Therapeutic exercise in the management of anterior disc displacement of the temporomandibular joint

CRD summary
This review concluded that therapeutic exercise may be of value in terms of pain, functional impairment and joint sounds, but there is insufficient evidence to determine its efficacy in the management of anterior disc displacement. The authors’ cautious conclusions appear to be supported by the limited evidence presented.

Authors’ objectives
To assess the efficacy of exercise for the management of anterior disc displacement of the temporomandibular joint.

Searching
The Cochrane Library (Issue 4, 2005), MEDLINE and CINAHL were searched for English language articles from 1990 to November 2005; the search terms were reported. The reference lists of retrieved articles were screened for additional studies.

Study selection
Studies comparing any type of therapeutic exercise aimed at the conservative management of anterior disc displacement, with placebo or no intervention, were eligible for inclusion. The authors did not specify which types of outcomes or studies were eligible for inclusion. Participants had to have a diagnosis of anterior disc displacement, with or without reduction of the temporomandibular joints; diagnoses based purely on clinical examination were excluded from the review. Studies were also excluded if exercise was used pre- or post-operatively or combined with other interventions.

The included studies compare a single exercise intervention with no interventions, or active and passive exercise/correction of posture and relaxation techniques, with a waiting list control. Follow-up was either 3 or 6 months, and both males and females with a mean age of 33.1 or 37.3 years (where stated) were included. Two studies included patients with anterior disc displacement with reduction (ADDWR) and one with anterior disc displacement without reduction (ADDWoR). The reported outcomes included disappearance of clicking, reduction in pain, improvements in function, and adverse events.

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 validity of the studies was assessed using a modified version of the Downs and Black checklist. This checklist comprises 27 criteria assessing the quality of reporting, external validity, internal validity (bias and confounding) and statistical power.

Two reviewers independently assessed validity and any disagreements were resolved through consensus.

Data extraction
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 studies were summarised using a narrative synthesis and data tables. Some differences between the studies were evident from the data tables and text.

Results of the review
Three studies (n=92), comprising one randomised controlled trial (RCT) and two before-and-after studies, were included in the review.

The RCT (n=42) fulfilled 17 of the 27 quality criteria, and the two before-and-after studies both fulfilled 6 criteria.

All three studies reported that exercise was beneficial in patients with ADDWR (two studies) or ADDWoR (one study). The RCT of ADDWR, reported a reduction in reciprocal clicking and a greater success rate (61.9% versus 0%) compared with a no intervention control. A second ADDWR study reported an overall success rate of 75% for exercise, with pain and functional impairment being significantly reduced both after exercise and after 6 months' follow-up. The study of ADDWoR reported an overall success rate of 85%, with significant improvements in jaw functioning and mouth opening after exercise.

Authors' conclusions
Therapeutic exercise may be of value in terms of pain, functional impairment and joint sounds, but there is insufficient evidence to determine its efficacy in the management of anterior disc displacement.

CRD commentary
This review answered a clear question, though eligible outcome measures and study designs were not defined. An adequate search for published material was carried out, but there may be some risk of publication and language bias, owing to the exclusion of non-English language reports and the lack of any specific searches for unpublished material. Some attempts were made to reduce the risk of reviewer error and bias whilst assessing the validity of the studies, but it is unclear whether similar care was taken when selecting studies and extracting the study data. Given the small number of included studies and the different populations, interventions and study designs, a narrative synthesis appears appropriate. Overall, given the limited evidence available, the authors’ cautious conclusions and recommendations for further research appear reliable.

Implications of the review for practice and research
Practice: The authors stated that the current evidence only supplies a small insight for clinical practice. A definite, optimal therapeutic approach for physiotherapy practice could not be determined.

Research: The authors stated that further well-designed RCTs are needed to determine the methods of providing exercise treatment and which types of exercise are most beneficial in anterior disc replacement.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.