OSMC
MUSCULOSKELETAL HEALTH NEWS

# Is it time for a *New Knee?*

Leonard Kibiloski, MD

Fifty-four year old Margaret J. knows pain. Not your everyday take-an-aspirin-and-it-goes-away kind of pain. This is seven or eight on a scale to 10 . . . and it's continuous. She suffers from osteoarthritis, a disease that is literally eating away at her knee. The rubbery cartilage that protects the joint is gone, and her bones are grinding against each other with every step. A flight of stairs is like a mountain to Margaret.

Her condition has been progressing for years. Under her doctor's supervision, she's chased the pain with diet and exercise, anti-inflammatory and analgesic drugs, an occasional cortisone shot. But the pain always wins. Her doctor is now recommending a more permanent fix – total joint replacement surgery.

Mary will join other Elkhart-area residents who have had joint replacement surgery at the Elkhart General Hospital Total Joint Unit in just the past year. And thanks to recent advances in joint replacement technology, she will get a new knee that's exactly right for her.

"Every patient's knee anatomy is unique," explains OSMC orthopedic surgeon Leonard Kibiloski, MD, FACS. "In order to give the patient a comfortable and long-lasting joint replacement we do everything possible to match the procedure to that individual's specific condition. We now have an approach that gives us an even better way to do that.

The first step is an examination of the patient's total leg anatomy – not just the knee, but the hip, femur (thighbone), tibia (shinbone) and ankle as well. "Perfect alignment is the key to an optimum outcome, so our goal is to make sure the alignment of these bones is straight after surgery."

The joint replacement procedure starts long before the patient sees the operating room. Dr. Kibiloski uses advanced MRI (magnetic resonance imaging) technology to capture three-dimensional images of the joint as well as the associated bones in the leg. These images enable him to determine the precise size and shape of the damaged bones and allow the creation of customized positioning guides that will come into play during surgery. The devices fit precisely over the ends of the patient's tibia and femur and guide the instruments the surgeon uses to remove the damaged tissue. The guides are also used to precisely position the high-tech metal and plastic implants that replace that tissue. (It's noteworthy that, although the procedure is commonly called "joint replacement surgery," the joint itself is replaced by only removing the damaged bone and cartilage surfaces.)

"Because the guides have been custom made to that individual's anatomy, I know that once the implants are in place, we'll have a straight alignment from hip to ankle, ensuring a strong, comfortable and long-lasting joint," Kibiloski explains.

For years, two-dimensional x-rays have been used to "map" the patient's bone prior to surgery. For many patients this technology is still the appropriate course," says Kibiloski. "But when conditions allow us to use MRI imaging, we have even more assurance that we'll end up with good alignment and a successful outcome." There are benefits to this approach in addition to precise, personalized customization. The guides themselves are smaller than traditional apparatus, which means the surgical incision is smaller. There's less blood loss, and generally less trauma to the site, which results in faster healing, less pain, and more rapid recovery.

The advent of MRI mapping and the resulting implant customization is just the latest in a long list of medical advances in joint replacement surgery. Another development is a new technique that uses the body's own healing power to accelerate the post-operative healing process. Prior to surgery, the surgeon harvests autologous platelets from the patient's blood. These platelets are the natural growth factors in blood that promote healing, and a concentration of this material can be applied to the wound at the end of surgery to create a super-charged healing environment, dramatically speeding the process. Studies have shown that not only do most patients heal faster, they also experience a greater range of motion than would otherwise be achieved, and the risks of arthrofibrosis (excessive scar tissue that can restrict movement) can be reduced.

## The Elkhart General Hospital Total Joint Program

Elkhart General was one of the first hospitals in the country to establish a unit exclusively dedicated to joint surgery and recovery. "In many hospitals, the joint replacement patient is just another patient on the general surgery floor," says Kibiloski. "The Total Joint Program at EGH offers the patient numerous advantages over this traditional approach. Unlike many patients in the Hospital, total joint patients aren't really sick. They're just in for "repair," and they appreciate being in this special area of the Hospital. Another advantage is that patients go through the experience of joint replacement as a group. All surgeries are performed on Monday or Tuesday, patients recover and do their rehab work together, and they develop a strong, mutual support system. It's amazing how a little encouragement from one patient can help another do one more leg lift.

"This program is really working. When we first opened the unit, it was routine for a patient to go home four days after surgery . . . pretty remarkable in those days. But today, thanks to many of the advances we've undertaken, both in surgical techniques and in approaches to recovery, it's common for a person to have surgery on Monday, be up walking around in street clothes on Tuesday, and headed for home on Wednesday morning."