Fransen M, McConnell S, Hernandez-Molina G, and et al. Does land-based exercise reduce pain and disability associated with hip osteoarthritis? A meta-analysis of randomized controlled trials. Osteoarthritis and Cartilage 2010; 18:613-620.

Reviewer: Linda Metzger 3-17-15

Design: Meta-analysis

Objective: The aim of this meta-analysis is to determine whether there is scientific evidence to support land-based therapeutic exercise for people with hip OA in terms of reduced joint pain or improved physical function.

Summary of Results:

The results of this meta-analysis suggests that land-based exercise provided short-term benefits for people with symptomatic hip OA in terms of pain, but could not provide any evidence of benefit in terms of self-reported physical function.

Reasons not to cite as evidence:

- A total of five studies were included in the meta-analysis, and only one RCT recruited solely participants with symptomatic hip OA. The other four studies recruited participants with knee OA, or both hip and knee OA. If participants have both hip and knee OA, it can be difficult for them to determine if their pain originates from the hip or the knee.
- All five included RCTs were small. Only two RCTs had more than 25 participants in each allocation group. The five included RCTs could provide hip pain data on only 204 participants and self-reported physical function data on 187 participants.
- The limited number and small sample size of the included RCTs restricts the confidence that can be attributed to these results. The author reports that the results of this meta-analysis should be considered inconclusive.
- All 5 of the included RCTs were included in the Cochrane entitled “Exercise for OA of the hip” by Fransen from 2014 which has already been critiqued.
- The hip only study by Tak (2005) included 109 community volunteers and provided only 8 supervised class-based exercise sessions over 8 weeks involving a progressive resistance program specifically designed for people with hip OA. This study had a moderate risk of bias. The SMD for the pain outcome for this study was -0.07 (95% CI -0.52 to 0.39) showing virtually no effect for exercise and clinically and statistically nonsignificant results. The nonsignificant findings for hip pain and physical function in this study may either reflect the small study sample size or the short duration of the class-based program.
- The other 4 RCTs provided non-joint specific exercise programs. It is questionable whether these non-specific exercise programs can maximize treatment benefit for the hip.
- Of the 5 studies, only one revealed a significant effect size for the pain outcome.
- Between study heterogeneity was high (I^2 = 62%) for the pain outcome. The authors should have used a random effects model with such high heterogeneity, but probably opted not to, because using the random effects model yielded a nonsignificant result

(SMD of -0.33, 95% CI -0.84 to 0.17).

Summary of Results:

- Inadequate for evidence of the effect of land-based therapeutic exercise for people with hip OA in terms of reduced joint pain or improved physical function.