

# Strength training of neck muscles relieves chronic pain

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Neck pain has been steadily increasing over the past two decades and is now second to back pain, the most common musculoskeletal disorder. Women are more likely than men to suffer from persistent neck pain, in particular those who engage in repetitive tasks such as working at a computer keyboard. Previous studies have shown conflicting results as to whether or not exercise can effectively treat neck pain, but there has not been enough high-quality research in this area to draw firm conclusions. A new study on women with neck pain published in the January issue of *Arthritis Care & Research* (<http://www.interscience.wiley.com/journal/arthritiscare>) found that specific strength training exercises led to significant prolonged relief of neck muscle pain, while general fitness training resulted in only a small amount of pain reduction.

Led by Gisela Sjøgaard and Lars L. Andersen of the National Research Centre for the Working Environment in Copenhagen, Denmark, researchers conducted a randomized controlled trial for which they recruited 94 women from seven workplaces in Copenhagen between September 2005 and March 2006. The work tasks performed by the women consisted of assembly line work and office work, with 79 percent of the participants using a keyboard for more than three-quarters of their working time. Participants first answered a questionnaire about their pain and then underwent a clinical exam to confirm a diagnosis of trapezius myalgia (muscle pain in the trapezius muscle, which extends along the back of the neck). Participants were assigned to three intervention groups: those who did supervised specific strength training

(SST) exercises for the neck and shoulder muscles, those who did high-intensity general fitness training (GFT) on a bicycle ergometer, and a control group that received health counseling but no physical training. Both exercise groups worked out for 20 minutes three times a week for 10 weeks.

The results showed that the GFT group showed a small decrease in neck muscle pain only immediately after exercise, while the SST group showed a marked decrease in pain over a prolonged training period and with a lasting effect after the training ended. “Thus specific strength training locally of the neck and shoulder muscles is the most beneficial treatment in women with chronic neck muscle pain,” the authors state.

The study also showed that the reduction in pain occurred gradually in the SST group, with trapezius muscle pain gradually decreasing as muscle strength increased. Although the GFT decreased the pain only temporarily, the authors note that even minor decreases in pain may be enough motivation to overcome barriers to exercise, and the resulting increase in fitness may benefit overall long-term health.

The authors state that the marked reduction in pain in the SST group is of “major clinical importance.” They conclude: “Based on the present results, supervised high-intensity dynamic strength training of the painful muscle 3 times a week for 20 minutes should be recommended in the treatment of trapezius myalgia.”

Source: Wiley-Blackwell

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