

Arthroscopic surgery for knee osteoarthritis? Just say no

For most patients with osteoarthritis of the knee, arthroscopic surgery offers little benefit.

Practice changer

Do not recommend arthroscopic surgery to adults with osteoarthritis of the knee. Treat knee pain with medical and physical therapy instead.^{1,2}

Strength of recommendation

A: Based on 2 high-quality randomized controlled trials

Kirkley A, Birmingham TB, Litchfield RB, et al. A randomized trial of arthroscopic surgery for osteoarthritis of the knee. *N Engl J Med.* 2008;359:1097-1107.

Moseley JB, O'Malley K, Petersen NJ, et al. A controlled trial of arthroscopic surgery for osteoarthritis of the knee. *N Engl J Med.* 2002;347:81-88.

ILLUSTRATIVE CASE

A 52-year-old man comes to your office complaining of ongoing knee pain—pain that he knows is related to his osteoarthritis (OA). The patient does not want a total knee replacement, and it's unlikely that his arthritis is extensive enough to warrant it. You wonder whether he's a potential candidate for arthroscopic knee surgery and if the lavage and articular cartilage debridement the procedure entails would alleviate his symptoms.

Knee pain related to OA is a common complaint in the office setting, and primary care physicians use many medical and physical interven-

tions to manage the symptoms. If these fall short in patients with more advanced disease, however, physicians often recommend an orthopedic surgery consult to consider surgical management.

■ Lavage and debridement: The (questionable) effects

Arthroscopic knee surgery involves lavage (to remove particulate material, such as cartilage fragments) and debridement (to smooth the articular surfaces). Theoretically, this widely used surgery reduces synovitis and improves joint motion, resulting in a decrease in pain and an improvement in function. But what does the latest research tell us?

A randomized controlled trial (RCT) by Moseley et al in 2002 found arthroscopic knee surgery to be of no benefit for moderate to severe OA.² Because this finding was so contrary to current practice, the authors' conclusion was not widely accepted. Arthroscopic surgery continued to be used for moderately severe knee arthritis.³ Indeed, the 2008 guidelines from the American Academy of Orthopaedic Surgeons (AAOS) state that "arthroscopic partial meniscectomy or loose body removal is an option in patients with symptomatic OA of the knee who also have primary signs and symptoms of a torn meniscus and/or a loose body."⁴

CONTINUED

Anne Mounsey, MD
Department of Family Medicine,
University of North Carolina,
Chapel Hill

Bernard Ewigman, MD,
MSPH

Department of Family Medicine,
The University of Chicago

PURLS EDITOR

John Hickner, MD, MSc

Department of Family Medicine,
Cleveland Clinic



Do you refer patients with knee OA for arthroscopic surgery?

- Never
- Rarely
- Often
- Always

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TABLE

How to treat knee OA without surgery

- **Start by offering adequate analgesia.** Acetaminophen (4 g/d) is effective at relieving pain in about 75% of patients with knee arthritis. NSAIDs are slightly more effective, but their gastric toxicity is a disadvantage. Combining NSAIDs with a proton pump inhibitor decreases gastric ulceration.
- **Consider the combination of glucosamine and chondroitin.** Chondroitin alone is not beneficial; when paired with glucosamine, however, it may provide some pain relief associated with moderate to severe OA.⁵⁻⁷ Patients may also benefit from intra-articular steroid injections, which have been found to be slightly more effective than placebo.⁸
- **Suggest nonpharmacological therapy.** Physical therapy and regular exercise typically reduce pain and improve the function of an arthritic knee.⁹ Acupuncture may have a small benefit, as well.¹⁰

However, these guidelines do not include the evidence from the study by Kirkley et al¹ detailed below.

STUDY SUMMARY**■ New RCT echoes earlier conclusion**

Kirkley et al conducted a nonblinded RCT of 188 patients with moderate to severe OA of the knee; those with large meniscal tears, malalignment, previous arthroscopic surgery, or severe bicompartamental arthritis were excluded.

The control group received optimal medical and physical therapy, consisting of 1 hour of physical therapy a week, twice-daily exercises, and stepwise use of acetaminophen, nonsteroidal anti-inflammatory drugs (NSAIDs), and intra-articular hyaluronic acid injections. The intervention group had arthroscopic surgery (debridement of articular cartilage and menisci, excision of osteophytes, and removal of loose bodies), and received medical and physical therapy.

The primary outcome measure was the validated Western Ontario and McMaster Universities Arthritis Index (WOMAC) score. (The range is 0 to 2400, with higher scores indicating more severe symptoms.)

After 2 years, the researchers found minimal difference in the WOMAC scores of the control group (897±583) and the surgery group (874±624); the absolute difference was -23±605 (95%

confidence interval, -208 to 161; $P=.22$). There was no difference in the secondary outcomes of quality of life, pain, and function. Nor did surgery provide any benefit to the subgroup of patients with mechanical symptoms.¹

These findings echoed those of Moseley et al's 2002 single-blinded RCT, in which researchers assigned 180 patients to arthroscopic surgery or sham surgery, and found surgery to be of no benefit.² That study was criticized because of its methodology; the researchers used an outcome measure that was not validated and failed to exclude patients with more advanced disease and malalignment, who might be expected to have a poor response to surgery. The 2008 study by Kirkley et al had no such methodological flaws and, in retrospect, it appears that these perceived flaws did not account for the negative findings of the 2002 study.

WHAT'S NEW?**■ No room for doubt**

Evidence from the new RCT confirms the findings of the 2002 trial. It clearly shows that arthroscopic surgery for knee OA is not beneficial, even in patients with mechanical symptoms. Kirkley's study avoided the criticism of the earlier study by using a validated outcome measure, excluding patients with malalignment, and performing a subgroup analysis of patients with mechanical symptoms. We now have 2 studies that show no benefit from arthroscopic knee surgery in patients with OA, whether or not they have mechanical problems.

So what *can* you do for patients with moderate to severe knee pain from osteoarthritis? Offer them medical and physical therapy (**TABLE**) and the assurance that there is nothing to be gained from arthroscopic surgery.

CAVEATS**■ Large meniscal tears: An exception to the rule**

These findings do not necessarily apply to patients with evidence of large menis-

PURLs methodology

This study was selected and evaluated using FPIN's Priority Updates from the Research Literature (PURL) Surveillance System methodology. The criteria and findings leading to the selection of this study as a PURL can be accessed at www.jfponline.com/purls.

cal tears. This subset of knee OA patients may benefit from surgical management.

CHALLENGES TO IMPLEMENTATION

■ What to say to patients seeking a referral

Patients may have read about arthroscopic knee surgery or know someone who underwent the procedure and come to you asking for a referral to an orthopedic surgeon. In such a case, we suggest a straightforward approach.

Discuss arthroscopic surgery's proven lack of benefit and offer equally effective conservative therapies. For patients who may be eligible for a total knee replacement, a referral to an orthopedic surgeon for evaluation is appropriate. ■

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