

The Total Knee Replacement Patient Manual



**SALEM REGIONAL
MEDICAL CENTER**

Table of Contents

1. Introduction	1
2. Preparing for Your Surgery	5
3. Your Hospital Stay	16
4. After Your Hospital Stay	23
5. Problems to Watch for After Surgery	29
6. Other Considerations	31
7. Shared Decision Making	32
8. Frequently Asked Questions	33

Introduction to Total Knee Replacement





TOTAL KNEE Replacement Surgery

Your decision to have joint replacement surgery at Salem Regional Medical Center means that you have taken the first step toward a healthier lifestyle.

You have been diagnosed with end stage arthritis. While this problem has seriously affected the quality of your life, there is a treatment. We offer a unique program for knee replacement, which is designed to return you to an active lifestyle as quickly as possible. Since you and your orthopaedic surgeon have decided that you are a good candidate for a knee replacement, this guide will help answer questions you may have.

You will need time to prepare for joint replacement surgery, both physically and psychologically. Planning ahead for the challenges of surgery and recovery will help ensure a more successful outcome. It is the philosophy of our team to focus on all aspects of care so as to improve your outcomes and overall satisfaction; not only with the surgery itself, but also with the process you go through before and after surgery.

Communication is a very important part of this process. This guide is designed to educate and inform you about:

- What to expect at each step in your care from pre-admission, admission, surgery, rehabilitation, through follow-up care
- What your role is
- How to care for your new joint

We ask that you take the time to read this manual in its entirety, and then sign a form indicating that you have done so and that you understand all of the information presented. If you have any questions regarding this guide, please let us know. We also want to know if something could be done better throughout this process, so please share your comments or concerns with any member of our Team at any time.

Why Have a Joint Replacement?

A painful joint can impact your quality of life and limit your daily activities. The goal of a total knee replacement is to reduce knee pain and improve the motion in your knee.

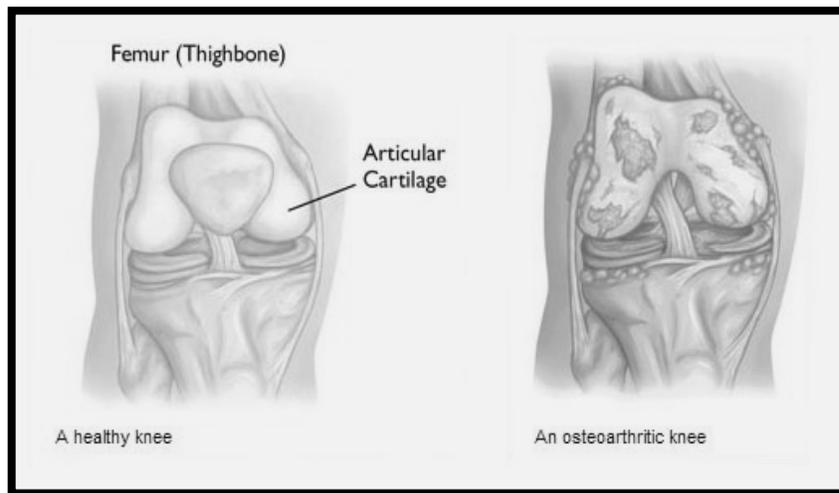
For most people, the main indication for total joint replacement is pain. This surgery will likely stop or reduce your knee pain and improve your quality of life. Pain relief is achievable in more than 95% of patients.

The other primary indication for total joint replacement is poor function. A successful replacement will provide a stable limb that, although not like a normal joint, will provide good to excellent function in more than 95% of patients. You will be able to use your legs more and build leg strength. Other reasons for surgery exist and if applicable, have been discussed with you.

Understanding Knee Replacement

Damage to the knee joint is often caused by arthritis, which is when wear and tear, disease or injury breaks down parts of the joint. Arthritis simply means loss of cartilage within a joint, which is the soft covering over the bone ends forming the joint. When this covering is lost, the joint becomes painful, stiff, and function is lost. There are three major types of arthritis that are treated with total replacement:

- **Osteoarthritis**, or degenerative arthritis is the most common type of arthritis and is caused by a wearing away of cartilage. Osteoarthritis can run in families (hereditary). It also occurs in people that have abnormal joints either from development or previous surgery, and those that have overused their joints throughout their lives.



- **Rheumatoid arthritis** is also known as “crippling arthritis,” and can also be hereditary. This disease process is thought to be a rejection of the body’s own tissues, called autoimmune disease. Medication can help control this disease but when the cartilage within the joint is destroyed, a total joint replacement may be the only treatment option.

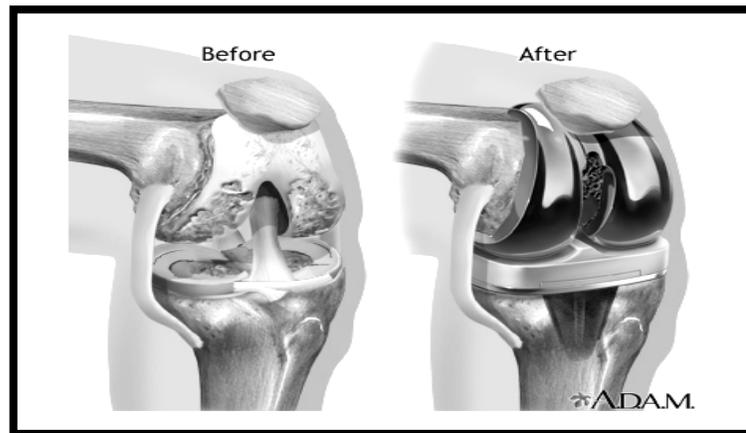
- **Post-traumatic arthritis** is the third major type of arthritis often treated with total joint replacement. This problem is caused by an injury to the joint (such as with a fall or car accident), which destroys cartilage, bone or both.

During the early stages of arthritis, many patients are able to control their symptoms and slow the progression of the disease with pain medications, rest, and physical therapy. However, as the arthritis progresses, it will often result in extensive bone damage and typically will require surgery to correct. Total knee replacement surgery is often recommended to patients suffering from severe arthritis, who are unable to relieve pain symptoms with more conservative treatments, or who have a poor range of motion.

What is a Total Joint Replacement?

Total joint replacement is a relatively new operation, having been in widespread use just since the early 1970s for total hips and the late 1970s for total knees. Even though the technology is recent, it has progressed rapidly. The long term results for patients, show total joints last about 20 years or more in most patients.

Knee replacement surgery is also called knee arthroplasty, and is one of the most common bone surgeries performed in the U.S. During knee replacement surgery, an orthopaedic surgeon takes damaged cartilage and bone out of the knee joint and replaces them with a man-made joint. The bone is prepared for the joint replacement by removing the damaged cartilage surfaces at the ends of the femur and tibia, along with a small amount of underlying bone. The removed cartilage and bone is replaced with metal components that recreate the surface of the joint. These metal parts are positioned into the bone and may be cemented or "press-fit" into the bone.



Preparing for Your Surgery

- **Prior to Your Admission**
- **Risks of Surgery**
- **Importance of Exercise**
- **Importance of Nutrition**
- **Preparing Your Home**



Prior to Your Admission

Your needs are very important to us, and you are the center of our care and attention. Together we will share in your total joint experience.

After you have made the decision to have a total knee replacement, your surgery can be scheduled during an office visit or it can be done over the phone with our surgery scheduling staff. You will need to schedule an appointment with your primary care physician to obtain medical clearance for surgery.



Pre-Surgery Visit at SRMC: The staff from Salem Regional Medical Center (SRMC) will contact you approximately 2 weeks before surgery and arrange for you to come to the hospital for a pre-surgical visit, which is usually scheduled early in the morning since you will also have some testing performed.

What to bring during your Pre-surgery visit:

- ✓ **Current list of medications and their dosages**
- ✓ **Current insurance card**
- ✓ **Joint replacement manual**

When you arrive at SRMC for your pre-surgical visit, you may park in the parking deck or outpatient lot located on the east side of the hospital's campus. Handicapped parking is also available near the Main Entrance. Stop at the Main Lobby Desk, where you will be directed to the **outpatient registration department**, which is on the hospital's ground floor. You are also encouraged to bring a friend or relative with you to that visit.

During your pre-surgical visit, you will meet with a nurse, dietitian, physical or occupational therapist and case manager. A nurse will gather medical information and answer any questions you may have. Any required Lab work, X-rays and an EKG will be completed. In addition, a nasal swab will be taken to test for resistant Staph bacteria (MRSA); so if necessary, treatment can be completed before surgery to help reduce your risk of post-operative infection.

The case manager will meet with you to discuss any special equipment needs you will have in preparation for your return home.

Anesthesia: An anesthesiologist will meet with you prior to your surgery, either the morning of surgery or during your pre-surgical visit, depending on your health history gathered by our staff members. He or she will ask you about your health, any medications you take and other surgeries you may have had. You will also discuss the type of anesthesia you will receive.

Spinal versus General Anesthetic: A spinal (regional) anesthetic or a general anesthetic will be used for your surgery.

- **Spinal anesthetic:** An anesthetic medication is injected near the spinal cord in order to numb you from the waist down so you will not feel pain. Prior to this injection, the area near the spine will first be numbed with a local anesthetic so that you are more comfortable. Once the spinal is working well, you will be given other medications through an IV in your arm to make you very relaxed allowing you to enter into a light sleep state. You will not be aware of or remember the actual surgery.

- **General anesthetic:** Anesthetic medication is given through injection in your IV or through inhalation. Unlike the spinal, this anesthetic affects your entire body by working on your brain and nervous system to render you temporarily unconscious. After you are asleep, a breathing tube will be placed down your throat and oxygen will be administered through this. The anesthesiologist will also use a special device called a BIS monitor, which measures the depth of anesthesia and allows the anesthesiologist to ensure you are getting the right amount of medication for your surgery.

Several factors must be considered when selecting the type of anesthesia, such as your past anesthesia experiences, your overall health and physical condition, your reactions to medications, and the risks involved. Risks vary with the type of anesthesia used, and vary depending upon your particular circumstances. Your anesthesiologist will discuss the risks and benefits of both types of anesthesia with you to help determine the best option for you. In general, there are benefits to using spinal rather than general anesthesia, such as less risk of stroke, heart attack, blood clot, and blood loss.

Adductor Canal Block: In addition to the use of a spinal or general anesthetic during your surgery, an adductor canal block is recommended for total and partial knee replacements to help control the amount of pain after your surgery. This type of anesthetic blocks a sensory nerve in the adductor canal, which is located in the upper thigh. It is done either in the pre-operative unit or in the operating room by the anesthesiologist prior to administering the spinal or general anesthetic.

An adductor canal block requires a needle stick in the upper thigh and the use of a nerve stimulator. Once the nerve is located, then local anesthetic medication is injected into the area to help decrease the amount of pain after your surgery. This does not take away all of the pain, but can assist in pain management.

Other Ways to Prepare for Your Surgery

● **Medications:** Do not take arthritis medications which include but are not limited to: Advil, Ibuprofen, Motrin, Aleve, Naprosyn, Voltaren, Diclofenac, Feldene, Mobic and Relafen for 7 days before surgery. Stop taking Celebrex 3-4 days before surgery.

- Stop taking Aspirin or Aspirin products 7 days before surgery.
- Stop taking Coumadin, Plavix, Pradaxa, Xarelto, Eliquis or other blood thinning medication as directed by your prescribing physician, cardiologist or specialist.
- Please let your surgeon know if you are on a steroid, such as Prednisone. You should continue to take this until the day of your surgery.
- If you are on blood pressure or heart medications and usually take them in the morning, take them the morning of surgery with a small sip of water.
- Tylenol or Acetaminophen products can be taken up to the night before surgery.
- Contact your prescribing physician if you have any other questions regarding when to take your medications prior to surgery.

● **Smoking:** If you smoke, you need to stop. Your primary care physician can help you. If you cannot stop smoking permanently, you must abstain for at least 2 weeks before your surgery. If this is not done, your surgery may be cancelled. It is also essential not to smoke for at least 2 weeks after surgery. Smoking causes problems with wound healing and greatly increases infection and blood clotting risks.



● **Eating/Drinking:** Do NOT eat or drink anything (including water) after midnight before your surgery. Do NOT eat or drink anything (including water or coffee) the morning of your surgery, except if you are taking a specific medication as discussed with your prescribing physician or the anesthesiologist.

● **Bathing:** To help prevent infection, SAGE Cloths will be provided by the hospital during your pre-surgery visit to use the day before your surgery and the morning of your surgery. Please shower the day before your surgery, at least three or more hours before the first time you prepare your skin with the special, pre-moistened SAGE cloths. You will be given a detailed instruction sheet on how to use the SAGE Cloths at your preoperative appointment.

What to Bring to the Hospital for Surgery: Please bring your insurance ID card(s) to the hospital. Wear loose, casual clothing. Do NOT wear makeup, acrylic nails, nail polish or jewelry to the hospital. If you wear dentures, hearing aids, contact lenses or eye glasses, you will be asked to remove them prior to your surgery.

Other: Notify your orthopaedic surgeon and Pre-surgical Testing at 330-332-7188, if there is a change in your medical condition (such as a cold, infection, fever, etc.), or if you have skin lesions or open sores prior to surgery. If so, it may be necessary to postpone or reschedule your surgery.

Risks of Surgery



A total joint replacement is considered to be a major surgery. Complications are rare, but we feel you should be aware of them in order to make an informed decision about your surgery. Some of the more common possible complications are presented below.

Infection: You will be given antibiotics before, during, and after your surgery to minimize the risk of infection. However, an infection still occurs in less than 1% of all total joint replacements and if it does, the effect can be devastating. An infection can take the form of a superficial wound infection requiring antibiotics and/or surgical cleansing; or a deep infection down to the implants which might require implant removal, placement of an antibiotic cement spacer, prolonged intravenous (IV) antibiotics, and a period of months until another implant can be placed. On very rare occasions, the joint cannot be redone.

Infection is also possible, throughout your life, many years after total joint replacement. This is thought to occur by bacteria from a distant site traveling to the implant. Bladder or kidney infections are the most common source of delayed infections, but dental abscesses, infected ingrown toenails, foot surgery, or bacterial sinus infections can all pose a threat. If these infections occur, they should be treated immediately and your orthopaedic surgeon's office notified.

It is important that you notify all of your healthcare providers, including any surgical specialists and your dentist, that you have had a total joint replacement. If dental surgery, bladder surgery, bowel surgery, rectal surgery, or hemorrhoid surgery is planned after your total joint replacement, the operating physician or dentist will determine if you need antibiotics prior to the procedure.

Limited Knee Motion: In very rare instances, a closed manipulation of the knee under anesthesia is necessary for limited motion. The knee is gently bent to recover necessary knee motion. No surgery is done to the knee. This can usually be avoided by cooperation with the outlined physical therapy program.

Blood Clots: Early activity has been shown to be the best way to minimize the risk of blood clots. However, blood clots can form in the veins of your calf, thigh, or pelvis. Clots can break away and travel to your lungs; this is called a pulmonary embolism, which can be life threatening. Care is taken to minimize the risk of blood clots with a blood thinning agent. The main risk of blood thinning agents is excessive thinning of the blood, causing bleeding. Some blood thinning agents require daily injections in the

hospital and at home. If needed, you or your family will be taught how to give the injections by the nurses in the hospital.

Wear and Implant Failure: The implanted components of a total joint replacement are mechanical pieces and can wear out or break. Only proven technology and materials are used in these implants. Obviously, the more active you are, the greater the chance of failure of the implant. With usual daily and recreational activity, your total joint replacement should function well for many years.

Allergic Reaction to Materials: Total joint replacements are made of materials foreign to your body. These materials have been thoroughly tested, but a small risk of allergic reaction exists. If you are allergic to metals, let a member of the team know.

If there is a possibility of bone grafting, this will be discussed with you. Bone grafting is from one of two sources: your body or someone else's. Should the bone graft come from your body, a second incision may be necessary. Bone graft sites may be painful for at least three months. Should the bone come from another person, there is a risk of infection from viral or bacterial sources. These infections include hepatitis and HIV. All bone grafts are thoroughly tested and cultured, and donors are screened according to rigorous national standards.

Bone Fracture: During surgery, your bone can crack with the insertion of the implant. This would be addressed at the time of surgery with screws or wires and should not affect your recovery.

Blood Loss: Since total joint replacement is a major operation, excessive blood loss can occur which would require blood bank transfusion. Blood transfusion is a possibility, although very unlikely. All appropriate blood loss sparing techniques will be used during your surgery.

Nerve Damage: There are major nerves that cross all major joints. There is a small possibility that one of these nerves can be damaged during surgery or afterwards. If so, this would leave you with weakness or numbness of the lower leg and foot, possibly requiring a permanent brace

Lack of Pain Relief: The total joint replacement is often done for pain relief. However, the procedure may fail to relieve all of your pain.

Importance of Exercise Before Surgery

You will need to exercise after surgery to help speed your recovery. Start slowly, then try to exercise a little more each day. These exercises will help make your arms and legs stronger, and make it easier to get into a standing position or walk with your crutches or walker, as you will be using crutches or a walker for several weeks after your surgery.

*Make
time to
exercise
each
day.*

Pre-Surgical Knee Exercises

- *Start performing these exercises now and continue until the day of your surgery*
- *Perform each exercise 10 times, twice per day. Practice with both legs.*
- *Also, walk as much as is comfortable.*

Gentle exercises help strengthen the muscles around your knee. Practice the following exercises before your surgery to give yourself the advantage of the strongest leg muscles possible. These exercises will be reviewed with you by your physical therapist before and after surgery. You will be doing some of these exercises every 1-2 hours on your own while in the hospital. Do not hold your breath while doing the exercises.

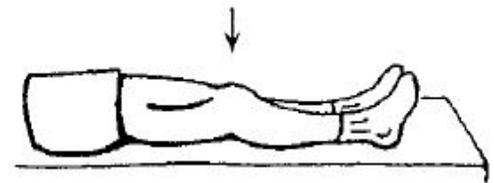
1. Ankle Pumps

This exercise is done frequently during the day to promote good circulation and to assist in the prevention of blood clots. This is a simple exercise in which you pump your ankles up slowly and down slowly with many repetitions.



2. Quad Sets (thigh tighteners)

This exercise strengthens the quadriceps muscle on the front of your thigh. These muscles give your knee stability and keep your knees from buckling while walking. This exercise is done by tightening your thigh until the back of the knee is flat on the bed, and holding this straight leg position for the count of five seconds.



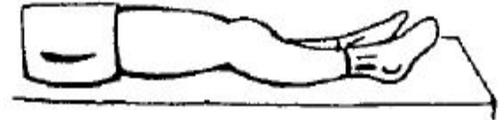
3. Hamstring Sets (back of thigh tighteners)

This exercise will strengthen the muscles located on the back of your thigh. This is done by bending the knee very slightly and pushing down with the heel into your bed, again holding for the count of five seconds.



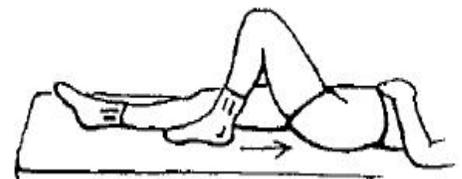
4. Gluteal Sets (buttocks pinches)

This exercise strengthens the gluteus maximus which is a very important muscle for walking. This is done by pinching your buttocks together and holding contraction for the count of five seconds.



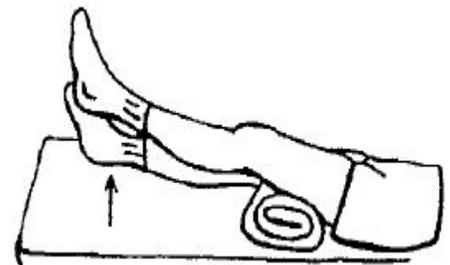
5. Heel Slides

This exercise will help your hip motion and strength while alleviating any thigh tightness you may experience. This is done by sliding the heel of your operated leg up toward your buttock until your ankle is directly beside your other knee. Slowly lower it back down to the extended position.



6. Short Arc Quads

This exercise strengthens the quadricep muscle on the front of your thigh. Place a big towel or bolster under the knee of your operated leg, then keep your knee on the bolster while raising your foot up to the ceiling until your operated leg is completely straight. Slowly return your foot back down to the starting position.



Pre-Surgical Upper Body Strengthening Exercises

- *Strong arms make it easier to use your walker/cane and get in and out of bed after surgery.*
- *Do 10 of each exercise at least twice daily up until day of surgery.*

If you do not have weights available, soup cans or bottles of water can provide resistance.

1. Chair Push Ups

When seated in a sturdy chair, place hands on arm rest. Push down with arms to lift buttocks off the chair and straighten your elbows. You should feel the muscles behind your arms tighten. Perform slowly.



2. Tricep Extensions

Hold arm with weight over your head. Support with other hand. Slowly bend elbow behind head. Straighten.



3. Arm Press

Start with hand on either side of head. Straighten arms slowly so weights are lifted straight towards ceiling.



4. Shoulder Flexion

Start with arms straight in front of you with thumb side of hand up. Keep arms straight and lift up over head as high as tolerated.



Importance of Nutrition



Good nutrition helps healing.

It is important to get enough protein and calories in your diet to promote healing. This process starts before your surgery. Visit www.choosemyplate.gov to find healthy nutrition guidelines more specific to your needs.

Your nutritional status will be assessed with pre-operative bloodwork, and you may require a dietary supplement. Diabetics need to have HbA1C level at or below 7 for the best outcome. Patients who are malnourished or overweight may be referred to a dietitian or nutritionist for additional dietary counseling.

Tips for Maintaining Good Nutrition At Home:

Eat Regularly!

- Eat five or six small meals during the day
- Eat a bigger meal earlier in the day
- Have easy, convenient meals and nutritious snacks available
- Eat nutrient-rich foods, such as low-fat yogurt, cheese and nuts
- Prepare and freeze extra servings of foods
- Stock up on single-serving packages of healthy snacks, such as dried fruits, nuts, peanut butter and crackers, or granola bars

Eat Right!

- Try to eat at least 5 ounces of lean meat, poultry or fish each day
- Include 1 ½ cups of colorful fruits + 2 cups of vegetables daily (fresh, frozen, canned)
- Choose low-fat milk, yogurt and cheese- 3 servings of dairy daily
- Select whole grain bread, cereal, pasta and rice

Other Tips

- Try to maintain your weight and avoid weight loss close to your surgery date.
- Keep your body well-nourished before surgery as preparation to help with healing.
- High protein foods are important and help with healing. Examples include lean meats, dairy products (milk, cheese, yogurt, cottage cheese), eggs, beans, nuts or peanut butter and soy products.
- Vitamin C can also help optimize healing. Food sources include citrus fruits or fruit juices as well as strawberries, cantaloupe, peaches, currants, green peppers, tomatoes and cauliflower.
- Nutritional supplements may help meet nutritional needs as you prepare for surgery.

Talk to your doctor or registered dietitian if you have questions about your specific nutritional needs.

Preparing Your Home for Your Return



Now is the time to prepare your home for your return from the hospital. It is recommended that you have 24-hour assistance for at least the first 3-5 days after surgery. However, you will need assistance for longer periods with cooking, housework, and general activities. If your family or friends are unable to help you, the Case Management Department can provide a list of agencies for referrals.

It is important that your house be free from hazards that could cause you to fall or lose your balance, since a fall can greatly set back your recovery. Use the following checklist to ensure that your home is safe for your return from the hospital.

- Be aware of uneven surfaces inside and outside of your home.
- Remove throw rugs and secure extension cords out of the way.
- Have a cordless phone or cell phone that can be kept on your person.
- Provide a place for your pets to be kept while you walk around the house.
- Maintain adequate lighting in all areas. Use night-lights in bathroom and hallways.
- Safety rails and/or a shower chair may be helpful in the tub/shower.
- Tubs and showers must have non-skid surfaces or mats.
- Use a raised toilet seat or 3-in-1 commode.
- Select footwear that stays securely on your feet and has non-skid soles.
- Use firm chairs with arm rests or place a firm cushion or pillow on seat of chair. It is easiest to stand from a seat that is higher than the back of your knees.
- If your bed is particularly low or high, explore options to make the bed easier to get in and out of.
- Move frequently used items to shelves and counters within reach.
- Consider water bottles to avoid spills that could be a slip hazard.
- Be sure there is room to negotiate a walker at home in case one is needed after surgery.
- Prepare simple meals ahead and store for re-heating later.

If you need assistance in preparing for your return home, please contact SRMC's Case Management department at 330-332-7588. Note that you will meet with a case manager during your pre-surgery visit, and may discuss any concerns that you have at that time regarding your care after you are discharged from the hospital.

Your Hospital Stay

- **Day of Surgery**
- **Surgery**
- **Recovery Room**
- **Nursing and Post-Surgery Schedule**
- **Physical & Occupational Therapy**
- **A Word About Pain**
- **Blood Loss and Transfusions**
- **Getting Ready for Discharge**

Day of Surgery

Before You Come to the Hospital

- Do not take any medications the morning of your surgery, except as directed by your physician.
- Do not eat or drink anything.
- Please refrain from using any tobacco products the morning of your surgery.
- Leave all valuables at home. Do not wear any makeup, hair gel/hair spray, perfume or jewelry.
- Remove all piercings, fingernail and/or toenail polish, and contact lenses.
- Wear loose fitting, comfortable clothing.
- Use the Sage wipe as directed during your pre-surgery visit.

Please bring your joint replacement manual with you to the hospital.

Arriving at the Hospital

Please arrive on time for your surgery, which is usually 90 minutes to 2 hours before your scheduled surgery time. Patients arriving for surgery are encouraged to enter the



Salem Regional Medical Center campus from Pershing Street and be dropped off at the Surgery Center entrance, with parking available in the lower level of the parking deck or the outdoor outpatient lot. Report to the Surgery Center on the ground floor of the hospital. After checking in at the reception desk, you will be shown to the Surgery Waiting Room and then go to your room in the pre-op unit. Here, the nurses will make you comfortable, perform a brief history and physical examination, start an IV and answer any questions.

For your safety:

- A nurse will provide surgical consent forms for you to sign.
- You will be asked to verify your name, birth date, procedure and surgeon's name. This is a normal routine that helps enhance patient safety. Don't be alarmed if you are asked to provide this information more than once.
- A name bracelet will be placed on your wrist. If you have any allergies, you may be given a special bracelet to wear.
- An anesthesiologist or CRNA (Certified Registered Nurse Anesthetist) will meet with you at this time to discuss any changes in your medical condition.
- You will meet a surgery nurse in the Pre-op Unit and you will be transported to the operating room at the appropriate time.
- Do not be alarmed if different staff members ask you the same questions. This is intentionally done to ensure your safety.

Family and Friends: Family members are welcome to accompany you on the day of your surgery. However, for the comfort and privacy of our other patients, we ask

that when you are in your room preparing for surgery, no more than two guests remain with you.

While you are in surgery and the Post Anesthesia Care Unit (PACU), your loved ones are welcome to relax in the Surgical Waiting Room. Please have them notify the waiting room's receptionist for whom they are waiting. The Surgery Waiting Room includes a computerized patient tracking board so that they can receive general updates regarding your status. Patient privacy is protected by using special codes, rather than patient names. Upon entering the Surgery Waiting Room, your loved ones can get their code from the volunteer on duty. General updates will be given, such as "In Recovery."

If your family leaves the Surgery Waiting Room for any reason, they should keep the receptionist informed of their whereabouts. They may also request a beeper to take with them, so they can be notified when to return to the area.

Surgery

Once you are in the surgery area, you will be asked to move from the gurney to the operating table. This table works extremely well during your surgery, but it is not the most comfortable piece of furniture you have ever been on!

You will notice a flurry of activity around you. While the anesthesiologist hangs IVs, places monitors on you, and prepares for the type of anesthetic you will receive, the nurses will be preparing the room for surgery. A great deal of equipment needs to be prepared for each procedure.

When the surgery is completed, you will be transported to the Post Anesthesia Care Unit (PACU) or Recovery Room.

Recovery Room

In the Recovery Room, also known as the Post Anesthetic Care Unit (PACU), you will be closely monitored by highly trained nurses. Your surgeon will notify your family of your condition and how your surgery went. Your pain should be under control; if it is not, bring this to the attention of your nurse. X-rays will be taken as necessary. Most likely, you will be breathing additional oxygen through a mask or nasal tube. You will be in the PACU for approximately 2 hours. Many patients require a longer stay. No visitors are allowed so that the nurse may provide the best environment for all patients. However, your nurse will keep them informed of your status. When you are medically stable, you will be transported to your patient room on the nursing floor.

Nursing Floor and Post-Surgery Schedule



Once on the nursing floor, you will be cared for by an experienced staff of registered nurses, patient care assistants, physical therapists, and other clinical staff aides. A team approach to total joint patients has been established and is headed by your surgeon. Your care will follow a protocol designed to maximize your recovery.

Patients generally stay 2-3 nights in the hospital. This is a very busy time for you and your family. There are a lot of physical therapy and nursing instructions that have to be given in a very short amount of time. Written instructions will be provided to you prior to your discharge home.

As a general rule, the following will be your post-surgical schedule:

- **Day of Surgery:** Depending on your pain levels, you will rest, receive pain pills or IV medications as needed, do bed exercises, drink fluids, and advance to a regular diet as tolerated. Physical therapy will get you up and out of bed to walk with a walker depending on how you feel.
- **Day #1 After Surgery:** You will continue to progress to a regular diet, advance physical therapy, sit in a chair, wound drain removed (if one is in place), the catheter that was placed in your bladder may be removed, lab work drawn, and oxygen and pulse oximeter removed.
- **Day #2 After Surgery:** You will continue to walk with the physical therapist or nursing staff. If not already done, the bladder catheter will be removed. Depending on the dressings in place, the dressing may be changed and incision checked. Possible discharge home with family if you are doing well and are safe with physical therapy.
- **Day #3- 4 After Surgery:** Patients who need more physical therapy will continue to increase their activity level. Those who need to be transferred to a skilled nursing facility will have discharge arrangements made by case management.

Physical & Occupational Therapy



Physical Therapy: The physical therapist (PT) works with you primarily on exercises and walking. He or she will begin to work with you on the day of your surgery. Your PT will teach you necessary precautions to allow proper healing and functioning of your new joint. They will get you up and walking with a

walker, cane or crutches after your surgery, and work with you 1-2 times a day in the hospital. You will not be able to get out of bed after the surgery without a PT until it is determined you are safe enough to get up with the nursing staff. You will be taught exercises, transfer techniques (for getting in and out of bed), walking with a walker or crutches, and safe stair climbing.

The PT will instruct you on how much weight you can put on your leg when you get up. The majority of patients can be full weight bearing right away after surgery. Your weight bearing status is determined by your surgeon during the time of surgery and is to remain in place for 6 weeks.

Occupational Therapy: The occupational therapist works on activities of daily living assistance (i.e. dressing and bathing). This will be done on an individual basis depending on your needs and safety.

Home Care Needs: You will need special equipment at home to help you with a safer and easier recovery. This equipment will be ordered for you by the case manager, and may include an elevated toilet seat (3-in-1 commode), front wheel walker, cane, hip kit or crutches. Most patients also benefit from a detachable shower head and grab bar in the shower, both of which should be installed by you before surgery.

How long do I need to go to therapy?

Physical therapy is an integral part in your recovery following a joint replacement surgery. If your physician feels you need to see a physical therapist following your operation, your progress will determine the duration of that therapy. The therapist will additionally instruct you in exercises that you can perform on your own without supervision. When you reach the goals that your therapist outlines with you and your therapist feels that you have reached independence, your therapy will be discontinued.

Medications and Pain Management



Patients undergoing joint replacement surgery are generally ordered certain classes of medications during their hospital stay. These frequently include antibiotics, pain medications, and medicine to prevent or control nausea or an upset stomach. The nursing staff will discuss with you what medications have been ordered, what they are used for, and the common side effects that you may experience when taking these medications.

In addition, your healthcare team is aware of your concern about pain and is committed to answering your questions and managing surgical pain. Please know that it is the primary goal of the team to keep your pain as well-controlled as possible in a

safe manner. This may mean that you have some pain, but not severe pain. Please feel free to discuss your pain with any member of our team.

Pain is different for everyone. Some patients have minimal pain after surgery whereas others have more severe pain. It is important to understand that surgery will not relieve your joint pain immediately. Pain after surgery occurs in a cycle. It begins and increases until medication interrupts it. The aim of good pain control is to treat the pain before it becomes intolerable. If at any time you experience severe pain, let your nurse know immediately. There are several different types of pain control methods available that will keep you comfortable and allow you to be up and walking shortly after surgery.

Nerve Block: The surgical site is injected with local anesthetic at the end of surgery. The nerve block can last for as long as 24 hours depending on the location and type of block used.

Pain Medication: The nurses will start you on oral pain medications right away, which may be even before surgery. A balanced mix of narcotic pain killers, anti-inflammatory drugs, and anti-nausea medications may be used.

How long will my pain last? How long a person experiences pain after total joint replacement is variable, but your pain should gradually diminish over time. You will likely require prescription pain medicine for the first 4-6 weeks after surgery. In general, you should then be able to switch to over-the-counter pain medicines, such as an anti-inflammatory or Tylenol. Most people are able to decrease the use of prescription pain medication over the first few weeks and rarely require prescription narcotic medication longer than 3 months after surgery. If you still require narcotic pain medication beyond 3 months after surgery, a pain management specialist may be recommended.

Pain after knee replacement surgery is not uncommon for several months after your surgery and during your initial recovery. Patients often describe a tightness and stiffness even 1-2 years after surgery. In addition, minor discomfort related to a replaced joint may on occasion linger for 6-12 months. Some therapy and exercises will also cause mild to moderate pain for some period of time. If the pain persists, let your doctor know.

Blood Loss and Transfusions

You may need blood after surgery, although this is becoming less frequent. Changes in surgical techniques with smaller incisions and exposures have decreased the need for self-donated blood (autologous) and donor blood (allogenic) transfusions.

Patients are transfused only if they have a significant decrease in their blood count (anemia) post-operatively and/or have symptoms related to anemia. Your surgeon will let you know if donating your own blood prior to surgery is recommended for you. Patients undergoing hip replacement with the anterior approach typically do not need to donate blood prior to surgery.

A **Blood Transfusion Consent** form will be given to you during your pre-surgery appointment at the hospital.

Getting Ready for Discharge



If you are discharged home, you should be able to:

- Get in and out of bed independently.
 - Be independent in bathing and dressing.
 - Get your own food prepared as needed.
 - Identify medications, name the side effects, and know when to take them.
- Take care of your incision and dressing after surgery.
 - Follow weight bearing precautions as ordered by your surgeon.
 - Correctly use a walker, crutches, or a cane.
 - Participate in a home exercise program.
 - Go up and down stairs safely and correctly if necessary.
 - Get in and out of a car correctly and safely.
 - Be able to use home equipment effectively.
 - Have a follow up appointment with your surgeon.
 - Have contact information for the home health agency and physical therapists.

If you have a long car ride home, stop every 45-60 minutes and get out of the car to do some walking to prevent blood clots from forming. Also, do ankle pumps in the car while riding home.

If you live alone, it is highly recommended to have a family member or a friend stay with you for a few days after discharge from the hospital.

After Your Hospital Stay

- **Rehabilitation Needs**
- **Follow-up Care**
- **Return to Daily Activities**

Rehabilitation Needs

Transfer to an Inpatient Rehabilitation Unit or a Skilled Nursing Unit after your hospital stay, will be done ONLY for those patients needing additional monitored therapy. Therapy is a continuation of what you have read in this manual and learned in the hospital. Living alone is not considered to be a reason for going to rehabilitation.



Your transfer for rehabilitation or skilled nursing depends on:

- **Questions asked before surgery about your health, help at home and activity level**
 - **How you progress in the hospital after surgery**
-

Insurance companies have very specific criteria for patients needing rehabilitation or skilled nursing care, and your case manager will address these requirements if it is determined that you have a medical necessity for a transfer to a rehabilitation facility.

The rehabilitation or skilled care unit is a place where people go for additional therapies for several days up to 3 weeks. Patients with many different types of medical conditions are on this type of unit, including: strokes, fractures, injuries and total joint replacements. Because the rehabilitation of, or recovery from an injury or surgery takes longer the older you are, most of the patients in these types of units are older. A **rehabilitation unit or a skilled nursing facility is not a nursing home!**

These facilities are also not a hospital, but a care facility where the focus is on gaining independence. This means that although clinical care is provided by nurses, the nurse to patient ratio is different than in the hospital. To be admitted to a rehabilitation unit, you must be able to participate in 3 hours of therapy per day, 5 days per week. The three hours are split between Physical Therapy and Occupational Therapy. You will receive less therapy on the weekends.

Therapies are done on an individual and group basis. The average length of stay is one week. This stay is covered by Medicare and most major insurance groups. Prior to admission, your insurance coverage will be verified by a case manager.

You will be getting dressed daily, so please bring several changes of loose-fitting clothes that you normally wear at home. Some exercises are done in a therapy gym, so slacks or sweat pants are helpful. Meals are served in a central dining room or in your room. You will be encouraged to bathe, dress, and perform daily hygiene independently with the assistance of your therapists.

While on the rehabilitation or skilled nursing unit, you will be followed by a health care team: a medical physician (who may or may not be your family doctor), nurses, therapists, a dietician and a case manager. The goal of this team is to safely return you to your pre-surgery living situation. Your mobility skills are practiced and increased daily so that when you go home, you will be able to take care of yourself.

~ Please note that Salem Regional Medical Center has a skilled nursing facility for patients meeting medical necessity for this type of care after hospital discharge.

Follow-up Care



After you have returned home, you will need follow-up care at routine times, assuming all is going well.

10-14 Days After Surgery: You will be seen at home by a nurse for removal of your staples. If you have been at a rehabilitation facility or a skilled nursing facility, this may have already been done. You will be instructed on how to care for your incision and you will be given a discharge instruction sheet from the hospital. You will need extra dressings for the dressing changes at home if you do not have an occlusive (waterproof) dressing in place. If you have an occlusive dressing in place, it will be removed at 7 days post-operative.

6 Weeks After Surgery: Patients are typically seen in the surgeon's office for an incision check, examination, assessment of your progress and x-rays. You may be given new instructions and exercises to help you regain your strength and mobility. Exercise is the key to getting your strength back, and the choice not to exercise can make your joint stiff and limit your range of motion. A prescription for outpatient physical therapy will be provided if you need formal physical therapy. Sexual intercourse can be resumed at this time.

Further Follow-up: Follow up appointments may be scheduled depending on your progress, usually at 3, 6 and 12 months after surgery; and then every other year. These visits will include x-rays, which sometimes show problems long before you feel that anything is wrong. Please note that the post-surgery follow up schedule as outlined is for patients progressing without problems. Should you have the need for more frequent visits, you may be asked to return at shorter intervals. If you have concerns or problems, call your orthopaedic surgeon so you can be seen sooner than your scheduled visit. You should also see your regular primary care physician within 2 months from the date of your discharge from the hospital. This visit will ensure that you are as physically fit as possible and allow you to maximize your recovery.

Return to Daily Activities

Remember that you just had major joint surgery and your joint needs time to heal. Slowly increase your daily activities to a level similar to your normal activities.



Use of Mobility (Walking) Aids: The time that you may need a walking aid is variable. In general, if your surgeon allows you to place as much weight as tolerated on your total joint replacement, most patients use a walker for a few weeks and then a cane for another 2-4 weeks. You should use a walking aid until you feel comfortable walking without one. Your physical therapist will help guide you through this transition.

Return to Work: Depending on the type of activities you perform at your job and the speed of your recovery, it may be several weeks before you are able to return to work. Your doctor will advise you when it is safe to resume your normal work activities. Typically, if your work is sedentary you may return when comfortable. If your work is more rigorous you may require up to 3 months before you can return to full duty. In some cases, more or less time is necessary. Do not lift heavy objects for the first three months, and then only with your surgeon's permission.

Driving: If you had surgery on your right knee, don't drive for at least 2 weeks. After this time, you may return to driving when you feel comfortable. If you had surgery on your left knee, you may return to driving automatic transmission vehicles as soon as 1 week, if you feel comfortable. Don't drive if you are taking prescription narcotics.

Getting Into A Car: Sit down on the edge of the car seat. Swing one leg over into the car, then the other. Pivot in seat to face forward, buckle seat belt.

Getting Out of A Car: Reverse the above process, but be sure to bend and straighten your operative knee first before you get out of the car as it may get stiff.

Travel: You can travel when you feel comfortable, which is generally about 6 weeks after surgery. However, when travelling, it is important to take some measures to prevent blood clots, such as getting up to walk and stretching at least once every 1-2 hours during extended travel.



Exercise and Leisure Activities: Continue to do the exercises prescribed by your physical therapist for at least 2 months after surgery. In some cases, your doctor may recommend riding a stationary bicycle to help maintain muscle tone and flexibility. As soon as your doctor advises that you are physically able, you can return to many of the leisure activities you enjoyed before your knee replacement. Lower-stress activities such as golf, hiking, walking, biking,

stationary skiing (e.g., Nordic Track), and swimming are excellent forms of exercise for individuals with a knee replacement. Other activities may also be considered, including cross-country skiing, doubles tennis, table tennis and bowling.

In general:

- Walk as much as you would like, but remember that walking is no substitute for the exercises prescribed by your doctor and physical therapist.
- Swimming is an excellent low-impact activity after a total knee replacement; you can begin as soon as the sutures have been removed and the wound is healed.
- Lower impact fitness activities such as golfing, bicycling, and light tennis, put less stress on your knee joint and are preferable over high-impact activities such as jogging, racquetball and skiing.

There are different risks associated with certain types of leisure and sport activities. Some activities may lead to damage of your artificial joint over time, due to wear and tear of the joint. In general, the more vigorous the activity, the higher the risk of damaging the implant, which increases the wear and tear on the implant or increases the risk of loosening or dislocating the implant.

Three major categories of activities should be avoided:

- Activities that cause high-impact stresses on the implant
- Activities with potentially high risk of injury
- Activities that may result in falling or getting tangled with opponents, risking a fracture of the bone around the implant or loosening of the implant. These types of activities include competitive racquet sports (such as singles tennis, squash, and racquetball), high-impact aerobics, high intensity jogging, water skiing, power gliding, Alpine skiing, mogul skiing, martial arts, rope jumping, and rough contact sports (such as football, soccer, lacrosse, basketball, baseball, handball, and volleyball)

Examples of activities and recommended participation levels are listed below:

Impact Level	Examples	Recommendations
Low	<ul style="list-style-type: none"> - Stationary cycling - Calisthenics - Golf - Stationary skiing - Swimming, water aerobics - Walking - Ballroom dancing 	<ul style="list-style-type: none"> - Can improve good health - Desirable for most patients, may increase rate of wear - Orthotics and activity modifications can reduce impact loads - Concentration on conditioning and flexibility rather than strengthening
Potentially Low	<ul style="list-style-type: none"> - Bowling - Fencing - Rowing 	<ul style="list-style-type: none"> - Desirable for most patients, may increase rate of wear - Requires pre-activity evaluation,

	<ul style="list-style-type: none"> - Isokinetic weight-lifting - Sailing - Speed walking - Cross-country skiing - Table tennis - Jazz dancing and ballet - Bicycling 	<p>monitoring and development of guidelines by surgeon</p> <ul style="list-style-type: none"> - Balance must be intact - Orthotics and activity modifications can reduce impact loads - Emphasize high number of repetitions with minimal resistance
High	<ul style="list-style-type: none"> - Baseball/softball - Football - Handball/racketball - Jogging/running - Volleyball, soccer - Water skiing, karate 	<ul style="list-style-type: none"> - Should be avoided - Significant probability of injury and need for revision

The way a knee replacement will perform depends on your age, weight, activity level and other factors. There are potential risks and recovery takes time. If you have conditions that limit rehabilitation, you should not have this surgery. Only an orthopaedic surgeon can advise you if a knee replacement is right for you.

Problems to Watch for After Surgery

Some Problems to Watch for After Surgery



Signs and Symptoms of Infection: Infection is a very serious complication after total joint replacement. As such, it is important to be aware of the signs and symptoms of infection. Patients may experience persistent fever ($>102^{\circ}$), chills or night sweats. In addition, it is important to closely monitor your incision. Be aware of any redness and drainage from your surgical incision.

Please call your orthopaedic surgeon's office if:

- The incision becomes red or "angry looking."
- You notice an increase in any type of drainage through the incision or drain site.
- The area around the incision becomes more swollen and doesn't respond to rest and elevation (elevation defined as your foot above the level of your heart).
- You have a body fever that is not getting better.

A good rule of thumb is, **when in doubt, call.**

Swelling & Blood Clots: It is normal to have swelling and tenderness of the knee after surgery. Swelling around the incision area varies after surgery from patient to patient. Initially, ice is most helpful to keep down swelling and diminish pain. Heat should be avoided for 6 weeks following surgery.

For most patients, this area will stay noticeably swollen for 3-6 months after surgery. Generally, this gets better gradually over time. It often takes weeks and even months for this to fully resolve.

However, if the swelling of the entire leg occurs that does not go down with elevation (foot above the level of your heart) or after resting overnight, this may be a sign of a blood clot. Should you notice leg, ankle, or foot swelling that does not respond to rest and elevation, please call us. Blood clots can form in your calf or thigh, and there is usually tenderness of the calf or inner thigh along with swelling. Redness in these areas is also sometimes seen. Many people develop blood clots without any sign of a problem so, **when in doubt, call.**

Chest Pain: If you are having chest pain and/or shortness of breath, it is best to call 911 and go to the nearest hospital.

Other Considerations

Cost and Insurance

It is very important for patients to know their insurance policy information and the coverage that they have. Our surgery scheduling staff will obtain the proper authorizations for surgery and the hospital stay. They can also refer you to the proper sources at the hospital to answer your questions regarding coverage.

Words of Encouragement

The entire Team is committed to the successful outcome of your surgery. We have prepared this manual so that you have the information and support needed to be an active participant on our Team. If you have any questions or concerns, feel free to ask any member of our staff.

You will also have an opportunity to provide feedback about this process, and will receive a follow-up survey that will come through the mail about 6 weeks after your surgery.

Thank you for reading this manual.

Shared Decision Making: Acknowledgement of Understanding

Shared decision making occurs when a health care provider and a patient work together to make a health care decision that is best for the patient. This process takes into account evidence-based information about available options, the health care provider's knowledge and experience, and the patient's values and preferences.

Our Team feels it is of utmost importance that YOU, the patient, be well informed before the surgery. This has been shown to improve your results after the surgery.

I have read the joint replacement manual, understand its contents, and feel prepared for surgery. My surgeon has discussed all applicable treatment alternatives with me, and we have agreed that a total joint replacement is an appropriate course of treatment. I understand if I have a further question or concern, I may contact the SRMC orthopaedic team at 330-332-7244, my family doctor or my orthopaedic surgeon.

Patient Signature: _____ Date: _____

Print Patient Name: _____

Surgeon Signature: _____ Date: _____

Print Surgeon Name: _____

Frequently Asked Questions

Frequently Asked Questions

Q. When will my incision line become less red?

A: All incisions fade at different rates. This varies according to your own skin tone. It is advisable to keep the incision out of direct sunlight as this will prolong the process. Most incisions fade by 6 months.

Q. When can I get my incision wet?

A: You may shower immediately if occlusive (waterproof) dressing is used over your incision. If you do not have an occlusive dressing in place, you will need to use saran wrap or a plastic bag with tape to keep your dressings and incision dry when showering. It is best to then change your dressing after the shower.

Q: Can I use cream on my incision?

A: It is important to keep your incision dry for the first 2 weeks. As the incision heals, and the small scabs resolve, cream or lotion may be applied to the incision. Most commonly used creams include Vitamin E, cocoa butter and Mederma. There is not a lot of scientific evidence to show that this makes a significant difference in the healing of your incision; however, the moisturizers alone may help avoid chafing and cracking and make range of motion exercises easier to perform.

Q: What can I use on my incision to minimize scarring?

A: Many patients have found scar creams helpful in reducing scarring. Creams with high Vitamin E content are most effective. For raised scars you can consider Mederma, or Preparation H applied to the scar, which are available over the counter.

Q. How long will it take to maximize my range of motion?

A: It is important to work hard on your range of motion after surgery. For some it can take up to 3 months to maximize your motion. The amount of motion that you get after knee replacement is dependent on several factors including how much motion you had prior to surgery. It is important to work closely with your physical therapist and your orthopaedic surgeon to ensure that you are meeting all of your range of motion goals.

Q: I think my leg feels longer now. Is this possible?

A: In the majority of cases, your leg will essentially be unchanged. In some cases, patients perceive that their leg is lengthened. This is usually the result of straightening out a knee that had a significant bow or knock knee deformity before surgery.

Q: Can I kneel on my knee incision?

A: Yes, you can kneel on your knee incision once it has healed. Kneeling does not damage the knee replacement. The incision is usually very sensitive for the first 12 months after surgery and may be painful to kneel on. If the incision is too sensitive to kneel on, you may use a pillow, towel or knee pad to cushion the knee during kneeling activity.

Q: How long will the outside of my knee be numb?

A: Typically after total knee surgery, the outside portion of the incision will have an area of numbness roughly the size of your palm. It is usually not complete numbness, but feels different from the inside portion of your knee. The numbness is a normal consequence of surgery and generally resolves over the first few months. Occasionally, there will be a small area about the size of a quarter with some residual numbness over the outside portion of your incision.

Q: How long will my knee stay warm?

A: Your knee will stay warmer than the non-operative knee for 6-9 months. This is a normal part of the healing process.

Q: Why does my knee click?

A: Your knee replacement is made from metal, plastic, or possibly ceramic. The click you hear or feel is the weight-bearing surfaces contacting each other during activity. Your normal joint surfaces (pre-surgery) usually separate and re-contact in normal activity. However, the normal joint surface is covered with a soft substance called cartilage that does not make any perceivable noise. It is normal to hear or feel this clicking sensation, especially early after your surgery.

Q: How long will I be on a blood thinner?

A: Various options including pills and injections are available to thin your blood and help prevent phlebitis and blood clots. Your surgeon will choose a therapy based on your medical history and possibly on tests done before you leave the hospital. Usually after knee replacement, you are on a blood thinner for approximately 4-6 weeks.

Q. Do I need to take antibiotics when I have a dental or other medical procedure?

A: Guidelines regarding taking antibiotics with routine dental procedures are changing but, in general, we recommend taking an antibiotic prior to any dental procedure for the first 2 years after your joint replacement surgery. Avoid any dental cleaning or other non-urgent procedures for 3 months following joint replacement surgery.

Q: Is it normal to feel depressed?

A: It is not uncommon to have feelings of depression after joint replacement surgery. This may be due to a variety of factors, such as limited mobility, discomfort, increased dependency on others, and medication side effects. Feelings of depression will typically fade as you begin to return to regular activities. If your feelings of depression persist, consult your primary care physician.

Q. Will I set off the security monitors at the airport?

A: Yes, you will probably set off the alarms as you progress through the security checkpoint. Be proactive and inform security personnel that you have had a joint replacement and will most likely set off the alarm. Wear clothing that will allow you to show them your incision without difficulty.