A Fix for Younger Hips

Resurfacing Procedure Is Less Traumatic Than Joint Replacement, May Permit Fuller Mobility

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Three years ago, at the age of 50, John Michalek of Lakeview, N.Y., was frustrated and in pain. Both his hips were giving out, victims of early onset arthritis, likely due to an inherited bone structure that produced bad biomechanics. He considered a total hip replacement. But his surgeon urged him to wait. The implants last only 10 to 20 years, which meant Michalek would be looking at another replacement in his sixties or seventies.

He tried swimming and taking anti-inflammatory drugs, but he didn't want stronger pain medications, concerned that they might impair his abilities as a justice on New York's State Supreme Court. It got to the point, though, where the pain interrupted his sleep. Chasing after his young children and coaching basketball became impossible.

Some Web surfing turned up a potential solution: hip resurfacing, a decades-old procedure that is coming back into vogue, driven by advances in technique and metallurgy, plus rising demand from an aging population. With conventional total hip replacement, surgeons slice off the top of the thighbone and stuff a long stem into the remaining femur to anchor a new plastic top. But with resurfacing, a less traumatic procedure, surgeons essentially sand down the scuffed-up and worn ball-and-socket -- without removing any bone -- and re-cover both with smooth metal caps.

The main advantage to the modified procedure: If the caps wear out -- no one knows for certain how long they will last -- patients can still get the heavy-duty surgery. In contrast, a second total hip replacement is difficult because there is less of the original bone to work with.

Surgeons say that the best candidates for resurfacing will be younger -- most likely under 60 -- because they are more likely to have the strong bones essential for the procedure. Also, resurfacing may restore a more normal range of motion than conventional hip replacement, making it easier to return to an active lifestyle. Together, these factors could help push down the age for those electing to have hip surgery, drawing in younger patients like Michalek who had been toughing it out.

The average age for total hip replacement in 2002, the most recent year for which there is data, was 66, according to the American Academy of Orthopaedic Surgeons. That year, there were about 345,000 total and partial hip replacement surgeries, including revisions.

Why would someone younger need a hip replacement? The reasons include early onset arthritis due to conditions like hip dysplasia (where people are born with an unformed or malformed hip joint), rheumatoid arthritis and trauma, which can lead to avascular necrosis, in which the top of the femur is starved of blood and dies off.

Resurfacing is not without risks: It involves essentially the same incision as replacement surgery does -- sometimes a longer one -- to give surgeons a full view of both the top of the femur and the hip socket, said Michael Mont, a joint specialist at Sinai Hospital in Baltimore. He has been conducting hip resurfacing trials for Wright Medical Technology, an Arlington, Tenn.-based company seeking Food and Drug Administration (FDA) approval for its device. And resurfacing may require more time in the operating room -- Mont said it takes two hours, compared with one hour for conventional hip replacement -- and a slightly longer rehabilitation period.

There's also some evidence that the two metal surfaces -- both made of high-carbon cobalt chrome -- degrade and disperse metal ions into the bloodstream. But so far there's no indication they will break down quickly or that those ions cause health problems like cancer.

Double or Nothing

To date, hip resurfacing has mostly been done overseas. But in the last five years, several companies have been testing their resurfacing devices at several medical centers around the United States. Before his surgery, Michalek traveled to Baltimore to meet with Mont.

Even though there was not much long-term research on hip resurfacing and his insurance initially refused to cover the experimental procedure, Michalek decided to go ahead and repair his faulty left hip joint. (Hip replacement is covered by Medicare and private insurance; Michalek's insurer ultimately agreed to pay for his hip resurfacing.)

The improvement was immediate. After 10 weeks on crutches and a cane, he went back to the treadmill and StairMaster, and he returned to coaching. When the pain in the right hip got to be too much, he had the right side repaired, in late September.

Suzanne Vega of York, Pa., came to a similar decision at an even younger age. The 37-year-old has rheumatoid arthritis, a disease where the body attacks the joints. In her case, the inflammation and deterioration occurred mainly in her hips.

After the birth of her fourth child in 2001, the pain got so bad that Vega could no longer work as a registered nurse. Her rheumatologist recommended a total replacement of both hips. But she wasn't wild about getting the implants, knowing they would likely need replacing -- maybe even twice during her lifetime.

Vega's research and networking led her to Mont and hip resurfacing.

On Sept. 1, Vega had her right side resurfaced. A little more than a month later, she had the left side done.

"I think it's a really good option for someone my age," said Vega, noting that it will let her keep most of her thighbone intact. And, she says, most of her deep bone pain has disappeared.

Hip Chats

How many Americans would be eligible for, or choose to get, resurfacing is unclear -- but interest is evident. Craig Thomas, an orthopedic surgeon who studied under Mont and practices with the Rankin Orthopedic Group in the District, says he has about 50 patients waiting for the FDA to approve a device so they can have the procedure. A Yahoo discussion group (http://health.groups.yahoo.com/group/surfacehippy/) for people considering the procedure and others who have already had resurfacing has averaged 1,500 to 3,000 messages a month this year.

Those who have had the surgery as part of a clinical study tell of having to fight for insurance coverage of the procedure, which may cost $30,000 or more.

In early September, an outside advisory panel to the FDA narrowly voted to support approval of the first hip resurfacing device to come up for review, the Birmingham Hip. The Smith & Nephew device is sold in 23 countries and has been implanted in 33,000 patients. The British company, which has U.S. operations in Memphis, submitted safety and efficacy data on about 2,000 patients, but they were not part of a rigorous clinical trial. The lack of a gold-standard data set led two of the five advisers to vote against approval.

Whether or not the FDA approves the Birmingham Hip, a resurfacing device is likely to eventually pass muster and get to market, possibly within the next year, according to the manufacturers and Wall Street analysts.

Cecil Rorabeck, a professor of surgery at the London Health Sciences Center in London, Ontario, and a consultant to Smith & Nephew, says he generally does resurfacing only in patients under 60, and not in post-menopausal women who have significant osteoporosis. That's because, with the Birmingham Hip or other resurfacing devices, a small peg is inserted about six centimeters into the top of the thighbone. That increases the risk for a fracture, especially in the first six months. Of the Smith & Nephew patients, fewer than 1 percent had a fracture, he said.

The fracture risk is much less with a total hip replacement, because the top of the thighbone is cut

off. The stem for the new top is inserted 14 centimeters into the remaining bone.

Resurfacing has many hypothetical advantages. The covering for the ball can be pretty closely size-matched to the patient's natural ball. That significantly cuts the risk of dislocation (a common problem with total hip replacement), and appears to give patients a much more normal range of motion. A small study by Mont showed that resurfacing patients walked almost normally, while those getting a total hip replacement still had some deficits.

Betting on the Future

Since resurfacing patients tend to be younger and feel more normal, they are more likely to go back to their lives and be more active. But surgeons say they caution against doing too much.

"I don't encourage people to go out and play basketball, but I can assure you that people are doing it in spite of that," said Rorabeck.

Tony Rankin, Thomas's partner and chief of orthopedics at Providence Hospital in the District, says that younger patients always try to do more -- even those who've gotten a traditional total hip replacement. He advises against skiing and other load-bearing activities that can stress the new joint, and says he'd give the same advice with resurfacing.

When asked whether the resurfacing implants will let patients do more, Rankin said: "My gut feeling is no."

The biggest question about the implants is how long they will hold up.

"I'd like to think these will last 20 or 30 years, but I can't say that," said Mont. And Thomas said, "We advise patients that you're most likely going to need another surgery; we just don't know when."

Patients who have gotten the implants aren't too concerned, though.

"If this gives me five or 10 years of more normalcy, I'll take that," said Michalek. "Even if it doesn't last, I could still go tomorrow and get it replaced."

Alicia Ault last wrote for Health about computer games designed to speed healing. To comment on this story, send e-mail to health@washpost.com.