Review: exercise helps relieve pain in patients with hip osteoarthritis

Author
Yelland, Michael

Published
2009

Journal Title
Evidence-based medicine

Copyright Statement
Copyright remains with the author 2009. The attached file is reproduced here in accordance with the copyright policy of the publisher. For information about this journal please refer to the journal's website or contact the author.

Downloaded from
http://hdl.handle.net/10072/31496

Link to published version
http://ebm.bmj.com/contents-by-date.0.dtl
Review: exercise helps relieve pain in patients with hip osteoarthritis

Michael Yelland

*Evid. Based Med.* 2009;14;41
doi:10.1136/ebm.14.2.41

Updated information and services can be found at:
http://ebm.bmj.com/cgi/content/full/14/2/41

**Rapid responses**
You can respond to this article at:
http://ebm.bmj.com/cgi/eletter-submit/14/2/41

**Email alerting service**
Receive free email alerts when new articles cite this article - sign up in the box at the top right corner of the article

**Topic collections**
Articles on similar topics can be found in the following collections
- Rehabilitation medicine (104 articles)
- Clinical trials (epidemiology) (6505 articles)
- Pain (neurology) (5436 articles)
- Degenerative joint disease (2984 articles)
- Drugs: musculoskeletal and joint diseases (3120 articles)
- Musculoskeletal syndromes (4549 articles)
- Osteoarthritis (753 articles)
- Sports and exercise medicine (998 articles)

**Notes**
Review: exercise helps relieve pain in patients with hip osteoarthritis

QUESTION
In patients with hip osteoarthritis (OA), does exercise help to relieve pain?

REVIEW SCOPE
Included studies compared an exercise intervention (strengthening or aerobic) with no exercise in patients with hip OA (with or without knee OA). The exercise interventions involved >=1 session/week (median 3) for >=4 weeks, with each session lasting >=30 minutes (median 53 min). Trials involving passive mobilisation or postoperative exercise therapy were excluded. Outcome was pain assessed using an accepted measure.

REVIEW METHODS
Medline (to Jul 2007), EMBASE/Excerpta Medica, PEDro, Cochrane databases, abstracts of scientific meetings, and references were searched for randomised controlled trials (RCTs) with >=60% of participants completing the study. 9 RCTs (n = 1234) met the selection criteria. In 7 trials that included patients with knee OA, data on patients with hip OA were obtained from the authors. 5 RCTs reported adequate concealment of allocation, but because of the nature of the interventions, no trial was blinded.

MAIN RESULTS
Meta-analysis of 9 trials showed reduction in pain with exercise (table). However, heterogeneity in treatment effect was present. Most trials showed no difference or a decrease in pain with exercise, except for the largest one (n = 741), which showed an increase in pain. This trial differed from the others in that it was cluster randomised, had no personal instruction or supervision from a physical therapist (exercises were taught by videotape), and had poor adherence. When this trial was excluded from the meta-analysis, the effect size of pain reduction increased, and heterogeneity was eliminated (table). The effect size was slightly larger when only patients with hip OA as the index joint were included (table).

CONCLUSION
Exercise interventions taught by a physical therapist help relieve pain in patients with hip osteoarthritis.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Type of OA</th>
<th>Number of trials (n)</th>
<th>Standardised effect size at median 8 weeks (95% CI)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hip pain</td>
<td>Hip ± knee</td>
<td>9 (1224)</td>
<td>−0.38 (−0.68 to −0.08)</td>
</tr>
<tr>
<td></td>
<td>Hip only</td>
<td>8 (493)†</td>
<td>−0.47 (−0.65 to −0.28)</td>
</tr>
<tr>
<td></td>
<td>Hip only</td>
<td>5 (1063)</td>
<td>−0.43 (−0.80 to −0.06)</td>
</tr>
<tr>
<td></td>
<td>Hip only</td>
<td>7 (322)‡</td>
<td>−0.58 (−0.81 to −0.35)</td>
</tr>
</tbody>
</table>

*CI defined in glossary. A negative effect size favours exercise.
†Omitting 1 cluster-randomised trial (n = 741) with no personal exercise instruction and poor adherence.

The review by Hernández-Molina et al claims to be the first to specifically examine the role of strengthening and/or aerobic exercises for hip OA. A moderate effect size was achieved in patients with the hip as the index joint compared with a small effect in those with OA in the hip and knee. The key features of effective exercise programmes included duration >4 weeks, completion by >60% of participants, and personal supervision with tailoring of the programme to individuals. The key features of the largest and only negative trial were that instruction was done via videotape, adherence to exercise was low, and both the intervention and control groups were on rofecoxib. However, that trial did have longer follow-up (24 wks) compared with only 6–12 weeks for all but 1 of the other 8 trials. Therefore, the long-term benefits of exercise remain uncertain.

Hernández-Molina et al compared the benefits of exercise with those of medication, noting that exercise is more effective in reducing pain than paracetamol and less effective than non-steroidal anti-inflammatory drugs. The results of the review are very similar to those reported in a Cochrane review of exercises for knee OA, with the same effect size and greater benefits with increasing levels of supervision.

Hernández-Molina et al could only conclude that exercise may be safe because adverse event reporting was not comprehensive. Nonetheless, the key message for clinicians is that supervised strengthening and/or aerobic exercise programmes with good adherence are likely to offer small-to-moderate benefits for the pain of hip OA.

Michael Yelland, MBBS, PhD
Griffith University
Logan, Queensland, Australia