



# Aquatic exercise: knee and hip osteoarthritis

## Intervention

Physical exercise while immersed in water (typically 32–36°C).

## Indication

Warm-water therapy is one of the oldest recorded treatments, with effects lasting well beyond the period of immersion.

These improvements occur through increased muscle strength, balance, coordination and joint mobility.

Compared with control groups, the participants who did aquatic exercise showed a 5-point lower mean pain and mean disability on a 0 to 100 scale, and a 7-point higher mean quality of life (QoL) on a 0 to 100 scale.

## Precautions

Exercising in water may not be suitable for patients with open wounds. Other precautions (eg cardiac and pulmonary conditions) should be considered on a case-by-case basis.

## Adverse effects

No serious side effects have been reported with aquatic exercise.

## Availability

Aquatic exercise may need to be supervised by an exercise therapist.

Many aquatic centres, leisure centres and community pools have group aquatic exercise classes, including options for people with disabilities and/or chronic conditions.

Access to a heated pool may be a limiting factor.

## Description

The intervention comprises two to three 30–60 minute sessions per week, for a mean duration of 12 weeks (range 6–20 weeks).



## Tips and challenges

Aquatic exercise can be done by people who are unable to swim.

A range of exercise types have been found to be moderately effective for adults with knee OA, and patients can be offered several options of programs other than aquatic exercise. <http://www.racgp.org.au/your-practice/guidelines/handi/interventions/musculoskeletal/exercise-for-knee-osteoarthritis/>

Aquatic exercise may be more beneficial as initial exercise therapy than similar land-based training for people with OA because:

- › hot water is thought to reduce pain sensation, reduce stiffness and induce muscle relaxation in people with arthritis
- › water buoyancy reduces load on weight bearing joints and reduces risk of falls
- › water resistance can help strengthen muscles.

Passive aquatic treatment (spa or hot bath immersion) does not produce the same effects as active aquatic exercise.

## Grading

NHMRC level I evidence.

## References

Bartels EM, Juhl CB, Christensen R, et al. Aquatic exercise for the treatment of knee and hip osteoarthritis [http://www.cochrane.org/CD005523/MUSKEL\\_aquatic-exercise-people-osteoarthritis-knee-or-hip](http://www.cochrane.org/CD005523/MUSKEL_aquatic-exercise-people-osteoarthritis-knee-or-hip). Cochrane Database Syst Rev 2016;(3): CD005523. doi: 10.1002/14651858.CD005523.pub3.

The results of this review are also available on Cochrane Clinical Answers <http://cochraneclinicalanswers.com/doi/10.1002/cca.1312/full>.

## Consumer resources

Mayo Clinic slide show: Aquatic exercises <http://www.mayoclinic.org/healthy-lifestyle/fitness/multimedia/aquatic-exercise/sls-20076730>.