



PATIENT EDUCATION

Total Knee Replacement Surgery

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BARBARA WOODWARD LIPS
PATIENT EDUCATION CENTER

About Total Knee Replacement Surgery

You are the most important member of your health care team. You are encouraged to speak up and take an active role in your care. You and your family are welcome to ask questions and to learn all that you can about your surgery and recovery.

Total knee replacement surgery is also called total knee arthroplasty. This means that your knee joint is replaced during surgery.

During the operation, the damaged part of your knee is removed and replaced with artificial parts. These parts are called components or prostheses. Your surgeon chooses the components that are best for you. Figure 1 shows you what the artificial parts look like and where they are located in the knee.

For a total knee replacement, you receive anesthesia. Your surgeon removes a fairly thin amount of bone (about $\frac{1}{4}$ to $\frac{1}{2}$ inch). It is removed from the end of the thigh bone, the top of the leg bone and often the underside of the knee cap. Most of the major ligaments and tendons of the knee are left in place and rebalanced. This allows the knee to straighten and bend. The knee is stable from side-to-side and front-to-back after surgery.

Usually, the operation lasts one to two hours. After the operation, you are taken to a recovery room, also called the post-anesthesia care unit or PACU. Typically you stay in the recovery area for about two hours.

How long you stay after your surgery depends on you and your overall health. Some people may go home the same day. Some people may need to stay overnight. And some people may need to stay longer. Talk to your health care provider about your stay.

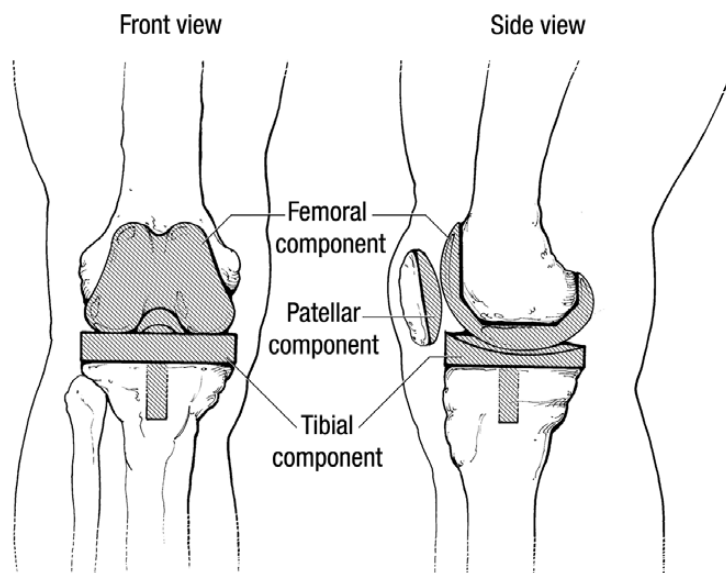


Figure 1. Front and side view of knee joint showing new components (prostheses)

Risks for Side Effects and Complications

Every person and every surgery is different. Although rare, it is possible that your condition may not be helped by surgery. It's possible that your pain may not lessen or go away completely.

Possible side effects

Common side effects of surgery include:

- Muscle soreness around the knee joint and leg.
- Swelling and numbness around the knee.
- Headache.
- Nausea, vomiting, headache, dry mouth, sore throat, shivering, and sleepiness are common side effects of anesthesia.

The side effects of anesthesia should go away in one to two days. It may take a few weeks to months for muscle soreness, swelling and numbness to go away.

Possible complications

Common complications of this surgery include the following:

- **Replacement part failure.** Knee replacement components are very durable. But like any artificial device, these components may become loose or worn over time and require further surgery.
- **Changes to the ligaments.** Your ligaments are rebalanced at the time of surgery. Rarely, these ligaments can become too loose or too tight after surgery. Ligaments that are too loose can cause instability. Ligaments that are too tight can cause stiffness.
- **Nerve damage.** Your implant is placed in an area where there are a lot of nerves. Rarely, nerves may be injured when the implant is placed. Nerve damage can cause numbness, weakness and pain.
- **Infection.** There is a risk of infection with any surgery. Infections after knee replacement are usually treated with antibiotics but also may require one or more surgeries to cure.
- **Blood clot(s).** People who have knee replacement surgery are at a greater risk of developing blood clots during the first few weeks after surgery. Your surgical team may take steps to try to avoid a blood clot. Every person's medical condition is different. Preventive steps and treatment for blood clots are different for each person.
- **Complications related to anesthesia.** The following possible complications may depend on what type of anesthesia you have.
 - Infection at the injection site.
 - Bleeding.
 - Temporary or permanent nerve injury.
 - Serious complications from anesthesia are rare, but they can include stroke and death.

Get Ready for Surgery

Recovery after this surgery takes time. Use the following information in the months, weeks and days before your surgery to get yourself and your home ready.

Do not use tobacco products for at least two months before surgery

Nicotine, carbon monoxide and other poisons in tobacco products decrease your blood flow. Smoking also increases the risk of complications after surgery. Examples include: poor bone and wound healing, pneumonia, blood clots, and the need for more surgery.

If you use tobacco products, you must stop using all tobacco products at least two months before your surgery date. You must to agree to stay nicotine-free for at least one year after surgery. It can take up to a year for bones to heal. If you need help to quit, talk to your health care provider. There is help available for you.

Tell your health care team about medications you take and devices you have

- **Blood-thinning medication.** Blood-thinning medications affect clotting and bleeding. Both the health care provider who manages these medications and your surgeon need to decide if your medications need to change.

Contact the health care provider who manages these medications about whether you should stop taking them before surgery and for how long. After the procedure, the health care provider who manages these medications and your surgeon need to decide when to restart these medications.

- **Pain medications.** If you have been taking pain medication in recent weeks, be sure to tell your surgeon. Together, you and your surgeon can plan on how to adjust your pain medications before your surgery.

It can be easy to get addicted to opioid pain medication, also called narcotic pain medication. Talk to your health care provider about other ways you can manage your pain. Most people should stop taking opioid pain medication two weeks after surgery. Over-the-counter pain medications, such as acetaminophen or ibuprofen, can help ease pain that you still have.

- **Herbal medication.** If you have been taking any herbal medication, such as St. John's wort, fish oil or omega 3, it is also important to stop taking it when your surgeon tells you to stop. Some herbal medications can thin your blood. This puts you at risk for severe bleeding during surgery.
- **Diabetes.** Before your procedure, contact the health care provider who manages your insulin or other diabetes medications for specific instructions on taking or adjusting them.
- **Any implanted devices.** Your health care provider needs to know about any implanted devices, such as a pacemaker, internal defibrillator, vagal nerve stimulator, interstim, insulin pump, or pain pump. Bring your device information card with you when you have surgery.

Plan to change your daily activities

Depending on the type of surgery you have, make plans now to change your daily activities, such as school, work and home, for a few weeks or a few months.

No dental work in the four weeks before surgery

Dental work, including teeth cleaning, must be completed at least four weeks before your surgery. If you need unexpected dental work done within four weeks before your scheduled surgery, tell your surgical health care team.

If you have family or pets

Make plans for your family and pet care while you are gone or recovering. While you work on your own recovery you are not able to care for others as you did before.

Learn more to help you prepare

Ask your health care provider if there are face-to-face or online classes you can take to help you prepare for surgery.

Integrative and healing therapy

- As you prepare for surgery, think about what you can do to be mentally and physically prepared to help your recovery and to speed healing.
- Eat a healthy, well-balanced diet.
- Stay active and exercise regularly.
- Practice stress-relieving techniques.
- Create a social network of people who will support you during and after your surgery.

Talk to your health care provider about your plans for recovery

Most people are able to go home or able to stay with a friend or relative after this surgery. Some people may need to go to a skilled nursing facility. No matter where you go, it is important to make a decision well before your surgery.

Recovery after your total knee replacement surgery takes time. Take note of special needs you may have. You may also have needs that are not listed in this information.

If you are going to a skilled nursing facility, talk to your health care provider about information to help you make that move.

Caregiver support

- **Plan to have a driver take you home after surgery.** It is not safe for you to drive while you still have sedation medication in your body. And it is not safe for you to drive while you take opioid pain medication. Plan ahead of time for a responsible adult to take you home after your surgery.
- **Plan for support at home.** You should not be alone for more than 3 to 4 hours at a time during the first 7 days at home. Make sure you have caregiver support for one to two weeks after your surgery. Your health care provider may ask you about your caregiver support.

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Your caregivers must be willing and able to help you:

- Get up out of a chair.
- Get on and off the toilet.
- Get in and out of bed.
- Prepare meals.
- Get dressed and bathed.

Changes with work

- Talk to your health care team about how much time you may need off work.
- Talk to your employer about this surgery. Bring any forms that members of your health care team may need to sign for your employment.

Getting around

- You use a walking aid for up to two months after your surgery. How long you use it depends on what your surgeon thinks is best for you. In the first month, you transition from a walker or two crutches to a cane or one crutch. In the second month you transition to using no walking aids. How long this takes depends on your balance, strength and comfort.
- Talk to your health care team about helping you get a handicap parking permit.

Do not shave your surgical area in the 48 hours before your surgery

Shaving in the two days before your surgery can increase your risk for infection.

Get your home ready

Plan for a temporary decrease in your activity. If you are not sure how your total knee replacement surgery might affect your activity level, talk to your health care provider.

- Leave your home clean and tidy, so you don't have to clean during your recovery.
- Remove throw rugs and clutter from walking areas.
- If necessary and possible, rearrange your bedroom. Allow extra space for getting into and out of bed while you use a walking aid.
- Move a bed to the main floor, if possible. Stairs may be hard to manage after surgery.
- In your living room, put a table with any supplies you need next to a sturdy chair with arms. Supplies may include items such as books and magazines, hobby supplies, television remote, and a telephone. The chair should be high enough to get out of easily.
- In the kitchen, move things you use often to a place where you can reach them without having to bend, stretch or lift. Place a sturdy chair in the kitchen, one that you can get out of easily.
- Make and freeze meals now to heat and eat after you go home.
- Ask your mail and newspaper carriers to deliver to your door, if possible.
- If you wish, ask your religious or spiritual leader to visit you as you recover.

Therapy to do before surgery

Physical activity before surgery may help strengthen your muscles and ease your recovery. Before your surgery you may be asked to practice the following activities. Doing these activities before your surgery can help you become familiar with them. And that may help you do them after surgery. If you have questions about these activities, talk to a member of your care team.

- **Practice getting in and out of bed**

This exercise helps to improve your core strength and your ability to get in and out of bed following surgery.

1. To get into bed, back your body up to the bed until you feel the bed on the back of your legs. Make sure you are near the head of the bed.
 - Reach back with one or both hands. Sit down at the edge of the bed. Angle your hips toward your pillow so that you are facing the foot of the bed.
 - Move your walker out of the way. But remember to keep it close by.
 - Lift one leg at a time into bed. Shift your hips so that you are comfortable in bed. You do not have to move your surgical leg into bed first. Whatever is most comfortable for you is best.
2. To get out of bed, move your hips to the edge of the bed.
 - Sit up at the side of the bed as you lower both legs to the floor. If you need to, use a leg-lifter or a towel to lower your surgical leg to the floor. See Figure 2.
 - Move to the edge of the bed.
 - Use one or both hands to push off the edge of the bed.

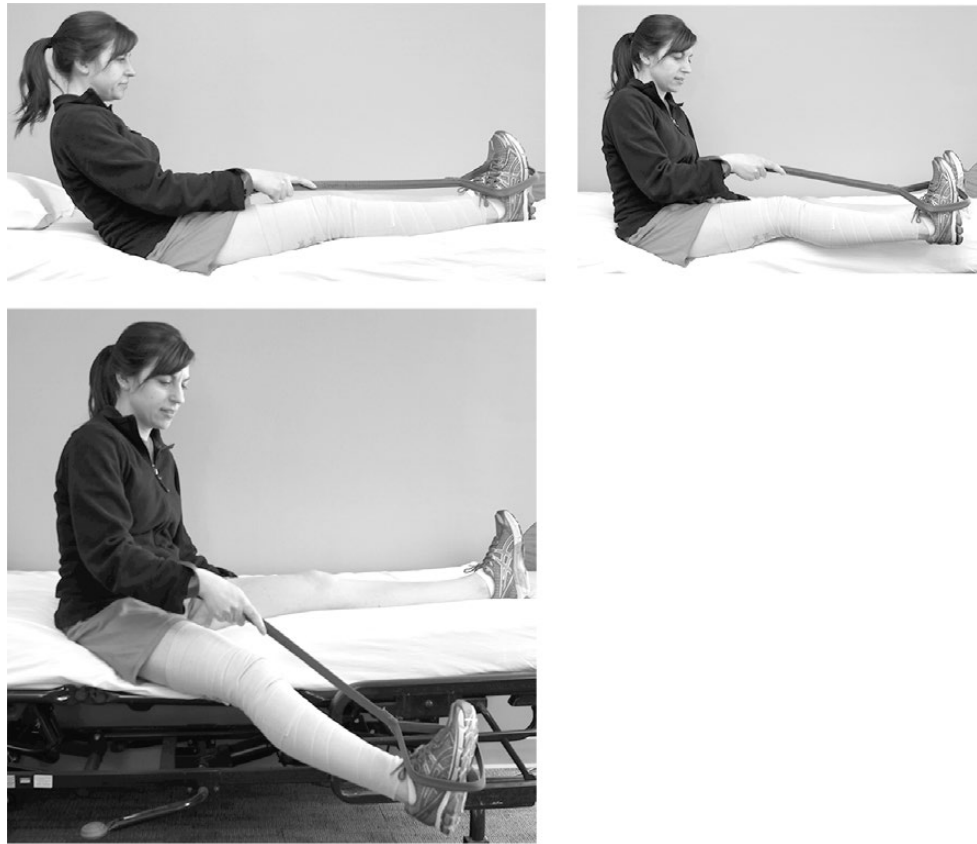


Figure 2. Use a leg-lifter to lower your surgical leg to the floor.

- **Arm chair pushups**

This exercise helps strengthen your arms so you can walk with crutches or a walker. Over time, work to increase to 20 repetitions per exercise session. See Figure 3.

1. While you sit in a chair with arms, place your hands on the armrests.
2. Straighten your arms as you lift your bottom off the chair seat.
3. Keep your feet flat on the floor. Use your legs as needed.
4. Slowly, lower yourself back to the chair.



Figure 3. Arm chair pushups

- **Standing and sitting with a walker**

1. To stand after sitting, make sure at least one of your hands pushes up from a solid surface, such as an armrest or the surface of a bed. See Figure 4.
2. Once you are standing, slowly move your hands to the walker.
3. When sitting, make sure your walker and legs are backed up and square to the side of what you will be sitting on.
4. Move one hand from the walker to the armrest or surface of a bed, and gently lower down to a seated position.



Figure 4. Standing/sitting with a walker

Your exercise list

You may be asked to do the following exercises before your surgery. Practice these exercises before surgery. Practice can help you become familiar with the exercises. This may help you do these exercises after surgery.

- **Ankle pumps**

This is a range-of-motion exercise. See Figure 5.

1. In any position, point your toes as far as you can away from your body.
2. Lift your toes back up toward your body.

Repeat this exercise 20 times and several times a day. This exercise can be done as often as you want.



Figure 5. Ankle pumps

- **Quad set, also called a knee press**

This is a strengthening exercise for your quadriceps muscle. See Figure 6.

1. Press the back of your knee flat into bed to tighten the muscles on top of your leg. Do not hold your breath.
2. Hold this position for 5 seconds.

Repeat this exercise 20 times, two to three times a day.



Figure 6. Quad set (knee press)

- **Active knee extension**

This is a strengthening exercise. See Figure 7.

1. Sit securely on a chair with most of your thigh supported.
2. Bend your knee as far as possible. Hold for 5 seconds.
3. Straighten your knee as far as possible. Hold for 5 seconds.

Repeat this exercise 20 times, two to three times a day.



Figure 7. Active knee extension

- **Seated marching**

This is a range of motion exercise. See Figure 8.

1. Sit securely on a chair with most of your thigh supported.
2. Lift your leg with the knee bent.
3. Lower your leg. Repeat with your other knee in a marching motion.

Repeat this exercise 20 times, two to three times a day.



Figure 8. Seated marching

- **Floor scrub**

This is range-of-motion exercise. See Figure 9.

1. Sit securely on a chair with your foot flat on the ground.
2. Slowly bring your foot back toward the chair, bending your knee as far as possible.
3. Push your foot back out as far away from your body as possible. Repeat.
4. Each time you repeat, try to bring your foot back a little farther.

Repeat this exercise 20 times, two to three times a day.



Figure 9. Floor scrub

- **Knee bending stretch**

This is a range of motion exercise. See Figure 10.

1. Sit securely on a chair with most of your thigh supported.
2. Bend your knee. Then plant your foot firmly on the floor.
3. Without moving your planted foot, slide forward on the chair to increase the bend in your knee.
4. Hold for 30 seconds.

Repeat this exercise 5 times, two to three times a day.



Figure 10. Knee bending stretch

- **Knee extension stretch**

1. This is a range-of-motion exercise. See Figure 11.
2. Sit or lie down with your foot supported and your knee straight.
3. Place a rolled towel under your ankle. Relax your leg until it is straight.
4. If you are told to do so, you may place a weight (5 to 10 pounds) on top of your knee for added stretching.

Keep your leg straightened for 5 to 10 minutes, two times a day.

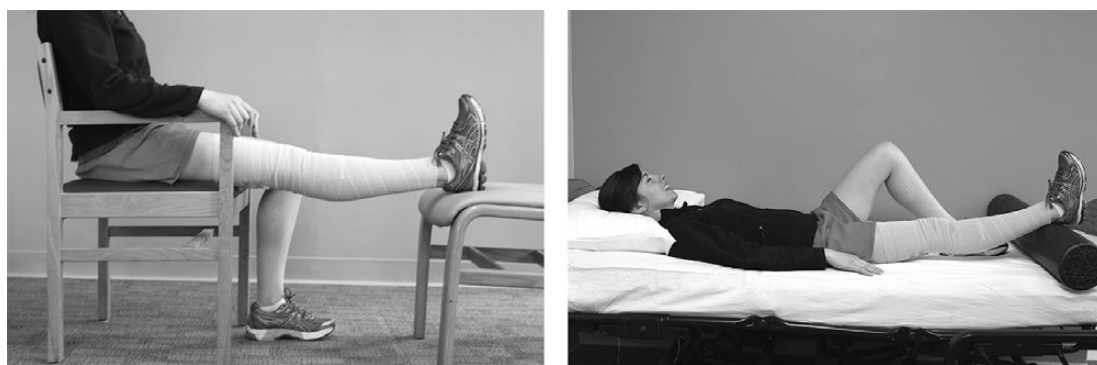


Figure 11. Knee extension stretch

What to bring to your surgery

Do not bring valuables, such as jewelry, with you. Bring the following items.

- Your surgical checklist.
- Any materials your health care team asked you to complete before surgery.
- A list of prescription medications, over-the-counter medications, and vitamin or herbal supplements you take. Include the dose and times that you take them.
- Bring information cards you have about implanted devices you have in your body. Your health care team may need to see these.
- Comfortable, nonskid walking or athletic shoes with elastic laces or Velcro™ fasteners.
- Soft, loose-fitting clothes, such as jogging suits and sweatpants with pockets to help carry small items. Tight-fitting clothes may not be comfortable after surgery.
- A walker, crutches, cane, and other assistive devices, such as a shoehorn and zipper hook, if you own them. **Do not bring a 4-wheeled walker.** Your health care team can show you how to use your walking aid and assistive devices.
- Toiletry items, such as an electric razor and toothbrush and toothpaste.
- Personal items, such as books, magazines and a cell phone.
- Photo ID and money or a credit card to pay for take-home medications.
- If you use any of the following, bring them with you:
 - Glasses or contact lenses with their case and solution.
 - Hearing aids with batteries and their labeled container.
 - Dentures and their labeled container.
 - Continuous positive airway pressure (CPAP) machine if you use one at home while you sleep.
- Advance directive or living will if a document is not already in your medical record.

The day before your surgery

- Tell a member of your health care team if you have any symptoms of a respiratory, urinary or other infection. Also tell about any recent viruses you've had, such as a cold or flu. Also tell if you still have some symptoms of these infections, such as coughing, stuffy nose or a fever.
- **Read the instructions in your surgical checklist.** You get anesthesia for this surgery, so you need to follow instructions about what to eat and drink. Your surgical checklist tells you what to eat and drink and when to eat and drink during the hours before your surgery.



The evening before your surgery

- Take a shower or bath the evening before surgery. Bathing helps to lower the amount of bacteria on the skin. Bathing may lower the risk of infection after surgery. You may be given an antibacterial soap to use while you bathe. Do not shave the surgical area.
- Remove any nail polish you are wearing.
- Sleep in clean pajamas with clean sheets.

The Day of Surgery

The morning of your surgery

- Take a shower or bath the morning of surgery. If your health care provider gave you antibacterial soap, use it while you bathe.
- Take only the medications your health care provider tells you to take.
- Wear clean clothes the day of surgery.
- Remove all jewelry, including rings and body piercings, before you arrive on the day of surgery. Leave your jewelry at home.

Before you go to surgery

- Your health care team members check your temperature, pulse, respiration rate, and blood pressure.
- Let your health care team know whether you have any implanted devices, such as a pacemaker, internal defibrillator, vagal nerve stimulator, interstim, insulin pump, or pain pump. Show them the device information card you brought with you.
- Your surgeon or another health care member writes your surgeon's initials on the knee to be operated on. This safety measure ensures that everyone in the operating room knows which knee is to be replaced. If you are not sure which knee will be replaced, ask your health care provider.
- An intravenous (IV) line gives you fluid and medication through a vein. The medicine you receive depends on your medical history, physical condition and the type of procedure.
- You go to the bathroom.
- You take off your glasses, contact lenses, hearing aids, or dentures. These are removed in the surgical area before your surgery. They will be available to you right after surgery.
- Your family members and friends are shown where to wait while you are in surgery.
- The knee to be operated on may have the hair removed and will be cleansed.
- An anesthesiology team member talks with you about two types of anesthesia, spinal and general. The type of anesthesia you receive depends on your medical history, your overall health and what you are most comfortable with. See "Risks for Side Effects and Complications."
 - **Spinal anesthesia, also called a spinal block.** You receive medication in your low back.

You receive a sedative through your IV to help you relax. You feel a small prick when you get a local anesthetic to numb the injection site. A small, hollow spinal needle of medication is inserted between the bones of your spine. You may feel some pressure while the needle goes in.

Once the medication has taken full effect, you are numb from your chest or waist all the way to your toes. This sedation limits your awareness during surgery. Most people have little memory of surgery itself.

- **General anesthesia.** You either receive medications through an IV or you inhale them. The medications put you into a very deep sleep. They block your memory of surgery and keep your brain from sensing pain signals. You have a breathing device in place during surgery.
- You may have a nerve block placed at this time. This may help to relieve pain by numbing the set of nerves for the area that was operated on.

In the recovery area

After surgery, you rest in a recovery area for a short time.

- Your loved ones are told when you are out of surgery and recovering.
- Your blood pressure, pulse, alertness, pain or comfort level, nausea and need for medications are monitored.
- You may get oxygen through nasal prongs or a facemask to help you breathe.
- As you wake up, noises may sound louder than usual.
- It is common to feel your throat is sore or dry and that you are sleepy or forgetful, nauseous, and cold.
- How long a person stays in the recovery area is different for each person. But the average time is about two hours.
- Your anesthesia team decides when you are ready to leave the recovery area.

If you had general anesthesia, for your safety and the safety of others, do not drive for 24 hours.

After sedation

After you have been sedated, it is common to have lapses of memory, slowed reaction time and impaired judgment. Arrange for someone to accompany you to and from your appointment and drive you home.

For the rest of the day after being sedated:

- Rest.
- Do not drive or operate motorized vehicles or equipment.
- Do not return to work or school.
- Do not take on responsibility for children or anyone who depends on your care.
- Do not use exercise equipment or take part in rough play or sports.
- Do not drink alcoholic beverages.

Your care right after surgery

You may get fluids through your IV right after your surgery. Tell a member of your health care team if you have pain or redness around the IV site. You may also get antibiotic medication to help prevent infection.

You may continue to get oxygen. And you may have one or two small plastic suction tubes to drain excess blood and fluid from the area around the incision. You may also have blood samples taken.

You are encouraged to drink liquids. You and your health care team can decide how quickly you should increase what you eat and drink.

After you pass urine a few times, your bladder may be checked to see if it is emptying. If you cannot empty your bladder all the way, a catheter may be inserted to help empty your bladder. You may have difficulty emptying your bladder all the way for a few days after surgery.

Moving right after surgery

Do not try to get up without help. The side rails on your bed may be raised for your safety.

- Your health care team decides when you may get out of bed.
- Your health care team helps you move in and out of bed until you are ready to do this on your own. Do not get up without help unless a health care member says you may.
- Usually you sit on the edge of the bed and transfer to a chair the day of surgery.

Pain and discomfort

Members of your health care team routinely ask you to rate the level of pain you feel. The scale is 0 to 10, where 0 = no pain and 10 = the worst pain you can imagine. The goal is to keep your pain level around 4 or less. Your pain may stay at this level for the first week or two after your surgery.

Tell your health care team if you have any other discomfort or if you think the pain medication is causing nausea or other symptoms.

You will still have some pain after surgery. Your health care team helps you manage your pain. They do this in the following ways.

- **Local anesthetic, also called a nerve block.** Some people may get a nerve block. This helps to numb the set of nerves for the area that was operated on. Others may not get the nerve block but may get a set of injections into the knee joint itself. Some people get both. These and other forms of pain management work well and give good pain relief.
- **Oral pain medication.** This can help ease your discomfort. You will do best if you take pain medication before your pain becomes significant— stay ahead of the pain. Tell your nurse if your pain gets worse.
- **Cold packs.** You can use cold packs to help lessen swelling and discomfort around your incision. Use a thin towel between the ice pack and your skin.
- **Pillows or soft pads.** These may keep your heels from getting sores while you are lying down. Place small pillows or soft pads under your lower legs to keep your heels off the bed.



It's best not to put pillows under your knee. If you need to put pillows under your knee for pain, limit the time. Having pillows under your knee for too long can permanently affect your leg's ability to straighten. Talk to your health care provider about how long you can have pillows under your knee.

Coughing and deep breathing

You may be encouraged to cough and breathe deeply every hour you are awake for the first few days after surgery. This clears your airways of mucus. You may be given a device called an incentive spirometer to help you with deep breathing exercises.

Circulation aids

You may need circulation aids on both legs, called circulation devices. See Figure 12. These help promote blood circulation and lower your risk of getting blood clots while you are less active after surgery.

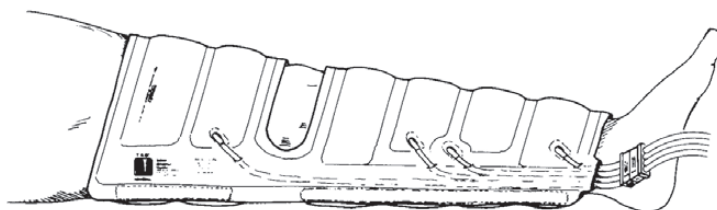


Figure 12. Circulation device

Getting you ready to leave

Before you leave, you learn how to care for yourself after surgery. Your participation increases your independence. Your health care team may work with you on how to:

- Walk and climb stairs.
- Use the bathroom with help. You'll likely use a toilet seat riser or a commode.
- Do day-to-day tasks and get around. You may also need help from your loved ones for some of these tasks.
- Learn how to care for yourself. You or a loved one helps with your personal care, such as brushing your teeth and bathing. Your health care team may also help your loved one learn how to support you.

Your care team may also:

- Ask your loved ones to show that they understand your exercise program and wound care.
- Help you set up follow-up appointments. Ask your surgical care team about this.
- Suggest resources to help you and your loved ones as you recover at home.

You are ready to leave when you:

- Can move around safely.
- Can tolerate food.
- Feel your pain is manageable. It's important to note that some pain is a normal part of the healing process after knee replacement.
- Know your home care plan. Be sure you take your dismissal instructions with you when you go home.
- Have your medications and know how and when to take them.
- Have your walking aid and know how to use it.
- Have a ride and driver ready to help you leave.

Taking Care of Yourself at Home

Getting around

You gradually may increase your activity. Let your knee symptoms guide you. How active you were before surgery may influence how quickly you can return to your normal daily activities.

- To regain best use of your knee, make sure exercise and activity are part of your regular daily routine.
- Follow your health care team's instructions about how much weight to put on your affected leg.
- You may switch from a walker or crutches to a cane when you feel steady on your feet, unless your surgeon tells you otherwise. You may stop using a cane when you can walk without a limp.
- Take frequent short walks. As you feel able, increase the distance and number of times you walk each day.

Daily living

- You may want to use a toilet seat riser to raise the height of your toilet seat. The riser can help you sit down and stand up more easily. In public restrooms, use the handicapped-accessible stall with a raised seat.
- Sleep in any position that is comfortable.
- If you were told to wear support stockings for swelling, wear them until you are told otherwise. You may take off the stockings at night, but wear them during the day.
- Numbness around the incision is normal after total knee replacement surgery. This usually lessens by one year after surgery.

Traveling after knee surgery

- Before you get into a car, have someone move the seat back to give you extra leg room.
- When you get into a car, sit on the seat and slide your buttocks backward. Then have someone help you bring your legs into the car together.
- Stop to stretch and walk every 1 to 2 hours during a car or plane ride. This may help reduce the risk of blood clots in your legs.
- You may go back to driving:
 - When your health care provider tells you it is safe for you to drive.
 - When you no longer take opioid pain medication.

Sexual activity

You may resume sexual activity when you feel comfortable. There are no specific limitations after total knee replacement surgery. If you have questions about sexual activity, talk with your health care provider.

Diet

Constipation may occur as a side effect of pain medications. It may also be a result of less activity after surgery. To help prevent constipation:

- Eat high-fiber foods, such as fresh fruits and vegetables and whole grains.
- Drink 6 to 8 glasses of water every day, unless you are told otherwise.
- Use stool softeners, laxatives, or both. Follow the instructions given to you by your health care provider.

Managing your pain

Your health care provider may give you a prescription for pain medicine.

- Tell your health care provider about any medication you are taking, including other prescriptions, over-the-counter medications, vitamins, and herbal supplements.
- Talk to your health care provider before beginning new medications while you are taking prescription pain medications.

Prescription opioid pain medications can cause side effects, such as constipation, light-headedness, dizziness, and nausea. Using prescription pain medications for even a short time can lead to addiction. The goal is to use the smallest effective dose of pain medication for the shortest period of time. Most people should stop taking opioid pain medication two weeks after surgery.

It is important that you take the prescribed medications exactly as instructed. Talk to your health care provider about how to slowly change to other pain-control methods. Those methods may include over-the-counter medication.

While you are taking prescription pain medications, do not:

- Drive or operate motorized vehicles or equipment.
- Drink alcoholic beverages.
- Be responsible for children or adults who depend on you for care.

Some common pain relievers can affect blood thinning. Examples include aspirin, aspirin-containing products, ibuprofen (Advil™, Motrin™), and naproxen (Aleve™, Naprosyn™). Ask your health care provider about what you should take to manage your pain.

If you do not take a blood thinning medication or prescribed pain medication, you may take acetaminophen or generic Tylenol™ as needed for pain. Talk to your health care provider about the dose you should take and the schedule you should follow. If you take more than the recommended dose of acetaminophen, you could damage your liver.

If you take aspirin for your heart, ask your health care provider whether you should continue to do so.

Incision care

To prevent infection, follow these instructions about wound care:

- Keep your incision clean and dry.
- Do not use any topical creams on your incision, such as ointments, lotions or oils.
- Wash your hands with soap and water and dry your hands with a paper towel before you do incision care.
- Change your dressing as you are told by your health care provider.
- Check your incision every day for these signs of infection. If you develop any of these signs of infection, contact your surgical team right away.
 - Increased tenderness, redness or swelling at the incision site.
 - Increased pain or pain not relieved by pain medications.
 - A bad-smelling odor or new or increased drainage coming from the site.
 - A temperature of 100.4 degrees Fahrenheit (38 degrees Celsius) or greater.
 - Chills.
- There are many different ways to close the incision after surgery. Talk to your surgical health care team about how to care for your incision.
 - Many patients have absorbable stitches that do not need to be taken out.
 - If you have sutures or staples, these are usually removed in 2 to 3 weeks.

If your incision shows an increase in swelling or drainage, call your health care team right away.

Manage swelling

Follow these instructions for ways to manage and lessen swelling.

- Ask your health care team about applying ice, including how often you can apply ice and for how long. **Do not use heat on your wound.**
- Raise your leg with your knee above the level of your heart, as needed.
- If you were given compression stockings from your health care team, wear your stockings during the day until your swelling stops. Remove the stockings to bathe and for incision care. When you remove your stockings, look carefully for signs of your skin breaking down. Signs may include redness or a sore. If you see these signs, tell your surgical team.

Bathing

Talk to your surgical care team about when you can bathe.

- Usually you can shower in the first or second day after your surgery.
- Do not soak in a bathtub or go in a swimming pool or a hot tub until your incision has healed. Usually, this is about three to four weeks.
- For your safety, you may need someone to help you bathe, or you may need to use handrails.
- Let water run over your incision. Do not scrub your incision. Pat it dry with a clean towel.

Antibiotics to prevent infection

You need to protect this new part of your body from infection. Although it is not common, your artificial joint could become infected any time bacteria get into your bloodstream. It is recommended that you talk with your health care provider about taking antibiotics before any of the procedures below. Your health care provider or dental provider reviews whether or not you need antibiotics and, if you do, he or she recommends the antibiotic you should take. If you have ever had a reaction to a certain antibiotic, tell your health care provider so an alternative may be suggested.

Other procedures affected by total knee replacement surgery

After you have a total knee replacement, certain medical procedures can affect your new knee. These procedures are listed below. Tell the medical care providers you have for any of the following procedures that you have had a knee replacement.

- **Dental or oral procedures.** Routine dental cleaning is recommended to maintain your dental health. If you have symptoms of dental conditions, seek immediate diagnosis and treatment.
 - For one year after surgery, antibiotics are recommended before dental cleaning or other procedures.
 - For six months after surgery, delay elective dental procedures, such as orthodontics or implant placement.
 - Beyond one year after surgery, antibiotics are not recommended for most people. However, antibiotics may be recommended if you are at higher risk of infection. For example, you are at higher risk if you are taking immune-suppressing medications, such as chemotherapy or disease-modifying medications for rheumatoid arthritis, or if you have had a prior joint infection or complex joint reconstruction.

- **Urologic procedures**
 - For six months after surgery, delay higher risk urologic procedures, for example, any stone manipulation, including shock wave lithotripsy, transrectal prostate biopsy, endoscopic procedures of the upper tract (ureter and kidney) and any procedure involving entry into your urinary tract.
 - For one year after surgery, if any of these higher risk procedures are necessary, antibiotics are recommended.
 - Beyond one year after surgery, antibiotics are not recommended for most people. However, antibiotics are recommended if you are at higher risk of infection. For example, you are at higher risk if you have an indwelling catheter, a history of recent or recurring urinary tract infections or prostatitis, are taking immune suppressing medications such as chemotherapy or disease-modifying medications, or have had prior joint infection or complex joint reconstruction.

- **Gastrointestinal procedures.** Gastrointestinal procedures include any procedure during which an instrument or tube is inserted into your body. This may include upper endoscopy, colonoscopy or sigmoidoscopy.
 - Antibiotics are not recommended before most gastrointestinal procedures.
 - For six months after surgery, delay non-urgent endoscopy, for example, to follow-up on reflux. If you are due for a 10-year screening colonoscopy, wait six months.
 - If you experience symptoms of gastrointestinal bleeding, seek emergency diagnosis and treatment.

When to Get Medical Care

Get emergency medical care

If you have any of the following problems, call 9-1-1 or your local emergency number or have someone drive you to get emergency medical care.

- Chest pain
- Shortness of breath

Contact your surgeon or health care provider

Contact your surgeon or health care provider if you have any of the following problems.

- Signs of an infection:
 - Increased tenderness, redness or swelling at the incision site.
 - Increased pain or pain not relieved by pain medications.
 - A bad-smelling odor or new or increased drainage coming from the site.
 - A temperature of 100.4 degrees Fahrenheit (38 degrees Celsius) or greater.
 - Chills.
- An opening in your incision or somewhere else on the leg that was operated on.
- A urinary tract infection, bronchitis or any other infection.
- Calf or thigh pain, tenderness or swelling in your operated leg.
- New or increased numbness or tingling in your operated leg. Or numbness or tingling in your operated leg that has never gone away.
- Changes in color and temperature of your leg.
- Easy bruising, nosebleeds or blood in your urine.
- A fall or injury.

Be sure you know how to reach your surgeon during regular business hours and your surgical health care team during the evening or on a weekend or holiday. Write down contact information and keep it near you.

Follow-up Appointment

You may be asked to return for a follow-up appointment after your surgery. For many people this comes between 6 and 12 weeks. During this appointment, your health care team checks to see how your knee is healing.

You may get information about this appointment before you leave from surgery or a follow-up appointment letter may be mailed to your home.

Notes

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BARBARA WOODWARD LIPS PATIENT EDUCATION CENTER

Mrs. Lips, a resident of San Antonio, Texas, was a loyal Mayo Clinic patient of more than 40 years and a self-made business leader who significantly expanded her family's activities in oil, gas and ranching. Upon her death in 1995, Mrs. Lips paid the ultimate compliment by leaving her entire estate to Mayo Clinic. By naming the Barbara Woodward Lips Patient Education Center, Mayo honors her generosity, her love of learning, her belief in patient empowerment and her dedication to high-quality care.

This material is for your education and information only. This content does not replace medical advice, diagnosis or treatment. New medical research may change this information. If you have questions about a medical condition, always talk with your health care provider.

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