



***ORTHOPAEDIC SPECIALISTS
of SCOTTSDALE***

**Uni-compartmental Knee Arthroplasty
(Partial Knee Replacement)**

A Patient's Guide



Table of Contents

Foreword	3
Introduction	4
Surgical Overview	5
Partial Knee Replacement Prosthesis	6
Robotic-Assisted NAVIO Partial Knee Replacement	7
Pre-admission Evaluation	8
Helpful Hints in Preparation for Surgery	9
The Day of Your Surgery	10
After Your Surgery	11
Physical Therapy	14
Going Home	15
Surgical Risks	16
Frequently Asked Questions	18
Long-term Care of Your Partial Knee Replacement	19

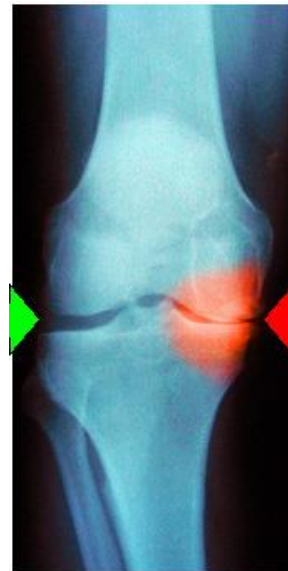
Foreword

This booklet has been developed by Dr. Bertrand Kaper for his orthopaedic surgery patients at Orthopaedic Specialists of Scottsdale. 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 Scottsdale. 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. 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 is 480-305-0034. Our website, www.ScottsdaleOrthoSpecialist.com, also offers an excellent educational resource for our patients.



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 in the knee joint, 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 inner or medial compartment and the outer or lateral compartment. The underside of the patella (kneecap) is considered the third compartment. If your arthritis (the area where the cartilage has 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 routinely performed safely on an out-patient basis. Recovery can, therefore, be significantly quicker than patients undergoing total or full knee replacement surgery.

Partial Knee Replacement Prosthesis

Many partial knee replacement systems have been developed over the past 40 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 available, incorporating the latest technology to assist in performing knee replacement surgery. This technology, known as the NAVIO system, incorporates a platform known as “Augmented Reality”, where computer/robotic enhanced imaging allows Dr. Kaper to create a 3-D model of the knee in real-time in the operating room. This technology is then used to 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 evaluation. 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 blood and urinalysis 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 anesthesia on the day of your surgery. Dr. Kaper recommends patient receive a combination of:

- General anesthesia – when you are “asleep” for the surgery;
- Adductor Canal “nerve” block – to temporarily “numb” the area around the knee;

Discuss any questions you may have with anesthesia. 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.

Helpful Hints in Preparation for Your Surgery

STARTING NOW:

Prepare yourself:

- Stop smoking- it is extremely detrimental to your health and healing
- Participate in the recommended “pre-hab” program- a course of physical therapy that will aide in your post-operative recovery
- 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 Dr. Kaper, the PA/NP, physical therapist, nurses 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 surgery coordinator 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
- 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 prescribed for you at your pre-operative visit.

The Day of Your Surgery

On the day of your surgery, you will report to the Admitting desk at the outpatient surgery center, or hospital, depending on where your surgery has been scheduled.

Remember:

- **Do not** eat anything within EIGHT hours of your scheduled surgery time
- It is OK to drink “clear” liquids (any fluid that you can see light through) up till THREE hours prior to surgery
- You may brush your teeth
- 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.
- Remove hairpins, wigs, and jewelry.
- Please do not bring any valuables with you.

From the admitting desk, 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), intermittent compression stockings will be placed on your legs. These will help maintain good circulation.

325 mg enteric-coated Aspirin (E.C. ASA) 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 or Xarelto 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).

Dr. Kaper will talk with 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 physical therapist will instruct you in this regard. A walker or cane is usually recommended for your safety during the initial recovery phase of surgery.

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 an occlusive surgical dressing. A small portable vacuum seal surgical “wound vac”, known as a PICO dressing, may be used as well. Under this dressing you will have 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 knee replacement surgery is approximately six-eight inches long and will be closed with absorbable sutures or a Zipline dressing. 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 4 weeks (**NO** swimming, hot tubs, or tubs baths) until the skin is completely healed.

Additional information about the PICO wound vac and Zipline can be found on these websites:

<http://possiblewithpico.com/introduction>

<https://www.ziplinemedical.com/>

It is important to monitor your wound for any signs of infection. Possible signs of infection include increased redness, worsening swelling, drainage from the wound, fever (greater than 38.5° C or 101° F) or chills. If any of these symptoms occur, please notify our office.

Diet & Hydration

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 peri-operative vitamins and supplements, including: a daily multivitamin, Vitamin D3 5000 IU once a day, Zinc 50mg twice a day, Vitamin C 500mg twice a day and Vitamin B1 (thiamin) 100mg twice daily.

Pain Management

After surgery you will have knee and muscle pain- this is normal. A prescription for pain medication will be provided to help manage postoperative pain. The use of any narcotic or opioid should, however, be approached with significant caution. There are multiple ways to control pain that are far more effective than using “pain pills”. This includes ice, elevation, non-steroidal anti-inflammatory medications and Tylenol. We strongly encourage you to minimize and discontinue narcotic pain medications as soon as you are able. Please be aware that addiction to narcotics can develop within only one week of use.

ICE, ICE, ICE!

The use of ice on and around your knee is extremely helpful to control inflammation, which is the cause of post-operative pain and swelling. Specific icing instructions and guidelines are provided to you. Icing a minimum of four times per day, 15-20 minutes at a time, is recommended for the first several weeks after surgery. It is OK to ice more frequently to help control pain. Ice the knee anytime you notice significant pain or after exercise. The thigh and calf muscles can also be sore and painful after surgery. Icing sore muscles is therefore also encouraged.

Physical Therapy

Pre-operative physical therapy (“Pre-Hab”) 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. This means that you go home the same day as your surgery.

Once you are home, you will continue to use your walker, crutches or cane and perform your exercises. Patients can usually switch to a cane within several days after surgery. Arrangements should also have been made prior to surgery for either post-operative home health or outpatient physical therapy.

You will be provided with a prescription for pain medication- please confirm this at your 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 will be provided with a prescription anti-inflammatory medication- usually given at the pre-op consultation visit. Along with icing, the anti-inflammatory medication will help reduce post-operative inflammation and swelling, which helps reduce the pain.

Aspirin (325mg, enteric-coated), taken once daily, is routinely used to reduce the risk of blood clots. This should be started the day after surgery and should always be taken with food. This medication, when used in conjunction with exercise and movement, 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 risks associated 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:

Infection- you will be given one intravenous (IV) dose of 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 a nerve or blood vessel is possible during the surgery.

Muscle weakness- weakness involving the muscles around the knee is common with severe arthritis. Appropriate therapy and exercise before and especially after surgery will help strengthen the muscles and aid in your recovery.

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 or more 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 approximately seven 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. It is safe to go thru the “body scanners.”

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

A: Yes. For routine dental work however, antibiotics are no longer recommended.

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 two to three 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 repetitive, 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- Antibiotics are no longer routinely recommended prior to dental work. Exceptions would include patients with diabetes, rheumatoid arthritis, or those patients receiving active chemotherapy or taking immune-suppressive treatment.

Surgical Procedures- If you are scheduled for any future surgery, you may require antibiotics. You should notify your physician that you have an artificial knee replacement.

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 for a periodic x-ray check-up. If you experience any unusual pain or swelling in your "new" knee, please let our office know.

At Orthopaedic Specialists of Scottsdale, it is our goal 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 do not hesitate to let us know.

Dr. Bertrand P. Kaper

Orthopaedic Specialists of Scottsdale

20401 N. 73rd Street, Suite #135

Scottsdale, AZ 85255

(480) 305-0034 office

(480) 305-0349 fax

www.ScottsdaleOrthoSpecialist.com