateral epicondylitis: a systematic review and network meta-analysis of randomized controlled trials. American Journal of Sports Medicine, 41(6), 1435-1446

Bisset, L., Coombes, B., & Vicenzino, B. (2011). Tennis elbow. Clinical Evidence (Online), 2011.

Coombes, B. K., Bisset, L., & Vicenzino, B. (2010). Efficacy and safety of corticosteroid injections and other injections for management of tendinopathy: a systematic review of randomised controlled trials. Lancet, 376(9754), 1751-1767.

Barr, S., Cerisola, F. L., & Blanchard, V. (2009). Effectiveness of corticosteroid injections compared with physiotherapeutic interventions for lateral epicondylitis: a systematic review. Physiotherapy, 95(4), 251-265.

Gaujoux-Viala C Dougados M Gossec L 2009 Efficacy and safety of steroid injection for shoulder and elbow tendonistis: a meta analysis of randomised controlled trials Ann Rhuem Dis 68 18-43-1849

CAT Lead: Kate Norris/Kay Stevenson
Email:kate.norris@uhns.nhs.uk

Date CAT completed: April 2014
Date CAT to be reviewed: April 2016