



ARE YOU OUT OF JOINT?

Joint replacements help achieve a better quality of life

BY LARRY SCHWINGEL
SPECIAL SECTIONS WRITER

For the thousands who suffer from degenerative joint disease, orthopedic joint replacement surgery is a means to a better quality of life. Once considered a breakthrough, joint replacement surgery is now commonplace, and may involve the knee, hip, shoulder, ankle or hands. Two conditions seen most frequently, however involve knee and hip replacements.

Procedures are successful in more than nine out of 10 patients, according to the American Academy of Orthopedic Surgeons, so expectation levels are high. Yet despite so many successful outcomes, there are risks and complications, as with any type of surgical procedure.

Primary joint replacements may fail for a number of physiological reasons, including loosening, dislocation or infection. "A second surgery is called a revision replacement, and this may be needed more than once in a person's lifespan because of continued bone loss and the build-up of scar tissue," says Dr. Juan Suarez, a board-certified orthopedic surgeon at Cleveland Clinic Florida in Weston. "Infection occurs in only one percent of all cases, but it is always a concern."

According to Dr. Suarez, infection of a prosthetic joint can be difficult to treat because bacteria latches onto the foreign material and forms a protective coating making it immune to antibiotics. "Blood clots to the lower extremities may lead to a pulmonary embolism, so it's important to begin rehabilitation as soon as possible to maintain adequate circulation and minimize the risk," he says. The rehab period normally takes between six and eight weeks following a knee replacement.

Surgeons have one common goal — to help relieve joint pain. They accomplish that goal by replacing the deteriorated joint with a metal, or metal and plastic prosthesis. Dr. Suarez uses a ceramic femoral ball, with a highly cross-linked polyethylene liner, to reduce wear and achieve better longevity for his knee replacements.

Generally, a prosthesis may be cemented, or non-cemented, but good bone quality is needed, because the bone needs to grow into the prosthesis to secure it.

Causes and complications

According to Dr. Suarez, the leading causes of chronic knee problems include advanced rheumatoid arthritis (inflammation), lupus (which attacks the lining of the joint) and post-traumatic arthritis caused by excessive trauma. "My specialty interests

include primary and revision joint replacements of the knee and hip, but I also deal with a full spectrum of other orthopedic injuries," he says.

One of the complications is osteonecrosis, a temporary (or permanent) loss of blood supply to the bones. "Without an adequate blood supply, the bone may collapse, and if that happens near a joint, the joint surface may collapse," says Dr. Suarez. "The chronic use of steroids, alcohol abuse and some blood disorders, such as sickle cell anemia are key risk factors for osteonecrosis."

Athrofibrosis (a stiffening of the knee joint) is another common problem that occurs with excessive build-up of scar tissue. When this happens, the joint's motion is more restricted and movement is very painful.

New technology

Some new trends include "smart" implants that contain sensors. This gives surgeons inter-operative feedback that ranges from information about the "load" in the joint, to balance and alignment. This type of inter-operative feedback is vital for quality outcomes. "In addition, surgeons are using smaller computers and devices that provide more information, and are more user-friendly," says Dr. Suarez.

Robotic-assisted hip surgery

Dr. David Padden, a board-certified orthopedic surgeon at Holy Cross Hospital in Fort Lauderdale, has expertise in a variety of areas, and has performed nearly 100 successful robotic-assisted hip replacement surgeries.

"For many years, we performed in basically the same way — removing bone, hammering bone, honing the shape and hoping it fits the desired angle," he says. "No fancy measuring was required, just a steady eye and a surgeon's skilled hands."

But a study by the Harvard Medical School raised eyebrows.

It showed surgeons missed their intended target line of alignment 50 percent of the time, and often by as many as 10 degrees.

According to Dr. Padden, the newest advances in hip replacement surgery have more to do with the procedure, than the implants themselves. His utilization of robotics allows him to hone the bone and place the hip implant into a pre-set position.

"This kind of placement wasn't possible before," says the specialist. "Robotics has taken the guesswork out of the equation; we can now place an implant within two degrees of the intended position angle, which is unprecedented."

Dr. Padden also uses a "muscle-sparing" ap-

proach, in which no muscles or tendons are cut. "Because of this approach — and the ability to place components in such a precise way — patients have no post-op restrictions in terms of bending, laying on their side or turning," he says. "Muscle-sparing is essential to positive outcomes, plus there's a much shorter rehab time."

According to the specialist, patients are up and walking without any kind of assisted device within two weeks, where before it could take as long as three months. The muscle-sparing approach makes it great for all age groups, because they can return to normal activities sooner than ever before.

"The two greatest issues is a fear that the hip prosthesis will pop out of place, and the joint will loosen over time," he says. "Those worries are reduced because of the accurate positioning made possible through robotics."

The specialist says that for 30 years the controversy has been about which type of components worked best and which ones were more durable. "As always, the bottom line remains doing the surgery well, and how it's performed," he says.

Holy Cross Hospital is one of the few hospitals in the state to perform robotic-assisted hip replacements.

