

**Brinks A, van Rijn RM, et al. Corticosteroid injections for greater trochanteric pain syndrome: a randomized controlled trial in primary care. Ann Fam Med. 2011;9(3):226-34.**

Design: randomized clinical trial

Purpose of study: to compare the outcomes of steroid injections with the outcomes of usual care in patients with pain of the greater trochanter

Reasons not to cite as evidence:

- Some aspects of study design are satisfactory; the randomization was balanced and was stratified on comorbidities such as low back pain and hip osteoarthritis, and followup was nearly complete
- An injection was compared with “usual care” with analgesics and access to physical therapy; a placebo injection should have been feasible in this setting because the injection site is accessible without fluoroscopy and would have made patient blinding practical; as it is, an important source of bias is not controlled for
- There are several aspects of the presentation of results which do not lend themselves to a useful interpretation of effect size
  - o The outcome at 3 months is defined well enough to allow it to be dichotomized into success versus failure
    - That is, it is defined as the patient response on a 7 point Likert scale, where a response of “totally or strongly recovered” is a success and lesser degrees of recovery or exacerbation are failures
  - o Although the primary outcome of recovery at 3 months is interpretable, it is stated in terms of odds ratios, which will inflate the apparent effectiveness of an intervention when “success” happens in a large percentage of the population
    - For example, the odds ratio for success for the primary outcome was 2.38 with 95% confidence interval from 1.04 to 5.00
    - The actual success ratio (55% divided by 34%) is closer to 1.62 with 95% confidence interval from 1.30 to 2.01
  - o Other outcomes such as pain at rest and on activity are also presented as odds ratios, but these outcomes on a 10 point scale, and the cutoff for success is not defined
    - In addition, the confidence intervals for the odds ratios are wide enough to include the null value of no difference for pain at rest and with activity in Table 2, meaning that the steroid injection could be associated with greater pain relief, equal pain relief, or worse pain relief than with the usual care group

- “Effect sizes” for the same pain outcomes were presumably presented in terms of standardized mean differences and are given as the results section as being 0.54 and 0.57
- Although these are moderately good effect sizes, they are given without confidence intervals; since the odds ratios for the same pain outcomes have wide confidence intervals, the same is probably true of the effect sizes given in terms of standardized mean differences
- Because of these problems, the effectiveness of the steroid injection is not reported well enough to estimate how well the injection improved pain and function
- It is likely that the steroid injection can improve short term pain measured at 3 months, and the problems with the presentation of results should not be interpreted as meaning that the injection is without effect

Assessment: inadequate for evidence about the effectiveness of steroid injection for greater trochanteric pain, but may be used for information that an injection is an option for 3 months of pain relief if the task force agrees