



ORTHOPAEDIC SPECIALISTS OF CENTRAL ARIZONA

Uni-compartmental Knee Arthroplasty

(Partial Knee Replacement)

A Patient's Guide



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Foreword

This booklet has been developed by Dr. Kaper for his orthopaedic surgery patients at Orthopaedic Specialists of Central Arizona. It is used in conjunction with instruction from the rehabilitation and nursing staff. This booklet should not be given to patients under the care of other orthopaedic surgeons, whose surgical approaches and post-operative management of partial knee replacements may vary from ours.



Introduction

Welcome to Orthopaedic Specialists of Central Arizona. In preparation for your surgery, we have provided you with this information booklet to help answer some of your questions and concerns about Uni-compartmental or Partial Knee Replacement (also referred to as Arthroplasty). We hope that you find this booklet helpful. If after reading this guide, you still have any concerns about the surgery, rehabilitation, or other aspects of your care, we encourage you to contact us. Our office telephone #'s: 480-305-0034 or 928-778-9250.



Please remember that each patient will respond and recover from their knee replacement surgery according to their own individual situation. It is helpful to “compare notes” with others who have undergone or are undergoing the same surgery. However, because everyone is different in terms of his or her medical and orthopaedic condition and needs, do not place undo importance on “keeping up” with your neighbor/friend/relative.

Surgical Overview

Knee replacement, or “arthroplasty” surgery, is a surgical procedure to replace the damaged cartilage within a knee with an artificial prosthesis or implant. This surgery is an option for patients who have severe arthritis of the knee. Arthritis means that the cartilage cushioning designed so that the bones do not rub against each other is severely damaged or worn out. Think of it as the rubber on your tires has worn out and needs to be replaced.

Patients with severe arthritis of the knee are often challenged by even simple activities, such as walking or climbing stairs. Surgery can be considered when all other available treatment options have been exhausted and your quality of life is significantly affected by your arthritic knee.

The knee joint is often described as having three compartments. The femur (thigh bone) has two condyles or “knuckles” in the knee joint. Where these condyles contact the tibia (shin bone) form two of the compartments. The underside of the patella (kneecap) is considered the third compartment. If your arthritis (the areas where the cartilage was been damaged) is limited to one of these three compartments, a partial or “UNI”-knee replacement can be considered. Since we are able to remove and replace only the damaged portion of your knee, the surgery minimizes the overall trauma to your knee joint. As a consequence, surgery can be performed safely as an out-patient basis. Recovery can, therefore, be significantly quicker than patients undergoing total knee replacement surgery.

Partial Knee Replacement Prosthesis

Many partial knee replacement systems have been developed over the past 30 years. There are many different orthopaedic implant manufacturers whose products do vary in design and materials utilized. There is a lot of information online that patients can read and research about all the different prostheses available. This can be confusing to try and understand.

Dr. Kaper uses the” Verilast” Journey UNI Knee Replacement, made by Smith & Nephew. This choice reflects what Dr. Kaper believes to be the best designed prosthesis on the market today. In both design and biomechanics, it most closely replicates the anatomy and function of the normal human knee. The materials used to manufacture the prostheses are made from the combination of Oxidized Zirconium (“Oxinium”), highly cross-linked polyethylene (XLPE) and titanium. This combination of materials is referred to as a “VERILAST” UNI and has proven to be extremely durable for knee implants.

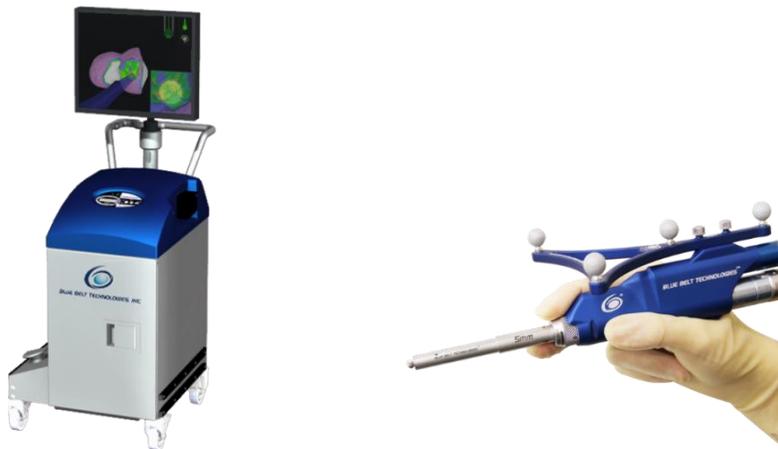
For specific implant information, please ask us or visit their website:

www.rediscoveryourgo.com.

Robotic Assisted Knee Replacement Surgery

The option of Robotic Assisted Uni-compartmental Knee Replacement is now also available. This technology is known as the NAVIO system. This technology incorporates a platform known as “Augmented Reality”, a computer/robotic enhanced imaging capability that helps surgeons improve the accuracy and precision of the surgical technique. The goal, obviously, is to improve the clinical outcome and long-term function of your new knee. For more information about the NAVIO system, please ask us or visit the website:

<http://www.smith-nephew.com/professional/microsites/navio/>.



Pre-Admission Evaluation

Before your scheduled surgery date, arrangements will be made for pre-operative testing. This will give us the opportunity to have all necessary medical testing and registration done before your surgery. It is important that we check and optimize your overall medical condition prior to surgery.

Typical testing before surgery may include:

- *Laboratory tests*
- *EKG (heart tracing)*

A thorough check-up with your family physician is recommended. If there are specific medical concerns, additional pre-operative evaluation may be necessary.

You will have the opportunity to meet with one the anesthesiologists the day of your surgery, to discuss the different types of anesthesia available. These include:

- General anesthesia – when you are “asleep” for the surgery.
- Spinal or Epidural anesthesia – when you are “numb” from the waist down;

Discuss any questions you may have with the anesthesiologist. Do not feel that your questions are “silly”. To be informed and knowledgeable about your surgery is important and will help you to understand what to expect during and after your surgery.

Because of the minimally invasive nature of partial knee replacement surgery, blood transfusions are rarely required after your procedure. A blood transfusion will only be recommended if your surgeon feels that you absolutely require it.

Helpful Hints in Preparation for Your Surgery

STARTING NOW:

Prepare yourself:

- Stop smoking
- Eat well-balanced meals and take the recommended vitamins and supplements
- Get plenty of rest
- Exercise to improve and maintain muscle strength
- Stop or cut-back on alcohol consumption
- Keep a notebook handy to write down any questions you may have for the doctor, therapist or staff

Prepare your home:

- Stock your refrigerator and pantry (e.g. pre-cooked or frozen dinners)
- Obtain or rent a walker and/or crutches, a raised toilet seat / shower chair
- Arrange for support from family and/or friends for everyday activities

THE DAY BEFORE SURGERY:

- Confirm your surgery time- you will be contacted by the nurse to confirm your surgery time. Make sure we have an up-to-date telephone number to contact you, if there are any changes in your surgery schedule.
- You may have your regular dinner
- **Do not** eat or drink after midnight (this includes hard candy and gum).
- Wash your body from the neck down with Hibiclens soap as instructed.
- Consult with the nurse or your doctor to determine if you should take your morning medications the day of surgery.
- Make sure you have filled any prescriptions that you were given at your pre-operative visit.

The Day of Your Surgery

On the day of your surgery, you will report to the Admitting office at the hospital.

Remember:

- Do not eat or drink anything.
- You may brush your teeth but do not swallow any water
- Wash the affected leg and hip with Hibiclens soap as instructed.
- Please do not wear or use any skin moisturizers, cream, lotions or make-up.
- Remove any nail polish.
- Wear comfortable, loose-fitting clothing that does not go over your head.
- Remove hairpins, wigs, and jewelry.
- Please do not bring any valuables with you.

From the admitting office, you will be brought to the Pre-op area. The nursing staff will be there to assist and prepare you for surgery. You will typically be asked on several occasions which knee will be operated on- this is simply a precautionary step to prevent any confusion whatsoever.

To reduce the risk of phlebitis (swelling of your veins) and deep venous thrombosis (DVT or blood clots), sequential compression stockings will be placed on your legs. These will help maintain good circulation. The compressive stockings will be used while you are in bed in the hospital.

Enteric-coated Aspirin (E.C. ASA) 325 mg taken daily is routinely used as a blood-thinning medication after surgery. For patients determined to be at higher risk for blood clots, a medication such as Coumadin, Xarelto, or Fragmin may be used instead of Aspirin. These medications, when used in conjunction with regular movement and exercise, will maintain good circulation in your legs. This will minimize the risk of blood clots.

After Your Surgery:

Recovery Room

When your surgery is completed, you will be taken to the recovery room, also called the Post-Anesthesia Care Unit (PACU). You will have your blood pressure and pulse checked frequently. The nurses will check your dressing, ask you to wiggle your toes, and have you take deep breaths.

Your orthopaedic surgeon will tell your immediate family when the surgery has been completed. Please inform your family that even if your surgery takes only a short time, you will have to remain in the recovery room until you are awake and considered to be “stable”.

Movement

Most patients are allowed to be “weight-bearing as tolerated” on their operated leg- that is, they can put weight on the leg dictated by the discomfort in your knee. Your surgeon and therapist will instruct you in this regard. A walker or cane is usually recommended for your safety during the initial recovery phase of surgery. A Physical Therapist will see you in the recovery room before you are discharged home.

Breathing

To prevent respiratory (lung) complications, such as pneumonia, after surgery, you will be encouraged to take deep breaths and cough regularly.

Wound Care

Your incision will be covered with a clear, occlusive surgical dressing. Under this dressing you will see a dark gray/black “silver nitrate” dressing used to reduce the risk of infection. This entire dressing will be removed at your postoperative visit- you do not need to change the dressing prior to that time. The incision used for partial knee replacement surgery is approximately four inches long and will be sutured together with absorbable sutures. There are usually no staples or sutures that will need to be removed. Showering is permitted 24

hours after surgery. Soaking the wound is not recommended for an additional three weeks- **NO** swimming, hot tubs, or tubs baths.

It is important to monitor your wound for any signs of infection. These signs include: increased redness, swelling, warmth, or drainage from the wound. You should also watch for other signs of possible infection, such as fever (greater than 38.5° C or 101° F) or chills. If any of these symptoms occur, you should notify your surgeon.

Eating

You will be able to drink and eat solid foods right away, according to how you feel.

Hydration after surgery is very important for a healthy recovery. It is a good idea to drink twice as much fluid as you normally would for the first several days after surgery.

This should include water, juices, ginger ale, and sport drinks.

Your appetite may not return for several days or even weeks following the surgery. This is not uncommon.

Dr. Kaper routinely recommends vitamins and supplements including: Multivitamin daily, Calcium carbonate, 500 mg twice a day, Vit D 5000 IU daily, Zinc 100mg twice a day, and Vit B.

Pain Management

One of the most important factors influencing the outcome of your rehabilitation is pain management. You will have incisional and muscle pain, which is normal. The pain medication is provided to maintain appropriate level of pain control. You will not be able to perform required activities effectively if you anticipate pain or are in too much pain.

Ice

The use of ice on your knee is extremely helpful to control both pain and swelling. Specific icing instructions and guidelines are provided to you. Icing at least four times per day, 20-30 minutes at a time, is recommended for the first several weeks after surgery. Ice the knee anytime you notice significant pain, or after exercise.

Physical Therapy

Pre-operative physical therapy is routinely recommended and prescribed for you. A physical therapist will instruct you for exercises that will help strengthen your muscles and improve the flexibility of your knee. The therapist will also teach you the exercises that are recommended after surgery. One of the most important factors influencing the results of knee replacement surgery is *your active* participation and commitment to the rehabilitation process. The exercises and stretching that are necessary to recuperate from knee replacement surgery should be looked at as an investment in your knee's long-term result. The more you put into your rehab, the more you stand to gain.

Typical exercises that you will be asked to perform will include:

1. Ankle pumps and circles
2. Quadricep sets
3. Hamstring sets
4. Adductor sets
5. Flexion and Extension stretching

To help achieve maximal straightening of your knee, you may place a pillow under your **heel** while you are resting in bed or in a chair, etc. Gravity will assist in bringing your knee to a straight position. Avoid placing a pillow under your **knee**, except for the specific exercises with your therapist. Having a pillow under the knee may be comfortable, but in the long run may cause the knee to stiffen and prevent full straightening of the knee. Stiffness may be a problem for some knee replacements. Typically, the amount of movement you have in your knee prior to surgery will be your goal after surgery.

At the time of your pre-operative consultation, you will be given the formal prescription for your outpatient physical therapy. This should be scheduled ahead of time so that you already have your therapy appointments in place and ready to go.

Going Home

Partial knee replacement surgery is now routinely done safely as an outpatient surgery.

Once you are home, you will continue to use your walker (or crutches if your therapist feels you are safe to use them) and perform your exercises. Patients can usually switch to a cane within several days after surgery. Arrangements will also have been made for home health or outpatient physical therapy.

You will be provided with a prescription for pain medication- usually given at the pre-op consultation visit. Occasionally, patients have problems with constipation, usually secondary to the pain pills. You may use Colace (a stool softener), Milk of Magnesia, a Dulcolax suppository, or a Fleets enema, if necessary. You can help prevent problems by drinking plenty of fluids, eating high-fiber foods, walking, and exercises.

You may be given a blood-thinning medication, typically enteric-coated Aspirin (325 mg, taken once a day), starting the day of surgery. This medication, when used in conjunction with exercise, will maintain good circulation in your legs and reduce the risk of blood clots. Aspirin is usually recommended for two weeks following surgery.

Surgical Risks

Just as with any other surgery, there are significant risks involved with partial knee replacement surgery. Fortunately, the benefits that you stand to gain from the surgery significantly outweigh the risks. Nonetheless, it is important that you are aware of what may occur during or after surgery. Just as you do not want to have any problems with your surgery, your surgeon does not either. Risks include, but are not limited to the following:

Wound Infection- you will be given antibiotics before and after your surgery; this will reduce but not eliminate the risk of infection; if your new knee becomes infected, the prosthesis may have to be completely removed and an extended course of antibiotics administered

Pneumonia- can occur after surgery; performing deep breathing exercises can help prevent congestion in the lungs which may lead to pneumonia

Bleeding- fortunately, it is a very rare circumstance for a patient to require a blood transfusion after this surgery

Blood clots- in the legs (as a deep venous thrombosis or DVT) can occur after orthopaedic surgery; fortunately, the chance that a clot travels from your leg through the heart and into the lungs (as a pulmonary embolus, or PE) is quite low; early mobilization and blood thinning medication reduces but does not eliminate this risk

Nerve or Blood Vessel Injury- there are several large nerves and blood vessels that lie very close to your knee joint; the potential for injury to one or more of exists during the surgery

Need for Future Revision- although the prostheses used today are the product of many years of research and development, the science has not yet been perfected; typical partial knee replacements can last approximately 15 years

Stiffness- as mentioned, regaining motion and flexibility in your new knee requires a committed effort; occasionally, knees do not regain what your surgeon considers an “acceptable” range of motion (usually at least 90° of bending) and further intervention may be necessary

Medical risks- although partial knee replacement surgery is considered a “minimally invasive surgery”, this does not mean it is “minor” surgery. Surgery can stress even the healthiest body; medical complications, as well as problems with anesthesia, may be severe enough to result in death. If there are any questions or concerns in this regard, please feel free to discuss them with your surgeon

Frequently Asked Questions

Q: When will I need to return for follow-up?

A: Your first post-operative check-up will be ten to fourteen days after surgery; patients are then typically seen for one or two additional visits over the next three to four months. Once you are formally released from active care, an x-ray check-up is recommended every 5 years, provided that no problems are noted with your “new” knee.

Q: Will I set off the metal detector at the airport because of my knee replacement?

A: Yes, you may. We recommend that you advise airport security that you have a partial knee replacement. The TSA, unfortunately, no longer recognizes joint replacement identification cards.

Q: Should I tell my dentist or surgeon that I have had a knee replacement?

A: Yes. For some procedures you should be given prophylactic antibiotics because of your artificial knee. The recommendation for dental antibiotics holds for the first two years after your surgery.

Q: When can I resume an independent exercise program?

A: You should discuss this with your surgeon before engaging in any form of exercise other than walking or the exercises your physical therapist prescribed. Your therapist will give you instructions for a formal home exercise program.

Q: When can I drive?

A: Driving is not permitted until you return for your follow-up visit with your surgeon. Usually this restriction is lifted within four weeks, or sooner if appropriate.

Q: When the weather is cold, will I notice the temperature in my new knee?

A: No, most people do not notice any significant difference.

Long-term Care of Your Partial Knee Replacement

Protection- Treat your new knee with care. The better care you take of the knee, the better it will take care of you. Remember that just as your own knee was worn out, your new knee can also wear out with time.

Sports- Your new knee is designed for activities of daily living (ADL's), not high-impact sports. Walking, swimming, and bicycle riding are recommended. Aggressive jogging or running, jumping, and repeated heavy lifting should be avoided.

Infection- Your knee has a prosthesis that the body considers a foreign object. If you become sick with a serious infection, the bacteria can travel through your blood stream and enter your knee joint. Infection in an artificial knee is a very difficult problem to manage. Therefore, prevention is the best type of medicine. If you develop a high fever or an infection (for example, bladder, skin, or dental), seek medical attention immediately. Your medical doctor will determine if antibiotics are necessary, and if needed, he or she may consult with our office to prevent any problems.

Dental Work- Within the first two years after receiving your artificial knee, you must take antibiotics before and after any dental procedure, including simple teeth cleaning. Once beyond the first two years, only those patients who have some type of immune compromise (i.e. their bodies are not able to handle infection well) should continue this routine. Be sure to tell your dentist that you have an artificial joint. If he or she has any specific concerns, please have them call our office for advice.

Surgical Procedures- If you are scheduled for any future surgery, you must receive antibiotics before and after the procedure. This includes minor surgery, such a mole removal, ingrown toenails, and eye surgery. This will also apply to any procedure in which a surgeon looks into your body, such as cystoscopy, bronchoscopy, or colonoscopy.

Follow-up care- Because the material technology being used for knee replacement is not perfect, your artificial knee can wear out with time. It is, therefore, important, that you return to see your surgeon periodic x-ray check-ups. Although you may not notice any symptoms, x-rays can often detect early signs of problems with artificial knees. If such problems are detected early enough, they are often much easier to treat.



Our goal is to provide you with the highest quality of orthopaedic care that will lead to the most successful outcome, with the lowest possible risk of complications. If you have any additional questions or concerns, please let us know.