**Pattanittum P, Turner T, Green S, Buchbinder R. Non-steroidal anti-inflammatory drugs (NSAIDs) for treating lateral elbow pain in adults. *CochraneDatabase of Systematic Reviews* 2013; Issue 5.**

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**Reviewer:** Linda Metzger 10-9-15

**Design:** Cochrane Systematic Review

**Objective:** To assess the effectiveness and harms of topical and oral NSAIDs for treating people with lateral elbow pain.

**Summary of Results:**

* Includes altogether 15 trials, involving 759 participants reporting on 17 comparisons. Eight trials studied topical NSAIDs (301 participants) with 5 comparing topical NSAIDs with placebo, one comparing manipulative therapy and topical NSAIDs with manipulative therapy alone, one comparing leech therapy with topical NSAIDs, and one comparing two different topical NSAIDs. Seven trials investigated oral NSAIDs (437 participants) with 2 comparing oral NSAIDs with placebo, one comparing oral NSAIDs and bandaging with bandaging alone, 3 comparing oral NSAIDs with a glucocorticoid injection, one comparing oral NSAIDs with a vasodilator, and 2 comparing two different oral NSAIDs. No trials directly compared topical NSAIDs with oral NSAIDs.
* For topical NSAIDs, very low-quality evidence was obtained from 3 pooled trials (153 participants) suggesting that topical NSAIDs were significantly more effective than placebo with respect to pain in the short term (mean difference -1.64, 95% confidence interval (CI) -2.42 to -0.86) and number needed to treat to benefit (7 (95% CI 3 to 21) on a 0 to 10 scale). Low-quality evidence was obtained from one trial (85 participants) indicating that significantly more participants report fair, good or excellent effectiveness with topical NSAIDs versus placebo at 28 days (14 days of therapy) (risk ratio (RR) 1.49, 95% CI 1.04 to 2.14). No participants withdrew as the result of adverse events, but some studies reported mild adverse effects such as rash in 2.5% of those exposed to topical NSAIDs compared with 1.3% of those exposed to placebo.
* For oral NSAIDs, very low-quality and conflicting evidence was obtained from 2 trials. One trial found significantly greater improvement in pain compared with placebo, and the other trial found no between-group differences. Neither trial found differences in function. The 2 trials could not be pooled, because one trial reported medians.
* Use of oral NSAIDs was associated with increased risk of gastrointestinal side effects compared with placebo in one trial. One trial reported a withdrawal due to adverse effects for a participant in the NSAIDs group. Another trial reported discontinuation of treatment due to gastrointestinal side effects in four participants taking NSAIDs, and another participant developed an allergic reaction in response to oral NSAIDs.
* Very scant and conflicting, very low-quality evidence regarding the comparative effects of oral NSAIDs and glucocorticoid injection was obtained. One trial reported a significant improvement in pain in the short term with glucocorticoid injection, and another found no between-group differences.
* The authors concluded that there is limited, very low-quality evidence from which to draw firm conclusions about the benefits or harms of topical or oral NSAIDs in treating lateral elbow pain. Although data from five placebo-controlled trials suggest that topical NSAIDs may be beneficial in improving pain (for up to 4 weeks), non-normal distribution of data and other methodological issues precluded firm conclusions. Some people may expect a mild transient skin rash. Evidence about the benefits of oral NSAIDs has been conflicting, although oral NSAID use may result in gastrointestinal adverse effects in some people.
* Overall, there is insufficient evidence that topical and oral NSAIDs are effective for treating people with lateral elbow pain compared to no treatment.

**Reasons not to Cite as Evidence:**

* The present search went through October 2012. Two studies were published in 2011and one in 2005. All the others were more than 15 years old.
* Several studies reported adverse events such as skin rash and gastrointestinal effects in some people.
* Sample sizes of most trials were small.
* The 15 included studies were very low in quality. Only 3 trials explicitly reported random sequence generation, and 4 adequately concealed the allocation sequence. Eleven trials reported an unclear risk of bias for both random sequence generation and allocation concealment. Only 4 trials achieved blinding of both participants and outcome assessors. Two studies were at high risk of bias and 5 had an unclear risk of bias from incompleteness of outcome data at one or more time intervals. Two trials were at high risk of selective reporting bias and 12 others had an unclear risk.
* The pooling of results across trials was only possible on 2 occasions for a total of 5 studies.
* This very low quality evidence does not meet our literature critique criteria and would not qualify for an evidence statement.
* Because the limited evidence is of very low quality, further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate, and so we are uncertain about the magnitude of the effect, and thus no useful conclusions can be drawn.

**Assessment:**

* High quality Cochrane review that shows there is inadequate evidence for the effectiveness of topical and oral NSAIDs compared with no treatment, placebo or another intervention for treating people with lateral elbow pain.