



Cartilage Repair Center

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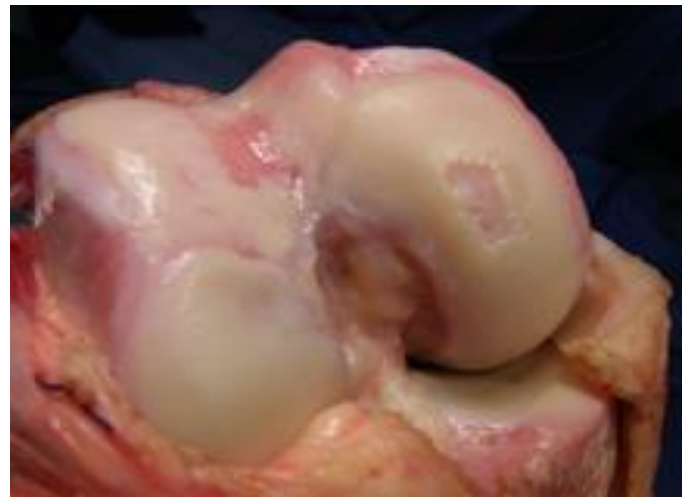
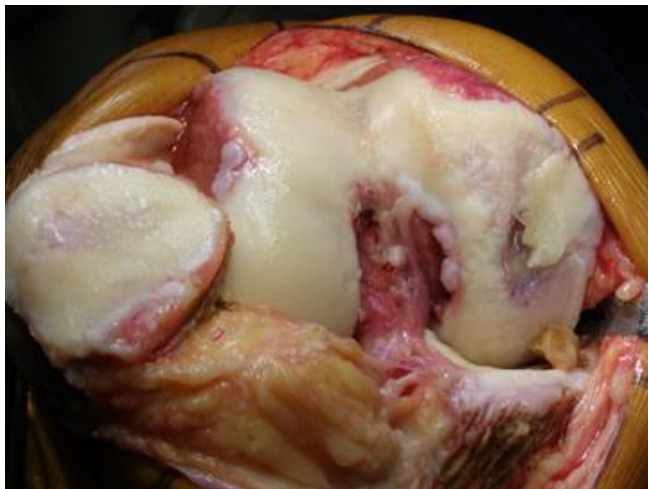
Partial Knee Replacement

The knee is divided into 3 compartments, the medial, lateral and patellofemoral compartments. When only one or two compartments are replaced a partial replacement is performed preserving the remainder of the knee. This surgery is less invasive than a total knee, with a quicker and less painful recovery and usually a more natural feel for the patient after recovery. This handout is intended to describe a single (unicompartmental medial or lateral replacement) and double (iDuo bicompartamental medial patellofemoral or lateral patellofemoral) partial replacement and an isolated patellofemoral compartment is described in a separate handout.

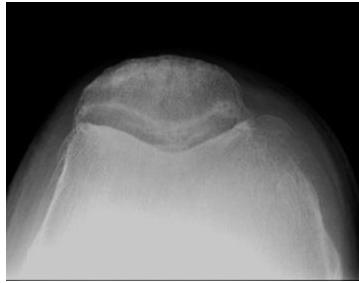
When a total knee replacement is performed it replaces all 3 compartments and removes the Anterior Cruciate Ligament (ACL) and frequently the Posterior Cruciate Ligament (PCL) as well as thick cuts of bone to resurface the entire damaged knee removing all the arthritis. Partial knee replacement in comparison removes minimal bone and preserves all the ligaments of the knee leaving all other anatomical structures intact, giving the knee a more natural feel.

Indications

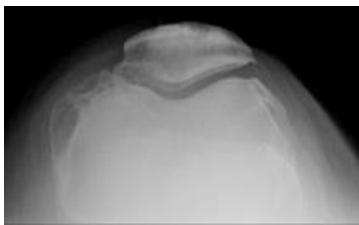
Isolated unicompartmental replacement is a salvage procedure for isolated osteoarthritis that is confined in one or two compartments of the knee. This treatment is indicated after conservative measures have failed to provide the patient with a quality of life that allows him/her to perform ADL's (activities of daily living). It is indicated when other treatment options are not indicated or have failed. It preserves the rest of the joint that must be normal for a patient to have significant improvement.



Medial Preoperative X-rays



Medial iDuo Preoperative X-rays



Medial Uni Preoperative X-rays



Goals of Treatment

Restore the patient's ability to perform everyday activities such as stair climbing, walking on uneven ground, getting out of a low chair, a car, or sitting with the knees bent for a prolonged period of time. These activities are generally difficult to perform when there is osteoarthritis present.

This procedure will help patients feel very comfortable and pain-free, but it is not intended for return to high-level impact loading, twisting activities. Premature failure of the components by wear is likely in-patients who resume running and pivoting sports. The prosthesis is designed to restore quality of life with activities of daily living. It is designed so as to resurface the end of the bone and preserving as much bone stock for any future conversions that may be needed. It is expected to last between 10-15 years and would allow an easier conversion to a primary total knee replacement, if needed.

Types of Components

Dr. Minas has at his disposal different devices for this. This will help him to individualize your surgical needs and give you the best possible outcomes post operatively. The different types are ConforMIS iUni, ConforMIS iDuo and Zimmer Miller Galante high flex.

The iUni is a component produced by the company ConforMIS Inc. It stands for Individualized unicompartamental resurfacing device. It is designed for patients with arthritic damage located in either the medial or lateral compartment of the knee. It differs from traditional implants in that traditional implants require the surgeon to choose from a range of standard implants that require the surgeon to cut the bone to fit the implant. iUni offers a more unique approach by creating the implant to specifically fit your knee, mirroring the surface and contours of your anatomic knee. This provides a bone sparing approach to the surgery. It gives the patient a more natural feeling to the knee preserving bone, cartilage, and ligaments, allowing the patient to have a less traumatic surgery and quicker recovery.

The Zimmer Miller Galante high Flex is a component produced by the company Zimmer. This system provides the patient a normal biomechanical function, minimally invasive precise implantation. The components provide accurate reproduction of the anatomic curves and size of the weight bearing surfaces of the knee. It allows for the surgeon to make minimal cuts on the bone sparing more bone stock for possible future conversion (if needed) to a total knee arthroplasty.

The ConforMIS iDuo is a bicompartamental partial knee replacement system produced by ConforMIS Inc. It is designed to resurface the either the medial or lateral weight bearing surfaces along with the patello-femoral compartment. (knee cap and groove). This device conforms to your anatomic surfaces and curves with the knee to give the surgeon a way to preserve the bone stock and allow for easy conversion to total knee replacement in the future. (if needed). The recovery time is shortened and the procedure is less traumatic allowing for a shorter recovery and a procedure for younger, active patients.

Surgery

Unicompartamental replacement is a surgical procedure where artificial parts are used to resurface the damaged areas of the knees (typically the weight bearing and/or patello-femoral) it is indicated for an arthritic knee that has damaged cartilage to these areas of the knee. The goals are to restore your knee to a painless, functional status. The weight bearing surface and tibial surface and/or the groove of the thigh bone (femur) and the underside of the kneecap (patella) is resurfaced. If iUni or iDuo is prescribed a CT scan will be taken and a map of your knee will be produced allowing ConforMIS to conform your new knee surface that will consist of a protective metal surface and a plastic liner between the femur and tibia and/or a plastic button on the back of the kneecap.

Risks of Surgery

Infection

Blood Clots - Deep venous thrombosis prophylaxis with the use of Aspirin 81 mg twice a day is also started the day of surgery. Aspirin is utilized for three weeks after surgery to prevent clotting in the leg. The use of an ace bandage will also be used to control swelling and reduce the risk of a Deep Venous Thrombosis (DVT) until your first post-op doctors visit. A clinic visit will be scheduled at 3 weeks. X-rays will be taken to determine the amount of healing.

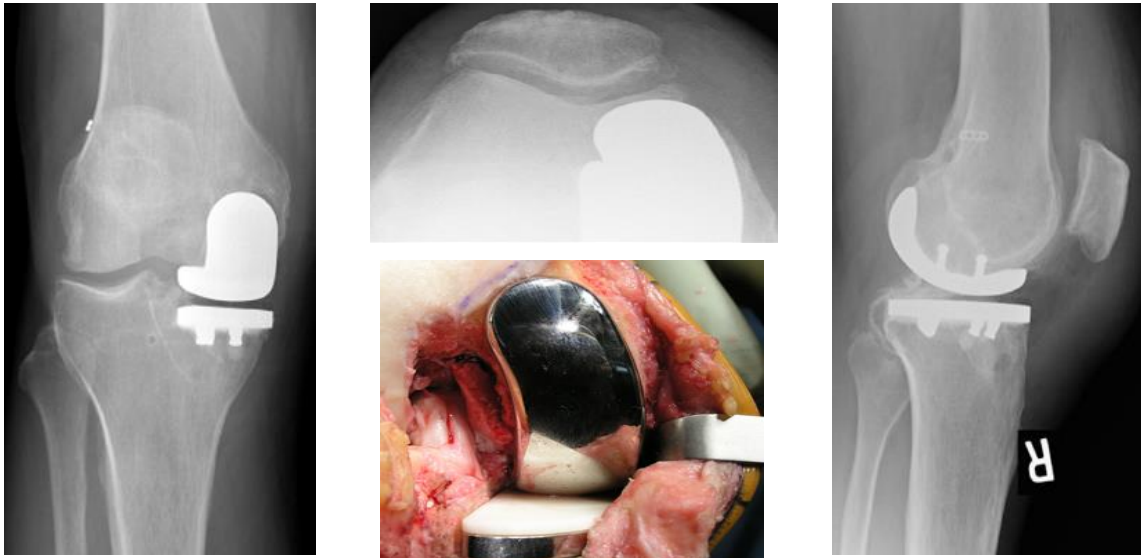
Stiffness – The formation of scar tissue that impedes your ability to get your full flexion/extension
 – *Need for further surgery*

Skin Numbness – occurs routinely to the lateral (outside portion) of the surgical incision due to cutting of the sensory nerves at surgery. Most of the sensation returns by 6-12 months but there may be a small quarter size area that remains permanent.

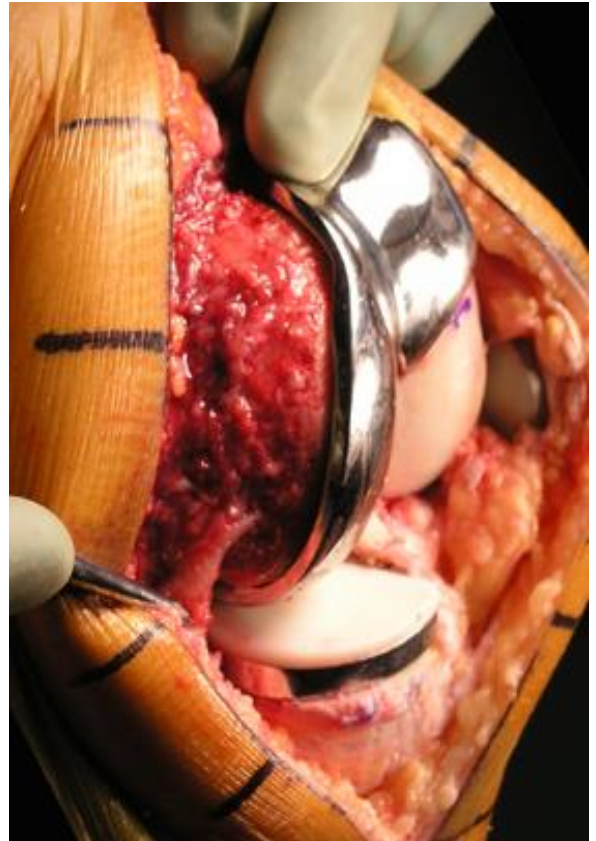
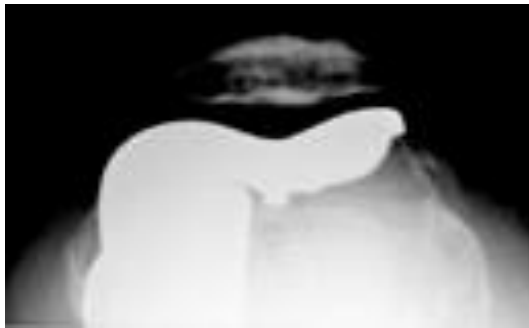
Need for more surgery - Most partial replacements will last 15-20 years after surgery but there may be progression of osteoarthritis in the remainder of the knee before that necessitating an early conversion to a total knee. If there is stiffness early after the replacement, surgery may be needed to restore the motion expected after knee replacement.

Future need for antibiotics to prevent joint infection - Temporary Prophylaxis: Dental work, diagnostic testing, or invasive procedure for life after artificial joint implant obtain antibiotics from your Primary Care Physician/Dentist.

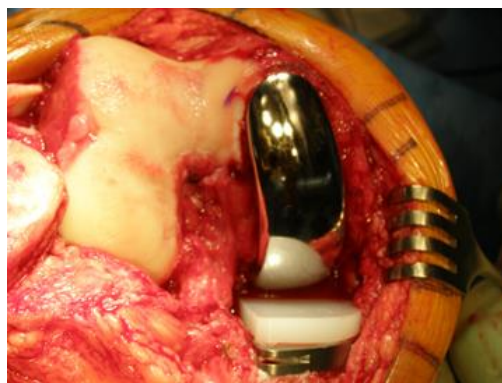
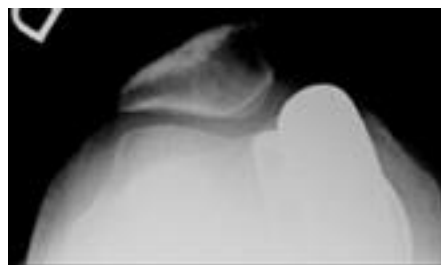
Medial iUni Open Photos/Postoperative X-rays



Medial iDuo Open Photos/Postoperative X-rays



Medial Zimmer Uni Open Photos/Postoperative X-rays



Hospital Course

The surgery takes approximately 1.5 hours, usually performed under general/spinal anesthesia. Dr. Minas does a local knee block at the end of surgery so that when the surgery is completed you will remain pain free or with minimal pain for 12-36 hours yet still have excellent control of your leg movement. This allows you to get up with therapy and walk the day of surgery with crutches or a walker with the full weight on your knee. Most patients go home the day following surgery. Good pain control, good mobility with transfers in and out of bed, walking, stairs as you would have at home and no temperature after surgery are criteria to discharge you home. After a partial replacement most patients have discontinued crutches and a cane by 2-3 weeks post operatively. A knee immobilizer in extension (straight out) is used for support after surgery and is needed at night while sleeping to prevent your knee from having a flexion deformity (inability to get the leg out straight).

Preoperative Course

During your office visit, Dr. Minas will fill out a surgical booking form and it will be given to his surgical booking secretary who will meet you and discuss dates that will work for you. A preoperative visit to our PATC (Pre Admitting Test Center) is necessary to check your health history and perform a physical to make sure you are healthy enough for surgery. You will also meet our Nurse Practitioners to answer questions about your upcoming knee replacement surgery. Usually preoperative screening blood tests and urinalysis are necessary before surgery to make sure that a urinary tract is sterile. Urinary tract infections are common, especially in older women, and often go undetected. Dental work should be performed before surgery or 3-6 months after surgery as an infected tooth or gum may also be a possible source of infection for the new knee. Dr. Minas may also ask you to see your medical doctor, especially if medical problems have been present in the past for example cardiac or respiratory problems. You may be instructed to stop taking your anti-inflammatory medications (Ibuprofen, Naprosyn, Relafen, DayPro, Aspirin) one week before surgery.

Several key points to do while waiting to have your surgery include:

- 1) Stay as active as possible: continue normal activity and exercise walk as much as possible short distances, exercise your upper body and cardiovascular system so that it will be stronger for you after surgery.
- 2) Stop Smoking: This can cause complications with anesthesia and alter the healing of your wound. Stopping even for a short time prior to surgery will be of great benefit to you.
- 3) Watch your weight: You may even be asked to lose some weight prior to your surgery.
- 4) Eat a healthy diet: Take a multivitamin if needed.
- 5) Learn as much about your surgery as possible and utilize the website that Dr. Minas has prepared to educate his patients about their upcoming surgery; www.VidScript.com

Postoperative Course

The first post-operative appointment will be at three weeks to assess that you have good pain management, a good range of motion of your knee, a wound check and an early postoperative x-ray as a baseline for future comparison.

How will my pain be controlled after surgery?

Immediately following surgery during your inpatient stay your pain will be controlled using IV pain medication. During your inpatient stay one of the goals of your care will be to transition you from IV pain medication to oral pain medication. This is often achieved by day one after surgery. You will be sent home from the hospital with a prescription for oral pain medication to be filled at your local pharmacy. The most commonly prescribed post-op pain medications include Oxycodone, Dilaudid, or Vicodin. Most patients will require regularly scheduled doses of pain medication (every 4-6 hours) for the first one to two weeks. Following week 2 you will begin to decrease your pain medication use to prior to physical therapy and prior to bedtime. Cold ice therapy is very effective for pain without medication side effects. PolarCare™, Ossur™ continuous cold ice flow and Game Ready™ continuous ice flow compression therapy are all effective to increasing degrees. Most patients will not require any pain medication past week 4-6 weeks. You will need to come to the office to refill pain medication once a week. Florida State Law doesn't allow us to mail prescriptions or refill pain medication without an office visit. We are only allowed to give a week of pain medication at a time. Be sure to follow the directions carefully. It is important to know how to obtain your pain medication refills appropriately and in a timely manner.

When will I follow-up with my surgeon after surgery?

Your first post-operative visit will take place 2 to 3 weeks after your surgery. This appointment is critical for checking your incision healing and range of motion as well as to answer any questions you may have in the first few weeks following surgery. You will then follow-up 6 weeks, 12 weeks, 6 months, and one year after surgery. At one-year post-op you will discuss with your surgeon your return to higher level activity. After your first year you will follow with your surgeon on a yearly basis.

Frequently Asked Questions

How do I get insurance approval for surgery? Your insurance approval will be handled by your surgeon's finance office. Often you do not need to do anything but wait for the administrative assistant to contact you to let you know you have been approved. In some instances, appeals need to be made to your insurance company for denial of services, if this is the case the administrative assistant will contact you and instruct you on how to proceed.

How long is my insurance approval good for? Most insurance approvals are good for a few months from the date of approval.

When will I start physical therapy? You will start physical therapy beginning the day after surgery in the hospital this will be continued once you are discharged.

What will I do during physical therapy? The primary goal of physical therapy is to initially increase ROM so that you do not get stiff following surgery. You will then begin to work on increasing strength after surgery. You will be provided with a detailed protocol of what you should and should not be doing at each post-operative phase. You will provide this to your physical therapist.

When do I need to wear my brace? You will need to wear your brace anytime you are up moving around on your crutches. You will use your brace for 6-10 weeks on average. You do not need to wear your brace for CPM, sleeping or when you are sitting.

How long will I need to use my crutches? Depending on how quickly your bone heals and your surgeon's preference you will need to use your crutches between 6 and 10 weeks on average.

When can I drive? For patients undergoing right leg surgical intervention you may not return to driving until you have good leg control, usually 3-6 weeks as assessed by your therapist and surgeon. For patients undergoing left knee surgery that do not drive standard transmission vehicles you may return to driving between 2-4 weeks when you are no longer taking pain medication.

When can I shower? You may shower 5 days after surgery but may not submerge your incision in a pool, hot tub, bathtub for 3 more weeks.

When can I go back to work? This will be different for each patient and depends largely on the type of work you do. Most patients who work in a sedentary position or desk work will be back to work by 6 weeks. Those patients who work in more labor intensive jobs may be out of work for 3-6 months.

When can I resume my regular activity? Return to regular activity depends highly on each individual patient's definition of regular activity. Non-impact activity such as walking, swimming, bike riding, and elliptical trainer can all be resumed by 4-5 months. Higher demand activity such as running and sports will not be able to be resumed until at least 1-year post operatively.

Will I need to stay in the hospital? You may be required to spend 1-2 nights in the hospital.

I don't like how narcotic pain medication makes me feel, can I take something else? You may use Tylenol (acetaminophen) for pain control following surgical intervention. Ice therapy is very effective without medication side effects- PolarCare™, Ossur™ continuous cold ice flow and Game Ready™ continuous ice flow compression therapy are all effective to increasing degrees. However, you should refrain from using any anti-inflammatory for the three months following surgery as it can slow the healing of your bone. These anti-inflammatory medications include medications such as Advil, Aleve, Ibuprofen, Naproxen, and Celebrex.

Who do I call if I have a question prior to my appointment? If you have questions regarding your upcoming surgery you may call your surgeon's nurse practitioner or research assistant.