

# **PHYSIOTHERAPY INTERVENTIONS FOR INCREASING MUSCLE STRENGTH IN PEOPLE WITH SPINAL CORD INJURIES: A SYSTEMATIC REVIEW**

## **INTRODUCTION**

Many physiotherapy interventions are being used to increase strength of partially-paralysed muscles in people with spinal cord injury. The aim of this review was to determine the effectiveness of these physiotherapy interventions for increasing voluntary muscle strength in people with spinal cord injuries.

## **METHOD(S)**

We included randomised controlled trials of physiotherapy interventions for people with SCI. There were two comparisons: physiotherapy interventions compared with sham or no intervention, and physiotherapy interventions compared to each other. The outcome measure was voluntary strength of muscles. Studies were rated according to the Cochrane Risk of Bias Tool. Results of similar trials were pooled with meta-analyses where possible.

## **RESULT(S)**

Twenty-six trials met the inclusion criteria and provided useable data. A statistically significant treatment effect was found in four comparisons, namely, resistance training versus no intervention (SMD = 0.64; 95% CI, 0.22 to 1.07;  $p = 0.003$ ); resistance training combined with electrical stimulation versus no intervention (MD = 14 Nm; 95% CI, 1 to 27;  $p = 0.03$ ); a package of physiotherapy interventions versus no intervention (MD = 4.8/50 points on the Lower Extremity Motor Score (LEMS); 95% CI 1.9 to 7.7;  $p = 0.01$ ); and robotic gait training versus overground gait training (MD = 3.1/50 points on the LEMS; 95% CI, 1.3 to 5.0;  $p = 0.0008$ ).

## **CONCLUSION(S)**

There is evidence that a small number of physiotherapy interventions increase strength in muscles directly affected by SCI. However, there are still many interventions that are administered for this purpose without a good evidence base.