



Common Knee Surgery Does Very Little for Some, Study Suggests

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Dec. 25, 2013

See how this article appeared when it was originally published on NYTimes.com.

A popular surgical procedure worked no better than fake operations in helping people with one type of common knee problem, suggesting that thousands of people may be undergoing unnecessary surgery, a new study in The New England Journal of Medicine reports.

The unusual study involved people with a torn meniscus, crescent-shaped cartilage that helps cushion and stabilize knees. Arthroscopic surgery on the meniscus is the most common orthopedic procedure in the United States, performed, the study said, about 700,000 times a year at an estimated cost of \$4 billion.

The study, conducted in Finland, involved a small subset of meniscal tears. But experts, including some orthopedic surgeons, said the study added to other recent research suggesting that meniscal surgery should be aimed at a narrower group of patients; that for many, options like physical therapy may be as good.

The surgery, arthroscopic partial meniscectomy, involves small incisions. They are to accommodate the arthroscope, which allows doctors to see inside, and for tools to trim torn meniscus and to smooth ragged edges of what remains.

The Finnish study does not indicate that surgery never helps; there is consensus that it should be performed in some circumstances, especially for younger patients and for tears from acute sports injuries. But about 80 percent of tears develop from wear and aging, and some researchers believe surgery in those cases should be significantly limited.

“Those who do research have been gradually showing that this popular operation is not of very much value,” said Dr. David Felson, a professor of medicine and epidemiology at Boston University. This study “provides information beautifully about whether the surgery that the orthopedist thinks he or she is doing is accomplishing anything. I think often the answer is no.”

The volunteer patients in the Finnish study all received anesthesia and incisions. But some received actual surgery, others simulated procedures. They did not know which.

A year later, most patients in both groups said their knees felt better, and the vast majority said they would choose the same method again, even if it was fake.

“It’s a well-done study,” said Dr. David Jevsevar, chairman of the committee on evidence-based quality and value of the American Academy of Orthopaedic Surgeons. “It gives further credence or support to a number of studies that have shown that giving arthroscopy to patients is not always going to make a difference.”

Dr. Jevsevar, an orthopedic surgeon in St. George, Utah, said he hoped the study would spur research to better identify patients who should have surgery.

“Are there operations that are done that do not need to be done? I’m sure that’s the case, but we don’t know the magnitude,” he said. “We still think there’s benefit in arthroscopic meniscectomy in appropriate patients. What we need to define in the future is what’s the definition of appropriate patient.”

One factor is whether pain is caused by the torn meniscus or something else, especially osteoarthritis, which often accompanies tears. Another possible consideration is whether mechanical knee function is affected.

“Take 100 people with knee pain; a very high percentage have a meniscal tear,” said Dr. Kenneth Fine, an orthopedic surgeon who also teaches at George Washington University. “People love concreteness: ‘There’s a tear, you know. You have to take care of the tear.’ I tell them, ‘No. 1, I’m not so sure the meniscal tear is causing your pain, and No. 2, even if it is, I’m not sure the surgery’s going to take care of it.’”

Dr. Fine added: “Yours truly has a meniscal tear. It just causes pain. I’m not having any mechanical symptoms; my knees are not locking. So I’m not going to let anybody operate.”

He likened the recent studies to attempts to educate people that “it’s not really good to take antibiotics for the common cold. There’s a lot of pressure to operate. Financial, obviously. But also, if a primary care doctor keeps sending me patients who are complaining of knee pain and I keep not operating on them, then the primary care doctor is going to stop sending me patients.”

The new research builds on a groundbreaking 2002 Texas study, showing that patients receiving arthroscopy for knee osteoarthritis fared no better than those receiving sham surgery. A 2008 Canadian study found that patients undergoing surgery for knee arthritis did no better than those having physical therapy and taking medication. Now many surgeons have stopped operating on patients with only knee arthritis.

Earlier this year, a study at seven American hospitals found that patients with meniscal tears and osteoarthritis did not experience greater improvement with surgery than those receiving physical therapy, although after six months, one-third of the physical therapy group sought surgery. (Their surgical results were not reported.)

An author of that study, Dr. Robert Marx of the Hospital for Special Surgery, said his conclusion was that often physical therapy should be tried before surgery. Still, “properly selected patients do benefit from knee arthroscopy,” he said. “When you have someone who doesn’t have arthritis and they have a painful meniscal tear, you’re going to make that person very happy.”

Dr. Marx expressed some skepticism about the Finnish study, which involved patients with only meniscal tears, not perceptible arthritis. He wondered if the tears were small or if the pain was caused by the kneecap, adding, “I cannot believe that this would be the same population of patients I would operate on.”

Dr. Teppo Jarvinen, an author of the Finnish study, said whether meniscal tears caused the participants’ pain was unknown, but arthritis was an unlikely cause, since they seemingly had none. About 10 percent of meniscal tear patients have no arthritis, he said.

The study involved five hospitals and 146 patients, ages 35 to 65, with wear-induced tears and knee pain. About half had mechanical problems like locking or clicking knees.

Most patients received spinal anesthesia, remaining awake (one hospital used general anesthesia). Surgeons used arthroscopes to assess the knee. If it matched study criteria, nurses opened envelopes containing random assignments to actual or sham surgery. In real surgery, shaver tools trimmed torn meniscus; for fake surgery, bladeless shavers were rubbed against the outside of the kneecap to simulate that sensation. Nobody evaluating the patients later knew which procedure had been received.

After a year, each group reported similar improvement, even those with clicking or locking knees. Two in the surgery group needed further surgery; five in the sham group requested surgery. Dr. Jarvinen acknowledged the possibility that fake surgery had some placebo effect but said results were too strong for that to explain everything.

Dr. Frederick Azar, first vice president of the orthopedic surgeons academy, said the study focused on a minority of patients, those he already did not operate on; he operates mostly on patients with mild to moderate arthritis whose meniscal tears appear to be causing pain.

“Arthroscopy is a very useful tool,” he said. Still, he said, “I’m sure there are some physicians who may look at this and say it may change the way they approach their patients, in terms of surgery or not surgery.”

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