

THERAPEUTIC ULTRASOUND FOR TREATING PATELLOFEMORAL PAIN SYNDROME

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ABSTRACT

Background

Therapeutic ultrasound is one of several rehabilitation interventions suggested for the management of pain due to patellofemoral knee pain syndrome.

Objective

To assess the effectiveness and side effects of ultrasound therapy for treating patellofemoral knee pain syndrome.

Criteria for considering studies for this review

We searched the Cochrane Musculoskeletal Review Group register, Cochrane Field of Physical and Related Therapies register, Cochrane Controlled Trials Register, MEDLINE, EMBASE, HealthSTAR, Sports Discus, CINAHL, and PEDro databases (to December 2000) according to the sensitive search strategy for RCTs designed for the Cochrane Collaboration. The search was complemented with handsearching of the reference lists. Key experts in the area were contacted for any further articles.

Selection criteria

All randomized controlled trials (RCTs), controlled clinical trials (CCTs), case-control and cohort studies comparing therapeutic ultrasound against placebo or another active intervention in people with patellofemoral pain syndrome were selected according to an a priori protocol.

Data collection and analysis

Two reviewers determined the studies to be included based on a priori inclusion criteria. Data were independently extracted by the same two reviewers and checked by a third reviewer (BS) using a previously developed form. The same two reviewers independently assessed the methodological quality of the RCTs and CCTs using a validated scale. The data analysis was performed using Peto odds ratios.

Main results

The search retrieved 85 articles. Of the eight that were potentially relevant, only one RCT, including 53 participants with patellofemoral pain syndrome, was identified for this review. All participants received an exercise program as concurrent therapy. Ultrasound combined with ice massage contrast (n of 13), where n equals the number of participants, was not statistically different from ice massage alone (n = 16) in terms of participant-rated pain relief or quadriceps and hamstring strengthening. In the ultrasound and ice massage group, 46% (6 of 13) reported improved pain relief compared to 31% (4 of 13) in the ice massage

alone group. This difference of 15% does not meet international standards for clinically important improvements in osteoarthritis, which is 20%. Side effects were not reported.

Authors' conclusions

Ultrasound therapy was not shown to have a clinically important effect on pain relief for people with patellofemoral pain syndrome. These conclusions are limited by the poor reporting of the therapeutic application of the ultrasound and low methodological quality of the one trial included. No conclusions can be drawn concerning the use, or non-use, of ultrasound for treating patellofemoral pain syndrome. More well-designed studies are needed.
