



Mallory McClester Brown, MD;
Anne Mounsey, MD
 Department of Family Medicine, University of North Carolina at Chapel Hill

PURLs EDITOR
Jim Stevermer, MD, MSPH
 Department of Family and Community Medicine, University of Missouri-Columbia

Surgery for persistent knee pain? Not so fast

For patients with knee pain from a torn medial meniscus, but no osteoarthritis, arthroscopic partial meniscectomy may not be necessary.

PRACTICE CHANGER

Do not refer patients with a degenerative medial meniscus tear for arthroscopic partial meniscectomy because outcomes are no better than those of conservative treatment.¹

STRENGTH OF RECOMMENDATION

B: Based on a single high-quality randomized control trial.

Sihvonen R, Paavola M, Malmivaara A, et al; Finnish Degenerative Meniscal Lesion Study (FIDELITY) Group. Arthroscopic partial meniscectomy versus sham surgery for a degenerative meniscal tear. *N Engl J Med.* 2013;369:2515-2524.

ILLUSTRATIVE CASE

A 40-year-old man comes to your office for follow-up of medial left knee pain he's had for 3 months that hasn't responded to conservative treatment. The pain developed gradually, without a history of trauma. The patient has no signs of degenerative joint disease on x-ray but magnetic resonance imaging (MRI) reveals a tear of the medial meniscus. Should you refer him for meniscectomy?

Patients and doctors alike tend to look for a treatment that will "fix" the problem, which may be why we have continued to use arthroscopic partial meniscectomy to attempt to relieve symptoms of meniscal tears despite a lack of evidence to support the practice.

Guidelines from the American Academy of Orthopaedic Surgeons state that the evidence for medial meniscectomy in patients with a torn meniscus and osteoarthritis (OA)

is inconclusive; the organization offers no guidelines for patients with a torn meniscus who don't have OA.² The American College of Occupational and Environmental Medicine states that there is insufficient evidence to support arthroscopic partial meniscectomy for symptomatic, torn medial menisci for select patients and "the vast majority of patients [with medial meniscal tears] do not require surgery."³ Previous studies have concluded that arthroscopic surgery for OA of the knee provides no additional benefit to optimized physical and medical therapy.⁴ Furthermore, research by Katz et al⁵ shows that meniscectomy provides no benefit over conservative treatment in functional status at 6 months in patients with OA and a medial meniscal tear.

That said, arthroscopic partial meniscectomy is still the most common orthopedic procedure in the United States.¹ Although its use has decreased over the last 15 years, it is performed nearly 700,000 times annually at a cost of approximately \$4 billion.^{1,6,7} Like any surgical procedure, meniscectomy carries a risk of complications. In the double-blind, randomized trial reported on here, Sihvonen et al¹ compared meniscectomy to a sham procedure for patients with knee pain, but not OA.

STUDY SUMMARY

Meniscectomy and sham surgery are equally effective

Sihvonen et al¹ conducted a randomized, double-blind, sham-controlled trial at 5 or-

INSTANT POLL

How often do you refer patients who have persistent knee pain from a medial meniscal tear for arthroscopic partial meniscectomy?

- Almost always
- Usually
- Only after physical therapy and exercise fail to relieve the pain
- Never

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thopedic clinics in Finland. Patients ages 35 to 65 years were enrolled if they had clinical findings of a medial meniscus tear and knee pain for >3 months that wasn't relieved by conservative treatment. The trial excluded patients who had an obvious traumatic onset of symptoms; clinical or radiological evidence of knee OA; a locked knee that could not be straightened; knee instability or decreased range of motion; previous surgery on the affected knee; fracture within the past 12 months on the affected limb; or other notable pathology on MRI or during arthroscopy.

Before randomization, 160 patients underwent diagnostic arthroscopy. Fourteen patients were excluded: 6 because they did not actually have a medial meniscal tear, one because he also had a lateral meniscus tear, 3 due to a major chondral flap, 2 who had already undergone meniscal repair, and 2 due to an osteochondral microfracture.

At the end of the diagnostic arthroscopy, each patient was blindly randomized to arthroscopic partial meniscectomy or sham surgery. To simulate the meniscectomy procedure, the surgeon similarly manipulated the knee, made comparable noise and vibration using tools and suction, and ensured that the patient was kept in the operating room (OR) for a comparable time. Only the orthopedic surgeon and OR staff were aware of which surgery the patient underwent, and these staff members were not included in further treatment or follow-up. After the procedure, all patients received the same walking aids and instructions for a graduated exercise program.

The 70 patients in the meniscectomy group and the 76 in the sham surgery group were similar in age (mean: 52 years), sex, body mass index, and duration of pain (mean: 10 months). Patients in both groups also had similar tears noted on arthroscopy.

Three primary outcomes were measured before surgery and at 12 months: knee pain, knee symptoms and function, and quality of life. Knee pain after exercise was evaluated on a 0 to 10 scale, with 0 indicating no pain. The validated Lysholm knee score was used to assess knee symptoms and function and the Western Ontario Meniscal Evaluation Tool (WOMET) was utilized to evaluate quality of life; both are 100-point scales in which

lower scores indicate more severe symptoms.

Both groups had marked improvement in pain and function from baseline to 12 months, and there was no significant difference between the 2 groups. Knee pain scores improved by 3.1 in the meniscectomy group and 3.3 in the sham surgery group.

Lysholm symptom and function scores improved 21.7 points in the meniscectomy group and 23.3 points in the sham surgery group (a change of 11.5 points would have been considered clinically significant). The mean between-group difference was -1.6 points (95% confidence interval [CI], -7.2 to 4.0).

WOMET quality of life scores improved 24.6 points in the meniscectomy group and 27.1 points in the sham surgery (a change of 15.5 points would have been considered clinically significant). The mean between-group difference was -2.5 points (95% CI, -9.2 to 4.1).

There were no significant between-group differences in serious adverse events or number of patients who required subsequent knee surgery. Similar proportions in each group thought they had sham surgery, which confirmed the effectiveness of the blinding. Ninety-six percent of patients in the sham procedure group and 93% in the meniscectomy group reported they would be willing to repeat the procedure.

WHAT'S NEW

Recommend physical therapy, exercise instead of surgery

Previous studies of arthroscopic partial meniscectomy to treat degenerative meniscal tears in patients with knee OA found no benefit.^{6,8} This study specifically examined patients without OA and found arthroscopic partial meniscectomy offered no benefit over sham surgery.

In addition to fewer referrals for meniscectomy, these findings could lead to another change in practice: Physicians may be less likely to order an MRI to confirm the diagnosis of a medial meniscal tear, since doing so will not change their therapeutic approach. This approach centers on recommending that patients with a degenerative meniscal tear start and stick with physical therapy and their designated exercise regimen.



Both meniscectomy and sham surgery led to marked improvement at 12 months, with no significant differences in outcomes.

CONTINUED

CAVEATS

Surgery might be effective for more active patients

This study, as well as previous research, did not look at surgery for an acute medial meniscus tear following a traumatic incident, such as a fall or direct blow. Additionally, these results are based on improved outcomes in activities of daily living, and may not extend to patients who engage in high-level functioning, such as sports or strenuous work. The sham surgery group received lavage, which could be considered an active treatment, although a previous trial found lavage had no benefit over conservative treatment in patients with knee OA.⁴

CHALLENGES TO IMPLEMENTATION

It might be hard to convince patients they don't need surgery

Some patients expect immediate interven-

tion with surgery. It may be difficult to convince such patients that active participation in physical therapy can lead to the same outcomes as surgery. Spending time with your patient to explain the injury, what happens during surgery, and the evidence that shows a lack of difference in outcomes can lead to fewer surgeries. Most patients and physicians will want to do an MRI after 3 months of persistent pain to determine the diagnosis, although some may be comfortable with continuing conservative treatment. **JFP**

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