



## Appraisal

### Critically appraised paper: Progressive resistance training was not superior to neuromuscular exercise in patients with hip osteoarthritis [commentary]

#### Commentary

Kjeldsen et al compared the effectiveness of progressive resistance training versus neuromuscular exercise in people with hip osteoarthritis. While clinical practice guidelines recommend exercise as first-line treatment for osteoarthritis,<sup>1</sup> it is currently unknown whether one type of exercise program is superior to another. Hence, this trial provides a relevant comparison of the benefits of two exercise interventions.

The study's findings suggest that progressive resistance training is not superior to neuromuscular exercise in improving functional performance, pain or hip-related quality of life. This means that patients' needs, preferences, accessibility and functional goals should guide the choice of exercise intervention for hip osteoarthritis. While progressive resistance training may benefit those with muscle weakness or at risk of sarcopenia, neuromuscular exercise requires minimal equipment, is suitable for home use, and potentially improves convenience and adherence.

Some methodological considerations of this study warrant attention. The lack of blinding of physiotherapists and participants introduced potential performance bias, a common challenge in physiotherapy trials. The absence of a non-exercise control group limited the conclusions on whether improvements exceed natural disease progression, regression to the mean or contextual effects. This is particularly relevant given the emerging evidence suggesting that the

effects of exercise in hip and knee osteoarthritis may largely stem from these factors.<sup>2,3</sup> The percentage of participants with  $\geq 80\%$  adherence to group sessions was 68% for the neuromuscular exercise group and 63% for the progressive resistance training group. Higher adherence may have yielded different results.

To refine exercise recommendations, future studies should distinguish the actual treatment effects of different exercise types from natural disease progression, regression to the mean and contextual factors, assess long-term outcomes beyond 12 weeks and investigate strategies to increase exercise adherence.

**Provenance:** Invited. Not peer reviewed.

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#### References

1. Moseng T, et al. *Ann Rheum Dis*. 2024;83:730–740.
2. Bandak E, et al. *Ann Rheum Dis*. 2022;81:537–543.
3. Englund M, et al. *Osteoarthritis Cartilage*. 2025;33:391–395.