

Your Guide to Knee Replacement Surgery

Vol. 2



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An important step toward regaining
a more active, satisfying life.

Congratulations! In opting for knee replacement surgery, you have taken an important step toward regaining a more active, satisfying life.

Total knee replacement, a remarkably effective procedure to relieve pain and disability, has undergone dramatic advances in recent years, in both the design and composition of the artificial joints. Over 350,000 knee replacements are performed in the US every year.

The enhanced quality of life that results from this procedure is extremely gratifying for all concerned—the patient, the patient’s family, and the surgical and rehabilitative team.

Because each patient has a unique treatment plan, you will receive a complete description of your specific procedure from your surgeon, as well as recommendations that apply only to you.

There are, however, a number of general guidelines that apply to almost everyone who has knee replacement surgery. We hope this guide will prove a useful resource—giving you a clearer idea of what to expect from your surgery, and helping you prepare for a smooth and rapid recovery from your knee replacement.

Please be sure to ask your doctor any questions you may still have after reading the *Guide*.

Before Going to the Hospital

To make sure you are strong enough to tolerate your surgery well, you will undergo a series of tests ahead of time. These will include an orthopaedic evaluation, an electrocardiogram, x-rays, and several blood tests. You will also be asked to give blood, for use if you need a transfusion.

Other steps you should be sure to take before your surgery include:

- Have your teeth checked. To help avoid infection, it is important to complete any dental work you need prior to surgery.
- Review all medications you are taking with your doctor (be sure to include non-prescription drugs, such as over-the-counter remedies, as well as vitamins and food supplements). You may need to stop some medications (such as blood thinners) before the operation. Also try to get refills of the medications you will continue to take, so you will have them available after leaving the hospital. You will be given prescriptions for the medicine specifically related to your surgery before discharge from Mount Sinai.
- Make sure all your physicians know about your past history of medical conditions, surgeries, and allergies.
- Stop smoking (smoking slows down the healing process).
- Decrease your alcohol intake.
- If you are overweight, losing weight will help improve your mobility after surgery.

Pre-operative Exercise Program

Your doctor will advise a series of exercises to help strengthen your muscles. It is very important to do these exercises faithfully, starting as soon as possible, because they will help you adapt more quickly and easily after surgery. We have included in this guide some illustrations of exercises that your doctor may recommend. Please be sure to do only the exercises your doctor suggests.



Home Modifications

A number of simple changes can make your home safer and more practical for your return from the hospital. While your physical and occupational therapists may have additional suggestions after your surgery, the following steps are generally recommended for everyone:

Throughout your home

- Remove throw rugs and other hazards; pay special attention to the position of electrical cords.
- Place items you use regularly (kitchen utensils, toiletries, clothes, etc.) at arm level so you don't have to reach up or bend down.
- Rearrange furniture so you can maneuver with a cane, crutches, or walker.

Bathroom—For your safety and comfort, consider installing:

- Bars/handrails in the bath/shower
- A raised toilet seat if you have a low toilet
- A shower bench/chair for bathing
- A hand-held showerhead

All these items are readily available from medical/surgical supply stores.

Check with your insurance company to see if you are covered for any or all of the above items.

Bedroom

- Make sure your bed is accessible and of adequate height so you don't have to bend too much getting in and out. Raise the bed on wooden blocks if necessary.
- Make sure lamps can be turned on and off easily, preferably from bed.
- Check to see that your remote controls and battery-operated devices have new batteries.

Living Room

- Have available a high, stable chair with a firm seat cushion and armrests.

Stairways

- Be sure handrails are securely fastened.

Blood Donation

Like many patients undergoing joint replacement, you may also need a blood transfusion. If so, the most likely time is the first or second day following surgery, although it can occur at any point during your hospital stay.

As part of your preparation for surgery, you may donate blood prior to surgery to be used in the event that a transfusion is necessary. If you choose not to make a donation or are not eligible to do so (see guidelines on page 4) and you require a transfusion, the hospital will provide blood for you.

There is no fee to donate at Mount Sinai. However, there may be a fee for donations made elsewhere.

The Mount Sinai Hospital Blood Donor Center
 1450 Madison Avenue – Klingenstein Clinical Center (Basement)
 New York, NY 10029
 Phone (212) 241-6104
 Fax (212) 289-2797

Hours: Monday-Friday from 8:00 am to 3:30 pm
 (Scheduled appointments are preferred)



- Please note that your blood can only be used within 6 weeks from the date of your donation.
- You must bring a prescription for "autologous donation" from your doctor with you to the Blood Donor Center.

The checklist below can be used to determine if you are eligible to donate blood in preparation for your surgery at Mount Sinai. Please contact your physician or the Blood Donor Center at (212) 241-6104 if you have any questions about these guidelines.

Guidelines for Blood Donation

- You are at least 10 years old. Patients over 70 may donate with medical clearance from their physician.
- You weigh at least 110 lbs.
- You've been infection/symptom free for at least 3 days.
- You are not currently taking antibiotics.
- You have not had an adverse reaction to blood donation in the past.
- You do not have a history of cardiovascular disease.

Insurance Coverage

Before you come to the hospital, call your insurance company to inquire about your coverage (both hospital stay and post-discharge needs, including rehabilitation, home care, and equipment).

Make sure you specify your diagnosis (“elective total hip replacement—single joint”) because that often determines what is covered and what is not covered.



Specific Questions to Ask Your Insurance Company

- Is there a limit on the number of days I am covered for hospitalization for the surgery?
- Does my insurance pay for a private room, private-duty nurse, or nurse's aide?
- Does my diagnosis qualify me for an **acute rehabilitation facility**?
Acute rehabilitation facilities are overnight programs, either at Mount Sinai or another institution. Such programs provide intensive therapy for at least three hours per day, Monday through Friday. The average length of stay is 7 days.
 - If yes, is there a limit on the number of days I am covered for?
 - Which facilities are in my network (covered under my plan)?
 - Is transportation to the facility covered? If yes, under what circumstances?
 - **Please note applications must be made to 3 acute rehabilitation facilities – we cannot only apply to your first choice.**
- Does my diagnosis qualify me for a **sub-acute rehabilitation program**?
Sub-acute rehabilitation programs are short-term programs conducted in a nursing home. On average, such programs provide 1-2 hours of therapy, Monday through Friday. The length of stay will be a minimum of 14 days.
 - If yes, is there a limit on the number of days I am covered for?
 - Which facilities are in my network?
 - Is transportation to the facility covered? If yes, under what circumstances?
 - **Please note applications must be made to 3 sub-acute rehabilitation facilities – we cannot only apply to your first choice.**

Insurance Coverage (continued)

- Does my diagnosis qualify me for **home care**?
Home care involves therapy and services provided to you at your home.
- If yes, what kind of services?
 - A nurse?
 - Physical therapy?
 - Occupational therapy?
 - Assistance at home, such as a home health aide/attendant?
- If yes, do I have a co-pay for any of the services?
- Please note that health aides/attendants are often not covered by insurers, especially if you have private insurance. Therefore, please make alternate care plans for when you get home.
- What types of **equipment** are covered?
 - A walker, wheelchair, crutches, cane?
 - Elevated toilet seat/commode?
 - Shower bench/chair?
 - Dressing equipment?

Friends and Family

- Who is your primary contact person? Be sure to bring that person's phone number with you to the hospital.
- The surgeon will speak to your friends and family in the family waiting room after your procedure is complete. If you would like the surgeon to call someone instead, please say so ahead of time and provide the phone number. Hospital staff are not allowed to give out information to multiple people over the telephone because of the privacy stipulations of the federal Health Insurance Portability and Accountability Act (HIPAA).
- If your family has specific questions about the procedure, it is a good idea to write them down and bring them to an appointment prior to your hip replacement.
- Arrange for a friend or family member to be available to assist you after you return home. Depending on your insurance, you may not be covered to receive any extra help. If you are interested, a list of private services can be provided.
- Plan ahead for your transportation home (family, care service, ambulette). Please note that most insurance does not cover the cost of getting home.

The Night before Surgery

- Do NOT eat or drink anything after midnight the night before your surgery.
- Take medications as instructed by your surgeon and medical doctor.



What to Bring to the Hospital

You can make your hospital stay that much easier by following this checklist as you pack:

- Insurance card/information
- List of medications, including dosage and how often you take them
- List of allergies
- Completed Health Care Proxy form
- Emergency contact number
- Loose-fitting clothes, such as sweatpants
- Robe
- Rubber-soled, non-slip shoes (e.g., slippers with a back, or sneakers)
- Toiletry items (toothbrush, toothpaste, comb/brush)
- Any assistive devices you use (e.g., walker, cane)
- Dentures
- Eyeglasses (not contact lenses)
- Phone numbers of all physicians, family, and friends whom you might need to contact
- A small amount of cash for newspapers, etc. It might be helpful to have a credit number available (although you do not need to bring the actual card).
- House keys
- Names and numbers of any rehabilitation facilities you may have made arrangements with

What NOT to Bring

- Valuables, such as large amounts of cash, checkbook, jewelry
- Electrical devices
- Medication (As a safety measure, we will supply all of your medication once you arrive at Mount Sinai.)

Your Hospital Stay

On the day of surgery, go to the 2nd floor of the Guggenheim Pavilion at Mount Sinai, using either the 1190 Fifth Avenue or 1468 Madison Avenue entrance. After registering, you will go to a holding room, where you will meet with your anesthesiologist and your surgeon, before being taken to the operating room.

The Procedure

Knee replacement surgery typically takes 1-3 hours. Some patients receive regional anesthesia, which numbs the body from the waist down, while others are put to sleep completely under general anesthesia. Your surgeon and anesthesiologist will discuss with you the type of anesthesia that is best for you. During surgery, the surgeon will also decide whether to insert a catheter to collect urine.

Recovery Room

After surgery, you will be closely monitored in the recovery room (also called the Post-Anesthesia Care Unit, or PACU) as your anesthesia wears off. Specially trained nurses, physicians, and other medical staff will care for you, and begin administering pain medication right away.

Patients typically stay in the recovery room for 3-4 hours. You may find the room noisy and bright, with a lot of equipment: this is a sign that you are in good hands. Extra blankets are available if you feel cold.

Your family and friends are encouraged to remain in the waiting area, where they will be given updates on your progress and be notified when you are ready to be taken to your room.



Transfer to Your Room

Once you have recovered from the anesthesia, you will be transported to the Orthopaedics floor, 8 East, in the Guggenheim Pavilion, where a team of orthopaedic and rehabilitation specialists will take over your care for the remainder of your hospital stay—usually 2-4 days.

On arriving in your room, you will be given a foot pump—a toeless slipper that gently squeezes your foot to help the circulation—as well as a special device, called an incentive spirometer, that will help you breathe deeply to clear your lungs.

Monitoring Your Progress

We will take your temperature and blood pressure, and also check on your affected leg, every 4 hours around the clock. Once a day, we will also take a blood sample.

For the first 24 hours, your mouth will be very dry, and your throat may also hurt.

Ice chips are available to ease these sensations. Please be sure to tell a member of your healthcare team if you experience any nausea; treatment is available.

Pain Management

Although some discomfort is a normal result of surgery, your care team is there to keep your pain to a minimum. Your doctor will prescribe your personal Pain Management Program, which will involve either intravenous medication or the use of a pump you activate yourself (patient-controlled analgesia).

You can also help us help you. The more accurately you can describe your symptoms, the better we will be able to alleviate them and help you move forward with your recovery.

- Since pain levels tend to go up and down during the early recovery stages, tell your nurse or doctor if the pain gets worse.
- Try to pinpoint the kind of pain you are experiencing: Is it constant? Intermittent? Sharp? Dull? Aching? Burning? Does it feel like muscle spasms?

Since pain also varies in intensity, we will ask you to rate your pain whenever we check on you.

Please also let us know if you experience side effects from the pain medication, such as nausea, dizziness, or constipation. We can help you with those symptoms, as well.

You can expect pain to decrease and your stamina to increase as your stay goes on. By the time you leave the inpatient floor, you should need only oral pain medication.

Telephone and TV Services

A personal telephone and TV are available for \$13 total per day. The charge for these services may be applied to your home telephone bill and paid after you leave the hospital. A staff member will help you make arrangements for these services.

Please understand that to ensure a quiet, restful atmosphere, patient phones cannot receive calls after 9:00 pm, although you will be able to make outgoing calls after that time. If family members/friends wish to call after hours to check in, please ask them to call the nurses' station at 212-241-7939.

Visiting Hours

Visiting hours are between 11:00 am and 9:00 pm. We ask that you and your family/friends respect these hours very closely. (Early morning hours are typically devoted to clinical care needs, while after 9:00 pm, patients are encouraged to get the sleep they need to speed their recovery.)

Any visits outside of regular visiting hours will require the permission of the nursing staff, the one exception being a patient's transfer from the recovery room to the Orthopaedics unit after 9:00 pm.

If You Need Help . . .

If you encounter difficulties of any kind that the immediate staff on your unit is unable to resolve, please feel free to contact the **Patient Service Center, by dialing extension 66, or 88990.** The number to dial from outside the Hospital is 212-659-8990.

Activity Program

Exercise, essential for your recovery, will begin as soon as your surgeon and medical team have given the green light. The activity program can be modified at any time to suit your individual needs.

To speed up your recovery, you may be using a continuous passive motion (CPM) machine. Used in bed, this machine slowly bends and straightens your knee, in ranges determined appropriate by your doctor and/or therapist. The goal of the CPM machine is to decrease swelling and to increase the range of motion of your knee.

Day 1

Staff will assist you with personal hygiene. The urine catheter will come out.

Once you have met with your surgeon and medical team, a physical therapist will come by to start your activity program. Although you will have less stamina and less appetite than usual, we need you to be ready to participate in your therapy.

- Begin exercises (*ankle pumps, quad sets, glute sets—see page 13*).
- Use your incentive spirometer as directed to help clear your lungs.
- Begin assisted transfers out of bed, and spend time sitting in a chair.
- Begin trying to move around using a walker. Your surgeon will tell you how much weight you can put on your leg.
- Working with your doctor, nurse, physical therapist, and occupational therapist, start planning for your day of discharge. Discharge planning may also include speaking with a social worker, home-care nurse, and/or personnel from a rehabilitation facility.
- Begin using the CPM (continuous passive motion) machine while in bed, as directed by the medical team.
- You may have a knee brace prescribed by your doctor. Check with the team as to when you do and do not need to wear the brace.

Ankle Pumps

Place a towel roll under calf.
Move foot up. Keep knee straight.
Hold _____ counts.*
Move foot down and hold.
Repeat _____ times.*



Glute Sets

Squeeze your buttocks together.
Do not hold breath.
Hold _____ counts.*
Repeat _____ times.*

Quad Sets

Lie on back, press knee into mat,
tightening muscle on the front of
your thigh. Do not hold breath.
Hold _____ counts.*
Repeat _____ times.*

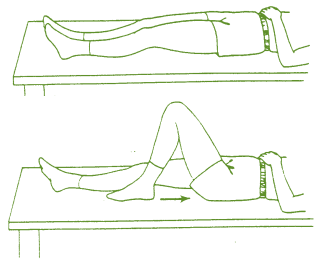
Day 2

You should already be starting to feel a bit better, making progress toward your recovery.

- Continue your exercise program, adding new exercises, as recommended by your healthcare team (*heel slides, knee extension—sitting, knee extension—active assistive, knee extension—short arc quads, knee extension—straight leg raise*).
- Increase the time spent out of bed in a chair.
- Continue practicing moving around in bed, getting in and out of bed, and walking with an assistive device.
- Start practicing your activities of daily living, including using adaptive equipment to get dressed.
- Expect to be bending your knee more each day, both with the therapist and with the use of the CPM machine and exercise.
- Formalize your discharge plans. If you are going home, either your nurse or your social worker will help map out your home care and order any equipment you will need. If you are not going home, arrangements will be made for your transfer to a rehabilitation facility.

***Your physical therapist will tell you what to enter in these blanks (i.e., how many counts, how many times, left or right).**

→ Discharge plans are often contingent upon insurance company authorization and approval. Our team will work with your insurance company to help make sure that your clinical needs are properly met and that you get all the benefits you are entitled to.

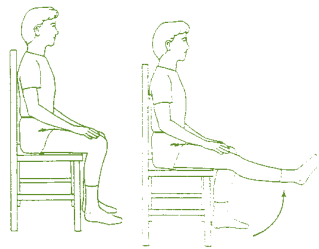


Heel Slides

Lie on back, slide heel toward buttocks.

Hold _____ counts.*

Repeat _____ times.*



Knee Extension—Sitting

Sit with back against chair.

Straighten knee.

Hold _____ counts.*

Repeat _____ times.*

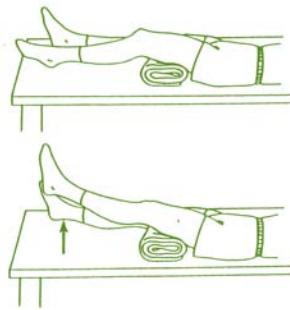


Knee Extension—Active Assistive

Sitting, cross ankles with _____* ankle behind. Use front ankle to draw rear ankle back. Keeps hips on chair.

Hold _____ counts.*

Repeat _____ times.*



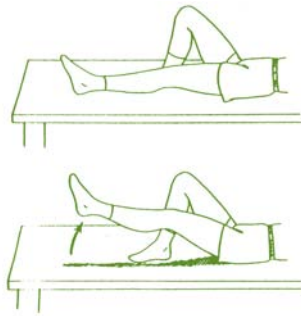
Knee Extension—Short Arc Quads

Lie on back, towel rolled under _____ thigh. Lift foot, straightening knee.

Do not raise thigh off roll.

Hold _____ counts.*

Repeat _____ times.*



Knee Extension—Straight Leg Raise

Lie on back, _____* knee bent and foot flat. Lift opposite leg up one foot. Keep knee straight and toes pointed up.

Hold _____ counts.*

Repeat _____ times.*

Days 3-4

- Continue your exercise program, adding new exercises as counseled by your therapists.
- Continue to increase the time spent out of bed in a chair.
- Increase moving around in bed, getting out of bed, and walking. Your endurance will improve as time goes on. It is important, however, to remember that different people progress at different rates.
- Walk to and from the bathroom as needed.
- If you will be climbing stairs at home, begin stair training: “Up with the good leg, down with the bad leg.”

Climbing Stairs

• Going Up:

- Place non-affected leg up on the step first
- Then, bring up the affected leg
- Then, bring up crutch(es)/cane

• Going Down:

- Place crutches/cane on lower step
- Step down with affected leg
- Then follow with other leg

- Finalize your discharge plans

As needed, you may see an occupational therapist during your stay to assist you with activities of daily living (including bathing, dressing, etc.).

Billing Questions

You will receive several bills after your hospital stay.

- The hospital bill will cover your time in the operating room and your inpatient stay. If you have any questions about this bill, please call 212-731-3100.
- For questions about your surgeon’s bill, contact your surgeon’s office.
- For questions about a bill from a physician other than your surgeon, please call 212-987-3100.

Leaving the Hospital

You can expect to leave the hospital about three days after your surgery. Once your doctor says you are medically ready for discharge, there are several options available. You and your healthcare team—your doctor, nurse, physical and occupational therapists, and social worker—will make the decision together with your insurance provider. Approval and authorization from your insurance carrier may also affect the discharge decision.

Discharge Option	Description	Appropriate If...
Home with outpatient physical therapy	<ul style="list-style-type: none"> No home care – you will go to an outpatient physical therapy program. Equipment needs arranged prior to discharge 	<ul style="list-style-type: none"> You can function independently (i.e., get in and out of bed and bathe without assistance, use a walker or cane by yourself); You have support at home; and You can get to and from your physical therapy.
Home with home care	<ul style="list-style-type: none"> Home visits by a physical therapist or occupational therapist May or may not provide you with a nurse or an aide* Equipment needs arranged prior to discharge 	<ul style="list-style-type: none"> You are functioning well in the hospital; You can manage with limited assistance; and You have the appropriate support at home.
Acute Rehabilitation (Transfer to inpatient rehabilitation, either at Mount Sinai or another institution)	<ul style="list-style-type: none"> Intensive therapy, at least 3 hours per day Monday through Friday** Average length of stay: 7 days 	<ul style="list-style-type: none"> Your recovery indicates that you need an intensive therapy program, your insurance approves and there is bed availability
Sub-Acute Rehabilitation (Transfer to a nursing-home-based rehabilitation program)	<ul style="list-style-type: none"> 1-2 hours of therapy per day, Monday through Friday** Average length of stay: minimum of 14 days 	<ul style="list-style-type: none"> Your recovery indicates that it would be helpful to have more time before you return home, your insurance approves, and there is bed availability

*If you feel you need a home aide, but your insurance does not cover the service, a list of agencies can be provided.

** Some facilities may offer limited therapy on weekends.

Time of Discharge

You will be discharged as early in the day as possible. Your nurse will give you the exact time and discuss arrangements with your family member or friend if you are going home.

→ Many insurance companies do not cover the cost of transportation home from the hospital. We will work with you if you need transportation arrangements made.

- If you are going home, review discharge instructions with your healthcare team and make sure arrangements have been made for all the equipment you need.
- If you are being discharged to an inpatient rehabilitation setting, arrange to bring loose-fitting clothes and sneakers, and notify friends and family of your new location.

General Discharge Instructions

- If you are going home, please make a follow-up appointment with your surgeon.
- Call your surgeon if:
 - You notice significant redness, swelling, drainage, numbness, tingling or decreased sensation in your affected leg
 - Your temperature exceeds 101 degrees
 - You have calf pain, chest pain, or shortness of breath
 - You do not have a bowel movement for 3 days
- Follow-up with your medical doctor about resuming any medications that may have been stopped during hospitalization.
- If you will be taking an anticoagulant medication such as Coumadin following your surgery, you may need to receive simple blood draws to monitor your health. Depending on your insurance and discharge destination, the social worker or your surgeon will make arrangements for these blood draws.

Pain

You will be discharged with a prescription for pain medication and for any other medications your surgeon determines you need.

- Take pain medication only as prescribed and avoid alcohol
- Notify your doctor if your pain medication is not working or you are experiencing unpleasant side effects, such as constipation. (To help avoid constipation, be sure to drink plenty of fluids and eat plenty of fruits and vegetables.)
- You may apply ice to the area for pain, as needed, for 15- to 20-minute intervals, several times a day. This is important because pain and swelling may slow your progress with your exercises. Always check for redness and breaks in the skin when you remove the ice pack. (Also, if you are not feeling pain from your knee, you may apply heat before exercising to assist you with improving your range of motion.)

Wound Care

- Keep the wound area clean and dry. Before you leave the hospital, your nurse will explain how, and how often, to change dressings.
- Check with your surgeon or nurse about how soon after discharge you can shower.
- Do **not** put anything on the wound besides soap and water, unless otherwise instructed.
- Staples should be removed from your wound no later than 3 weeks after your surgery. Depending on your discharge plan, the staples will be removed at a rehabilitation facility, at home by a visiting nurse (which will be arranged prior to your discharge from the hospital), or during a follow-up appointment with your surgeon.

Physical Therapy

You may need therapy for an extended period of time after your joint replacement. Remember, range of motion and strengthening exercises are essential to getting the most out of your surgery. Surgery will correct the knee problems, but the muscles will remain weak unless you exercise regularly.

Resuming Your Normal Activities

While in the hospital, you will be taught the proper way to get through the activities of daily living. The pace of return to activities is individual to each patient. Check with your doctor as to when you can safely resume:

- taking baths
- driving (the average is approximately 6 weeks after surgery)
- work
- sexual activities
- sports (while you are encouraged to remain physically active, both for your general health and for maintaining good bone quality, you should discuss specific activities with your doctor)

Recovery Reminder

- Be sure to follow your doctor's recommendations on how much weight to put on your leg.
- Climb stairs carefully—"Up with the good leg, down with the bad leg."
- Avoid excessive lifting, jogging, jumping, and other actions that place strain on the knee joint.
- Continue your exercise program regularly, as prescribed by your therapist, to maximize the benefits of your total knee replacement.
- When sleeping, maintain your knee straight. If needed, you can place a small pillow or towel roll under your ankle to maximize positioning.
- Recognize that you may experience some discomfort after you exercise. This is normal and should not stand in the way of continuing your exercises. Exercise is key to a full recovery.
- Take antibiotics before dental and any other open procedures to prevent your artificial joint from becoming infected. Your dentist or doctor will prescribe these antibiotics.

Thank you for choosing Mount Sinai for your knee replacement surgery.

If you or your family has any questions, please be sure to call us at **212-241-4703**.

