

INTRODUCTION:

Joint Replacement Manual

The physicians, nurses and hospital staff at Adventist Health Sonora are dedicated professionals committed to providing comprehensive orthopedic care for our community and focused on making sure your knee surgery is successful.

Our goal is to restore your quality of life. Your commitment to preparing for surgery, rehabilitation and recovery is essential for achieving the best possible outcome. Your orthopedic team will provide you with extensive patient education, quality care and support before, during and after surgery. Please review the information in this binder so that you will know what to expect and how to prepare.

Thank you for your trust and choosing us for your medical care.

The purpose of this manual

This Joint Replacement Manual is your guide to knee replacement surgery, with information about arthritis, anesthesia, surgery, rehabilitation, recovery and more.

Training, education, continuity of care and a preplanned discharge are needed for the best results in knee surgery. Communication is key to this process. This manual is a communication and education tool for patients, physicians, nurses and physical and occupational therapists. It is designed to educate you so that you know:

- What to expect every step of the way
 - What you need to do in preparation for surgery and recovery
 - How to care for your knee for life
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Remember, this is just a guide. Your doctor, nurse or therapist may add to or change many of the suggestions. Always use their recommendations first. Ask questions if you are unsure of any information. Keep your manual as a helpful guide for at least the first year after your surgery.

Introducing your Adventist Health Sonora Team

Introduction

We strongly believe the best outcome after total joint replacement surgery occurs with the coordinated efforts of a team of professionals, each specially trained and focused specifically on you. We work together with you to ensure an excellent experience. Your team includes:

Orthopedic surgeon

Your orthopedic surgeon is the physician who will perform your joint replacement operation and oversee your care throughout your stay at Adventist Health Sonora.

Physician assistant

Your physician assistant will assist your surgeon in the operating room and help manage your care and recovery processes.

Orthopedic nurse navigator

Your navigator will coordinate your care as they follow you throughout the joint replacement process. They will provide clinical information and instruction before and after surgery and help you prepare for your transition home.

Anesthesia team

Your anesthesiologist and nurse anesthetist will formulate, explain and administer the appropriate medications to keep you comfortable and relaxed during surgery. They will also assist in your post-operative pain management.

Coach

Your coach is a person you will designate to help you prepare for, and recover from, your joint replacement surgery. This can be a spouse, friend or family member who will provide you with support and encouragement throughout your experience.

Hospitalist

A hospitalist is a physician who may follow your medical care if needed during your hospital stay and will work with your orthopedic surgeon to meet your care needs.

Primary care provider

Your primary care provider is your family physician who will manage your overall health. You can expect your primary care provider to stay in touch with your orthopedic surgeon and be informed regarding your progress after you are discharged from the hospital.

Cardiologist

If you have a history of cardiac disease, your cardiologist will provide surgical clearance as well as assist in managing your cardiac medications as we plan for your surgery, hospitalization and recovery.

Registered nurse

Before, during and after surgery, you will meet many different nurses performing different tasks. Nurses will help prepare you for surgery and be in the operating room with you throughout your surgery.

A team of nurses will carry out orders given by your surgeon and keep you comfortable and safe in the hospital.

Case manager

These team members help plan your transition from the hospital to home and arrange for any additional equipment and services needed.

Certified nursing assistant

Your certified nursing assistant, or CNA, will help you with activities such as bathing, dressing or getting to the bathroom. CNAs will often help nurses with other tasks as well.

Chaplain

Our chaplains are specially trained to serve your spiritual needs upon your request, as well as those of your family, regardless of your denomination.

Dietitian

A dietitian is available for any questions or concerns about your dietary needs while you are in the hospital.

Physical therapist

Your physical therapist is trained to help you gain strength and motion in your new joint and will help ensure that you do your exercises correctly. They will focus on making sure you are safely getting up out of bed, walking, negotiating stairs and getting stronger each day.

Occupational therapist

Your occupational therapist will help you regain independence in activities such as bathing, dressing and toileting, and evaluate your need for adaptive equipment and assistive devices for your self-care at home.

X-ray technician

Medical imaging plays an important role, taking the images that assist your physician in planning your surgery.

Home health

After you leave the hospital, a home physical therapist and nurse will work with you to safely continue your recovery and rehabilitation at home. You will then transition to outpatient physical therapy, at the direction of your physician.

SECTION 1:

The Arthritic Joint

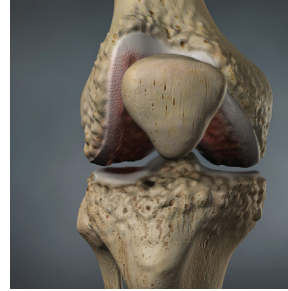
Healthy Knee Joint



The ends of two or more bones, connected by ligament tissues, form a joint. Your knee is a hinge joint formed by the lower leg bone, called the tibia or shin bone, and the thigh bone, called the femur.

The bone ends of a knee joint are covered with a smooth layer called cartilage. Normal cartilage allows nearly frictionless and painfree movement.

Worn-Out Arthritic Knee Joint



Most of us notice the wear and tear process beginning in our 50s or 60s. However, genetic mutations can lead to premature breakdown of cartilage at an earlier age.

As the knee joint begins to show signs of wear, smooth cartilage deteriorates, fragments, and eventually wears down to the bone, resulting in more pain. The cartilage fragments break off, accumulate and irritate the lining of the joint. This may cause inflammation, swelling, stiffness, and loss of motion.

The synovium, a joint lining membrane, encloses every joint with smooth tissue and produces fluid that reduces friction and wear. It also contains many nerve endings that produce pain and swelling when irritated by joint wear debris.

Although the process of arthritic joint breakdown may take years, symptoms can develop suddenly and without warning. None of our current homeopathic or prescription medical treatments cure the arthritis, defined as restoring the cartilage surfaces to normal, but may have variable levels of success in reducing pain and swelling, improving motion, and slowing further damage.

Although there are many types of arthritis, the two most common are **osteoarthritis** and **rheumatoid arthritis**.

Osteoarthritis (OA)

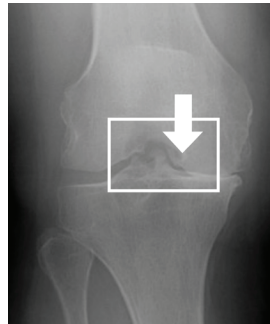
The wear and tear of daily life is the most common reason for arthritis. Joint wear is also affected by the genetic makeup of our cartilage. Our genetically determined cartilage structure and durability determines our joint health and longevity.

Common factors that contribute to premature wear of joint surfaces include:

- Joint injuries (knee fractures, stretched or torn ligaments or cartilage)
- Overuse of a joint from work or sport activities
- Abnormal joint anatomy
- Abnormal bowlegged or knock-knee alignment
- Weak muscle control
- Obesity



Normal knee x-ray



Worn out knee x-ray

Rheumatoid Arthritis (RA)

Much less common than osteoarthritis, rheumatoid arthritis is a disease that attacks the joint lining of any of our joints. If you feel the inside of your cheek with your tongue, the moist, slippery membrane is similar to the synovial membrane lining our joints. For reasons not yet entirely clear, our immune system attacks the joint lining and creates swelling, inflammation, lining overgrowth and thickening. This leads to eventual destruction of the joint cartilage. Any joint, tendon, or bursa structure throughout the body can be affected. Ongoing research and biologic medications have made significant strides in preventing this abnormal immune system response to our own tissues.

SECTION 2:

Joint Replacement Surgery

Knee joint replacement

An arthritic joint is prepared by removing worn and damaged joint surfaces and replacing or resurfacing the joint with an artificial joint.



Front view total knee replacement



Side view total knee replacement

How a knee joint replacement is performed

Following your anesthetic, the surgeon will trim the damaged parts of the femur, tibia and kneecap. Bone cuts are made with precision so that proper leg alignment and balance of the knee ligaments is maintained. Deformities such as a permanently bent knee, or excess bowlegged or knock-knee are corrected.

The metal components are an alloy of cobalt, chrome and molybdenum, which have been safely used for over 40 years. The plastic is high density polyethylene, also used for more than 40 years. The components are cemented into position with a polymer plastic bone cement. Components are selected that are appropriate for your size and the correct thickness to provide proper tension to the knee ligaments.

Advanced technology: Partial knee replacement and robotics

Partial knee joint replacements replace only an isolated portion of the joint rather than a complete replacement. There are three compartments to the knee joint: the medial (inside), lateral (outside) and patellofemoral (between the kneecap and femur). With total joint replacement, all three joint surfaces are replaced. With partial knee replacement, only one (unicompartmental) or two (bicompartamental) surfaces are replaced.

Several of our surgeons utilize computer programs to create three-dimensional joint reconstruction from MRI or CT scans to plan total joint replacement before surgery. This allows a greater level of detail in surgery planning and a precise, personalized fit of the implants. Robotic-assisted techniques help execute a less invasive knee replacement, using computer-guided orientation of the joint components, with a robotic arm assisting the surgeon for accurate positioning.

When do you know it's time for surgery?

Reasons for considering joint replacement surgery vary greatly from person to person. The following reasons are often present:

- Pain levels frequently reach between 6 and 10 on a 10-point scale.
- Common activities such as getting in and out of a car, up from a chair or commode, using stairs or applying/removing shoes and socks is difficult.
- Arthritis pain restricts enjoyable activities such as visiting friends, shopping, walking for exercise or going on vacation.
- Sleeping is difficult due to pain.
- A series of medications to control the pain have been tried without success.
- There is a desire to avoid taking pain medications on a regular basis.
- The individual has significant weight gain or leg weakness due to lack of exercise and activity.
- Other treatments such as injections, physical therapy or other surgical procedures have not resulted in improvement.

What to expect from knee replacement

You can expect a successful outcome from your knee replacement surgery. Generally, patients experience less pain and more mobility and can resume most of the activities they enjoyed before the onset of arthritis. Long-term studies show that 85–90% of artificial joints are intact and functional after 20 years. Your artificial joint will last longer if you maintain your ideal weight and avoid high-impact activities.

The final result of knee replacement surgery depends on many factors, including the severity of your arthritis, the type of surgery, your cooperation with the physical therapy program, and your motivation to push yourself during the months of exercise needed to fully recover.

The goals of rehabilitation are to regain full straightening of the knee and 125 degrees or more of bend. If your motivation to do the exercises fails to achieve the desired degree of motion, scar tissue forms and may cause limited motion. This is usually accompanied by some degree of pain. In other words, a stiff knee is a painful knee.

Popping and clicking noises are frequently seen in the front of the knee after surgery, but generally subside with time and do not cause a problem.

The risks of knee replacement surgery

Joint replacement is a major surgery and although advances in technology and medical care have made the procedure very safe and effective, there are risks. These risks should be considered carefully before you decide to have surgery. Every measure will be taken by our team of experts to minimize the risks and avoid complications. Although complications are rare, they do sometimes occur. We will do our very best to avoid the most common risks, which include:

Blood clots

Blood clots can form in a leg vein and in your lungs after knee replacement surgery and can be dangerous. Blood clots are more common in patients who are older, obese, have a history of blood clots or have cancer.

Infection

Infection is very rare in healthy patients having knee replacement. Patients with chronic health conditions, like obesity, diabetes or liver disease, or patients who take some form of corticosteroids, are at higher risk of infection after any surgery. Superficial infections are usually treated with antibiotics. Deeper infections inside the joint may require additional surgery.

Wound healing

Sometimes the surgical incision heals slowly, particularly if you are obese, take corticosteroids, smoke or have a disease that affects the immune system, such as rheumatoid arthritis or diabetes.

Nerve, blood vessel and ligament injuries

Damage to the surrounding structures in the knee, including nerves, blood vessels and ligaments, are possible but extremely rare. More commonly there is numbness in the area of the incision, which usually improves within 6–12 months.

Limited range of motion

On the day of surgery, you will begin exercises to help improve the flexibility of your knee. Your ability to bend your knee after surgery often depends on how far you could bend it before surgery. Non-compliance with the home exercise program can lead to limitations in range of motion and joint function.

Hematoma

Bleeding into the knee can occur either immediately after surgery or at a later time. This is accompanied by acute pain and swelling and is sometimes confused with infection.

Instability

After surgery, the knee may feel a bit unstable. This will normally improve as muscles regain their strength.

Wear

Your new knee replacement is a mechanical device that will wear over time. The rate of wear may depend on your age and activity level.

Loosening of the joint

Over the long term, loosening of the artificial knee joint is the most common risk associated with total knee replacement. Loosening may occur when tissue grows between the artificial joint and your bone.

You can help reduce your risks of many of these complications by:

- Reducing or eliminating the use of tobacco and alcohol
- Managing your diabetes, if applicable
- Maintaining a healthy diet
- Using good hand-washing techniques
- Performing your exercises as directed by physical therapy
- Limiting high-impact activities as directed by your surgeon
- Losing weight if you are overweight

SECTION 3:

Pre-Surgery Preparations

Checklist of things to do before surgery:

- ☐ Visit your orthopedic surgeon's office
- ☐ Select your coach
- ☐ Attend patient education class
Call 209-536-3421 to schedule in advance. When you attend the class, please bring:
 - Your coach and this binder
- ☐ Schedule surgery date
- ☐ Schedule outpatient physical therapy visit for 3 weeks after surgery
Many clinics are impacted. Make sure to schedule your initial outpatient therapy appointment well in advance before your surgery takes place.
- ☐ Preadmission visit: 3–7 days before surgery
Preregister in person, even if no preoperative tests are ordered.
What to bring:
 - Photo ID and insurance card
 - Completed "Surgery Patient Questionnaire"
 - List of medications
 - Copy of advance directive
- ☐ Complete the following preparations:
 - Home preparation (p. 14)
 - Packing for your hospital stay (p. 16)
 - Countdown to surgery (p. 17)

Selecting your coach

It is essential that you have assistance at home for at least seven to ten days after surgery. You will need someone to supervise you, drive you home from surgery and help with daily activities. This person should be willing to support you throughout the process and fully participate in activities before and after surgery.

Patient education class

This class is required for all patients undergoing joint replacement surgery at Adventist Health Sonora. The class is designed to help you prepare for what to expect before, during and after surgery and help you achieve the best possible result.

Your surgeon's office staff will:

- Send a referral to your preferred physical therapy clinic
- Obtain precertification from your insurance company
- If needed, obtain preauthorization for all medications and a walker so they can be ordered and delivered in a timely manner.

Pre-surgery information

Preadmission testing

At your preadmission visit you will complete forms and obtain blood tests, a urinary analysis (UA) and an EKG which are required to determine your safety for surgery.

Visit your primary care provider's office

Your surgeon may ask you to undergo a complete physical by your primary care provider, typically two to three weeks before your surgery date. This assures that conditions that may affect your health or that could interfere with your surgery or recovery are found and treated. This also enhances communication between your primary care provider and surgeon about your surgical procedure.

Medications

Please continue to take your medications as directed by your primary care provider. Some medications that you currently take may prove harmful during surgery. If you take the following medications* you must stop taking them prior to your surgery:

Two weeks before surgery

- Vitamins and herbal supplements
- Prescription diet medications
- Some rheumatoid arthritis medications

Seven days before surgery

- Blood thinners, anticoagulants, anti-platelet agents (Coumadin®, Plavix®, Effient®)
- Aspirin and compounds containing aspirin
- Anti-inflammatory medications (ibuprofen, Advil®, Motrin®, Aleve®, naproxen, Naprosyn®, diclofenac)

You may resume your vitamins and supplements 2–3 weeks after surgery.

**These are examples only. Keep a list of all your current medications with you so you can discuss with your surgeon, primary care provider and hospital staff. Your care team will provide guidance about your specific medications to stop before surgery and when to resume after surgery.*

Preventing surgical site infection

There are several steps you can take to prevent surgical site infections.

Dental care

All dental work, including cleaning, must be completed at least six weeks prior to your surgery. You must call the office if any dental problems arise prior to your scheduled surgery. If you have an infection in your mouth, this must be resolved prior to surgery or your surgery may be postponed.

Shaving

It is very important that you do not shave your legs or use any hair removal products anywhere near the surgical area for five days before surgery. Studies show an increased risk of surgical site infection associated with shaving. This is attributed to the microscopic cuts in the skin that allow bacteria to enter.

Clean hands

Hand hygiene is very important. You will notice your caregivers using alcohol-based hand sanitizer when providing patient care. We strongly encourage your family and friends to utilize this cleanser as well, along with washing their hands frequently to prevent the spread of infection.

Skin rash

Broken skin or rashes should be reported to your surgeon's office. If significant, your surgery may be postponed.

Pre-surgery bathing

You will receive chlorhexidine scrub and instructions for using it prior to surgery. You will use this scrub when you shower the night before and morning of your surgery.

Planning ahead for your recovery

Our surgeons recommend that you return home with your coach to assist you for at least 7–10 days after surgery. You need to ensure appropriate help is arranged in advance, otherwise it could delay scheduling of your surgery.

Social planning

You may need assistance for several weeks with tasks such as shopping, cooking, bathing and laundry. Contact your nurse navigator at 209-536-3287 before your surgery if you would like information about hiring private caregiver services. These services are not generally covered by insurance.

Disability

You may complete disability paperwork online before surgery, but we cannot complete our portion of this paperwork until after you have surgery. Family medical leave paperwork can be processed prior to your surgery.

Skilled nursing and inpatient rehabilitation

Our patients rarely qualify for skilled nursing or rehabilitation facility stays. While it may be a covered benefit, there are many criteria that must be met for you to utilize this benefit through your insurance. We urge you to plan on returning home with assistance from your coach. It is not possible to arrange for a skilled nursing stay prior to your surgery.

Home health

Home health services are ordered postoperatively for patients who qualify. These services will be arranged by your surgeon's office staff and you will be contacted directly by the home health agency prior to home visits.

Outpatient physical therapy

Your surgeon's office will send a referral for outpatient physical therapy to begin three weeks after surgery. You will need to schedule your appointments at the clinic of your choice. Please schedule these appointments before having surgery. Until you are cleared by your surgeon to drive, and while you are taking prescription pain medication, you will need someone to drive you to these appointments.

Home preparation

You and your family may want to consider these tips to help make your home safe and comfortable when you return from your surgery.

- ☐ Set up your “base camp” in a room where you plan on spending your daytime hours.
- ☐ Purchase a non-slip bathmat for inside your tub/shower.
- ☐ Check every room for tripping hazards. Remove throw rugs and secure electrical cords out of your way.
- ☐ Determine which items from dressers, cabinets and shelves you’ll need immediately after returning home. Any items you use often should be moved to counter height to avoid excessive bending or reaching.
- ☐ Plan on using a cordless phone or cell phone. They can be tucked away inside a pocket, carried easily or set within reach.
- ☐ Make sure stairs have handrails that are securely fastened to the wall. If you must negotiate stairs to enter, or once within your home, please discuss this at your preoperative visit.
- ☐ If you have pets, you may want to consider boarding them for a few days after your return home.
- ☐ A chair which has a firm back and arm rests is recommended during your recovery. A chair that sits higher will help you stand more easily. Chairs with wheels should not be used under any circumstances.
- ☐ In order to minimize cooking, prepare meals in advance and freeze them. Alternatively, you can purchase prepared meals for convenience.
- ☐ Install night lights in bathrooms, bedrooms and hallways.
- ☐ Avoid yard work for 10 days prior to surgery. Make arrangements for outdoor work such as gardening or cutting the grass for at least two weeks after surgery.
- ☐ Do laundry ahead of time and put clean linens on your bed.
- ☐ Arrange for someone to collect your newspaper and mail.

Potential equipment items you may need



Toileting

Transferring on/off standard toilet seat heights can be a challenge after surgery. Your occupational therapist (OT) will assist you in mastering this transfer before you discharge home. The OT may recommend a bedside commode or three-in-one commode. The commode is most commonly used over the toilet seat as a riser. The commode also can be used in a shower stall as an elevated seat to sit on during a shower. This piece of equipment is typically not covered by your insurance company.

Bathing

You may benefit from having a chair in your shower or tub. A long-handled sponge and a shower hose may also be helpful. The bedside commode will work as a shower chair; however, they do not work as a chair inside bathtubs. If you have only a bathtub, a tub transfer bench may be needed. The tub transfer bench may not work in bathtubs with sliding doors or claw-foot tubs. The OT will assist you in finding what works best in your home. This piece of equipment is typically not covered by your insurance company.



Reachers and other supportive devices

A reacher can come in handy when you need to grasp objects that are too far above or below you. Try to store items at a convenient height. A long-handled shoe horn and a sock aide may be very helpful to reduce bending. The OT will assess your abilities to perform dressing tasks prior to discharge from the hospital and provide recommendations based on your specific needs.

Insurance will likely only pay for a walker, but we can advise you on where to get other equipment if necessary. We prefer you use as little equipment as possible to regain full function without becoming dependent upon equipment. The Sonora Lions Club has some equipment that may be loaned out on a temporary basis. They are located at Sonora Mini-Storage on Tuolumne Road. Their phone number is 209-533-7766.

Packing for your hospital stay

The following checklist should help you pack for your hospital stay.

Items to pack

- ☐ Clean, comfortable, loose-fitting clothing such as elastic waist pants, shorts, skirts or jogging outfits for your trip home from the hospital
- ☐ Tennis shoes or shoes with flat, rubber soles. Do not bring tight-fitting footwear, as your feet may swell following surgery. Do not bring slides or backless slippers.
- ☐ Eyeglasses and case, contact lens cases with solution and denture storage
- ☐ If you use a breathing machine, such as a CPAP, bring your machine, mask and hose.
- ☐ Your insurance card
- ☐ Your own pillows if you think they would make you more comfortable. To keep them separate from hospital pillows, it is helpful if you place them in colorful pillowcases.
- ☐ Your advance directive—either a living will or durable power of attorney for health care. If you don't already have an advance directive, complete prior to surgery.
- ☐ Reading material for your enjoyment
- ☐ Toiletries and other special items for daily use
- ☐ This Joint Replacement Manual

Items to leave at home

- ☐ Jewelry, cash or valuables of any kind should be left at home or in the care of a trusted loved one.

Countdown to surgery

8 weeks before surgery

- ☐ Schedule your surgical clearance physical exam with your primary care provider, to be completed approximately four weeks before surgery.
- ☐ Begin making arrangements for your coach to:
 - Accompany you to your preoperative appointments
 - Attend the patient education class with you
 - Transport you to the hospital the day of surgery
 - Drive you home the day you are released from the hospital
 - Stay with you upon your return home for at least 7–10 days
 - Drive you to follow-up appointments and physical therapy appointments

6 weeks before surgery

- ☐ All routine dental work, including cleaning, must be completed six weeks before surgery or you need to wait until six weeks after surgery. You must call the office if any dental problems arise prior to your scheduled surgery date.
- ☐ Obtain handicapped-accessible parking permit at the DMV

4 weeks before surgery

- ☐ Complete advance medical directive
- ☐ Surgical clearance appointment with your primary care provider or cardiologist
Date: _____ Time: _____ Address: _____
Perform any ordered tests within 30 days of surgery
- ☐ Begin your exercise program; perform daily if able. (See Section 5: Physical and Occupational Therapy, page 27.)
- ☐ It is recommended that you stop smoking. Call pulmonary rehabilitation at 209-536-3726 for information about a smoking cessation program.

2 weeks before surgery

- ☐ Stop taking vitamins and supplements as directed.*
- ☐ Start making home preparations.
- ☐ Make post-operative appointment for outpatient physical therapy.
- ☐ Gather equipment you may need after surgery. (See list of items on page 15.) The Sonora Lions Club has equipment that may be loaned out on a temporary basis. Their phone number is 209-533-7766.

10 days before surgery

- ☐ Avoid yard work until cleared by your surgeon. This is to avoid any damage to your skin.

1 week before surgery

- ☐ Stop taking blood thinners, anticoagulants and anti-platelet agents, such as aspirin, as well as anti-inflammatory medications.*
- ☐ If you become ill, have broken skin or develop a rash, please call your surgeon's office.
- ☐ If ordered, complete final preoperative tests.
- ☐ Stop shaving your legs or using hair removal products.
- ☐ Reduce alcohol consumption and stop smoking.
- ☐ Have ice, frozen water bottles or ice packs available for home use after surgery.
- ☐ Pick up walker and cold therapy system.

*These are examples only. Please discuss all your current medications and supplements with your surgeon or physician assistant and follow their directions.

1 day before surgery

- ☐ Make your bed with freshly laundered bed linens.
- ☐ Fill any new prescriptions, if not already obtained, at the pharmacy.
- ☐ Do not eat or drink anything after midnight, including gum, mints and candy.
- ☐ Do not drink alcohol for 24 hours before surgery.
- ☐ Shower the evening prior to surgery using the chlorhexidine scrub as instructed. (See showering instructions on page 20.)
- ☐ Nail polish may be left on.
- ☐ Get a good night's rest.

Day of surgery

- ☐ Shower again using the chlorhexidine scrub as instructed. (See showering instructions on page 20.)
- ☐ Wear clean, comfortable clothes.
- ☐ Take any medications as instructed with a small sip of water.
- ☐ Report to the check-in area on time.

Showering instructions for surgery patients

Because skin is not sterile, we need to be sure that your skin is as free of germs as possible before surgery. You can reduce the number of germs on your skin by following these instructions:

- Apply fresh, clean linens to your bed.
- DO NOT shave the area of your body where your surgery will be performed.
- You will shower with a special soap called chlorhexidine gluconate (CHG). If you are allergic to CHG, DO NOT USE IT. You will be provided with alternative instructions.
- Wash your hair with your normal shampoo and body with your normal soap.
- Turn the water off and apply the CHG solution from the sponge to your entire body, FROM THE NECK DOWN.
- DO NOT use the CHG sponge on your face or perineal (private) area. Pay special attention to the area where your surgery will be performed.
- Wash your body with the CHG sponge gently for FIVE MINUTES. Do not scrub your skin too hard.
- DO NOT wash with your regular soap after CHG is used.
- Turn the water back on and rinse your body thoroughly.
- Pat yourself dry with a freshly laundered, soft towel after each shower.
- DO NOT apply lotion or perfume.
- Dress with freshly laundered clothes after each shower.

SECTION 4:

Hospital Stay

Hospital arrival

Please arrive at the hospital at the scheduled time, one and a half hours before your approximate surgery time, allowing time for nursing and anesthesia interviews, teaching, IVs and medications. Surgeries scheduled prior to your surgery may finish early or occasionally may be delayed.

Surgery center at the hospital

Finalize preregistration forms at the check-in desk. Your coach, family member or friend will be able to stay with you until you are ready to be transported to the operating room.

Pre-op preparation area

- You will be asked to:
 - Change into a patient gown.
 - Remove glasses/contacts, braces/prosthesis, jewelry, hairpins and dentures.
 - Place personal items in a patient belongings bag. The bag may remain with you, but is best given to family members until you are discharged or settled in your room after surgery.
- An intravenous (IV) catheter and medications may be given to you at this time as ordered by your doctor.
- When the operating room team has prepared your room for your surgery, you will be taken via gurney to the operating room.

Operating room

A nurse will take you to the operating room on a gurney. If needed, you will be assisted in moving onto an operating room bed. Heart and oxygen monitors will be placed on you. Special care will be taken to respect your privacy and make you comfortable with special padding and warming blankets. Generally, most joint replacement surgeries last between one and two hours, including preparation time.

Recovery

After surgery, you will be transported to an area called the post anesthesia care unit (PACU) or recovery room. You will spend approximately one hour in the PACU while you recover from the effects of anesthesia.

Nurses will check your vital signs and monitor your progress. They will start your ice therapy, provide pain medications through your IV as needed, check your bandages, check drainage from your surgical site and encourage you to take deep breaths. They will also apply foot compression devices to help with circulation.

For patients anticipated to discharge on the day of surgery, nurses will be assisting you to the edge of the bed prior to the therapy team's arrival.

Becoming familiar with devices and equipment

Compression devices

Leg or foot mechanical compression devices and TED hose will be used after surgery to prevent blood clot formation in your legs. These are as effective as blood thinners in preventing clot formation. Common devices are:

- SCDs: Plastic sleeves that wrap around the lower leg and create a gentle squeezing/massaging sensation as they slowly pump blood to the heart.
- Foot pumps: Velcro slippers worn on the feet while in bed, gently squeezing each foot to pump blood back up to the heart.
- TED hose: Elastic knee or thigh-high stockings that compress surface veins in the leg, forcing the blood to shift to the higher velocity deep veins in the calf.

Drain system (Hemovac)

A drain system (Hemovac) may be placed during surgery and is used to remove any excess fluid or blood from the incision site and the soft tissues surrounding the joint. The drain is often removed prior to discharge or the day following surgery.

Foley catheter

The urinary catheter is a soft rubber tubing that may be inserted into the bladder during surgery, after sedation and without you being aware. This system allows the bladder to empty spontaneously. When in place, you may feel a sensation of pressure in the bladder, or an urgent need to urinate. This is a result of bladder sensitivity and spasms due to the catheter tube and will disappear once the catheter is removed.

Knee dressing

The surgical incision may be sealed with surgical glue, sutures or staples at the completion of the surgery. The knee will have a sterile waterproof dressing with antibacterial properties applied in the operating room. This will remain in place until you are at home and will be removed five to seven days post-surgery. If there is no incisional drainage after day five to seven, a dressing is optional. If there is drainage that develops from the incision after you return home, please inform your surgeon's office.

Incentive spirometer (IS)

This small breathing tool is an effective way to reduce the risk of fever and pneumonia by helping you take deep inhalations. The IS will be demonstrated to you by staff, and you will be encouraged to use it 10 times an hour while awake. You will take this device home and continue using it at home for the first week after surgery.

IV (intravenous) catheter

An IV is placed in a vein in your forearm or hand in the preoperative preparation area. The soft plastic catheter allows all medicines and fluids to be given to you during your hospital stay. It is secured to the skin with tape or a clear dressing. An IV pump regulates your IV fluids and pain medications. At times the pump will alarm, alerting you and staff that your nursing team needs to respond.

Oxygen

Oxygen will be delivered through a nasal cannula (into your nose), secured by a loop around your ears. After surgery, oxygen levels may be lower than usual because of the effects of medications and inactivity. Additional oxygen is used to reduce stresses on the heart, lungs and brain. The oxygen will be discontinued after surgery as you are able to maintain your blood oxygen levels independently.

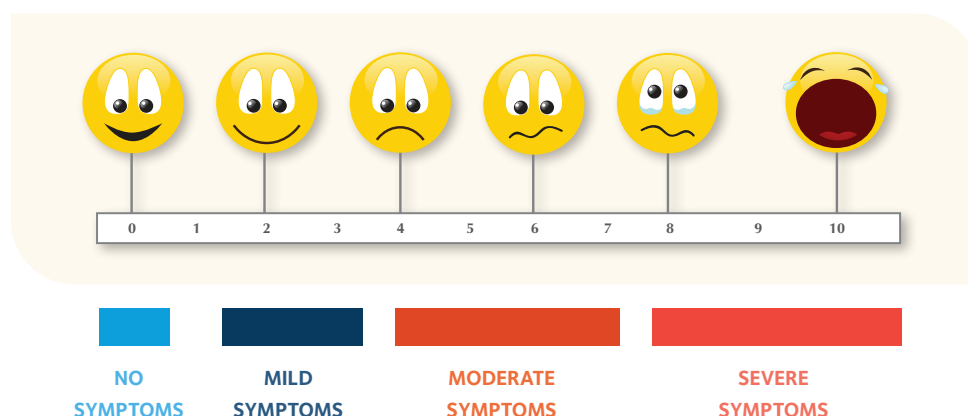
On-Q pain pump

At the completion of your surgery, your care team may place a pain pump, a device you will go home with, to help control postoperative pain. This balloon-type pump will provide a numbing sensation to your surgical site by delivering medication through a small tube secured with tape near the incision.

The pain pump is started at a setting of 6–8 milliliters per hour. For pain greater than 7 on the pain scale, the pump can be increased to a setting of 10–12 ml/hour for two hours and then back down to a setting of 6–8 thereafter. Once the balloon of medication is empty, you, your coach or home health nurse will remove the tubing, a virtually painless process.

Cold therapy

Continuous cold therapy is started immediately after surgery and will continue daily for two weeks and then 8–12 hours per day for approximately three months postoperatively. Cold therapy helps greatly with pain management and inflammation. If you would like to purchase an ice therapy unit to use after your surgery, please contact the surgery scheduler at your surgeon's office and they will submit the order to Sonora Oxygen and Medical Supply.



The recovery period

Your care team will closely work with you to:

- Manage your pain and anxiety.
- Make you as comfortable as possible using medications, ice and positioning your bed and pillows. Remember: Never place a pillow under your surgical knee unless performing post-operative exercises.
- Help you get up out of bed, walk, sit in a chair and do your exercises.
- Ensure that you understand why things are happening, what medicines are being used and what possible side effects might be.

As the anesthetic wears off, notify your nurse if you are having pain so that you may begin taking pain medication by mouth. Arrange to take your pain medication approximately 30 minutes before physical therapy or home exercises to help control the soreness that often accompanies activity after surgery.

Early ambulation

You may walk with the assistance of a physical and/or occupational therapist when it has been determined that you are stable and have regained feeling and movement in your legs. The goal is to be able to both straighten and bend your knee in order to perform functional activities such as getting out of bed, getting up and down from a chair or toilet, walking and climbing stairs. To ensure maximum success, it is important that you follow therapy instructions at the hospital and after you are discharged.

Day of surgery

- Diet as tolerated
- Ankle pumps as instructed, compression device in place
- Incentive spirometer 10 times every hour while awake
- Tubes and dressings in place
- Ice therapy in place
- Physical therapy begins
- Pain management
- Transition home, if same day discharge

Day one

- Drains removed
- Ability to urinate
- Up in chair during the day
- Diet as tolerated
- Ankle pumps
- Incentive spirometer 10 times every hour while awake
- Ice therapy
- Physical therapy, walking and exercises
- Review your home instructions
- Transition home

How to control pain

Experiences with pain levels after joint replacement vary widely from person to person and techniques to manage pain must be adjusted to each person's unique response. Individuals who make the effort to educate themselves about the entire joint replacement experience are less anxious and better prepared to handle the pain. Extremely anxious persons in general have wide swings in pain control and may need anti-anxiety medications in addition to pain control medications. Individuals on daily pain pills are more resistant to the effects of normal postoperative pain medication. They may require higher doses or more frequently administered medicines.

Methods of pain management

Research on pain management has shown it is easier to prevent pain before it starts than it is to manage the pain once it has become severe. "Preemptive pain control" means that we begin pain management prior to or during the joint replacement surgery. During the surgical procedure, we inject the tissues surrounding the joint with a combination of a long-acting local anesthetic, an anti-inflammatory and a pain medication. This markedly improves pain control after surgery.

"Multimodal pain control" uses multiple medications and techniques:

1. Successful pain management involves different types of medications used on a regular schedule.
2. Pain medicine is started during surgery, and immediately after surgery.
3. IV Tylenol is as effective as IV morphine for pain control, but does not have any of the side effects or allergic reactions of morphine.
4. Anti-nausea medications are given prior to and during surgery to reduce the potential for nausea or vomiting developing after surgery.
5. Continuous cold therapy is started immediately after surgery and used continuously for the first two weeks post operatively and you will continue to use daily cold therapy throughout your recovery.
6. Pain pills are given on a regular schedule every four to six hours, including during the night. There is often an option of alternating narcotic and non-narcotic medications, decreasing the length of time in between taking a pain pill, in order to maintain a more tolerable, consistent pain level.

What to expect after surgery

A reasonable goal with pain management is to achieve a manageable or tolerable level of discomfort. To expect zero pain is unrealistic, as it would require you to be so heavily medicated that you would have difficulty talking, would not be able to get out of bed to use the bathroom or commode, and would have decreased ability to walk or participate in physical therapy exercises.

- Normal incision pain: soreness, burning, or sharp pains, with a sensation of tightness or pressure felt along the incision line
- Swelling: tight band feel along the front of the knee and may extend up and down your surgical leg
- Varying levels of knee pain, thigh pain (from the tourniquet used during surgery) or calf pain

Considerations with nerve blocks

Nerve blocks may be administered by your anesthesiologist to reduce post-surgical pain. The effects of these nerve blocks are to reduce surgical pain, but they will not eliminate pain completely. Pain pills and pain pumps (On-Q Pain Pump) are still given as needed so that pain medicines are present in your system before the blocks wear off. The blocks will likely wear off 18–24 hours after the surgery. As the blocks wear off, you may have more pain in your knee.

What you can do

While in the hospital, work closely with your nurse to manage your pain well. Your surgeon would like you to take pain pills as needed on a consistent basis so that you are comfortable and can participate easily in exercise activities performed with the physical therapist. We would like your pain to be tolerable so you are able to participate in physical therapy, but we do not want you to be overly medicated resulting in sedation and decreased activity.

- Keep in mind, you may have less pain lying in bed and more pain with movement out of bed. It is helpful to be premedicated prior to therapy exercises.
- Tell the nurse how the pain medication is working.

Hospital diet progression

Food and fluids are important to heal incisions properly after surgery and maintain adequate strength and energy for rehabilitation.

What to expect:

- You may do better with liquids for your first meal after surgery.
- You will progress to more solid foods as you are able to tolerate them.
- You may feel nauseated or sick to your stomach.

What you can do:

- Tell the nurse if you feel sick to your stomach. There are medications that can help with nausea.
- Smaller, more frequent meals may be more tolerable during the first few days of recovery.
- Make sure to stay hydrated.

To prevent constipation:

- Drink lots of fluids. Include fiber in your diet.
- Increase your physical activity levels out of bed such as walking.
- Your surgeon may recommend starting a stool softener and/or laxative 2–3 days before surgery. These also will be given to you while in the hospital and continued at home for the length of time that you are taking oral opioids.
- Review page 40 for further information.

SECTION 5:

Physical and Occupational Therapy

Exercises before knee replacement

A successful knee replacement surgery requires a quality exercise program. The better prepared you are before surgery, the easier your recovery is likely to be afterward. Preparation helps give you the strength and skills you will need after surgery and can improve your stamina and energy levels. So, start now!

- **Strengthen your arms:** Make it easier to use a walker or crutches after surgery.
- **Build muscles that support your knee joint:** Help stabilize the knee and make flexibility exercises easier.
- **Aerobic activity** (exercise that raises your heart rate): Improve fitness, stamina and energy levels. Try low-impact exercise such as swimming, water aerobics, walking or riding a stationary bicycle. It's normal to feel a little discomfort in your knee joint, but stop any exercise that causes increasing pain.

Call your healthcare provider if you're not sure how to safely do an exercise.

Stop any exercise that causes sharp or increased knee pain, dizziness, shortness of breath or chest pain.

Exercises to help with walker or crutch use

These exercises help build upper body strength, making it easier to use a walker or crutches after surgery. Be sure to exercise both arms. Your surgeon or PT may also tell you to use weights when doing these exercises.

Bicep curls

- Sit up straight. Keep your elbow close to your body and your wrist straight. Bend your arm, moving your hand up to your shoulder, then lower slowly.
- Do a set with each arm.



Triceps curls

- Sit, leaning forward from the waist.
- Bend your elbow so that your forearm is parallel to the floor.
- Then straighten your elbow as you extend your arm behind you.
- Do a set with each arm.



Seated press-ups

- Sit in a sturdy chair with armrests.
- With palms flat on the armrests, press down to lift your buttocks from the chair. Hold for 3–5 seconds.
- Bend your elbows to slowly ease back down.



Pre-surgery exercises

Please start these exercises now as you prepare for surgery, and continue after surgery. You can expect your physical therapist (PT) to review these with you.

Unless you're told otherwise, try to do each exercise at least 10 times, twice a day.

Ankle pumps

- Point, then flex, both feet.
- This is an activity more than an exercise—do hundreds of them daily.
- This motion helps prevent blood clots in your legs.



Quadriceps sets

- Lie on your back in bed, legs straight.
- Tighten the muscle at the front of the thigh as you press the back of your knee down toward the bed. Hold for a few seconds. Then relax the muscle.



Gluteal sets

- While lying on your back in bed, squeeze your buttock muscles together and hold for a count of 5-10 seconds.



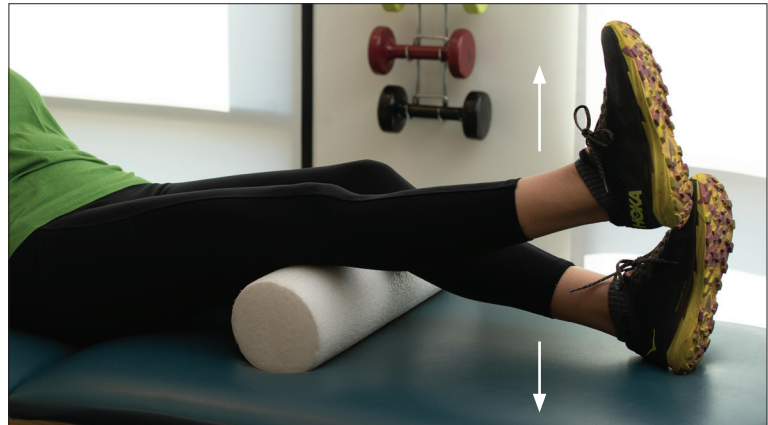
Heel slides

- Lie down or sit with your legs stretched out in front of you. Put a plastic bag or cookie sheet under one foot to help it slide.
- Slide the heel toward your buttocks while keeping it on the bed. Move it as far as you comfortably can. Hold for a few seconds, and then slide your heel back.



Short-arc knee extensions

- Roll up several towels into a bump 6–8 inches thick. Lie in bed. Put the rolled-up towels under one knee. (This is the only time that anything should be placed behind the knee!)
- Bend the other knee. Keeping your knee on the roll of towels, lift your foot to straighten the knee. Hold for a few seconds. Then slowly lower the foot.



After surgery: Therapy expectations

Our goal is to return you to the safety and comfort of your own home after surgery. Insurance guidelines encourage home discharge when you have met therapy goals, your pain is controlled with pain medication and your doctor determines you are medically stable.

You may be seen by physical and/or occupational therapy on the day of surgery. Each physician has individual protocols and therapy may be ordered to begin as early as in the recovery room. Multiple factors are considered, and you may discharge home as early as the day of surgery. Some of our patients get admitted overnight as an outpatient stay.

- Physical therapy (PT) will work with you on safe walking techniques with a walker. If you have stairs, PT will review stair training with you and your coach.
- PT will instruct you on your home exercise program and make sure that you are independent with exercise techniques prior to your discharge home.
- Occupational therapy (OT) and nursing will assist you with safe toilet transfers. You will be expected to walk to the bathroom with assistance and a walker.
- OT will review bathing and dressing techniques with you. They will ensure that you are independent with self-care skills prior to your discharge home.
- If planned for same-day discharge, and you are walking safely with the assistance of another person, you may be cleared to return home within a few hours after surgery.

Overnight hospital stay

- You will be assisted by nursing staff to sit at the edge of the bed on the afternoon or evening of your surgery. You may be assisted out of bed to a chair or to the toilet as tolerated.

Physical therapy goals for day after surgery

1. Transferring in and out of bed without assistance
2. Walking 100–200 feet with supervision with the use of a front-wheeled walker
3. Being able to complete stairs with the assistance of family/friend
4. Being independent with your home exercise program

Occupational therapy goals for day after surgery

1. Transferring on/off toilet without assistance
2. Dressing lower body without assistance
3. Being independent with precautions related to self-care and home care tasks



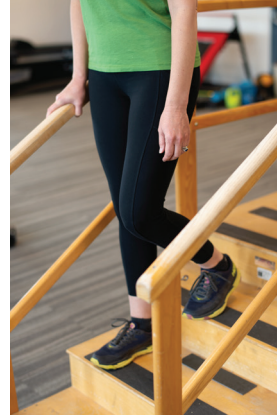
Weight bearing

The amount of weight bearing on the leg with the knee replacement will be determined by your surgeon. Typically there are no restrictions and weightbearing is encouraged as tolerated. This is based on the type of knee prosthesis used, the quality of your bone and your surgeon's preferences.



Getting into cars

Be sure the car seat is all the way back. Face away from the car and keep your operated leg forward, then lower yourself onto the seat, buttocks first. Allow the seat to support you, slide into a semi-reclining position and pivot your body. Bring your legs into the car one at a time.



Negotiating stairs/curbs

- “Up with the good, down with the bad.”
- Make sure the handrail is sturdy.
- Place your hand on the upside of the walker, knuckles forward.

Going up stairs

- Step up first with the uninvolved or strong leg.
- Then, step up with the surgical leg.
- Bring the walker up to the next step.
- Repeat.

Going down stairs

- Place the walker on the lower step.
- Step down, leading with the surgical leg.
- Then, lower uninvolved or strong leg.
- Repeat.

Going up a curb

- Place all legs of the walker up on the curb.
- Step up with the uninvolved or strong leg.
- Then, step up with the surgical leg.

Going down a curb

- Place all legs of the walker on the ground below.
- Step down, leading with the surgical leg.
- Then, lower the uninvolved or strong leg.

Post-operative rehabilitation

Walking program

After surgery it is very important to gradually increase your activity level. Doing too much, too soon can cause inflammation and delay healing time. Alternately, not doing enough exercise can also delay healing time. In the first few days following surgery, it is recommended to walk in your home to complete basic daily activities only. The goal is to gradually increase your walking tolerance over a few weeks, adding a minute or two to your walking routine per day.

Walking mechanics

A painful, swollen knee will cause you to walk abnormally with a stiff leg appearance. This is common initially, but you need to recognize when it's happening, and work with the therapist to restore normal walking patterns.

- When you take a step forward, your heel should strike the ground first, and for this split second, the knee should be straight. As you move forward into your step, weight is transferred forward from the heel onto the toe, and the hip and knee start to bend, bending the most when you pick the leg up behind you to move forward into the next step.
- Remember, a heel-to-toe walk is normal but will be tough to do because it requires the hip and knee to initially straighten and then bend.

Kneecap movement

A very important goal is to be able to generate a strong contraction with the quadriceps (thigh) muscle. When this occurs, the muscle contraction pulls on the top of the kneecap, moving it upward toward the hip. This kneecap movement is called a “patella mobilization” and is a key to restoring good knee range of motion. It also reduces the potential for scar tissue formation in the front of the knee. Concentrate on getting good movement of the kneecap as the exercise is performed.

Discontinue any exercise that causes sharp pain and discuss with your physical therapist on your next visit.

Post-operative rehabilitation

After surgery, continue each of these exercises at least 10 times, 2-3 times per day, as illustrated on pages 29-30:

Ankle pumps

- Point, then flex, both feet.
- This is an activity more than an exercise — do hundreds of them daily.
- This motion helps prevent blood clots in your legs.

Quadriceps sets

- Lie on your back in bed, legs straight.
- Tighten the muscle at the front of the thigh as you press the back of your knee down toward the bed. Hold for a few seconds. Then relax the muscle.

Heel slides

- Lie down or sit with your legs stretched out in front of you. Put a plastic bag or cookie sheet under one foot to help it slide.
- Slide the heel toward your buttocks while keeping it on the bed. Move it as far as you comfortably can. Hold for a few seconds, and then slide your heel back.

Short-arc knee extensions

- Roll up several towels into a bump 6–8 inches thick. Lie in bed. Put the rolled-up towels under one knee. (This is the only time that anything should be placed behind the knee!)
- Bend the other knee. Keeping your knee on the roll of towels, lift your foot to straighten the knee. Hold for a few seconds. Then slowly lower the foot.

Sitting knee extensions

- While sitting in a chair with your back against the chair back, straighten your knee by lifting your foot up and hold for a count of 5–10 seconds. Lower your leg back down to the floor.
- Repeat with each leg.

Post-operative rehabilitation

Add the following exercises, as instructed by your physical therapist. Repeat each exercise 10 times, 2–3 times per day.

Sitting knee extension

- While sitting in a chair with your back against the chair back, straighten your knee by lifting your foot up and hold for a count of 5–10 seconds. Lower your leg back down to the floor.
- Repeat with each leg.



Sitting knee extension with stool

- Sit with your back against the chair back and straighten your knee by placing your heel on a stool.
- Press your knee down and hold for 30 seconds.
- Repeat with each leg.



Sitting knee flexion

- While sitting towards the front of the chair, place one foot underneath the seat to bend the knee.
- Scoot forward to bend the knee further and feel more of a stretch.
- Hold for 30 seconds.

Standing exercises

Lightly hold onto kitchen counter or another stable surface. Repeat each exercise 10 times, 2–3 times per day, as instructed by your physical therapist.



Standing knee raises/marching

Raise one knee at a time as if marching in place. Lift your knee to at least waist level. Hold your knee up for 2–3 seconds. Slowly lower it back down.



Heel and toe raises

Raise up onto your toes and back down. Rock back onto your heels. Toes should be off the ground. Slowly lower toes back to the ground.

Standing exercises (continued)

Lightly hold onto kitchen counter or another stable surface. Repeat each exercise 10 times, 2–3 times per day, as instructed by your physical therapist.



Leg raises to front

Hold on behind you. Lift leg in front of you with knee straight and toes up. Slowly lower your leg back down. Repeat with each leg.



Standing hip extension

Keeping your knee straight, bring your leg up behind you as far as you can. Slowly lower your leg back down. Repeat with each leg.

Standing exercises (continued)

Lightly hold onto kitchen counter or another stable surface. Repeat each exercise 10 times, 2–3 times per day, as instructed by your physical therapist.



Mini squats

Hold on to a sturdy surface or place your back against a wall. Slide down until your knees are bent at 30–45 degrees. Slowly raise up to straight position.



Lunge stretch

Stand with one foot forward. Keep heels down, shift weight forward as you bend the front knee. Keep rear knee straight. Repeat with each leg.

SECTION 6:

Discharge Instructions

Recovering at home

Please remember that the rate of your healing and recovery is unique to you and your situation. Variations in recovery are normal:

- You may talk to others who have had knee surgery who had less pain than expected and some who had more pain than expected.
- Some may have recovered quickly, and some may have recovered more slowly.
- If you had the other knee replaced, it may be a different recovery from the first — sometimes easier, other times harder.

Self-care attitude

We have observed that individuals with a motivated, independent, “do-it-safely-myself” attitude have had the best results with joint replacement surgery. For this reason, we feel the best mindset to promote independence is for the patient to get up and move around throughout the day. This includes getting up when you need something. Although assistance by a family member for safety is important, having pride in this independent attitude is a behavior to encourage.

Insurance guidelines

Insurance guidelines require physical or medical justification to extend your hospital stay beyond one night. Depending on your medical status, progress in therapy, and home situation, there are several discharge options that your care team will consider:

- Discharge to your home with prescheduled outpatient physical therapy
- Discharge to your home with physical therapy and a visiting nurse
- Discharge to a skilled nursing facility or rehabilitation unit

Home health services

Home health may be ordered upon discharge from the hospital. You must be homebound in order to qualify for these services.

- Physical therapy services are generally two times per week for 2–3 weeks and continue the rehabilitation program started in the hospital.
- The home health nurse will visit you once a week for two weeks on average.
- Nursing and therapy visits are generally 30–60 minutes based on your needs.
- Your home health physical therapist will continue training you to safely get in and out of a car and help determine when adequate mobility has been reached to safely return to driving. Your surgeon will clear you to drive when it is safe and you are no longer using opioid pain medication.

If you are receiving home health services from Adventist Health Sonora, they can be reached at 209-536-5700. If you are receiving home health services from an outside agency, refer to your discharge paperwork to find the contact number. The goal for start of care for home health is within 24–48 hours from your hospital discharge.

Skilled nursing facility (SNF)

In a small number of cases, a patient may not have gained a safe level of skills and activity during the hospital stay to be able to safely return home. (Please note that this is a rare occurrence.) The decision to go home or to a rehabilitation unit will be made together with your care team, your insurance company and you. Keep in mind that insurance companies do not become involved in issues such as lack of caregiver, animals, housing barriers, etc.

These barriers do not indicate the need for a rehabilitation stay nor will insurance pay for such situations. These are issues you will need to address before your surgery. If you need assistance planning for your recovery at home, contact the orthopedic nurse navigator for information about in-home care resources.

Medications

Be sure to take your pain medications with a meal or snack. Avoid drinking alcohol or driving while taking prescribed pain medications. Consider taking pain medicine 30 minutes prior to physical therapy exercises.

Due to federally mandated reductions in the production and allocation of pain medications, all community pharmacies and provider offices are restricted in the amount of pain medication that can be prescribed. If you need to refill a pain medication, please contact your surgeon's office and allow at least three days' notice.

Listen to your body. It is normal to feel a deep ache through the bone after surgery. If you aren't experiencing pain or only have minimal discomfort, you don't have to take pain medication. When you are ready to discontinue the pain medication, you must do so gradually by decreasing the dosage and increasing the time between doses.

Constipation

The leading side effect of taking oral pain medication is constipation. Inactivity, anesthesia and stress can also contribute to constipation. Below is a guide with options to combat constipation and get your bowels moving.

Increase oral fluids, especially WATER

- For every caffeinated beverage, drink an equal size glass of water.
- Drink 8–10 glasses of water daily.

Increase fiber in your diet: try green leafy veggies, apple peels, potato skins, chia seeds, flax seed and granola added to an active culture yogurt.

- Top sources of fiber include beans, peas, chickpeas, black-eyed peas, artichokes, whole-wheat flour, barley, bulgur, bran, oatmeal, corn, raspberries, blackberries, pears, apples and prunes.
- Canned or dried prunes or prune juice are great natural remedies if you can tolerate them.

Medications to continue day of discharge:

- A. Stool softener: Over-the-counter (OTC) Docusate sodium or Colace® 100mg: one tablet, take twice a day.
- B. Miralax® (or generic): take once daily, dissolved in liquid, as per directions.

If no bowel movement in two days, continue A and B, and add one of the following:

- Senna or Senokot 8.6 mg (OTC): take one tablet, up to twice daily
OR
- Milk of Magnesia (OTC): one dose daily, as per directions on bottle
OR
- Bisacodyl (OTC): take one tablet, up to twice daily
OR
- Glycerin rectal suppository (OTC): one placed rectally daily

Other medications to consider:

- Fleets or mineral oil enema (OTC), placed rectally

If you are having diarrhea, stop the use of stool softeners, laxatives or bowel-assisting medications until stooling returns to normal.

Talk with your surgeon's office if you have questions or need further guidance.

Prevention of blood clots

Thromboembolism Deterrent (TED) hose are to be worn for four weeks on the operative leg and one week on the non-operative leg. They may be removed twice daily for 20–30 minutes each time.

Lovenox® (Enoxaparin) may be used to reduce the chances of a deep vein thrombosis (leg blood clot or DVT) or a pulmonary embolism (blood clot in the lung) after knee replacement surgery. It may be used for 10–12 days, followed by a daily aspirin regimen for 4–6 weeks. As an alternative or transition from Lovenox®, aspirin may be used to reduce the risk of blood clots after surgery.

Despite the use of these preventative measures, blood clots may still occur.

Warning signs of a possible blood clot:

- Severe charley horse pain in your calf or behind the knee that is different than your initial surgery or incision pain
- Increasing amounts of swelling in any part of your thigh or calf, despite elevation and icing
- Shortness of breath or an inability to feel as though you can take a deep, full breath
- Generalized chest pain when breathing
- Chest pain on one side of the chest, particularly when breathing

If any of these symptoms occur, tell your visiting nurse, call your surgeon's office immediately or go to the emergency department.

Nausea and stomach irritation

Nausea may be associated with anesthesia or pain medications and can be treated with medications to protect the stomach. Taking pain medication with small meals or snacks will help. Over-the-counter medicines such as Prilosec, Pepcid®, Tagamet® or Gaviscon® may be used. Elevation of your head and shoulders on several pillows may also reduce reflux and heartburn.

Fever

Low-grade fever is common within the first 48–72 hours after surgery. Generally, this is a result of inflammation after surgery or shallow breathing that affects the lungs. Please report a persistent temperature of 101 degrees or higher.

When to call your surgeon

A moderate amount of bruising, swelling and redness can be expected after knee joint replacement surgery. If you experience any of the following, you should contact your surgeon:

- A fall
- Numbness, tingling or burning that persists
- Pain not relieved by medication, or pain that is getting worse
- Thick, yellow drainage from the incision site or any drainage that persists or recurs more than one week after surgery
- Inability to do your exercises
- Excessive swelling that does not improve or decrease after 10–14 days
- Toes that are very cold and do not get warm when you cover them
- Increased redness around your incision
- A temperature over 101 degrees F (38.3 degrees C)
- Any unexpected problems, concerns or questions

If you need a refill of your pain medication, please call your surgeon's office Monday through Thursday. Be sure to include your name, date of birth, phone number, the name of the medication you are requesting and the pharmacy name and phone number. We will usually need to speak with you prior to refilling your medication.

It is unlikely, but if you experience chest pain, palpitations or difficulty breathing, please call 911.

Activity

Continue your knee exercises as instructed by your physical therapist. You may bear weight as tolerated on the surgical leg unless instructed otherwise by your surgeon. Get up and stand or walk for five minutes every hour using your front-wheeled walker for support and safety. Sexual relations may be resumed when comfort levels allow, generally six weeks after surgery. It is normal to experience painless clicking after your knee joint replacement, but this should dissipate with time.

Managing swelling

Remember this acronym: **RICE**

Rest

Ice your knee after activity

Compression (ACE wrap, support stockings, TED hose)

Elevate your surgical leg

Do not place a pillow under your knee to maintain bending. This will cause stiffness and may interfere with your ability to straighten the knee. Avoid resistance training or swimming until cleared by your physician assistant or surgeon.

Outpatient physical therapy

Outpatient physical therapy services are often used after completion of home health. This may begin after your first follow-up appointment with your surgeon between 2–3 weeks following your surgery. Your physician wants you to participate in an outpatient therapy program to achieve the best possible result from your surgery. Many clinics are impacted; make sure to schedule your initial appointment well in advance, before your surgery takes place.

Outpatient therapy is two visits per week for roughly 6–12 weeks and can be tapered or discontinued as soon as you establish a pattern of good progress and understanding of your home exercises.

We have also seen a pattern where the well-intentioned patient or therapist does too much volume of therapy and exercise, causing a great deal of knee swelling and inflammation. This can slow the normal recovery process and increase swelling and scar tissue. It's important for you and your therapist to take a moment each visit to analyze how the tissues around the knee responded to the last therapy visit and adjust the program accordingly.

Driving

Your ability to drive yourself will depend upon your therapy progress, safety and muscle control. The range is usually between 2–4 weeks after surgery. You cannot start driving until cleared by your surgeon and you are no longer taking narcotic pain medication.

Incision care

The waterproof dressing applied after surgery will be removed between 5–7 days after surgery. Wash your hands and remove the dressing. If the incision is dry and without drainage, you may leave it open to air. If a small area of drainage develops or an internal dissolvable suture begins to fester, contact your surgeon's office. Do not apply creams, lotions or ointments to the incision for at least four weeks after surgery or until cleared by your surgeon or physician assistant.

Showering and bathing

The waterproof dressing allows for showering on the day of hospital discharge. Follow OT/PT recommendations for the use of assistive devices for safety while showering. Make sure to remove TED hose before showering, and reapply when done. Do not scrub the incision. No soaking baths or hot tub for at least six weeks after surgery.

Diet and rest

Eat a healthy diet to promote healing. You may experience decreased appetite after surgery. This is normal and should gradually resolve.

Follow-up care

We are committed to caring for you during your recovery. If you experience any difficulties or have questions regarding your recovery, please call your orthopedic nurse navigator at 209-536-3287. Your 6-week appointment is essential for your ongoing recovery and best outcome. We expect a minimum knee joint range of motion of 110 degrees at six weeks after surgery. Joint replacements are monitored every five years for life. In addition, we may include phone, email or text surveys for research on patient-reported outcomes.

Follow up with your surgeon

Ten to 14 days after your surgery, you will see your surgeon for your first follow-up office visit. The schedule of follow-up visits will depend on your progress. Many patients are seen at six weeks, 12 weeks and then every three months up to one year. Your surgeon will let you know what he or she recommends as it can differ. Refer to your discharge paperwork from the hospital for the date and time of your first follow-up appointment.

Campus Map



- 1 Health Pavilion and Diana J. White Cancer Institute
- 2 Clinic services, community well-being, philanthropy, physician recruitment
- 3 Mountain Medical Building
- 4 Live Oak Medical Building
- 5 Associate entrance
- 6 Garden Cafe patio
- 7 Associate entrance
- 8 Surgery entrance
- 9 Main entrance and emergency entrance

- 10 Ambulance bay
- 11 Professional center
- 12 Marketing, communication, Business development
- 13 Sleep laboratory
- A Associate parking
- B Patient parking
- C Provider parking
- D Patient parking
- E Patient parking
- F Associate parking

Additional Information

Instructions

Use the following pages to keep a daily log of your physical therapy exercises and medications. Be sure to note any questions you would like to discuss with your nurse, physical therapist, physician assistant or surgeon on your next visit.

Physical Therapy Log

Week of: _____

Name: _____

THERAPEUTIC HOME EXERCISES	SUNDAY		MONDAY		TUESDAY	
	AM	PM	AM	PM	AM	PM
Ankle pumps/circles						
Quadriceps Sets						
Heel slides						
Short-arc knee extensions						
Sitting knee extension						
Sitting knee extension with stool						
Sitting knee flexion						
Standing knee raises						
Heel and toe raises						
Leg raises to front						
Standing hip extension						
Mini squats						
Lunge stretch						

Surgeon: _____

WEDNESDAY		THURSDAY		FRIDAY		SATURDAY		SUNDAY	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM

Medication Administration Record

Week of: _____

Name: _____

MEDICATION	DAY 1		DAY 2		DAY 3	
	Time	Initial	Time	Initial	Time	Initial

Surgeon: _____

[illegible]

[illegible]

[illegible]

Notes

[illegible]

[illegible]

[illegible]

[illegible]