



This site uses cookies. By continuing to browse the site you are agreeing to our use of cookies. [Find out more here](#)



Advanced search

Subscribe here

Activate your subscription

An international peer-reviewed journal of sport and exercise medicine

Online First | Current issue | Archive | About the journal | Submit a paper | Subscribe | Jobs | Help

Online First | Current issue | Archive | Supplements | eLetters | Topic collections | Blog | Podcast | BJSM Education | RSS

Home > Online First > Article



Br J Sports Med doi:10.1136/bjsports-2015-095424

Review

# Exercise for osteoarthritis of the knee: a Cochrane systematic review

Marlene Fransen<sup>1</sup>, Sara McConnell<sup>2</sup>, Alison R Harmer<sup>1</sup>, Martin Van der Esch<sup>3</sup>, Milena Simic<sup>1</sup>, Kim L Bennell<sup>4</sup>

+ Author Affiliations

Correspondence to

Dr Martin Van der Esch, Department of Rehabilitation, Reade, Centre for Rehabilitation and Rheumatology, dr. J. van Breemenstraat 2, Amsterdam 1056AB, The Netherlands; [m.vd.esch@reade.nl](mailto:m.vd.esch@reade.nl)

Accepted 17 August 2015

Published Online First 24 September 2015

## Abstract

**Objective** To determine whether land-based therapeutic exercise is beneficial for people with knee osteoarthritis (OA) in terms of reduced joint pain or improved physical function and quality of life.

**Methods** Five electronic databases were searched, up until May 2013. Randomised clinical trials comparing some form of land-based therapeutic exercise with a non-exercise control were selected. Three teams of two review authors independently extracted data and assessed risk of bias for each study. Standardised mean differences immediately after treatment and 2–6 months after cessation of formal treatment were separately pooled using a random effects model.

**Results** In total, 54 studies were identified. Overall, 19 (35%) studies reported adequate random sequence generation, allocation concealment and adequately accounted for incomplete outcome data. However, research results may be vulnerable to selection, attrition and detection bias. Pooled results from 44 trials indicated that exercise significantly reduced pain (12 points/100; 95% CI 10 to 15) and improved physical function (10 points/100; 95% CI 8 to 13) to a moderate degree immediately after treatment, while evidence from 13 studies revealed that exercise significantly improved quality of life immediately after treatment with small effect (4 points/100; 95% CI 2 to 5). In addition, 12 studies provided 2-month to 6-month post-treatment sustainability data which showed significantly reduced knee pain (6 points/100; 95% CI 3 to 9) and 10 studies which showed improved physical function (3 points/100; 95% CI 1 to 5).

**Conclusions** Among people with knee osteoarthritis, land-based therapeutic exercise provides short-term benefit that is sustained for at least 2–6 months after cessation of formal treatment.

## This Article

- Abstract
- Full text [Buy this article](#)
- PDF
- Supplementary Data



## Services

- Email this link to a friend
- Alert me when this article is cited
- Alert me if a correction is posted
- Alert me when eletters are published
- Article Usage Statistics
- Similar articles in this journal
- Similar articles in PubMed
- Add article to my folders
- Download to citation manager
- Request permissions
- Add to portfolio

## Responses

- Submit a response
- No responses published

## Google Scholar

## PubMed

## Related Content

- BJSM Reviews with MCQs
- Degenerative joint disease
- Musculoskeletal syndromes
- Osteoarthritis

## Social bookmarking

## Rate this article

WHAT DO YOU THINK OF THIS ARTICLE?



Likes: 0 Dislikes: 0

Tell us why you like/don't like this article

Education | Blog | Podcasts

Sign in

Remember me.

Forgot your sign in details?

Login via OpenAthens

Login via your home organisation

Recommend to your Institution

Register to receive email alerts



Impact Factor 5.025

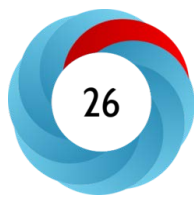
BMJ Open Sport & Exercise Medicine

A new Open Access journal in sport & exercise medicine

SUBMIT TODAY



Who is talking about this article?



Picked up by 1 news outlets  
Tweeted by 40  
1 readers on CiteULike

[See more details](#)

### We recommend

Zoledronic acid reduces knee pain and bone marrow lesions over 1 year: a randomised controlled trial.

Laura Louise Laslett et al., *Ann Rheum Dis*, 2012

THU0558 Role of Physical Exercise in Patients with Hip Osteoarthritis

R. I. Marcu et al., *Ann Rheum Dis*, 2013

FRI0306 Efficacy of physical exercise in patients with knee osteoarthritis

M.I. Rahela et al., *Ann Rheum Dis*, 2013

Home based exercise programme for knee pain and knee osteoarthritis: randomised controlled trial.

K S Thomas et al., *The BMJ*, 2002

THU0545 The Effectiveness of Combined Exercises and Therapeutic Ultrasound to Patients with Knee Osteoarthritis

A. C. Bighea et al., *Ann Rheum Dis*, 2013

Effectiveness of a web-based physical activity intervention in patients with knee and/or hip osteoarthritis: randomized controlled trial. [↗](#)

Daniël Bossen et al., *J Med Internet Res*, 2013

Prearthroplasty exercise benefits short lived [↗](#)

*Rheumatology News*

Trial shows benefits of patellofemoral brace for kneecap osteoarthritis [↗](#)

*Rheumatology News*

Intra-Articular Hyaluronic Acid Quells Ankle OA Pain [↗](#)

*Rheumatology News*

Optimized analgesia, exercise cut pain in severe knee OA [↗](#)

AMY KARON, *Rheumatology News*

- Review: [Are brief interventions to increase physical activity cost-effective? A systematic review](#) (5 Oct 2015)
- Review: [Monitoring the athlete training response: subjective self-reported measures trump commonly used objective measures: a systematic review](#) (30 Sep 2015)
- Review: [Tendon neuroplastic training: changing the way we think about tendon rehabilitation: a narrative review](#) (25 Sep 2015)
- Review: [Exercise for osteoarthritis of the knee: a Cochrane systematic review](#) (24 Sep 2015)

### Free sample

This 2014 issue is free to all users to allow everyone the opportunity to see the full scope and typical content of BJSM. [View free sample issue >>](#)

### Email alerts

Don't forget to [sign up for content alerts](#) so you keep up to date with all the articles as they are published.

### Navigate This Article

- [Top](#)
- [Abstract](#)



BJSM blog now on Kindle

## BMJ Careers

**Locum General Practitioner - £1000 registration bonus UK wide | £63 p/h**

General Practitioner - MOD Locum UK wide £1000 Registration bonus. Recruit4health are seeking GP's for short and long term locum opportunities at M...

Recruiter: Recruit 4 Health

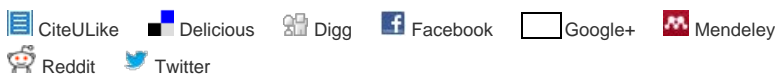
[Apply for this job](#)

### Partner

**Welwyn, Hertfordshire |**

We are looking for a partner to join our established, semi rural training practice in Old Welwyn, Hertfordshire

Powered by **Trend MD**



[What's this?](#)

### Rate this article

[I like this](#) [I don't like this](#) **Likes: 0 Dislikes: 0**

[Tell us why you like/don't like this article](#)

**Online First:** [Online First](#)

**Current issue:** [Current issue](#) | [BJSM Education](#) | [Mobile site](#)

**Archive:** [Online First](#) | [Current issue](#) | [Browse by issue](#) | [Supplements](#) | [eLetters](#) | [Blog](#) | [Podcasts](#) | [Topic collections](#)

**About the journal:** [About the journal](#) | [Editorial board](#) | [Instructions for authors](#) | [Open Access](#) | [Thank you to our reviewers](#) | [Most read articles](#)

**Submit a paper:** [Online submission site](#) | [Instructions for authors](#) | [Open Access](#) | [Track your article](#)

**Subscribe:** [Subscribe to the journal](#) | [Email alerts](#)

**Help:** [Contact us](#) | [Feedback form](#) | [Reprints](#) | [Permissions](#) | [Advertising](#) | [Google+](#)



