

## Benefit of Exercise in Fibromyalgia

Richards SCM, Scott DL. Prescribed exercise in people with fibromyalgia: parallel group randomised controlled trial. *BMJ* 2002;325:185–7.

### Study Overview

**Objective.** To determine the efficacy of an aerobic exercise program for adults with fibromyalgia.

**Design.** Randomized controlled trial. Analysis was by intention-to-treat.

**Setting and participants.** Eligible participants were adults aged 18 to 70 years who met the 1990 American College of Rheumatology criteria for fibromyalgia and were seen at a single hospital's outpatient rheumatology clinic. 220 patients were offered screening, 196 were screened, 38 did not meet the eligibility criteria, and 22 were eligible but were excluded because they were unable to attend the classes. 136 participants were randomized.

**Intervention.** Participants received either gradually increasing aerobic exercise therapy on treadmills or exercise bicycles (active treatment) or relaxation and flexibility training (control treatment). Both groups met twice weekly for 12 weeks in classes of up to 18 participants and received educational material. During the 12 weeks, participants in the exercise group were encouraged to increase their aerobic exercise from two 6-minute sessions per class to two 25-minute sessions per class. Exercise did not exceed the level where participants could speak easily in complete sentences.

**Main outcome measures.** The primary outcome was improvement in a validated self-rated change in global impression scale. Respondents who said they were much better or very much better were considered to have improved. Participants who did not attend classes were considered not to have improved. Other outcomes included a tender point count, the fibromyalgia impact questionnaire, the Chandler fatigue scale, the short-form McGill pain questionnaire, and the SF-36.

**Main results.** 53% of participants attended over a third of the classes and 12 dropped out of each group. Attendance was better in the exercise group. For the primary outcome, 24/69 patients (35%) in the exercise group and 12/67 (18%) in the relaxation group improved ( $P = 0.03$ ). The exercise group also had significantly lower tender point counts at 1-year follow-up.

There were no significant differences in the other outcomes measured and no adverse effects reported.

**Conclusion.** Compared with relaxation and stretching, a 12-week graded aerobic exercise plan led to more self-reported improvement and decreased tender point counts for adults with fibromyalgia.

### Commentary

Treatment outcomes in fibromyalgia—a syndrome of chronic musculoskeletal pain and tender points, frequently accompanied by fatigue and stiffness—are often disappointing [1]. Several small trials of exercise interventions have been published. Some showed improvement with exercise and others showed no benefit [1–3]. Richards and Scott's study is welcome because it included a larger sample size than prior trials and showed significant improvement in the primary outcome using an intervention that was simple and did not require special medical personnel.

Another important finding of this study is that there were no demonstrable adverse effects of exercise. Dropout rates were not especially high, and attendance was better in the exercise group. These findings suggest that a gradual increase in low-impact aerobic exercise does not cause a worsening of symptoms in fibromyalgia. Beyond possible symptomatic relief from fibromyalgia provided by aerobic exercise, entry into an exercise plan could be expected to have long-term benefits not analyzed here. Symptoms of chronic musculoskeletal pain and fatigue can lead to a more sedentary lifestyle. In addition, approximately 27% of patients with fibromyalgia receive some form of disability payment [4]. Though unproven, ongoing exercise in fibromyalgia could protect against the cardiovascular risks of a sedentary lifestyle and help maintain function and independence. As with prior studies, this study also may have been limited by its sample size. There was a nonsignificant improvement in the fibromyalgia impact questionnaire, and the other secondary outcomes did not show statistical difference. Larger studies would be welcome.

### Applications for Clinical Practice

Twice-weekly low-intensity aerobic exercise leads to subjective improvement for some patients with fibromyalgia.

When the level of activity is slowly increased, exercise appears to be well tolerated. Exercise therapy should be offered as part of a multifaceted approach for patients with fibromyalgia.

*—Review by Stephen D. Persell, MD*

### References

1. Leventhal LJ. Management of fibromyalgia. *Ann Intern Med* 1999;131:850–8.
2. van SM, Bolwijn P, Verstappen F, et al. A randomized clinical trial comparing fitness and biofeedback training versus basic treatment in patients with fibromyalgia. *J Rheumatol* 2002; 29:575–81.
3. Gowan SE, deHueck A, Voss S, et al. Effect of a randomized, controlled trial of exercise on mood and physical function in individuals with fibromyalgia. *Arthritis Rheum* 2001;45:519–29.
4. Wolfe F, Anderson J, Harkness D, et al. Work and disability status of persons with fibromyalgia. *J Rheumatol* 1997;24: 1171–8.

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