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Pre-op Patient Guide to
MAKOplasty®
Partial Knee Resurfacing

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| MAKOplasty® Partial Knee Resurfacing | 2 |
| Benefits Possible with the MAKOplasty® Procedure | 4 |
| Your Guide to MAKOplasty® Surgery | 5 |
| Frequently Asked Questions | 7 |

Your decision on whether or not to have a MAKOplasty® procedure is an important one, and the information provided here is not meant to substitute for the in-depth consultation you should have with your doctor. Only a licensed physician can adequately diagnose and explain your underlying orthopedic condition, the natural history of the condition without intervention, the MAKOplasty® procedure, medically acceptable alternative procedures, and the potential complications and risks of any procedure and/or operation.

MAKOplasty® Partial Knee Resurfacing

Your surgeon has determined that you are a candidate for MAKOplasty® Partial Knee Resurfacing. This brochure was designed to give you information about the MAKOplasty® procedure, as well as what to expect before and after the procedure. However, this information is not meant to substitute for consultations with your doctor and his or her staff.

MAKOplasty® is designed to relieve the pain caused by joint degeneration. By selectively targeting the part of your knee damaged by osteoarthritis, your surgeon can resurface your knee without compromising the healthy bone and ligaments surrounding it. Other benefits may include a smaller incision, reduced blood loss, less scarring, rapid recovery and the ability to return to an active lifestyle quickly.



MAKOplasty® Partial Knee Resurfacing empowers surgeons to remove and resurface the damaged knee surface while avoiding the healthy bone and tissues surrounding the knee joint.

The MAKOplasty® procedure is only indicated for patients with unicompartmental disease.

Therefore, a total knee replacement is sometimes necessary if your surgeon discovers during surgery that your knee has more damage than originally seen in the pre-operative X-rays and CT scan. Both procedures are designed to relieve the pain caused by osteoarthritis.

"I felt handicapped because of the sharp pains that would come and go in my knee. I would constantly anticipate the pain. The MAKOplasty procedure changed my life. I no longer feel inhibited and can do everything from going up steps to walking and working out pain-free."

Dr. Harvey Saff
Florida

MAKOplasty® - A Less Invasive Procedure

The MAKOplasty® procedure is a unicompartmental knee replacement supported by state-of-the-art equipment that allows the surgery to be done precisely through a small incision. It is made possible through the MAKO Tactile Guidance System™, a surgeon-controlled robotic arm that combines virtual three-dimensional imaging with an intelligent bone sculpting tool. This enables surgeons to restore knee function by resurfacing the arthritic defects, rather than replacing the entire joint. All of this can be done through a 2-3 inch incision over your knee, and small incisions in both your femur (thighbone) and tibia (shin). This helps limit the trauma to the soft tissues surrounding your knee and allows you to "keep" the original knee you were born with.

The precision provided by the MAKO Tactile Guidance System™ helps surgeons accurately sculpt the joint and properly align the implant to increase the potential for superior patient outcomes. Most patients who undergo a MAKOplasty® procedure spend only one night in the hospital and have the ability to return to an active lifestyle with a month or less of outpatient physical therapy.

This new technology, combined with the surgical expertise of the orthopedists currently using it, provides patients with an option to treat unicompartmental knee disease without replacing the entire knee joint. Since most of the knee remains intact, patients who undergo MAKOplasty® procedures are still candidates for a total knee replacement procedure later in life if necessary.



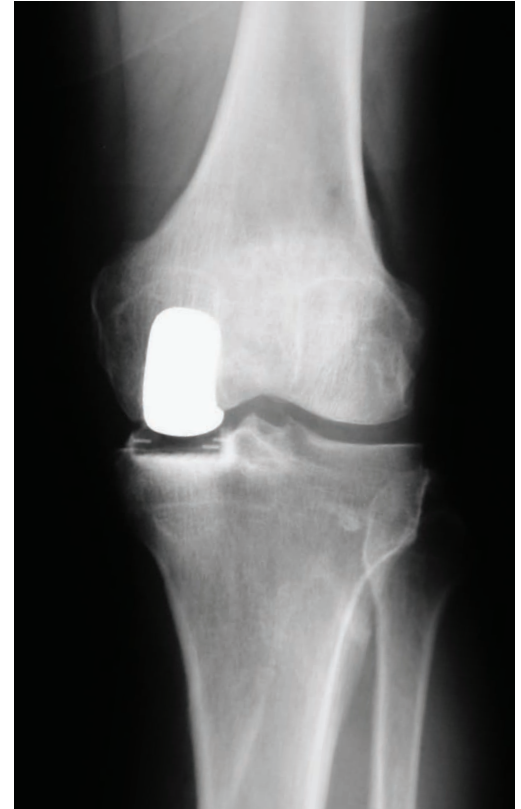
Your doctor should discuss the specific risks associated with MAKOplasty® and other treatment options with you. In addition, you should be informed of any pre-operative and post-operative instructions by your doctor or his/her staff.

Benefits Possible with the MAKOplasty® Procedure

Benefits of the MAKOplasty® procedure may include:

- Improved surgical outcomes
- Less implant wear and loosening
- Minimal tissue damage
- Increased comfort
- Smaller incision
- The ability to retain more of your natural knee joint and surrounding tissues
- Minimal hospitalization
- Less physical therapy
- The possibility for a more active lifestyle post-surgery

Individual results may vary. Therefore, only you and your doctor can determine if MAKOplasty® is right for you.



Your Guide to MAKOplasty® Surgery

Before Surgery

It is important that you take care of your health as best as possible prior to a MAKOplasty® surgery. This may involve losing weight or starting an exercise program prior to surgery. Because tobacco products rob your body of the oxygen supply it needs to properly heal, it is very important that you stop smoking before surgery and take every step possible to comply with your physician's instructions. In addition, you should inform your surgeon of any medicines you may be taking. You may be advised to stop taking estrogen, aspirin, Vitamin E, anti-inflammatories, NSAIDs or herbal supplements one to two weeks prior to surgery.

You should also be scheduled for a CT scan at least one week prior to your surgery date. Data from this scan will help your surgeon plan the precise implant and implant placement specifically to fit your anatomy.

You should not eat or drink anything after midnight the night before your surgery.

Day of Surgery

You will be admitted to the hospital the day of your surgery. Once admitted, you will be visited by an anesthesiologist to discuss his/her part of the surgery. You will then be asked to sign consent forms and be shaved for surgery. An intravenous line will be started in your arm followed by pre-operative medicine that will make you drowsy. You will then be taken into the operating room for surgery.



Post-Procedure

You will awaken in the recovery room with a dressing and ace bandages on your leg from your toes to upper thigh. An ice wrap may be used to reduce swelling and you will be medicated adequately for post-operative pain. A physical therapist may ask you to move your ankle joint, stand and/or walk with the assistance of a walker or cane. There are no restrictions on initial weight bearing following the surgery, and patients are normally released from the hospital within 24 hours of their surgery.

Your Guide to MAKOplasty® Surgery (cont.)

Physical Therapy

Any physical therapy program conducted should be done under your surgeon's guidance and supervision. A typical physical therapy program following knee surgery includes isometric exercises that tighten the muscles around the knee without moving the joint. Your therapist may also have you move your ankle and other parts of your body soon after surgery in order to keep them strong.

These exercises are designed to help you regain your mobility as soon as possible. The physical therapist can show you appropriate ways to get in and out of bed, how to sit on a chair and get up again, and how to get on and off the toilet safely.

Soon after surgery, you will begin walking and exercising your knee joint utilizing a walker or cane. Your walking distance will increase, as should your range of motion.

Normal daily activities will follow shortly, and your surgeon will be in charge of determining when you are able to return to work, drive or do low-impact aerobic exercises. Walking long distances, golfing, bowling and swimming are all good exercises once your doctor has cleared you to perform them. Jogging and high-contact sports are not recommended. You should follow your surgeon's instructions and advice as much as possible post-surgery.

Frequently Asked Questions

Q: Has the robotic Tactile Guidance System™ been cleared by the FDA?

A: Yes, the MAKO Tactile Guidance System™ received FDA clearance in 2005.

Q: Does the robot actually perform the surgery?

A: No, MAKOplasty® is performed by an orthopedic surgeon, who uses the surgeon-interactive Tactile Guidance System™, a robotic-arm designed to assist the surgeon in making accurate anatomical cuts through a "keyhole" incision. The robot does not perform the surgery nor can it make decisions on its own or move in any way without the surgeon physically moving it. Instead, the surgeon utilizes the arm of the Tactile Guidance System™ as a hand-held tool to prepare a patient's knee joint for resurfacing with a unicondylar knee implant. Other devices for robotic surgery are designed to perform autonomous movements after being programmed by the surgeon. However, the Tactile Guidance System™ cannot be programmed by the surgeon and requires his or her interaction and surgical expertise throughout the procedure.

Q: What benefits does MAKOplasty® provide for patients?

A: The MAKOplasty® procedure has the potential to improve post-operative outcomes, decrease recovery time, reduce trauma and post-operative pain, lessen blood loss, reduce the risk of infection and scarring from the procedure, shorten the patient's hospital stay and reduce the cost of hospitalization and physical therapy. By resurfacing rather than completely replacing the knee joint, patients are more likely to be able to retain an active lifestyle with the ability to undergo a total knee replacement if necessary down the road.

Q: What is the difference between MAKOplasty® and traditional knee surgery?

A: MAKOplasty® allows surgeons to perform unicondylar knee surgery through an incision that is 2-3 inches long. Total knee arthroplasty procedures are often performed through an incision that is 5-8 inches long. In traditional knee replacement, the entire knee joint is fully exposed and much of the bone and tissues surrounding it is removed. However, utilizing the robotic TGS™ arm, advanced software, and a monitor to provide enhanced 3-D views of the area being treated, surgeons can perform MAKOplasty® with increased surgical precision through a much smaller incision. The robotic arm of the system assists the surgeon to ensure precise movements, avoid the delicate nerves and blood vessels surrounding the joint, and remove only the bone that has been damaged by osteoarthritis.

Frequently Asked Questions (cont.)

Q: What benefits can MAKOplasty® and the Tactile Guidance System™ give surgeons?

A: MAKOplasty® gives surgeons the ability to perform unicondylar knee arthroplasty with greater surgical precision and in a reproducible manner. The Tactile Guidance System™ provides enhanced visualization and improved surgical accuracy to help the surgeon perform a highly complex surgery efficiently and effectively.

Q: Can surgeons perform a minimally-invasive partial knee resurfacing procedure without the Tactile Guidance System™?

A: Yes, surgeons with years of experience performing partial knee resurfacing procedures are able to perform the procedure with positive clinical outcomes. However, because of the complexity of the procedure, it is difficult to perform accurately through a small incision. The MAKO Tactile Guidance System™ provides orthopedic surgeons with a tool to precisely sculpt the knee joint and accurately position the implant through a small incision with reproducible clinical outcomes. This means your surgeon can ensure only the damaged portion of your knee joint is removed and that the implant is properly positioned for the best possible outcomes.



Restoring Quality of Life Through InnovationSM

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