

Cochrane in CORR

Cochrane in CORR®: Joint Lavage for Osteoarthritis of the Knee

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Importance of the Topic

Osteoarthritis of the knee is a progressive and debilitating condition that affects more than 9.2 million individuals in the United States [4]. The socioeconomic impact of this condition is substantial as well, resulting in billions of dollars in health-related expenditures and indirect economic losses [2, 3, 5]. Management options for knee osteoarthritis range from nonsurgical (or “conservative”)

measures such as physiotherapy and pharmacologic therapy, to surgical interventions such as joint lavage, arthroscopic débridement, and ultimately partial or TKA. Ensuring that interventions offered to patients are evidence-based is an important strategy to help direct finite healthcare resources only towards those interventions that are effective.

Joint lavage used alone, either with or without arthroscopy (and without débridement), has been proposed as a

possible temporizing intervention, which may improve pain and function in the short-term and delay knee arthroplasty. Theoretically, joint lavage may “wash out” microscopic and macroscopic intraarticular debris, as well as inflammatory cytokines, all of which potentially contribute to synovitis and pain [1, 6, 8]. Whether there is high quality evidence to support this theoretical benefit was the subject of this systematic review [7].

A Note from the Editor-in-Chief: I am pleased to announce the partnership between CORR®, The Cochrane Collaboration®, and McMaster University's Evidence-Based Orthopaedics Group for a new column, called Cochrane in CORR®. In it, we will identify an abstract originally published in The Cochrane Library that we think is especially important, and Dr. Mohit Bhandari, our Deputy Editor for Evidence-Based Orthopaedics, and his colleagues from McMaster University will provide expert perspective on it.

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The opinions expressed are those of the writers, and do not reflect the opinion or policy of CORR® or the Association of Bone and Joint Surgeons®.

Cochrane Reviews are regularly updated as new evidence emerges and in response to feedback, and The Cochrane Library (<http://www.thecochranelibrary.com>) should be consulted for the most recent version of the review.

This Cochrane in CORR® column refers to the abstract available at: DOI: [10.1002/14651858.CD007320.pub2](https://doi.org/10.1002/14651858.CD007320.pub2).

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Upon Closer Inspection

Reichenbach and colleagues [7] performed a thorough and rigorous systematic review of both randomized and quasi-randomized trials gathered from multiple databases and manual searches of both published and unpublished studies. However, the results should be interpreted with an understanding of the methodological limitations of included trials.

Among the seven included trials, there was substantial variability in the types and characteristics of both interventions and controls. Allocation sequence generation was appropriate in only two of the seven included trials, and allocation was adequately concealed in only three studies. Only two studies analyzed data using the intention-to-treat principle.

Outcome data showed no overall benefit to treatment, although there was a high degree of heterogeneity among trials. Therefore, these trials likely overestimated any actual treatment effect. Researchers found no improvements in pain at 1 year or function at 3 months or 1 year. Among the three trials that reported function at 1 year, a possible treatment benefit was suggested by the homogeneity of the results; however, the effect sizes were very small and likely not clinically important.

Take-Home Messages

Overall, there is no conclusive evidence that joint lavage improves either pain or function at 3 months or 1 year for osteoarthritis of the knee. Available

clinical trials are small in size, few in number, poor in quality, and heterogeneous in methodology and outcomes. If strong clinical equipoise continues to exist among orthopaedic surgeons, large randomized controlled trials with rigorous methodology, including reasonable attempts at blinding, will be necessary. Owing to the lack of benefit demonstrated in this systematic review of available trials, alongside a lack of strong clinical equipoise, joint lavage alone is not recommended as a routine intervention in the management of osteoarthritis of the knee.

Appendix

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Joint lavage for osteoarthritis of the knee (Review)

Reichenbach S, Rutjes AWS, Nüesch E, Trelle S, Jüni P



This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in *The Cochrane Library* 2010, Issue 5

<http://www.thecochranelibrary.com>



Joint lavage for osteoarthritis of the knee (Review)
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[Intervention Review]

Joint lavage for osteoarthritis of the knee

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ABSTRACT

Background

Osteoarthritis is the most common form of joint disorder and a leading cause of pain and physical disability. Observational studies suggested a benefit for joint lavage, but recent, sham-controlled trials yielded conflicting results, suggesting joint lavage not to be effective.

Objectives

To compare joint lavage with sham intervention, placebo or non-intervention control in terms of effects on pain, function and safety outcomes in patients with knee osteoarthritis.

Search methods

We searched CENTRAL, MEDLINE, EMBASE, and CINAHL up to 3 August 2009, checked conference proceedings, reference lists, and contacted authors.

Selection criteria

We included studies if they were randomised or quasi-randomised trials that compared arthroscopic and non-arthroscopic joint lavage with a control intervention in patients with osteoarthritis of the knee. We did not apply any language restrictions.

Data collection and analysis

Two independent review authors extracted data using standardised forms. We contacted investigators to obtain missing outcome information. We calculated standardised mean differences (SMDs) for pain and function, and risk ratios for safety outcomes. We combined trials using inverse-variance random-effects meta-analysis.

Joint lavage for osteoarthritis of the knee (Review)

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Main results

We included seven trials with 567 patients. Three trials examined arthroscopic joint lavage, two non-arthroscopic joint lavage and two tidal irrigation. The methodological quality and the quality of reporting was poor and we identified a moderate to large degree of heterogeneity among the trials ($I^2 = 65\%$). We found little evidence for a benefit of joint lavage in terms of pain relief at three months (SMD -0.11, 95% CI -0.42 to 0.21), corresponding to a difference in pain scores between joint lavage and control of 0.3 cm on a 10-cm visual analogue scale (VAS). Results for improvement in function at three months were similar (SMD -0.10, 95% CI -0.30 to 0.11), corresponding to a difference in function scores between joint lavage and control of 0.2 cm on a WOMAC disability sub-scale from 0 to 10. For pain, estimates of effect sizes varied to some degree depending on the type of lavage, but this variation was likely to be explained by differences in the credibility of control interventions: trials using sham interventions to closely mimic the process of joint lavage showed a null-effect. Reporting on adverse events and drop out rates was unsatisfactory, and we were unable to draw conclusions for these secondary outcomes.

Authors' conclusions

Joint lavage does not result in a relevant benefit for patients with knee osteoarthritis in terms of pain relief or improvement of function.

PLAIN LANGUAGE SUMMARY

Joint lavage for osteoarthritis of the knee

This summary of a Cochrane review presents what we know from research about the effect of joint lavage for osteoarthritis (OA) of the knee. The review shows that in people with OA, joint lavage;

- may not improve pain and function compared to a sham treatment or no treatment.

We often do not have precise information about side effects and complications. This is particularly true for rare but serious side effects.

What is osteoarthritis and what is joint lavage

Osteoarthritis (OA) is the most common form of arthritis that can affect the hands, hips, and knees. In OA, the cartilage breaks down and may cause swelling and consecutive pain. OA can occur in different areas of the knee or the whole knee. When the cartilage breaks down, bits of tissue are left around the knee joint, which can add to the inflammation and prevent the joint from working properly.

Joint lavage means to wash out any loose tissue or debris from inside the joint space. It involves temporarily inserting small tubes into 1 or more entry points into the knee.

This systematic review discusses three types of joint lavage. Tidal irrigation joint lavage uses only one entry point to alternately inject fluid, and then draw it out. Non-arthroscopic joint lavage uses two entry points, one to inject the fluid and a separate one for the withdrawal of the fluid, but no visual inspection of the knee is performed. Arthroscopic joint lavage is a formal joint lavage in addition to a visually inspection of the knee joints structures as this is done.

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