

# JERSEY CENTRAL

## PHYSICAL THERAPY FITNESS

### Exercise Alone Is Effective for Atraumatic Rotator Cuff Tears

**Jill Stein**

February 15, 2011 (San Diego, California) — A physical therapy program can effectively treat most patients who present with atraumatic full-thickness rotator cuff tears and shoulder pain, without the need for surgery, researchers announced here at the American Academy of Orthopaedic Surgeons (AAOS) 2011 Annual Meeting.

"If failure is defined as patients electing to undergo surgery, then our non-operative program is successful in over 90% of patients and the effect seems to last at least 2 years," John E. Kuhn, MD, associate professor and chief of shoulder surgery at Vanderbilt University Medical Center in Nashville, Tennessee, and director of the Multicenter Orthopedic Outcomes Network (MOON) Shoulder Group, said.

In the United States, at least 10% of persons over age 60 years, or nearly 6 million people, will develop a rotator cuff tear.

To recognize this study, the AAOS will honor the MOON Shoulder Group with its Charles S. Neer II Clinical Science Award, which will be presented later this week on the association's Shoulder and Elbow Specialty Day.

#### **Prospective Cohort Study**

The study included 396 patients age 18 to 100 years who had atraumatic full-thickness tears documented by magnetic resonance imaging and no other abnormality. The primary symptom was pain in most patients. Patients were assigned to a physical therapy program that included daily postural exercises, active-assisted motion, active training of scapula muscles, and active range of motion, along with anterior and posterior shoulder stretching. They also performed thrice-weekly rotator cuff and scapula exercises. The program has been shown to be effective in patients with impingement syndrome.

Study participants also did manual mobilization exercises with assistance from a therapist.

Patients returned at 6 and 12 weeks. At this point they could decide that 1) treatment was successful and they needed no formal follow-up, 2) they had improved but would like to continue therapy with scheduled reassessment in 6 weeks, or 3) nonoperative treatment had failed and they would undergo arthroscopic rotator cuff repair.

Patients were contacted by telephone at 1 and 2 years to determine whether they had undergone surgery since their last visit.

#### **Improvements on Multiple Outcome Measures**

The analysis showed statistically significant improvement at 6 and 12 weeks for the American Shoulder and Elbow Society, Western Ontario Rotator Cuff Index, and Single Assessment Numerical Evaluation scores. *P* values for all measures were less than .0001 at 6 and at 12 weeks.

Six-week data indicate that fewer than 10% of patients had decided to undergo surgery. Of patients in whom follow-up data were available for at least 2 years, only 2% had opted for surgery. The analysis also revealed that patients who decided to undergo surgery generally made their decision within 6 to 12 weeks of starting physical therapy. In addition, patients did most of their physical therapy at home and usually made only 1 weekly visit to the physical therapist. Dr. Kuhn said that important strengths of the study are its large size, the inclusion of patients from multiple practices nationwide, and its prospective cohort design. The results may be weakened somewhat by possible selection bias in that patients who were less likely to choose surgery were more likely to participate in a physical therapy program. Performance bias may also be a shortcoming, with some patients possibly receiving medications, acupuncture, or other pain-relieving treatments that were not examined, he added.

Finally, Dr. Kuhn emphasized that the physical therapy program alleviated pain without "doing anything to the tear." The finding suggests that pain may be a less suitable indication for rotator cuff repair than is weakness or

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loss of function. The hope is that future research will identify risk factors that can predict progression to rotator cuff tears and symptom onset and also which repaired tears are likely to fail, thereby helping surgeons decide better who is a good surgical candidate, he added.

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