To answer this question, we performed a comprehensive search of the PubMed database (October 2010) for randomized, controlled trials.

Five studies met the search criteria, comparing land- and water-based exercise in patients with knee osteoarthritis (2,3,5) and knee or hip osteoarthritis (1,4). All five studies found significant improvements in pain, function or physical performance with either type of exercise, with minimal between-group differences.

Gill et al evaluated a 7-wk program among 82 patients awaiting knee or hip joint replacement, and found both types of exercise significantly improved pain, function and physical performance (1). The water-based program was better tolerated, with patients experiencing less pain immediately after exercise and the next day (1). Lund et al found that 8 wks of exercise showed small improvements in pain and strength among 79 patients with knee osteoarthritis (2). In addition, the water-based program showed fewer adverse events (2). Silva et al evaluated an 18-wk program among 64 patients with knee osteoarthritis, and found that both programs resulted in significant improvements in pain and function (3). In this study, the water-based group had lower pain before and after a walk test compared to the land-based group (3). Foley et al conducted a randomized controlled trial of 105 subjects with knee or hip osteoarthritis, and concluded that 6 wks of either land- or water-based strengthening exercises are equally effective in improving measures of physical function such as strength and walking speed and distance (4). Wyatt et al studied 46 patients with knee osteoarthritis and concluded that 6 wks of land- or water-based exercise results in decreased pain, increased knee range of motion, and improved walking times (5).

Based on this review, it can be concluded that either land- or water-based exercise improves pain and function among patients with knee osteoarthritis, with neither being superior to the other.

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