

Exercise and Education for Knee Osteoarthritis — An Unusual Randomized Trial

To address the placebo effect of exercise, researchers compared structured exercise to presumably inert saline knee injections.

Proving that exercise programs improve symptoms of knee osteoarthritis (OA) is challenging; those interventions can't be blinded in clinical trials, and substantial placebo effects are likely. In this novel randomized trial that involved 206 patients with symptomatic knee OA, researchers sought to isolate the placebo response.

Patients were randomized to an 8-week exercise and education program (with 15 hours of contact with physical therapists) or to 4 intraarticular saline injections, spread over 8 weeks; the latter intervention was considered to be inert placebo. The researchers noted that when saline has been used as a placebo control in randomized trials of injection therapies for knee OA, the magnitude of improvement with saline has been similar to that of exercise in other trials. Hence, the researchers assumed equipoise between the two interventions, and they openly disclosed this assumption with participants.

The primary outcome was change on a standardized 100-point OA pain scale. At 9 weeks, mean improvement was 10 points with exercise/education and 7 points with saline injections — a nonsignificant difference. No significant differences were noted for secondary outcomes that addressed physical function and quality of life.

COMMENT

This study suggests that a placebo effect explains much of the improvement that occurs with structured exercise programs for knee OA. That doesn't necessarily mean that we should totally abandon exercise interventions, for at least two reasons: First, average outcomes in clinical trials sometimes obscure benefits for individuals. Second, for some patients, exercise might confer general well-being that isn't easily measured. Whether formal exercise programs are cost-effective interventions for knee OA is another matter — a value judgment, beyond the scope of this study.

— **Allan S. Brett, MD**

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