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# Whither arthroscopic treatment for osteoarthritis of the knee?

**S**OMETIMES a clinical trial serves to remind us of what we *don't* know. So it is with the study of the arthroscopic treatment of osteoarthritis performed by Moseley and colleagues,<sup>1</sup> summarized and interpreted by Bernstein and Quach in this issue of the *Journal*.<sup>2</sup>

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## ■ THE POWER OF THE PLACEBO

In this landmark Veterans Administration study, patients randomized to a control group underwent a sham surgical procedure, while other patients underwent arthroscopic debridement or arthroscopic lavage.

The placebo treatment was effective in controlling pain, both in the short term and in the long term—roughly equivalent to the presumed “active” interventions. This finding is in line with our experience in some trials of drug therapy in osteoarthritis and, on a smaller scale, interventions including intra-articular corticosteroid injections and knee lavage.

Without the sham surgery in this trial, one could have reasonably concluded that arthroscopic washout of nefarious cytokines is quite beneficial and should be used more liberally, and that more aggressive debridement should (perhaps) be reserved for the subset of patients experiencing mechanical features of locking and catching (which is the major reason that I refer my patients with knee osteoarthritis for arthroscopy).

Why a placebo intervention frequently relieves pain in osteoarthritis (and even in clearly inflammatory diseases such as rheumatoid arthritis) remains enigmatic. But

the power of the placebo must be reckoned with.

## ■ THE EXPERTS RUMINATE

Not surprisingly, this study received a lot of publicity. After all, it was published in the *New England Journal of Medicine*<sup>1</sup> and demonstrated the apparent inefficacy of a frequently performed, relatively expensive procedure. The discussion of it in the lay press was far more inflammatory than the disease itself.<sup>3</sup>

The response in the medical literature, however, has been thoughtful, and strikingly not polarized between medical and surgical specialists. Rheumatologists have pointed out the patient selection shortcomings of this trial and have emphasized their belief that some patients likely will respond favorably to limited surgical intervention.<sup>4-6</sup>

Bernstein and Quach, from the Department of Orthopedic Surgery at the University of Pennsylvania,<sup>2</sup> point out the strengths as well as the limitations in generalizing the results of this study to routine care.

## ■ WERE THE PATIENTS REPRESENTATIVE?

Appropriate selection of patients is fundamental to the applicability (external validity) of any interventional trial, but 44% of eligible patients declined to participate in this controlled surgical trial. This is not a surprising number considering that one third of enrollees would undergo a sham surgical procedure.

I interpret that the large number of patients who declined shows that patients were not coerced into participating, and we should recognize the courage of those who

**We need to know how to individualize therapy for osteoarthritis**



were willing to participate. Nonetheless, we have no way of knowing whether this 44% of potential trial participants differed in any way from the other half of eligible patients who did participate. What would the results have been if patients had been selected on the basis of required symptoms of joint locking or evidence of mechanical instability?

### ■ WHAT CAUSES THE PAIN IN OSTEOARTHRITIS?

The exact cause of the pain in most patients with osteoarthritis of the knee is unknown. Menisci contain small pain-sensing nerve fibers, but articular cartilage is essentially not innervated.

Periarticular bone edema and elevated intraosseous pressure, perhaps related to periarticular sclerosis, may contribute to pain and the development of joint effusions. But there is a very imperfect relationship between the radiographic severity of osteoarthritis and the degree of pain. Moreover, the radiographic diagnosis of osteoarthritis concomitant with knee pain does not necessarily indicate that the pain is actually due to the osteoarthritis.

Nonarticular causes of pain, such as pes anserine bursitis, are quite common in patients with knee osteoarthritis. Chronic generalized myofascial pain syndromes that include knee pain are also exceedingly com-


mon and certainly co-occur with radiographically diagnosed knee osteoarthritis. Patients with coincident fibromyalgia or pes anserine bursitis are not, in my opinion, likely to benefit from pain-relieving interventions in the same way as other patients with osteoarthritis.

### ■ HOW TO MEASURE PAIN?

Pain is subjective. Objective metric tools such as the visual analogue pain scale and timed walk are essential for the analysis of an interventional trial. Nonetheless, the patient's response on these tools still depends on his or her perception of pain.

### ■ HOW TO INDIVIDUALIZE TREATMENT?

I believe this trial reemphasizes that we need to know more about how to individualize therapies for patients with osteoarthritis. There are likely discrete subsets of patients with osteoarthritis who respond quite nicely to arthroscopic interventions, corticosteroid injection, or joint lavage, but we don't fully understand how to select the best intervention for individual patients. In clinical practice we make conscious as well as subliminal decisions about patients and their likelihood of response to specific interventions.

This study sends a strong message that the surgical treatment of osteoarthritis is not a case of one-sized scope fits all. 

Why a placebo frequently relieves osteoarthritis pain is unclear

### ■ REFERENCES

1. Moseley JB, O'Malley K, Peterson NJ, et al. A controlled trial of arthroscopic surgery for osteoarthritis of the knee. *N Engl J Med* 2002; 347:87–88.
2. Bernstein J, Quach T. A perspective on the study of Moseley et al. Questioning the value of arthroscopic knee surgery for osteoarthritis. *Cleve Clin J Med* 2003; 70:401–410.
3. Wald ML. Arthritis surgery in ailing knees is cited as sham. *New York Times* 2002 Jul 11; Sect. A:1 (col. 6).
4. Felson DT, Buckwalter J. Debridement and lavage for osteoarthritis of the knee [editorial]. *N Engl J Med* 2002; 347:132–133.
5. Johnson LL. Degenerative arthritis arthroscopy and research [editorial]. *Arthroscopy* 2002; 18:683–687.
6. Burkhart SS, Ewing JW. Knee arthroscopy for osteoarthritis. Arthroscopy Association of America position paper. [www.aana.org/membership/OAposition.html](http://www.aana.org/membership/OAposition.html). Accessed February 4, 2003.

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