Arthrocentesis for the treatment of temporomandibular joint closed lock: a review article

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CRD summary
This review aimed to determine the effectiveness of arthrocentesis for the treatment of temporomandibular joint closed lock. The authors concluded that arthrocentesis may be beneficial, but there have been no good-quality clinical trials confirming this. In light of the limitations of the included studies and of the review, the authors’ conclusions should be treated with caution.

Authors' objectives
To review the efficacy of arthrocentesis for the treatment of temporomandibular joint closed lock (TMJ CL).

Searching
MEDLINE was searched; the search terms were reported. Additional studies were sought through reference lists of retrieved papers.

Study selection
Inclusion criteria were not explicitly reported, but were implicit from the objectives as being studies of participants with TMJ disorders who were undergoing arthrocentesis. The mean age of all the participants was 34.3 years and 87% were female. The included studies encompassed a range of diagnostic categories. The range of lavage volumes was 50 to 500 mL. A range of outcomes were reported, mostly based on improvement in maximum mouth opening and pain scores.

The authors did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality
The authors did not state that they assessed study validity, although certain aspects of methodological quality were provided, such as the reporting of inclusion and exclusion criteria, and blinding.

Data extraction
Pre- and post-treatment mean data were extracted for each outcome of interest. Overall success rate was also extracted. The authors did not state how the data were extracted for the review, or how many reviewers performed the data extraction.

Methods of synthesis
The results were pooled in a narrative synthesis, and differences between the studies were discussed with study details tabulated.

Results of the review
Nineteen studies (n=531) were included in the review: one randomised controlled trial (n=5), one non-randomised double-blind study (n=28), one randomised not-blind study (n=15), three non-randomised single-blind studies (n=82), two prospective comparative studies (n=28), eight prospective case series (n=316), two retrospective case series (n=37) and one long-term follow-up study (n=20).

The mean overall success rate was 83.2%. Summary data were not provided for the other outcomes, but individual study results were tabulated.

Authors' conclusions
Arthrocentesis may be beneficial for treating TMJ CL, but there have been no good, prospective randomised clinical trials to confirm efficacy.
CRD commentary
Although the review addressed a clear question, the inclusion criteria were only implicit from the objectives of the review; it is therefore possible that subjective decisions were made on study selection. Search dates and language restrictions were not specified, only one database was searched, and unpublished studies do not appear to have been sought; it is therefore possible that some relevant studies could have been missed. The methods used to select studies and extract the data were not reported, so it is difficult to comment on the risk of bias and error being introduced during the review process. Although study validity was not formally assessed, the authors did identify some quality issues. While acknowledging the methodological limitations of the included studies, the authors nevertheless pooled success rates for all studies, despite there being considerable methodological and clinical heterogeneity. Differences in the mean pre- and post-treatment maximum mouth opening or pain data were not examined. In view of these limitations, the authors' conclusions should be treated with caution.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that further research is needed to answer the question of how outcomes of TMJ arthrocentesis are to be defined and documented, and how they should be used in disorder-specific terms to substantiate effectiveness.

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