

# Three Months of Progressive High-Load Versus Traditional Low-Load Strength Training Among Patients With Rotator Cuff Tendinopathy

Primary Results from the Double-Blind Randomized Controlled RoCTEx Trial

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## Setting the scene:

The diagnosis of rotator cuff tendinopathy is often used synonymously with Subacromial impingement syndrome (SIS), but rotator cuff tendinopathy should be confined to tendon-related pain with weakness, especially during elevation and external rotation, largely preserved range of motion, and minimal resting pain. Loaded eccentric exercises have proved superior to unloaded exercises and equal to traditional rotator cuff training in reducing pain and improving function. The aim of this study was to evaluate whether progressive high-load exercise (PHLE) is superior to traditional low-load exercise (LLE) among patients with rotator cuff tendinopathy.

## What did they do?

100 Patients with rotator cuff tendinopathy were randomized to either PHLE (intervention) or LLE (comparator) group, stratified for concomitant administration of corticosteroid injection. The primary outcome was the Disabilities of the Arm, Shoulder, and Hand (DASH) questionnaire. Secondary outcomes included visual analogue scale (VAS) for pain, maximum isometric voluntary contraction, active/passive range of motion (ROM) and standardized ultrasound measurements to verify changes consistent with tendinopathy. The exercise program consisted of 2 exercises for the scapula-stabilizing muscles, 2 for the rotator cuff muscles, and 2 mobility exercises for the rotator cuff and scapulothoracic complex. The PHLE group gradually increased its load from a 15-repetition maximum in week 1 to a 6-repetition maximum in weeks 9 to 12, allowing patients to perform isometric exercises if pain exceeded 50 mm on VAS. The control group performed a 20- to 25-repetition maximum from weeks 1 to 12. The results showed no significant effect of PHLE in comparison with LLE.

## Takeaway message:

PHLE and LLE have the same effect on rotator cuff tendinopathy. The interaction with corticosteroid injection needs more investigation.