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Total Knee Replacement

University of Iowa Health Care

Orthopedics and Rehabilitation

→ uihc.org/services/knee-replacement

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Table of Contents

Contact Information	Page 5
Total Knee Replacement Overview	Page 8
What is a total knee replacement?	Page 8
How long does a knee replacement last?	Page 8
What can I expect from a total knee replacement?	Page 9
What are the risks of a total knee replacement?	Page 9
Getting Ready for Surgery	Page 10
Your caregiver coach	Page 10
How long will I be off work?	Page 10
What if I need extended care after surgery?	Page 10
Home exercise program	Page 10
Getting your home ready	Page 11
Pain control before surgery	Page 12
Nutrition and diabetes	Page 12
Pre-op visits	Page 12
Your Surgery and Hospital Stay	Page 14
The day before and morning of surgery	Page 14
Day of surgery	Page 14
What should I expect after surgery?	Page 15
Hospital recovery	Page 15
Going home.....	Page 17
Follow-up care	Page 17
Recovery at Home	Page 18
Medicine.....	Page 18
Elevation	Page 18
Cold therapy	Page 18
Heat therapy.....	Page 19
Activity	Page 19
Knee precautions.....	Page 20
Incision care	Page 20
Preventing blood clots after going home	Page 21
Swelling after surgery	Page 22
Kneeling exercises	Page 23
Life After a Joint Replacement	Page 24
Preventing infection	Page 24
Activity	Page 25
Airports	Page 25
Driving.....	Page 25
Appendix	Page 26

QR Codes and Links

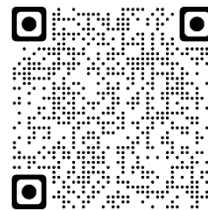
To scan the QR code:

1. Open the camera on your smartphone.
2. Place the QR code directly in the center of the camera and the link should appear on the screen.
3. Click the link to go to the webpage.



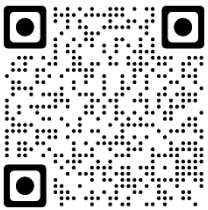
Preparing for Surgery

uihc.org/preparing-for-surgery



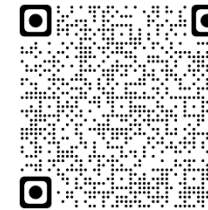
Guest & Concierge Services

uihc.org/your-visit-medical-center-north-liberty



MyChart

uihc.org/preparing-for-surgery



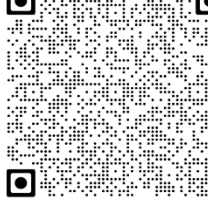
Joint Replacement Coffee Talk

uihc.org/support-groups/joint-replacement-coffee-talk



Total Knee Book

www.healthcare.uiowa.edu/patienteducation/Handouts/Orthopedics/Total%20Joint/Total%20Knee%20Replacement.pdf



Frequently Asked Questions

uihc.org/educational-resources/frequently-asked-questions-about-joint-replacement

Contact Information

The Orthopedic triage line can be used to call your care team with **urgent** questions or concerns.

Telephone triage line: 319-356-2223

Hours are Monday to Friday from 8:00 am to 5:00 pm.

Option 1: Appointment

Option 2: Prescription refill. Please have your pharmacy send us a refill request. Allow for 3 business days.

Option 3: Nursing triage line

Telephone after hours, on weekends, or holidays: 319-384-8442

Hours are before 7:00 a.m. and after 5:00 p.m., weekends or holidays.

Ask to talk to the orthopedic resident on-call.

Telephone toll-free number: 800-777-8442

Available 24 hours a day. Ask to talk to the orthopedic resident on-call.

Fax: 319-353-6754 | **Email:** ortho-nurses@uiowa.edu

MyChart: Our team suggests you sign up for and use MyChart. The care team will send important reminders throughout your total joint replacement journey. Enroll in MyChart at uihc.org/mychart. Click on **Sign up now** to get started. If you have questions, call UI Health Access at 800-777-84442 or 319-384-8442.

MyChart is free. You can:

- Contact your care team
- Securely email your doctor
- Renew and refill your prescriptions
- View test results and health records
- Ask your care team to fax physical therapy orders to your provider
- Ask general, non-urgent questions

How to send photos to your care team

You can send photos to your care team by email or using MyChart.

1. Email

- a. Send the email to ortho-nurses@uiowa.edu.
- b. Fill in the subject line with your concern. For example, "Left knee incision redness."
- c. In your message, include this information:
 - i. Your name
 - ii. Your date of birth
 - iii. Surgery type and date of surgery
 - iv. Brief description of the photo
 - v. Your concern
- d. Include or attach the photo to the email.

2. MyChart

- a. Click on "Send Message."
- b. Click, "Ask a medical question."
- c. Click "Medical Question" for type of medical question.
- d. Click "Attach" to attach your photo.
- e. Fill in the subject with your concern. For example, "Left knee incision redness."
- f. In your message, include this information:
 - i. Your name
 - ii. Your date of birth
 - iii. Surgery type and date of surgery
 - iv. Brief description of the photo
 - v. Your concern

Call 911 or go to your local emergency room right away if you have:

- Difficulty with breathing
- New shortness of breath
- Chest discomfort or heaviness
- Chest pain
- Changes in your mental status (such as confusion or agitation)

Call the orthopedic triage line for emergent concerns, such as:

- Chills or fever of 101.3 F (38.5 C) or higher
- Warmth, redness, drainage, odor, or pain that gets worse around the incision
- Swelling in feet or leg with calf pain



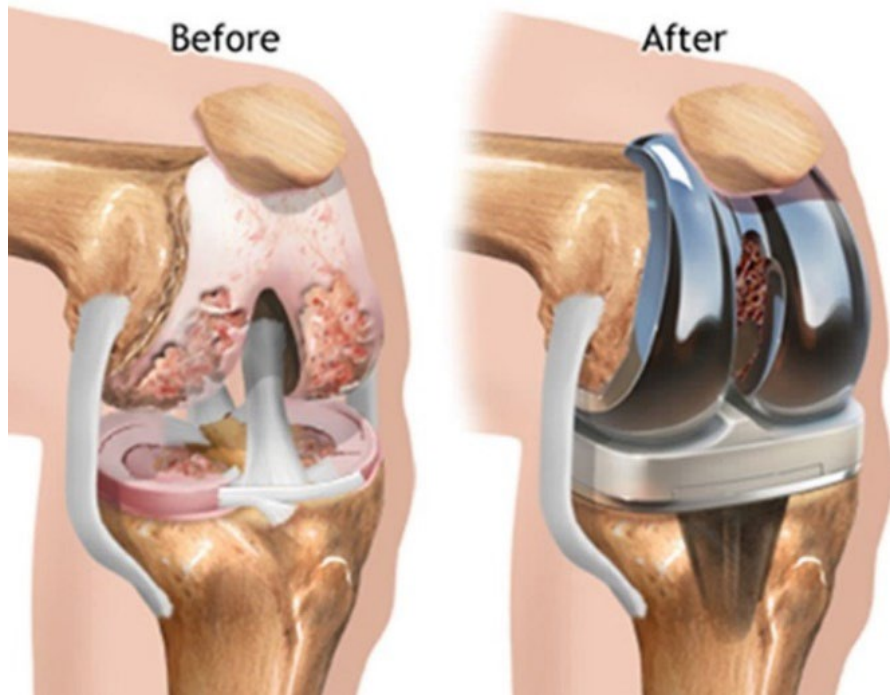
Total Knee Replacement Overview

What is a total knee replacement?

It is a surgery to remove and replace damaged parts of the knee joint with artificial implants. It is done by opening the knee capsule and taking out the ends of the:

- Thigh bone (femur)
- Shin bone (tibia)
- Underside of the kneecap (patella)

The artificial implants are metal on the ends of the shin bone and thigh bone, with a plastic trough in between them. They are placed to make the new knee joint. Sometimes the underside of the kneecap does not need to be replaced.



How long does a total knee replacement last?

A knee replacement can last more than 15 to 20 years. Although rare, some problems can happen over time:

- Wear and tear of the plastic liner (called polyethylene)
- Loosening of the hardware
- Infection

This may happen if the cement crumbles, the plastic thins or breaks, or the bone melts away from the wear and tear of normal activity.

The risk of wearing out your new knee is higher if you are overweight. A revision surgery may be needed if your artificial knee is loose, painful, or infected.

What can I expect from a total knee replacement?

Goals of a total knee replacement are:

- Pain relief
- Improved mobility and quality of life

The arthritic pain you had before surgery should be better. You will have pain from the surgery, but it will get better with time. You should be able to do most of your normal daily activities 6 to 8 weeks after the surgery, such as:

- Active sports (no contact or combat sports)
- Go back to work

Many people say it is hard to kneel after a knee replacement. Kneeling should not hurt the knee replacement. You will get a kneeling protocol to help you progress in the comfort of kneeling. Most people with arthritis will have better motion after surgery.

What are the risks of a total knee replacement?

It is a major surgery. Complications are rare but may happen. You may need to stay in the hospital longer than planned if you have complications, such as:

- Blood clots in the leg or lungs
- Infection or problems with the incision
- Nerve or blood flow problems to your leg
- Knee pain that does not get better
- Fractured (broken) femur, tibia, or patella

Long-term complications are:

- Stiffness, leading to a procedure called manipulation
- Loosening or wearing out of the joint replacement

Getting Ready for Surgery

Your caregiver coach

You will need a caregiver coach or someone who can be with you. This may be a family member, friend, or spouse. They need to be available to help you 24 hours a day for 1 to 2 days after your surgery. Plan for a backup caregiver in case your first person is not available. You will need a driver to and from the hospital, for surgery and appointments the first few weeks after surgery.

How long will I be off work?

Everyone heals differently. Most people go back to work around 6 weeks. When you return to work often depends on the type of work you do. If you have a job that is not physical, you may go back sooner. If you are on your feet most of the day, you might need 2 or 3 months off before going back to work.

What if I need extended care after surgery?

Rarely, people may need skilled nursing care after a total joint replacement. Certain criteria need to be met to qualify. Not all people meet these criteria, even if preauthorization is given by insurance before surgery. Let your care team know if you think you may qualify for skilled nursing care. Our social workers will help you find care at a facility that is covered by your insurance.

Home exercise program

A healthy and strong body before surgery helps you get better faster. A strong upper body will help you use a walker, crutches, or cane. Try to do exercises 3 times each day to improve your strength leading up to surgery.

To learn more, read the **Home Exercise Program (Appendix A)**.

Getting your home ready

Getting your home ready before surgery can lead to a successful recovery.

General suggestions

- You may need help doing housework, laundry, shoveling snow, mowing the yard, paying bills, and getting groceries, mail, or the newspaper.
- Clothing for after surgery should include loose waistlines that do not rub on your surgical area.
- Know where your pets are so you do not trip over them.
- Stay alert in poorly lit or unfamiliar places.

Bedroom

- Place a nightstand beside your bed.
- Place items you use often in the top drawers of your dressers.

Stairs and steps

- Put in a handrail the entire length of the stairs.
- Place bright non-skid strips on the edge of steps.

Bathroom

- Place a non-slip mat in the shower.
- Use a walk-in shower if you can.
- Use a bath bench or shower chair.
- Put a grab bar near the toilet and in the shower.

Assistive devices

- Reacher
- Toilet riser
- Sock aid
- Bath scrubber

All living spaces

- Have enough lighting in living spaces.
- Remove all clutter from the floor.
- Arrange furniture to make room for walkers.
- Make sure the bedroom and bathroom are on the same level.
- Remove all cords and rugs.
- Do not use low or overstuffed chairs or couches. Chairs must be at least 20 inches tall.

Kitchen

- Put items you use often at counter level.
- Prepare meals before surgery.

Pain control before surgery

Your care team does **not** prescribe opioid pain medicine before surgery. Take over the counter (OTC) pain medicine, use heat and cold packs, and alternate rest and exercise.

Nutrition and diabetes

In the weeks before surgery, eat foods that are nourishing to your body. Stay hydrated. Eat foods high in protein and plenty of fruits and vegetables. This helps get your body ready for the stress. You may also drink nutritional supplements, like Ensure® or Boost®.

Continue to be mindful of maintaining your health, which includes monitoring your weight and Hemoglobin A1c (HgbA1c) to stay within your surgeon requirements.

Uncontrolled diabetes puts you at higher risk for complications. Your diabetes needs to be well controlled. HgbA1c is used to measure how well it is controlled. Your HgbA1c must be less than 7.5% to be eligible for surgery. Talk about this with your care team.

Pre-op visits

1. Dental clearance

Healthy teeth and gums are needed for many reasons. Many bacteria are in the mouth. Infection can easily start with severe gum disease, tooth decay, tooth abscess, or mouth sores. When these are not treated, bacteria and infection can quickly spread through the blood stream to the artificial implant.

You must be seen by your dentist within 6 months of your pre-op visit and surgery. Your dentist must fill out the dental clearance form and fax it to the clinic before your pre-op appointment. All dental work needs to be done before your pre-op appointment.

After surgery, you must take 1 dose of antibiotics **before any dental work, an endoscopy, or a colonoscopy** for the rest of your life.

2. Pre-op visit

During the pre-op visit, the care team will talk with you about health concerns, consent forms, and pre-operative and post-operative instructions. You might also have:

- An InBody scan (for Dr. Elkins' patients).
 - You will need to take off your shoes and socks and stand without help for 2 minutes.
- A blood draw.
- A urine test.
- X-rays.

3. Pre-surgical Evaluation Clinic

The anesthesia team will talk with you about the type of anesthesia you will get, the medicines you need to take or stop before surgery, what to expect after anesthesia, and any health concerns.



Bring an updated and complete medicine list to this visit. Write down all prescription medicines, over-the-counter medicines, and nutritional supplements.

4. Medical clearance

If you see a health care specialist for your heart, lungs, kidneys, brain, or blood, you may need to have clearance from them also.

For example, if you take a blood thinner, your heart doctor (cardiologist) must give their approval and tell you when to stop taking the blood thinner before surgery.

Talk with your care team if you have questions.

Your Surgery and Hospital Stay

The day before and morning of surgery

The Day of Surgery Admission team will call you 1 to 3 business days before your surgery with your check-in time and time of surgery. Be sure to answer your phone. Staff may not leave a voicemail.

If no one has called you by 7:00 p.m. the night before your surgery, please call Day of Surgery Admissions at:

- Medical Center University: 319-384-8039
- Medical Center North Liberty: 319-485-0543

Day of surgery

What will happen when I get to the hospital?

1. Check-in for surgery at your designated surgery center:
 - Medical Center North Liberty
 - Ambulatory Surgery Center
 - Main Operating Room
2. Staff will take you to a surgery prep room.
3. You will be given an identification band.
4. You will put on a hospital gown and remove all jewelry, dentures, hearing aids, and glasses or contact lenses if you have them.
5. An intravenous (IV) line will be started. The IV will be used for fluids and medicines during and after your surgery. You may also have blood drawn.
6. Your family can stay with you until you go to the operating room. There is a waiting room for family and friends during your surgery. They can get updates there and meet the surgeon after your surgery.
7. Your orthopedic team will answer questions and mark the operative site by putting initials on your knee.
8. The anesthesia team will talk to you about your anesthesia options. They will start the anesthesia process in the pre-operative area.

What should I expect after surgery?

- After surgery you will be taken to the Post Anesthesia Care Unit (PACU) to be monitored for 1 to 3 hours.
- X-rays will be taken.
- Your blood pressure, pulse, respiration, and temperature will be checked often. The blood flow and feeling in your legs and feet will also be checked.
- Your care team will talk with your family about the surgery.
- You will be taken to your room when your care team feels you are ready. You may need close monitoring overnight.
- You will work with the rehab team after surgery, either in the recovery area or on the inpatient floor.
- You will have a dressing on your incision. Your care team will talk with you about how to take care of your dressing.
- Most people have an IV until they are ready to go home. The IV is used to give you medicines and fluids after surgery if needed.

Hospital recovery

Preventing blood clots

To keep blood moving through your legs and prevent a blood clot:

- Wear foot or calf pumps while resting.
- Do ankle pump exercises many times each hour when you are awake.
- Walk several times a day with physical therapy or nursing staff.
- Take the prescribed medicine to thin your blood. Your care team will talk to you about which medicine is best for you.
- Talk with your nursing staff if you have questions or need help.

Deep breathing exercises

People are often sleepy and spend more time in bed after surgery. Because of this, they do not take as many deep breaths as normal. This could cause fluid to sit in the lungs and can cause pneumonia. An incentive spirometer will help keep your lungs clear after surgery. Nursing staff will teach you how and encourage you to use an incentive spirometer while in the hospital.



We suggest taking the incentive spirometer home. It is helpful to keep using it at home while you are taking narcotic pain medicine.

Physical and occupational therapy

Therapy starts the day of surgery or the morning after surgery. You will work with the rehab team each day while in the hospital. If you are going home the same day as surgery, you will work with the rehab team 2 times before leaving the hospital.

You will work on:

- Walking
- Going up and down stairs
- Range of motion and strengthening exercises
- Getting dressed
- Sit to stand
- Special techniques and using adaptive equipment to do daily activities

You must do physical therapy while in the hospital. You need to meet the goals set by you and the therapy team before you can safely go home.

You need to schedule physical therapy 3 times each week for 6 weeks. You will get an order when you are discharged from the hospital. Try to have a place or location in mind before surgery to schedule visits in advance. This helps you avoid delays in being seen after surgery.

Walking is the best exercise. Keep doing the exercises your physical therapist taught you. **Your first physical therapy visit should happen 5 to 7 days after going home.** Physical therapy can be done at a UI Health Care location or at your local physical therapist's office.

Going home

You can go home when you are medically ready and pass physical therapy. Some people go home the same day as surgery. If you and your care team think it is best to stay overnight in the hospital, then most people are expected to go home by 10:00 a.m. the next day. Have your driver ready by this time.

You will go home with:

- Prescriptions for pain control and thinning your blood. These can be filled at the hospital discharge pharmacy

A walker that is fitted to your height and weight. You may also have assistive devices to help you at home.

Reminder: You will need someone to help you 24-hours a day for the first few days after surgery.

Follow-up care

If your incision was closed with external stitches or staples:

- Your first return visit will be about 2 weeks after surgery.
- We will take out the stitches or staples at this visit.

If your incision was closed with dissolving stitches:

- Your first return visit will be around 8 weeks after surgery.
- This may be an in-person visit or a telemedicine phone call with a physician assistant or nurse practitioner that works closely with your surgeon.

You will have a 6 to 12 week return visit with your surgeon where they will take x-rays. For more information on follow-up, read your discharge paperwork and ask your care team any questions you may have before leaving the hospital.

Recovery at Home

Medicine

Most people go home with several different medicines for pain control and to prevent blood clots. Take these medicines as prescribed. It may be helpful to take pain medicine 30 to 60 minutes before exercising.

Most people stop taking all opioid pain medicines 4 weeks after surgery, 6 weeks at the latest. **Opioid pain medicine will not be ordered after 6 weeks from your surgery.** Talk with your care team if you are still having trouble with pain after 6 weeks.



Please make medicine refill requests during regular business hours. Allow **3 business days** for prescriptions to be refilled.

Elevation

Elevating your leg can help with swelling and pain. Rest with your leg above the level of your heart. Lie flat with a pillow under your head and several pillows under your calf, ankle, and heel. Do this at least 3 to 4 times each day, for 30 minutes each time.

Cold therapy

Ice packs or cooling machines can help with swelling and pain control. You can have swelling for several months after a total knee replacement.

Put ice on your knee, near but not on your incision. This can be done many times in a day. Use a thin towel between the ice bag and your skin to protect your skin. Let your skin go back to normal sensation and temperature (often 2 to 3 hours) before using ice again.

After surgery, you may have less sensation in your knee. Check your skin while using ice. Be sure it is **not** mottled (blotches of different shades of red and white). Remove the ice right away if your skin looks mottled

Heat therapy

Heat therapy can be used to help gain range of motion when your knee is not warm and swollen, about 2 to 3 weeks after surgery.

To do this, place a heating pad on your knee for 15 to 20 minutes before you exercise unless your care team tells you not to. Be sure to check your skin while using heat.

Activity

- Get up and walk at least 5 minutes each hour while you are awake. It is good exercise and helps strengthen muscles. Walk for a longer time and distance each day, as tolerated.
- By 6 weeks after surgery, you should be walking a total of 1 mile each day. If you could not do this before surgery, it may take longer to meet this goal.
- You will get a walker while in the hospital. Use the walker the first 1 to 2 weeks after surgery. Switch to a cane or no assistive device when you feel safe and do not have a significant limp. Place the cane in the hand opposite your surgical leg.
- You must do formal physical therapy 3 times each week for 6 weeks after surgery, unless told otherwise. Start 5 to 7 days after your surgery.
- Keep doing the knee exercises you learned in the hospital. Walking also helps lessen your pain and swelling. You will have pain with the first few steps, but the more you walk, the less pain you will feel.
- Do **not** sit in the car for more than 45 minutes at a time without getting out and walking.
- Talk with your care team about any air travel within 3 months after surgery. Give yourself extra time to walk through the airport. Try to walk the aisle of the airplane every 45 minutes.
- Some people feel discomfort in their back after surgery. This is caused by soreness from surgery and not moving very well before, during and after surgery. Be sure to slowly do more walking each day.
- You may hear a clicking or clunking sound after surgery. Your replaced joint is made from plastic and metal. The parts moving together make the sound you are hearing. You will hear it less and less over time.

Knee precautions

You can put a pillow beneath your calf, ankle, and knee for comfort. Try to have the pillow beneath your ankle more than your knee. Do this for the first 6 weeks after surgery to be sure you can fully straighten the knee for normal range of motion and walking.



Incision care

- Your incision is covered with a dressing. This will stay in place for up to 2 weeks after surgery. Check your hospital discharge instructions for directions on your dressing type and how to take it off.
- Your care team will give you discharge instructions on how to manage your dressing and surgical area after surgery.
- Bruising, blisters, swelling, and decreased sensation around the incision are expected. This should get better with time.
- Keep the site clean and dry.
- Do not put any creams, lotions, or ointments on the incision until cleared by your care team.
- Cover the dressing with Saran[®] plastic wrap or Glad Press'N Seal[®] when you shower to make sure it stays dry.
- If your dressing comes off early, tell your care team.
- After the dressing comes off, you can shower by letting the water run over your incision. Do **not** scrub it or soak in a bathtub or pool for 6 weeks.
- Do not wear tight clothes that rub against the incision while it is healing.

If you have swelling after surgery

You may have a lot of swelling on the surgical leg. To lessen swelling:

- Elevate your leg by putting several pillows under your calf, ankle, or heel. Try to get your leg higher than your heart.
- Use cold therapy (ice packs or a cooling knee machine) on the leg many times each day. You can use every hour if needed until the swelling goes down. Do not put an ice pack directly on your skin. Do not put an ice pack or cooling knee machine pad directly on the incision.
- Rest your leg. You may need to lessen the amount of time you are walking. Keep walking at least 5 minutes each hour.



Life After a Joint Replacement



Preventing infection

To help prevent infection in your artificial joint, you will need take 1 dose of an antibiotic before you dental work, a colonoscopy, or an endoscopy for the rest of your life. Antibiotics help prevent infection from getting into your knee replacement. This is important for years after your surgery.

Your orthopedic care team, PCP, or dentist can prescribe the antibiotic. Be sure to tell all providers you have a total joint replacement. Do not have dental work, a colonoscopy, or an endoscopy for 12 weeks after surgery to lower the risk of infection.

You will get a wallet card at your pre-op visit with the information above and antibiotic recommendations listed on it.

Call your care team right away if you have signs of infection around your knee, such as:

- Redness
- Swelling
- Drainage
- Separation of incision edges

Activity

Most people can do their normal daily activities within 6 to 8 weeks after surgery. Your knee should feel better quickly, even after just a few days. For the first 6 weeks, progress your activity as you tolerate. At 6 to 12 weeks, slowly progress back to your regular activities if your knee tolerates it.

At your 12-week visit, your doctor will likely let you go back to all activities. Then, you can fully enjoy your new knee. Talk to your care team before starting an activity that is not on the list below, or that is not recommended:

Activities you can do		Activities to avoid
Biking	Dancing	Contact sports
Bowling	Elliptical	Combat sports
Fishing	Gardening	Jogging
Golf	Low-impact aerobics	Running
Racquetball	Skiing	
Tennis	Walking	
Water aerobics	Weightlifting	
Pickleball		

Airports

Your total knee replacement may set off alarms in airports. The attendants will ask you to step aside for an individual scan if you set off the alarm. You also have a wallet card given to you at your pre-op visit. It states you had a joint replacement.

Driving

Do not drive:

- For 2 to 3 weeks if you had your left knee replaced.
- For 3 to 4 weeks if you had your right knee replaced.
- If you are still taking opioid (narcotic) pain medicine or using a 2-handed assistive device (walker or crutches).

Check your driving skills in a parking lot before driving on the road. If you are driving more than 1 hour, try to get out and walk every 45 minutes to prevent stiffness and discomfort.

Appendix A: Home Exercises

Quad sets

1. Lie on back with leg extended.
2. Tighten quad muscles on front of leg. Try to push back of knee downward.
3. Hold 5 seconds then relax and repeat.
4. Do not hold breath.

Do 1 set of 10 repetitions, 3 to 5 times each day.



Heel slides

1. Lie on back with legs straight. May bend uninvolved knee if more comfortable.
2. Slide heel up to buttocks.
3. Return to start position.
4. Do in slow, controlled motion in both directions with knee moving straight up towards ceiling.

Do 1 set of 10 repetitions, 3 to 5 times each day.



Straight leg raises

1. Lie on back with uninvolved knee bent as shown.
2. Keeping the involved leg straight, raise the leg to thigh level of bent leg.
3. Return to starting position.
4. Do in a slow, controlled motion in both directions.

Do 1 set of 10 repetitions, 3 to 5 times each day.



Short arc quads

1. Place a ball, pillow, or rolled up towel under your knee.
2. Slowly straighten your leg at the knee.
3. Lower back down and repeat.
4. Do in a slow, controlled motion in both directions.

Do 1 set of 10 repetitions, 3 to 5 times each day.



Seated knee bends

1. Sit in an upright position with feet on floor.
2. Bend the knee back as far as tolerated.
3. Do in a slow, controlled manner in both directions.

Do 1 set of 10 repetitions, 3 to 5 times each day.



Seated knee extensions

1. Sit with both feet on the floor.
2. Straighten leg at knee.
3. Return to start position.
4. Do in a slow controlled manner in both directions.

Do 1 set of 10 repetitions, 3 to 5 times each day.



Total Knee Replacement

→ uihc.org/services/knee-replacement