

# EVIDENCE-BASED QUICKNOTES

## Temporomandibular joint dysfunction

*Does exercise therapy reduce symptoms and improve function in persons with temporomandibular joint internal derangement (with or without reduction)?*

To answer this question, we performed a comprehensive search of the PubMed database (April 2010) for randomized, controlled trials and systematic reviews that addressed this specific research question.

Three studies met the criteria for inclusion in this review, comparing self-care including: exercise to splint therapy (1); exercise to no treatment (2); and exercise and NSAIDs to no treatment (4). Two additional studies comparing exercise therapy to no treatment were reviewed, although the subjects were not randomized; instead, a waiting period prior to the start of treatment served as the control (3,5).

Studies included subjects diagnosed with anterior disc displacement with reduction (ADDWR; 2,5), without reduction (ADDWOR; 3,4), or both (1). The duration of treatments ranged from 2-4 wks (4) to 12 months (1). The outcomes evaluated included pain, function or symptoms (e.g., jaw clicking).

Truelove et al concluded that self-care, including stretching exercise, was equally effective to hard or soft splint use for improvement in pain and function (1). Among patients with painless jaw clicking and ADDWR, Yoda et al found that a therapeutic exercise performed daily for 3 months resulted in a significantly greater proportion of patients with no clicking or only occasional clicking (2). Yuasa et al found that NSAIDs and daily exercises significantly improved maximal mouth opening and interference with daily life but did not significantly change pain (4). In this study, both the treatment and control groups showed significant reductions in self-reported pain.

Nicolakis et al conducted two non-randomized studies evaluating the effectiveness of exercise and other therapies (e.g., relaxation, posture correction) among those with (5) and without (3) reduction. In both studies, a significantly greater proportion of those receiving treatment rated their change in pain and function higher than those not receiving treatment (3,5).

Based on this review, the inclusion of exercise therapy may improve outcomes for patients with TMD, however the majority studies utilized a combination of treatments (1,3,4,5).

*Check with the provider of this newsletter to learn more about exercises appropriate for this condition.*

1. Truelove E, Huggins KH, Mancl L, Dworkin SF. The efficacy of traditional, low-cost and nonsplint therapies for temporomandibular disorder: a randomized controlled trial. *J Am Dent Assoc.* 2006 Aug;137(8):1099-107; quiz 1169. PubMed PMID: 16873325.
2. Yoda T, Sakamoto I, Imai H, Honma Y, Shinjo Y, Takano A, Tsukahara H, Morita S, Miyamura J, Yoda Y, Sasaki Y, Tomizuka K, Takato T. A randomized controlled trial of therapeutic exercise for clicking due to disk anterior displacement with reduction in the temporomandibular joint. *Cranio.* 2003 Jan;21(1):10-6. PubMed PMID: 12555926.
3. Nicolakis P, Erdogmus B, Kopf A, Ebenbichler G, Kollmitzer J, Piehslinger E, Fialka-Moser V. Effectiveness of exercise therapy in patients with internal derangement of the temporomandibular joint. *J Oral Rehabil.* 2001 Dec;28(12):1158-64. PubMed PMID: 11874517.
4. Yuasa H, Kurita K. Treatment Group on Temporomandibular Disorders. Randomized clinical trial of primary treatment for temporomandibular joint disk displacement without reduction and without osseous changes: a combination of NSAIDs and mouth-opening exercise versus no treatment. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod.* 2001 Jun;91(6):671-5. PubMed PMID: 11402280.
5. Nicolakis P, Erdogmus B, Kopf A, Djaber-Ansari A, Piehslinger E, Fialka-Moser V. Exercise therapy for craniomandibular disorders. *Arch Phys Med Rehabil.* 2000 Sep;81(9):1137-42. PubMed PMID: 10987150.