

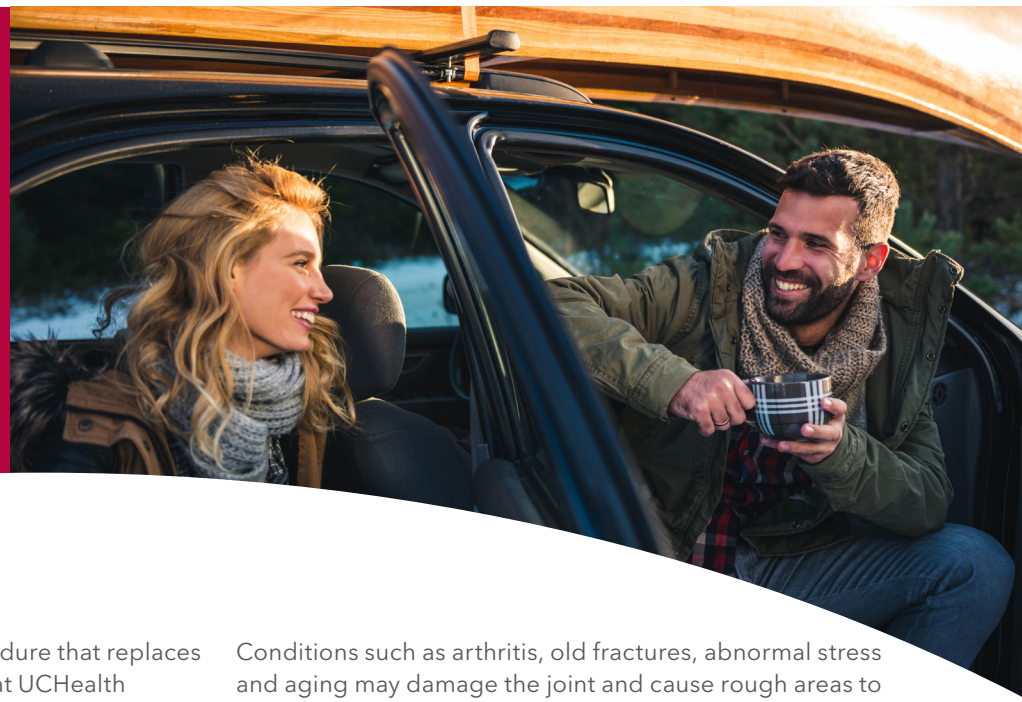
Orthopedics

Total Knee Replacement



uchealth

Total knee replacement.



A total knee replacement is a surgical procedure that replaces your knee with an artificial joint. The teams at UCHealth Highlands Ranch Hospital provide joint replacement services of the highest quality and we want you to be an active participant in your care. That's why we're providing you with this booklet, which explains how to prepare for your surgery, what happens during the operation and your hospital stay, as well as what to expect as you recover.

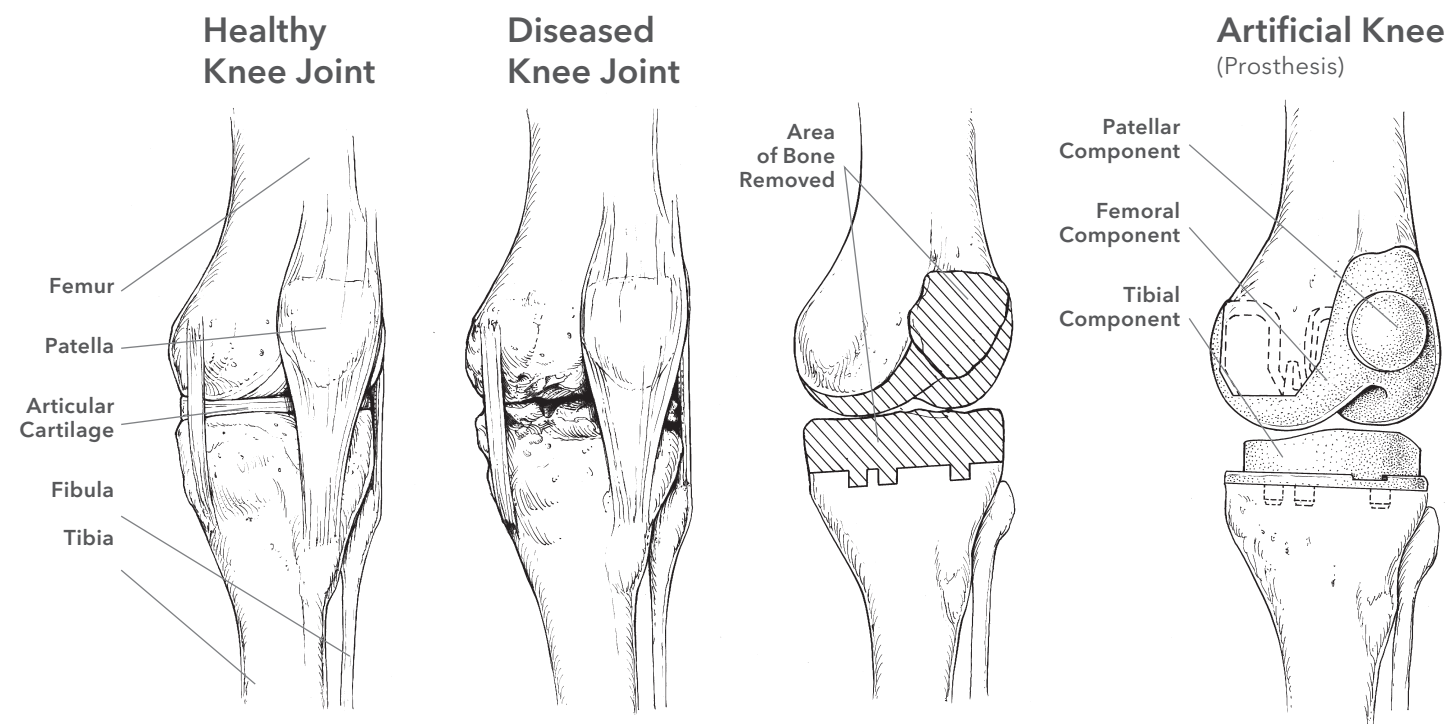
The knee is a complex, hinged joint that allows you to squat, kneel, sit, bend and straighten your leg. Three bony parts make up the knee: the shin bone (tibia), the thigh bone (femur), and the kneecap (patella). A total knee replacement is a surgical procedure that replaces your knee with an artificial joint (prosthesis).

You can only walk easily and without pain when the bones are smooth and cushioned by healthy cartilage. Fluid in the joint helps lubricate the cartilage. Strong muscles and ligaments are also needed for joint stability.

Conditions such as arthritis, old fractures, abnormal stress and aging may damage the joint and cause rough areas to develop. This creates pain and stiffness when moving the knee. This could even result in the knee “giving out” during normal activities.

A total knee replacement is an effective way to relieve the pain and restore movement in damaged knees. The replacement involves resurfacing the bones of the knee joint. There are three bony surfaces that can become rough and painful: the femur, tibia and patella (kneecap). Depending on your condition, one, two or all three of these surfaces may be replaced.

This surgery improves mobility and function, but does not guarantee a normal, healthy knee.



Getting ready for surgery.

There are several things you can do to prepare for your surgery. Mandatory pre-surgical joint replacement classes are available to take prior to your surgery. The class will help you prepare for the operation and your recovery. You can schedule your class on the Highlands Ranch Hospital website or call the Highlands Ranch Orthopedic Nurse Navigator at 720.516.2058. Your Orthopedic Nurse Navigator is available to answer your questions and assist you, beginning with the pre-hospital process through your discharge to home.

Preoperative preparation, a three-part process:

- **Preadmission/pre-registration** – A patient service representative from the Highlands Ranch Hospital Admissions office will gather demographical information from you such as: address, telephone number, emergency contact information, insurance, etc., prior to your pre-operative testing appointment at Highlands Ranch Hospital.
- **Preoperative testing** – the surgery scheduler at your surgeon's office will schedule your preoperative testing at Highlands Ranch Hospital with the Pre-Procedure Services (PPS) department. At this appointment, lab work (blood and urine), EKG, and chest x-ray (if ordered by your surgeon) will be done. Following your appointment with the PPS nurse, you will meet with our Hospitalist to complete your surgical History & Physical (H&P).
- **Preoperative surgery/PA visit** at your surgeon's office – this appointment will be completed in the surgeon's office prior to your surgery date.

Preoperative bathing:

- Please shower the night before as well as the morning of your surgery using a new, unscented bar of soap.
- Wash your hair first with your normal shampoo/conditioner. Rinse thoroughly.
- Use two different washcloths and a clean towel each time you shower:
 - One washcloth for face, genital, and groin areas.
 - One washcloth for the rest of your body.
- Dress in clean clothes. Use clean sheets the night before your surgery. Use clean towels and washcloths for showering the night before and day of surgery.
- Please **do not** shave for three days prior to your surgery.

Controlling risk factors:

- Don't smoke, vape, or use tobacco products, as these products delay the healing process and decreases the ability to adequately control pain.
- Control your blood sugar, if you are diabetic - sugar delays the healing process and increases your risk for infection.
- Maintain a healthy weight - being overweight causes excess strain on the joints and the heart.
- Limit alcohol to less than two glasses a day, prior to surgery. Alcohol delays healing and the effects of alcohol can enhance the side effects of anesthesia and pain medications.
- Avoid taking opioid medication prior to surgery - opioids taken before surgery will decrease the ability to adequately control pain after surgery and can increase your risk for opioid-induced side effects.

Medications

List all medications you are taking (include prescription, over-the-counter, herbal or natural products, vitamins, and drugs you take as needed, such as Tylenol®). Include the name, dosage and when you take each medication. Cross off any medications your doctor has told you to stop taking. We prefer you leave your medications at home, but if you bring them, we have a safe where we can store them until discharge.

[illegible]

Who provides your care?



Care management.

A member of your care management team will help you plan for your discharge from the hospital. The team member can assist or answer questions about:

- Insurance coverage.
- Who can help you at home after you are discharged from the hospital.
- Discharge options, including home with family assistance, outpatient rehabilitation, and home health care.
- Equipment needs.
- Referrals to other community resources.

Physical therapists (PT).

Your physical therapist focuses on your ability to get around and on helping you recover function in your new joint. Your physical therapist will:

- Evaluate your mobility and strength.
- Teach you how to get out of bed, climb stairs and get in and out of the car.
- Teach you how to walk with a walker or other devices.
- Give you exercises to increase your knee strength.
- Teach you how to move while maintaining knee precautions, if any.

Occupational therapists (OT).

Your occupational therapist focuses on your ability to perform functional activities after surgery. An occupational therapist will:

- Provide training to maximize your independence in activities of daily living.
- Evaluate your physical capabilities and limitations in order to determine your needs for equipment.
- Teach you how to use equipment such as a raised toilet seat, tub transfer bench, and a reacher and/or sock aid effectively.
- Provide guidelines for home safety.

Pharmacist.

The pharmacist will review your medications and provide you with education on any new medications, if any are prescribed.

Orthopedic nurse navigator.

Your orthopedic nurse navigator is available to assist you every step of the way of your surgical journey, as he/she helps you to understand what to expect before, during, and after surgery. Your navigator will round on you daily, answer questions or concerns, and act as your liaison to coordinate care between all members of your healthcare team.

The orthopedic team works together to assist you during your hospital stay. We will work to make sure you know what to expect as you recover. It's a joint effort and your complete satisfaction is our priority.

Patient and joint coach.

You, your spouse, family, or your significant other are the most essential members on the team. As you begin your surgical journey, it is important to have a joint coach, someone who can attend preoperative visits with you, assist you during your recovery period, give you encouragement, be your advocate, and provide you with a second pair of ears. The joint coach can be a family member, friend, significant other, anyone, who can be a support to you.

Orthopedic surgeon.

In addition to planning and performing your surgery, your surgeon will work with the other team members to assure your complete and rapid recovery. Feel free to discuss any aspects of your care with your surgeon.

Physician assistant/nurse practitioner.

Your PA/NP will assist your surgeon in the operating room and will work with you after surgery to evaluate your progress, order and interpret diagnostic tests, and help coordinate your discharge.

Nurses.

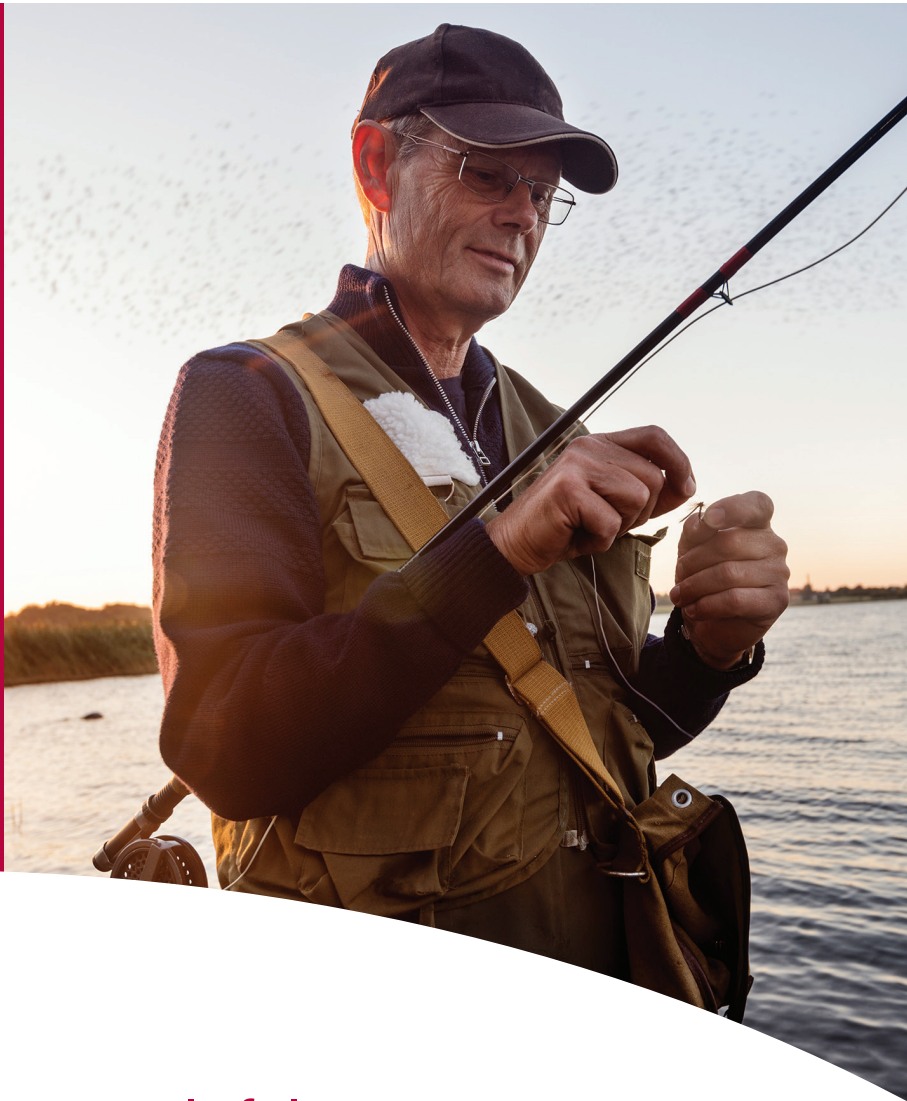
Your nurse will monitor your condition throughout your stay. Your nurse can:

- Provide information and treatments needed for your recovery.
- Organize and coordinate your care.
- Work with you to manage your pain.
- Answer any questions or concerns.
- Assist with your discharge.



"It all happened so fast after we arrived. The prep, the procedure itself. We felt very well-informed. Once I was out of recovery and cleared to discharge, I was ready to go. I wanted to get home and start the healing process."

Rich Trostel, knee replacement patient



Helpful tips:

- Bring your picture ID, insurance card and prescription drug card with you to the hospital.
- If you have an advance directive, please bring a copy with you to the hospital.
- You may wear your eyeglasses (no contact lenses) on the day of surgery. Please bring a case for them. You will be asked to remove your glasses before surgery.
- Bring loose-fitting pants or shorts, and walking shoes without a heel.
- You may bring personal hygiene items (hairbrush, toothbrush, toothpaste, etc.).
- If you use a CPAP or BiPap, please bring it to the hospital with you.
- If you have crutches or a walker, please bring them so we can ensure that they are sized appropriately.
- Do not bring jewelry, money or other valuables to the hospital.
- Do not wear eye makeup, lipstick, lotions, perfumes or cologne the day of surgery.
- Do not bring tobacco, marijuana or CBD products.

Day of surgery - preoperative care.

Please arrive at the hospital at the time you were told to arrive. Check in at the main admission desk, located just through the main entrance of the hospital. A patient admission representative will have you sign your admission documents. They will put an ID bracelet on your wrist that contains your name, date of birth, and physician's name. You will then be escorted to the surgical services department. There, you will be met by your preoperative nurse and will be escorted back to the preoperative area. A family member or friend may come with you and stay with you until you are taken to the surgical suite. In the preoperative area, you will have:

- Your height, weight, vital signs will be taken.
- An IV will be started in your arm. Fluid and medicines are given through the IV.
- Your surgical knee will be scrubbed with a special soap.
- Your surgeon will visit you and verify the correct knee by marking his initials on the correct side.
- Medicine will be given to you to help you relax. You may feel hot, dizzy, and/or drowsy. This is normal.
- Operating rooms are cool. Heated blankets are provided for you comfort.
- Your anesthesiologist will visit you and discuss anesthesia with you.
 - Types of anesthesia:
 - o General - uses a combination of IV drugs and inhaled gasses. You do not feel pain because you are completely asleep. A tube is inserted down your throat, while you are asleep, to help you breathe.
 - o Regional/Nerve Blocks - blocks pain to a large portion of your body at the same time. Regional/nerve blocks are injected close to a group of nerves in the area that is to be numbed. Regional/nerve blocks can last 12-24 hours.



Day of your surgery - operating room.

- Your family will be escorted to the surgical waiting area. After your surgery is over, your surgeon will talk to your family in the surgical waiting area and give them an update of your surgery.
- Your operating room (OR) nurse and anesthesiologist will assist you into the operating room.
- You will be placed on an OR table.
- Anesthesia will be started.
- Your blood pressure, breathing, and other vital signs will be monitored closely.
- Surgery times vary with each person. Approximate procedures time are:
 - Uniknee (partial): 1 hour.
 - Total knee: 1-1.5 hours.
 - Total hip: 1-1.5.
 - Total shoulder: 1-2 hours.

Day of surgery - post anesthesia care unit (PACU).

This is where you wake up after surgery.

- Your vital signs will continue to be monitored.
- If you experience any nausea, vomiting, or pain, please let your nurse know.
- Your surgeon will update your family regarding your surgery.

You may have:

- Nasal prongs in your nose providing you with oxygen.
- Blood pressure cuff on your arm monitoring your blood pressure.
- Pulse oximeter on your finger measuring your oxygen content.
- SCDs on your legs.
- Bandage over your incision.
- Ice pack over the bandage.

You will be in the PACU for approximately 1-1.5 hours.

"There was no more pain, and I was very comfortable – I felt like Superwoman."

Maria Melendez,
knee replacement patient



Care after surgery (Patient Care Unit).

Nurses will check on you frequently and take your vital signs often. Your surgeon, physician assistant or nurse practitioner will visit with you to assess your progress.

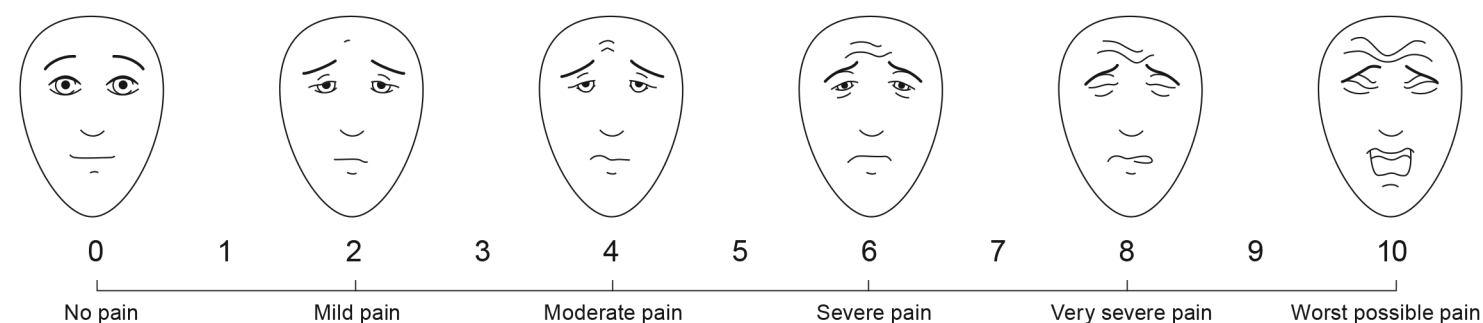
- The physical therapist will see you twice per day. The therapist will review exercises, walk with you down the hall, practice climbing stairs, getting in and out of bed, getting in and out of a car or any other barriers that you may encounter according to your living situation.
- The occupational therapist will see you daily to help you with activities of daily living. The therapist also discusses equipment to promote safety.
- You will resume your normal preoperative diet the day of your surgery.
- An ice pack is placed on your dressing to relieve pain and minimize swelling and bleeding.
- You may be provided supplemental oxygen until the morning after surgery. You may need it longer.
- Breathing exercises are important in the first few days after surgery. You are asked to cough, breathe deeply, and perform other lung exercises to prevent fluid from collecting in your lungs.
- Gas pain and constipation are common after surgery. Increasing your physical activity, eating a high-fiber diet, and drinking plenty of fluids help prevent these problems. Your providers may order stool softeners or laxatives based on your condition.
- Blood is drawn early in the morning for testing while you are in the hospital.
- Bed baths or showers are given based on your doctor's orders.
- Your family or staff may help with your personal hygiene needs, if desired.

Pain management.

You will experience post-operative pain and the intensity of the pain is different from one person to the next. We want your pain level to be tolerable. You will set a pain goal between 0-10 with your nurse. Please note that a pain goal of zero (0) is not realistic or safe. Pain can be good; pain can be bad. Pain is good when it keeps you from doing too much, too soon. Pain is bad when you cannot participate in your activities of daily living. A pain goal between 2-4 out of 10 is more realistic. Helping us to manage your pain will ensure that you are fully able to participate in your therapy program, as you progress to returning to your active lifestyle.

Pain management methods:

- Chemical methods:
 - Oral pain medications (medications taken by mouth) - provided at your surgeon's recommendation.
 - Muscle relaxant medications provided at your surgeon's recommendation.
- Physical methods:
 - Repositioning in bed or sitting in a chair for brief periods of time.
 - Use of ice packs.
 - Working with physical therapy at each session.
- Alternative method:
 - Relaxation through music, guided imagery, meditation, breathing.



This Faces Pain Scale-Revised has been reproduced with permission of the International Association for the Study of Pain® (IASP).

Opioids.

Opioids, sometimes called narcotics, are medications prescribed by doctors to treat persistent or severe pain. When you take an opioid, it attaches to opioid receptors that are located in different areas throughout the body. The opioid blocks the pain message that is sent from the body, up through the spinal cord and to the brain resulting in effective pain relief. Opioids carry some risks and can be highly addictive. The risk of addiction is especially high when opioids are used to manage chronic pain over a long period of time.

Opioids can be a part of an effective pain management plan but they need to be taken exactly as prescribed and directed by your doctor. Opioids should be used sparingly and should be discontinued as soon as possible.



Helping circulation.

Good circulation is important to promote healing. There are several things that are done to help prevent circulation problems in your legs, such as blood clots or swelling, which may include:

- **Blood-thinning medicine** (anticoagulants) will be ordered to help prevent blood clots. Follow our surgeon's directions, making sure to take the medicine for the full

period of time you are directed to take it for. Stopping it early could result in the development of a blood clot.

- **Sequential Compression Device (SCDs):** These are Velcro sleeves that fit over your legs and massage them by inflating and deflating. This helps to prevent blood clots.
- **Gentle exercises:** The nurse or physical therapist shows you gentle exercises to help circulation, strengthen muscles, and improve range of motion.

Recovery and rehabilitation.



As soon as possible after your surgery, a physical therapist will start you on an exercise program and help you stand using a walker or other assistive device. You may feel weak or dizzy at first. This is normal. There may be some pain when first starting to move. Let your therapist know if the pain is severe. As your recovery in the hospital progresses, the physical therapist and an occupational therapist will teach you the proper way to sit, walk, bathe, and dress with your new joint. They will teach you (and your family) the skills you need to continue your recovery at home.

- If you have mobility precautions that the doctor has prescribed for you, your rehabilitation team will teach you what these are and how to safely move while following these precautions.
- Your doctor decides how much weight you can put on your operative leg. This varies from no weight to weight-bearing as tolerated. It is important to follow these restrictions to allow proper healing of your new joint.
- Your therapist will instruct you in the use of an appropriate assistive device for walking after surgery.
- You will be instructed on a home exercise program while you are in the hospital.
- Your nurse will review your discharge paperwork. This includes your new prescriptions, home medications, discharge instructions and follow-up appointments. They will answer any questions or concerns you may have about your recovery at home.

Exercises after your surgery.

You will be given an exercise program after surgery which includes many of your pre-surgery exercises. Your physical therapist will give you specific instructions on the exercises your surgeon wants you to perform and the frequency.

Breathing exercises.

Breathing exercises are important in the first few days after surgery to help you prevent problems such as pneumonia. We will give you an Incentive Spirometer (IS) to assist you with breathing exercises. You should use it 10 times an hour, while awake, and until you are more mobile and walking consistently.

Deep breathing:

- Breathe in through your nose as deeply as you can.
- Hold your breath for 5 to 10 seconds.
- Breathe out as if you were blowing out a candle. Notice your stomach going in. Breathe out for 10 to 20 seconds.
- Take a break and then repeat the exercise 10 times.

Coughing:

- Take a slow, deep breath. Breathe in through your nose and fill your lungs completely.
- Breathe out through your mouth and concentrate on your chest emptying.
- Repeat.
- Take another breath, but hold your breath and then cough hard. When you cough, focus on emptying your lungs.

Planning your discharge.

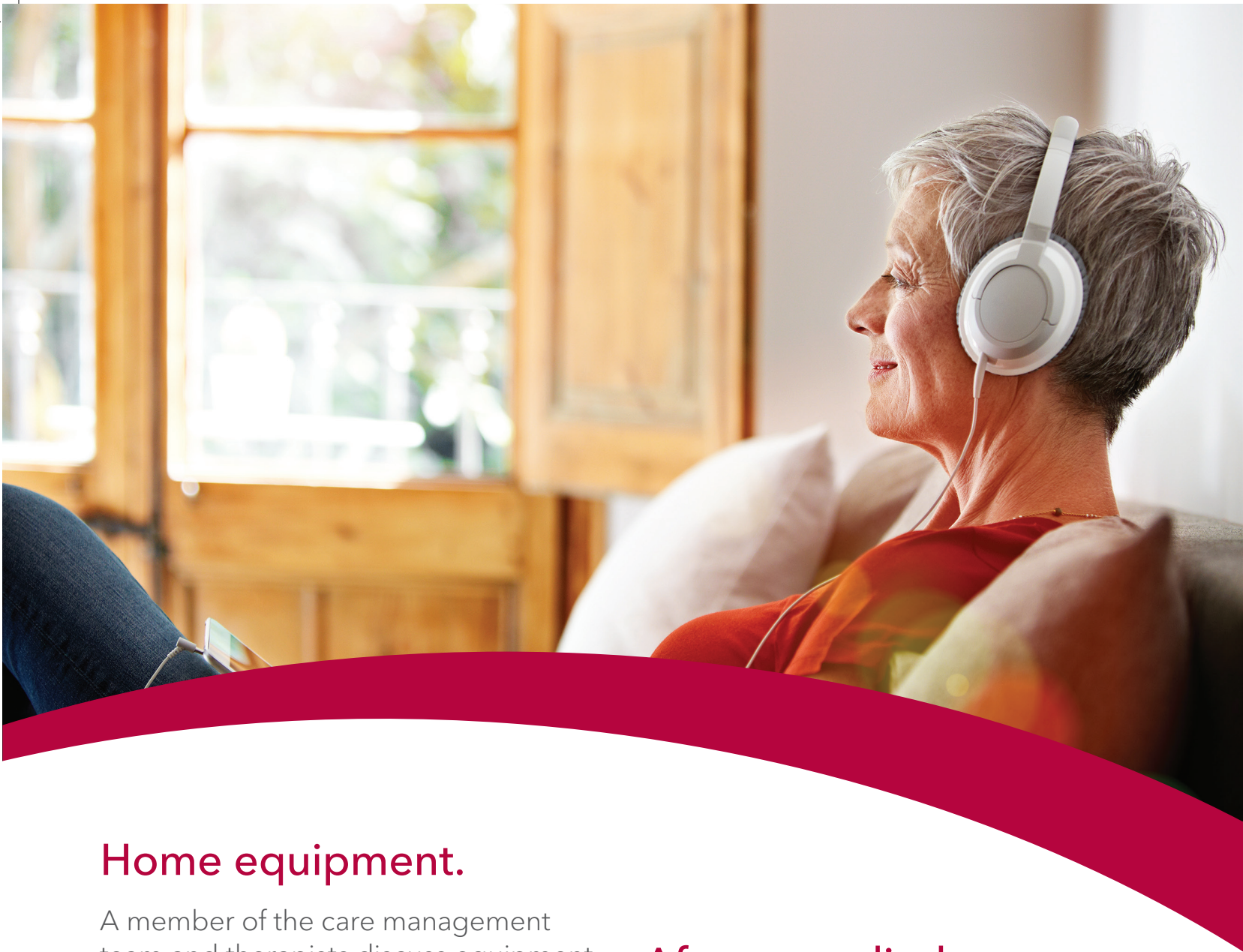
Our goal is to provide you with a safe discharge plan. A team member from care management, along with other members of your healthcare team (surgeon, hospitalist, PT, OT, nurse, etc.) will work with you to discuss and identify a safe discharge plan, specifically for you. Your discharge plan takes into account your doctors recommendations, your individual needs, your ability to tolerate physical activity and your insurance coverage. The goal for discharge is typically home or independent living.

Most patients stay just one night in the hospital following a hip, knee, or shoulder surgery. Remember, you are not sick; you have a bad joint, we are fixing it, and discharging you home. Your home is the best place to recover.

Physical therapy.

Physical therapy is a very important part of your recovery after knee replacement and is required for at least six weeks after surgery. Your surgeon will instruct you on when to begin your physical therapy. Frequency should be two days per week to start but may be altered by your therapist as needed.





Home equipment.

A member of the care management team and therapists discuss equipment needs with you and help with making arrangements to get any necessary items. Information is provided on local equipment companies and insurance coverage for medical equipment. Many people borrow equipment from friends or family.

At home you may need the following equipment:

- Walker (most common device after surgery).
- Cane or crutch to get up and down steps.
- You may purchase a sock aid, long handled reacher or other adaptive device. These items can be picked up at a local drug store or ordered off the internet.

After your discharge.

Home safety.

Before surgery, you can make your recovery safer by becoming aware of hazards in the home.

We offer the following home safety tips:

- Move electrical cords out of the way.
- Remove throw rugs.
- Add firm pillows to low chairs.
- Store items within easy reach. Do not stand on a stool, chair or stepladder.
- Watch for pets or objects on the floor.
- Installing rails along stairs can be helpful.
- To avoid injuring yourself, always think before you move.
- Arrange for snow removal, consider having IceMelt available.
- Your doctor and physical therapist will let you know when you can resume driving.
- Try to prepare meals ahead of time.

Follow-up doctor visits.

Your doctor will continue to monitor your progress after discharge. Typically, you will see your surgeon or PA, two weeks after surgery and six weeks after surgery. These appointments will be made for you prior to your surgery by the surgery scheduler in your surgeon's office.

When at home make sure to:

- Remember, the first two weeks following surgery are difficult. The knee will feel warm to the touch 100% of the time. Swelling and bruising is common and can occur anywhere from the thigh to the foot.
- Follow your exercise program as directed.
- Walk the distance you can tolerate each day.
- Listen to your body. Rest when you are tired.
- Always use a walker or other recommended assistive device until instructed otherwise.
- When going up stairs, step up with your non-operated leg first. When going down stairs, step with your operated leg first. Remember, "Up with the good, down with the bad."
- Stand tall and use good posture.
- Talk with your doctor about when you can safely return to driving, sports and sexual activity.
- Before having a dental procedure, consult with your surgeon.

After discharge, notify your doctor if:

- Have a fever over 101° F (a low grade fever is common the first few days after surgery and rarely indicates a surgical infection).
- Have signs of infection, such as significant drainage that soaks your whole surgical dressing (small spots on the dressing are normal).
- Have severe pain despite taking your pain medications.
- Burning with urination.
- If your hand or foot becomes cold, blue, or numb.
- Have signs of a blood clot, such as **new** calf pain, redness, swelling or heat in your calf or groin, or new swelling in the arm or leg. Note that some swelling is present in the legs and feet with every joint replacement so swelling alone is not a good predictor of blood clot.
- Your incision opens up.
- Have severe side effects, such as nausea, itching, or a bad rash from the pain medications.
- Have severe vomiting or cannot keep liquids down.
- Have trouble passing urine or have not urinated within 8-12 hours after arrival home.
- You have constipation lasting more than three days after surgery.

If you think you are experiencing a medical emergency, call 911 immediately or seek other emergency services. Examples of symptoms that may be an emergency include:

- Loss of consciousness.
- Chest pain.
- Shortness of breath.
- Persistent heart palpitations.
- Signs of a stroke: arms or legs suddenly feel weak or numb, facial drooping, slurred speech, confusion.
- Seizure.

Remember: when at home, **do not** rest a pillow under your knee (practice extension as much as possible).

Wound and bandage care.

- Leave your surgical dressing (bandage) in place until your first postop visit (10-14) days after surgery.
- Do not submerge your surgical site under water. No baths, hot tubs, or swimming pools for six weeks after surgery.
- Showering – you may shower with your dressing on. It is ok to get the dressing wet in the shower but do not soak the dressing under water. Let the dressing air dry after showering.
- Do not lift the dressing up to look at the incision. Doing this will ruin the water-resistant quality of the dressing.
- If the edges of the dressing lift up, you may tape them back down with medical tape.
- You have no stitches or staples to remove – they are all absorbable.

Weight bearing status.

You should bear weight as tolerated. Use a walker, cane, or crutches for balance as instructed by physical therapy. The purpose of these devices is to help with balance and protect against falls.

Ice and elevation.

Both are important for pain control and swelling.

- Remember that swelling and bruising anywhere from the thigh to the foot is normal. Bruising resolves with time, and swelling resolves with time and elevation
- Elevation – “Toes above the Nose” will help decrease swelling (use three pillows under your heel in bed).
- ICE – helps with pain control and swelling and should be used several times per day for at least 30 minutes at a time. “30 minutes on, 30 minutes off” is a good rule to start with. Do not put ice bags directly on the skin as it can burn and irritate the skin.

Diet.

Resume your regular diet after you go home. A diet with a lot of fish, white meats, vegetables, nuts, seeds, and fruits will help you heal. Avoid foods with saturated fats, sugars, and simple carbohydrates.

Activity.

- Walk around several times per day. No exertional exercises (that cause you to sweat) as you are healing from a significant surgery.
- No kneeling, squatting, or bending of the operative knee more than 120 degrees.
- Work on range of motion to the operative knee several times per day with exercises provided by your therapists.
- One week after your surgery, you may slowly progress low-impact activities. You may start walking more than two blocks or use an elliptical trainer or a stationary bike with the seat elevated. Start slowly and increase in a gradual manner. Do not overdo it!
- Stop activity for significant increased pain and/or swelling.

Driving.

- Driving is not permitted while on opioid pain medications (including tramadol).
- Time to drive safely is different for every patient and is ultimately your responsibility.
- If you have had a right knee surgery, you should not drive for two to four weeks.
- If you have had a left knee surgery, you should not drive for one week or more.

Return to work.

You are allowed to return to work when you are able to do so comfortably and safely. The timing of this is different for every patient and is at your discretion. Your surgeon will provide you with the required paperwork to support your time off work, as needed.

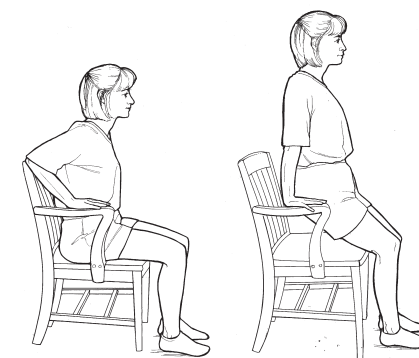


Exercises before your surgery.

These exercises will help prepare you for a successful surgery. We recommend that you do 10 repetitions of each exercise, three times per day prior to surgery. Performing exercises with both legs will help with recovery. Avoid the exercises if they cause an increase in pain.

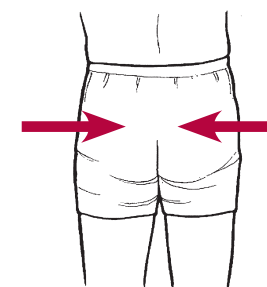
Chair push-ups.

Sit straight in a chair with your hands on the armrests. Straighten your arms and raise your bottom off the chair. (Don't use your legs to help.) Slowly lower yourself back to the chair.



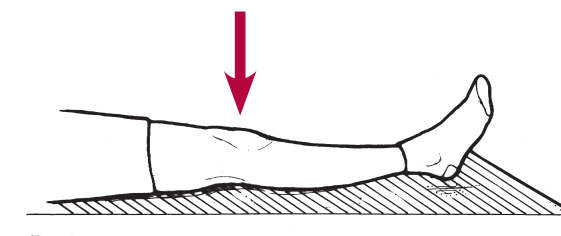
Gluteal sets.

Squeeze your buttock muscles together. Hold for a count of five. Relax.



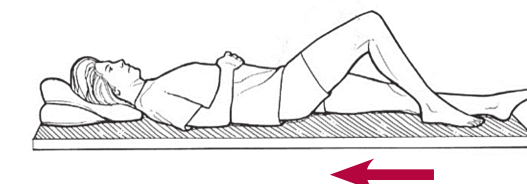
Quad sets.

Lie flat on your back. Tighten the quadriceps muscles above your knee by pushing the back of your knee down toward the bed. Hold for a count of five. Relax. Repeat.



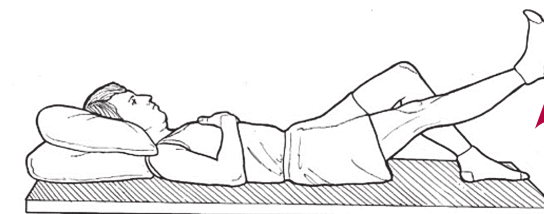
Heel slides.

Lie flat on your back with legs straight out. Slowly slide your foot toward your buttocks so you bend your knee. Then slide your foot back toward the foot of the bed, straightening the leg out again.



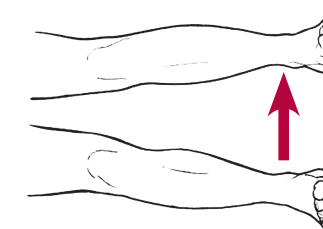
Straight leg raises.

Lie on your back. Keeping your knee straight, lift the leg toward the ceiling about 12 inches. Slowly lower your leg back to the bed. (Keep your opposite leg bent up with your foot flat on the bed to protect your back).



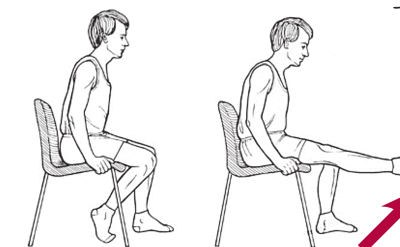
Hip abduction/adduction.

Lie flat on your back with legs straight out. Slowly slide your leg out to the side with your knee straight and your toes pointing to the ceiling. Then slide your leg back to the starting position.



Long arc quads.

Sitting in a chair, tighten thigh muscles to straighten knee. Hold two seconds and then slowly lower back down.





Highlands Ranch Hospital
1500 Park Central Drive
Highlands Ranch, CO 80129

uhealth.org

