Patient Guidebook

**Taking Charge of Your Mobility:
A Patient's Step-by-Step Guide
to Joint Replacement Surgery and Beyond**

Patient Education Guidebook

Taking Charge of Your Mobility: A Patient's Step-by-Step Guide to Joint Replacement Surgery and Beyond

As a joint pain sufferer, you're undoubtedly used to making decisions dictated by limitations. The escalating erosion of cartilage and damage to bone surfaces caused by arthritis and other debilitating joint conditions can interfere with just about every aspect of your life — from walking, to exercising, working, enjoying time with family and friends, to getting a full night of sleep.

Now that you've decided on having joint replacement surgery to regain quality of life, this guidebook covers what to expect — from pre-op, to day of, to recovery — so that you have the information you need to proceed with confidence.

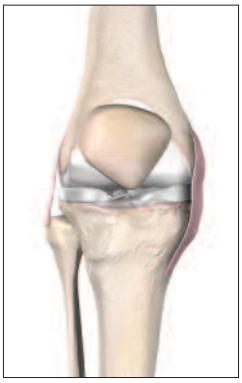
Any surgery is a big step. Medical professionals expect you to have questions, concerns, hopes and expectations. The information contained within addresses common issues and guidelines for care.

Please read this material carefully as you prepare for surgery. You may find it helpful to check off items completed and jot down questions about things you're not sure of. Make sure to go over pertinent information with your care team as well. The more you know, the better prepared you'll be to take charge of your comfort and mobility again.

How Your **Joints Work**

What's Normal, What's Not, and How Joint Replacement Helps

The Knee – Your knee is like a hinge joint. When you bend your leg to walk or climb stairs, your bones should glide smoothly, with a smooth material called cartilage acting as a cushion in between. The muscles and ligaments surrounding your knee joint give it stability.



When conditions such as arthritis wear down cartilage, the joint space narrows and your bones rub together. This is what causes swelling, pain and joint stiffness when you walk.

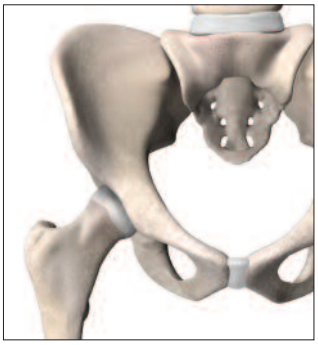
An artificial knee joint has three components:

- The curved (femoral) portion covers the bottom end of the thighbone
- The flat (tibial) portion covers the top end of the shinbone
- The third, round-shaped portion replaces the kneecap

A total knee replacement is really a cartilage replacement with an artificial surface. When surgically implanted, it creates a new, smooth surface that restores a functioning joint and eliminates pain.

The Hip – Your hip joint is like a ball and socket formed by the "ball," or femoral head, at the upper end of your thighbone and a rounded "socket," or acetabulum, in the pelvis. The ends of the bone are covered with smooth cartilage for frictionless movement.

A thin, smooth tissue lining called the synovium surrounds the joint space. The synovium produces fluid that acts as a lubricant to reduce friction and wear in the joint.



When all parts of the joint work together, your hip moves easily without pain. But when your joint becomes diseased or injured, the cartilage can break down and cause escalating pain that severely limits your ability to move and work.

During total hip replacement, your surgeon will remove parts of your damaged hip joint and replace them with an implant designed to function like a normal, healthy hip. Specifically, the surgery involves replacing your femur, or head of your thighbone and your acetabulum (hip socket).

The **Doctor's Visit**

Questions to Ask; Information to Share

While information about joint replacement treatment may be readily available in print or on-line, only your doctor can answer specific questions about your diagnosis, treatment options and future outlook. The following questions provide a way to discuss your hip or knee pain with your doctor, so that you can make informed decisions about your care:

01. Are there any other pain relief options for me that could work as well as joint replacement?
02. How much will joint replacement relieve my pain?
03. How is the procedure done?
04. Would you recommend minimally invasive surgery (MIS) for me?
05. Will I need a blood transfusion after surgery?

    If so, how many units and can I donate my own blood?
06. What type of anesthesia is available?
07. Should I take my daily medicines on the day of surgery?
08. How long will my family wait while I am in the operating and recovery rooms?
09. What do you do to manage the pain after surgery?
10. What are the risks or possible complications?
11. How long will I be in the hospital, and how soon after having the procedure can I get back to normal daily activities?

12. Is hip replacement covered by my health insurance?
13. After the procedure, will I see you or my regular doctor for follow-up care?
14. Which hip product do you think is best for me and why? How much experience have you had with it and what have been the outcomes?
15. Will you perform my surgery from start to finish or work with a team? How many of these procedures have you performed?
16. Take some time before your appointment to jot down additional questions:

As you prepare for surgery, be ready to answer questions about your symptoms, medical history and needs as well:

17. Where is your pain located? Does more than one joint hurt?
18. When did the pain first begin? Do you know what caused it?
19. Are you taking any medication for the pain? (Make a list of both prescription and non-prescription medications.)
20. Are you taking any dietary supplements? (Make a list of vitamins or other "pills" for arthritis, such as chondroitin or glucosamine.)
21. What tests have previously been done to evaluate your hip pain?
22. How physically active are you?
23. What are your expectations post-surgery? How will you accommodate hip replacement within your lifestyle?

Preparing for **Joint Replacement Surgery**

What to do Before you Check In

Preparing for total joint replacement begins weeks before the actual surgery. In general, you may be told to:

01. **Donate blood** – While some total joint procedures do not require blood transfusion, you may need blood before or after surgery. You may use donor blood or plan ahead to make an autologous donation of your own. You may also have a family member or friend with the same blood type as you designate a donation specifically for you.
02. **Exercise under your doctor's supervision** – It's important to be in the best possible overall health to promote the best possible surgical experience. Increasing upper body strength is important to help you maneuver a walker or crutches after surgery. Strengthening the lower body to increase leg strength before surgery can reduce recovery time.
03. **Have a general physical examination** – You should be evaluated by your primary care physician to assess overall health and identify any medical conditions that could interfere with surgery or recovery.
04. **Have a dental examination** – Although infections after joint replacement are not common, an infection can occur if bacteria enter the bloodstream. Therefore, dental procedures such as extractions and periodontal work should be completed before joint replacement surgery.
05. **Review medications** – Your orthopaedic surgeon can tell you which over-the-counter, prescription medications and herbal supplements should not be taken before surgery.
06. **Stop smoking** – Breaking the habit is particularly important before major surgery to reduce the risk of post-operative lung problems and improve healing.
07. **Lose weight** – For patients who are overweight, losing weight helps reduce stress on a new joint.

08. **Arrange a pre-operative visit** – It's important to meet with healthcare professionals at the hospital before surgery to discuss your personal hospital care plan, including anesthesia, preventing complications, pain control and diet. Bring a written list of past surgeries and medications and dosages you normally take at home.

09. **Get laboratory Tests** – Your surgeon may prescribe blood tests, urine tests, an EKG or cardiogram, and chest X-ray to confirm you are fit for surgery. These tests should be performed within 14 days of the scheduled surgery in order to be acceptable.

10. **Complete forms** – You will need to fill out a consent form for your surgeon confirming that you agree to have the operation and that you know the risks involved, as well as hospital forms about your past history, medications, previous operations, insurance and billing information.

11. **Prepare meals** – You may want to prepare meals in advance and freeze them so they're ready when you return.

12. **Confer with physical therapist** – The physical therapist will record a baseline of information, including measurements of current pain levels, functional abilities, the presence of swelling, and available movement and strength. You will also practice post-operative exercises using either a walker or crutches.

13. **Plan for post-surgery rehabilitative care** – Total joint replacement recipients may need help at home for the first few weeks, including assistance bathing, dressing, preparing meals and with transportation. If you can't arrange for someone to help you at home, you may need to stay in a rehabilitation or skilled nursing facility. A medical social worker can assist with arrangements. Home therapy visits should end when you can safely leave the house and outpatient physical therapy should begin.

14. **Fast the night before** – No eating or drinking after midnight before surgery; however, you may brush your teeth or have a few sips of water if you need to take medicines. Discuss the need to take medications such as insulin, heart or blood pressure pills with your doctor or nurse to make sure you don't miss them.

15. **Bathe surgical area with antiseptic solution** – Use antiseptic scrub brushes supplied by your health team the night before and morning of to reduce the risk of infection. Tell the nurse if you are allergic to iodine or soap. If possible, shampoo your hair. You must remove all nail polish and make-up. Do not shave your legs within 3-4 days of surgery.

Getting Your House Ready

Some common things in your home may now be dangerous. To prevent falls, you should remove or watch out for:

- Long phone or electrical cords that lie across the floor
- Loose rugs or carpet
- Furniture you might trip over in stairs and hallways
- Stacks of books, piles of magazines, mail, etc.
- Pets that run in your path
- Water spills on bare floors
- Bare bathroom tile or slippery floors
- Ice or mildew on outdoor steps

It would also help to:

- Arrange the most frequently used kitchen utensils and food on shelves and counters that can be reached easily.
- Have a chair or stool handy in the kitchen to sit in while preparing and cooking food.
- Leave most frequently used dishes in the dish rack, and most frequently used foods in the most accessible cabinets.
- Have a rolling cart to take food from the refrigerator to the counter, and from the counter to the table.
- Have a walker bag or apron with pockets to carry small items such as glasses, books, silverware, etc.
- Attach a cup holder to your walker to carry drinks in covered cups.
- Arrange for someone to care for or feed your pets.

Packing Your Bags

Make sure to take these things with you to the hospital:

- Exercise shoes with closed-in heel and non-slip soles
- Knee length robe or cover-up for walking in the halls
- Grooming items such as shampoo, toothpaste, deodorant, etc.
- A list of medications you are currently taking at home, including the name, strength and how often you take each medication
- Papers from the blood bank if you have donated your own blood
- A list of allergies (to food, clothing, medicine, etc.) and how you react to each one
- Any education materials you received in pre-admission classes
- A copy of your Living Will and Health Care Power-of-Attorney, if you have either one. Hospital personnel are required by law to ask for these when you are admitted. They will make a copy for your medical record and return the original.
- A copy of your insurance card
- A walker if you already have one, and a list of other adaptive equipment you may have at home with your name on all equipment you take to the hospital
- Glasses, hearing aid, and any other items you use every day
- Short gowns, pajamas, underwear, socks/stockings and one set of street clothes to wear home
- Leave jewelry, credit cards, keys and checkbooks home. Bring only enough money for items such as a newspaper, magazine, etc.

Hip Safety Precautions

Once you have a new hip, you will need to follow some safety rules. This will help you heal faster and keep your new hip from dislocating. One of these rules is to always sit with your knees lower than your hips. So before surgery, check around your house to see if you need to adapt anything by sitting:

- On the side of your bed
- In your favorite chair
- On the sofa
- On the toilet
- In the seat of your car

If your knees are not lower than your hips in any of those situations, you will need to change the height by making accommodations such as propping up with pillows or buying a raised toilet seat.

The Day **of Surgery**

What to Expect Throughout

Your hospital stay will progress something like this:

Pre-Op

01. Arrive at the hospital at the appointed time.
02. Complete the admission process.
03. Have final pre-surgery assessment of vital signs and general health.
04. Remove all personal belongings – dentures, hearing aids, hairpins, wigs, jewelry, glasses, contact lenses, nail polish, all underwear – and leave them with your family or friends during surgery. You will be dressed in a hospital gown and nothing else.
05. There will be several checks to make sure the correct joint is being replaced: your surgeon will review your X-ray and mark the area to be operated on; nursing staff will check the consent form you signed to make sure it agrees with the procedure on the operating room list.
06. Final meeting with anesthesiologist and operating room nurse.
07. Start IV (intravenous) catheter for administration of fluids and antibiotics.
08. Transportation to the operating room.

In Surgery

Many people will be with you in the operating room during your one to three-hour surgery, including:

- Orthopaedic surgeon(s) – your doctor(s) who will perform surgery.
- Anesthesiologist or nurse anesthetist – the doctor or nurse who gives you anesthesia.
- Scrub nurse – the nurse who hands the doctors the tools they need during surgery.
- Circulating nurse – a nurse who brings things to the surgical team.

Your surgeon and the anesthesiologist or nurse anesthetist will help you choose the best anesthesia for your situation. No matter what type of anesthesia you have, be assured you will not feel the surgery. Options include:

- General Anesthesia – You are put to sleep. Minor complications such as nausea and vomiting are common, but can usually be controlled and settled within 1-2 days.
- Epidural – You are numbed from the waist down with medicine injected into your back. (This is also used for women giving birth.)
- Spinal – Much like the epidural, you are numbed from the waist down with medicine injected into your back.

You may have any of the following inserted:

- An Intravenous Tube (IV) – This is placed in your arm and used to replace fluids lost during surgery, administer pain medicine, or deliver antibiotics and other medications.
- A Catheter Tube – This may be placed in your bladder to help your healthcare delivery team keep up with your fluid intake and output. It is most often removed the day after surgery.
- A Drain Tube – This may be inserted in your bandage site to help reduce blood and fluid buildup at the incision.

Elastic stockings will be put on your legs to help the blood flow. You may also have compression foot pumps wrapped around your feet and connected to a machine that blows them up with air to promote blood flow and decrease the possibility of blood clots.

Immediately After

After surgery you will spend at least an hour in the recovery room. While there, your blood pressure and heart rate will be monitored closely until you are stabilized. You will have a mask over your face for oxygen.

You will find a large dressing has been applied to the surgical area to maintain cleanliness and absorb any fluid. If you had a hip replacement, you may also notice a V-shaped wedge pillow (abduction pillow) between your legs. This keeps your new hip in the best position while you are in bed.

Knee replacement recipients may use a continuous passive motion (CPM) machine to continuously bend and straighten the knee quadriceps (thigh muscles). This machine, propped under your leg in bed, helps keep your knee from becoming stiff after surgery.

Back in Your Room

Once your condition is stabilized post-surgery, you will be transported to your own hospital room where you will continue to have your vital signs and surgical dressing monitored. Once you've settled in, several members of your care team may drop in to orient you to your hospital routine.

Pain Management

Some patients experience back discomfort after surgery. This is caused by general soreness of the surgical area and the prolonged lack of movement before, during and after surgery. Periodic change of position helps relieve discomfort and prevents skin breakdown.

You will be able to have medicine for pain so you can move around without much discomfort. Make sure to talk with your doctor before surgery about your pain management options. You may receive pain medicine through your IV, through the epidural or in shots or pills.

Breathing

Right after surgery, the health team will remind you often to take deep breaths and coughs. It is very important to do this at least every 2 hours. Deep breathing can help prevent pneumonia or other problems that can slow down your recovery and lengthen your hospital stay.

Your doctor may want you to use a device called an incentive spirometer, which helps you breathe in and out correctly. Using it regularly can help keep your lungs clear.

Your Diet

Immediately after surgery, you can have a diet of clear liquids or soft foods as tolerated. If constipation becomes a problem later on, try:

- Eating 5-7 servings of fresh fruit and vegetables daily
- Eating a hot breakfast with a hot beverage daily
- Increasing fiber in your diet with whole grain cereals and breads
- Drinking at least 6-8 8oz. glasses of water daily
- Increasing physical activity as much as you can tolerate

Positioning

If you are a hip patient, the head of your hospital bed should not be elevated more than 70 degrees during the first few days after surgery. Sitting up too high might allow the artificial ball to dislocate from the hip socket.

If you are a knee patient, your physician may order a leg splint called an immobilizer to keep you from bending your knee. It should be worn when you are out of bed or at night when you are sleeping.

A staff member will help you turn and change your position in bed. Make sure you avoid twisting your leg when turning in bed. When turning in bed you should have a pillow between your legs. Avoid resting with a pillow under your knee.

Exercising

You will be evaluated by a physical therapist, who will go over exercises and precautions for avoiding dangerous movements. You may be surprised at how soon after surgery joint replacement patients are encouraged to get up and start moving — often as early as the day of surgery. The more quickly you start moving again, the sooner you will be able to regain independence. Mild exercises of ankle pumping and gluteal sets are usually recommended by your physical therapist as soon as you are awake from surgery and able to perform them.

As You Recover

In the days following surgery, your orthopaedic surgeon, nurses and physical therapists will closely monitor your condition and progress.

You'll spend a great deal of time exercising your new joint and continuing deep breathing exercises to prevent lung congestion. Gradually, your pain medication will be reduced, the IV will be removed, your diet will progress to solids and you will become increasingly mobile.

Physical therapy for knee patients will address range of motion. Gentle movement, such as the CPM machine, will be used to help you bend and straighten the knee. Your leg may be elevated to help drain extra fluid.

Your physical therapist will also go over exercises to help improve knee mobility and to start exercising the thigh and hip muscles. Ankle movements help pump swelling out of the leg and prevent the possibility of a blood clot. When you are stabilized, your physical therapist will help you up for a short outing using your crutches or walker.

Hip patients begin physical therapy soon after waking up from surgery, with your physical therapist helping you move from your hospital bed to a chair. By the second day, you'll begin walking longer distances using your crutches or walker. Most patients are safe to put comfortable weight down when standing or walking. However, if your surgeon used a non-cemented prosthesis, you may be instructed to limit the weight you bear on your foot when you are up and walking.

Hip patients will also do exercises to tone and strengthen the thigh and hip muscles, as well as ankle and knee movements to pump swelling out of the leg.

Whether you are sent directly home or to a facility for rehabilitation will depend on your physician's assessment of your abilities. In general, if you live with someone who will be assisting you, discharge home is the usual procedure. The case manager will make your arrangements for further home or outpatient physical therapy. Most patients can go directly home if it is deemed safe by their surgeon and physical therapists.

If you live alone or are in an environment at home where your safety is a question because you have not achieved your discharge goals, you may be recommended for placement in a rehabilitation center. These facilities are usually available to a patient for a 3-5 day stay, with emphasis on returning the patient home in a short period after aggressively addressing any problems with patient independence. If you live alone or are not progressing rapidly enough in therapy sessions and it is unlikely you will be able to do so in a rehab setting, a sub-acute facility may be recommended for a longer period of recuperation. Insurance coverage for these post hospital stays vary according to condition and plan and will need to be discussed by the patient, the case manager and the insurance company as warranted.

Before you are discharged home, you should be able to safely get in and out of bed, walk up to 100 feet with crutches or walker, go up and down stairs safely, access the bathroom and consistently remember to use hip precautions to prevent dislocation before going home. These tasks should be able to be completed independently or with minimal assistance.

Before you Leave the Hospital

Before you leave the hospital, you will learn how to:

- Get in and out of bed by yourself
- Walk down the hall with your walker or crutches
- Get in and out of the shower by yourself
- Get in and out of a chair
- Manage steps at home
- Get in and out of your car

When You **Get Home**

What to Expect;
What to Watch For;
How to Recover Safely

When you leave the hospital, your family will need to bring extra pillows for you to sit on in the car. It will be most comfortable to sit in the front seat. Your physical therapist will show you how best to get in and out.

All of the tubes will be out. All that should remain is a bandage on your wound site. If you have been instructed to use an abduction wedge you will still need to use this at night when you are sleeping.

You'll need to continue taking medications as prescribed by your doctor. You may be sent home with prescriptions for preventing blood clots, some of which require monitoring through blood draws two times per week. Make sure to take pain medication 30 minutes before exercises — it's easier to prevent pain than to chase it later.

Your surgeon may recommend taking a multi-vitamin with iron daily for a month. You may also be advised to take 1-2 enteric-coated aspirin daily for 6 weeks and non-steroid anti-inflammatory medication for pain and swelling unless you are on blood thinners such as Coumadin or Lovenox. Check with your doctor about special precautions while on these blood-thinning medications.

Hip Precautions

After hip replacement, you will need to observe some important safety rules to help prevent dislocation. Here are some of the most frequently advised precautions. Review them with your surgeon and discuss how many months you will need to follow these, or any other safety rules prescribed after surgery:

- Don't bend your hip past 90°
- Don't cross your legs; keep knees 12-18 inches apart
- Don't lean forward while sitting in a chair
- Don't sit on a chair that does not have arms
- Don't lean forward while sitting in bed
- Don't sit more than 60 minutes at a time; get up and walk frequently
- Don't sit on a toilet or commode that does not have handles or side arms
- Don't let your knee move inward past your navel
- Don't turn your feet in or out
- Do use pillows between your legs at night to keep your hips properly aligned

Special Equipment

Ask your occupational therapist about special equipment to help you do routine things for yourself without placing your hip in danger of dislocation. These tools include:

- Dressing sticks – to help you put on and take off your pants or underwear
- Long shoe horns – to help you put on your shoes
- Elastic shoe laces – to make your laced shoes into slip-ons
- Grabber – to help you pick up things without bending over, reach items from high and low shelves, get clothes in an out of front loading washers and dryers, etc.
- Long-handled sponge – to help reach without stretching inappropriately
- Soap on a rope – to prevent bending to retrieve items in the shower
- Extender for woman's razor – for shaving legs safely
- Raised commode seat – to put your knees in proper position below hips
- Bathtub benches and handrails – to improve bathroom safety
- Handheld shower – for washing while seated
- Long-handled feather duster – for dusting low and high items
- Long handled Johnny Mop – for cleaning out the tub or shower

Knee Precautions

- Never rest with a pillow under your knee – you may lose the ability to straighten your knee.
- Carefully follow instructions from your doctor about how much weight you can put on your operated leg:
- No weight bearing – no foot contact with ground
- Touch down weight bearing – touch foot to ground for balance only
- Partial weight bearing – usually one-fourth to one-half body weight
- Weight bearing as tolerated – as much as comfortable
- Don't cross your operated leg over your non-operated leg
- Continue to use your walker or crutches after surgery as advised by your doctor or physical therapist

Incision Care

Keep your incision clean and dry and check it daily. Call your doctor if you notice any of these symptoms:

- Fever over 100°
- Drainage from incision
- Redness around incision
- Increased swelling around incision
- Incision hot to touch
- Chest pain
- Chest congestion
- Problems with breathing
- Calf pain or swelling in your legs

Don't shower or sit in a bathtub until your surgeon okays this activity.

Your staples or stitches will be removed about 10 to 14 days after surgery. Your incision will heal, and the swelling and bruising will get better over the next few weeks.

Exercise

When you get home, keep up the exercise program you learned in the hospital.

You may see your physical therapist for several in-home treatments. This is to ensure you are safe in and about the home and getting in and out of a car. Your physical therapist will make recommendations about your safety, review your exercise program and continue working with you on range of motion for knees and hip precautions for avoiding dislocation.

Expect to regain strength and endurance as you begin to take on more of your normal daily routine. Home therapy visits should end when you can safely leave the house and outpatient physical therapy should begin.

The following pages provide some examples of common exercises that are usually recommended in a home exercise program. However, your orthopaedic surgeon and physical therapist will outline a specific plan that you should follow. You can refer to the following pages to assist you in performing your recommended exercises.

Total Hip and Total **Knee Exercises**

Quarter Squat

With feet shoulder-width apart and back to wall, slide down wall until knees are at 30 to 45 degrees of bend. Then, return to upright position.

Perform for ____ minute(s).

Do ____ session(s) per day.

Ankle Dorsiflexion-Plantarflexion

Standing, hold onto firm surface. Rise up on toes, go back on heels.

Perform for ____ minute(s).

Do ____ session(s) per day.

Ankle Dorsiflexion-Plantarflexion

Standing, hold onto firm surface. Go back on heels.

Perform for _____ minute(s)

Do ____ session(s) per day

Hip Flexion

Standing, march in place.

Perform for _____ minute(s)

Do ____ session(s) per day

Prone Knee Flexion Stretch

Bring heel towards buttocks as far as possible. If this bothers your back, keep a pillow under your stomach.

Perform for _____ minute(s).

Do ____ session(s) per day.

Sitting Knee Flexion

Sit on a straight-back chair, cross legs with affected leg on bottom. Slide feet underneath chair. Gently stretch and bend knee as far as possible. Plant foot and move bottom forward on chair.

Perform for _____ minute(s).

Do ____ session(s) per day.

Quadriceps Sets

Tighten muscles on top of thigh as if attempting to push knee into floor.

Hold ___ seconds. Relax.

Repeat ____ time(s).

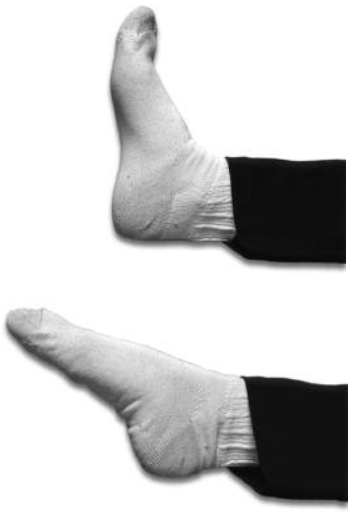
Do ____ session(s) per day.

Ankle Pumps

Bend and straighten ankle through full range of motion. Repeat with opposite ankle.

Perform for _____ minute(s).

Do ____ session(s) per day.



Isometric Gluteals

While lying on your back, tighten buttock muscles.

Hold ___ seconds. Relax.

Repeat ____ time(s).

Do ____ session(s) per day.

Supine Heel Slides

Slide heel toward buttocks as shown, bending at the hip and knee.

Repeat ____ time(s) on each side.

Do ____ session(s) per day.

Straight Leg Raises

While lying on back as shown, tighten stomach muscles, then slowly lift leg 6-12 inches from bed keeping knee straight.

Repeat ____ time(s) on each side.

Do ____ session(s) per day.

Short Arc Quads

With knee bent over pillow or bolster, straighten thigh muscle. Do not lift knee off pillow or bolster.

Repeat ____ time(s) on each side.

Do ____ session(s) per day.

Unilateral Hip Abduction in Supine

Lie on your back on the bed with your leg straight. Slide one leg out to the side while keeping the knee straight. Return to the start position.

Repeat _____ repetition(s) per set.

Rest _____ minutes per set.

Do _____ set(s) per session.

Do _____ session(s) per day.

Knee Extension in Sitting

Sit in chair with your feet on the floor. Lift one foot up until the knee is straight. Return to the start position. Then slide the foot back, bending the knee, until a gentle stretch is felt in the bent knee.

Repeat _____ repetition(s) per set.

Rest _____ minutes per set.

Do _____ set(s) per session.

Do _____ session(s) per day.

Supine Hamstring Stretch

Lie on back and support leg with hands as shown, then gently straighten knees until a stretch is felt in the back of the thigh.

Repeat _____ time(s) on each side.

Do _____ session(s) per day.

Calf Stretch With Towel

Wrap towel around ball of foot as shown, then while keeping knee straight, gently pull upward until a stretch is felt in the calf.

Hold ___ seconds. Relax.

Repeat _____ time(s).

Do _____ session(s) per day.

Bridging in Supine

Lie on your back with both knees bent. Tighten stomach muscles, then raise your buttocks off the bed. Hold, then return to the start position.

Hold ___ seconds. Relax.

Repeat ____ time(s).

Do ____ session(s) per day.

Active Shoulder Shrugs

Roll shoulders up towards ears and backward.

Repeat ____ time(s) on each side.

Do ____ session(s) per day.

Total Knee Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 1-2

During weeks one and two of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Total Knee Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 2-4

During weeks two - four of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Total Knee Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 4-6

During weeks four - six of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Total Knee Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 6-12

During weeks six - twelve of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Total Hip Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 1-2

During weeks one and two of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Total Hip Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 2-4

During weeks two - four of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Total Hip Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 4-6

During weeks four - six of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Total Hip Replacement
Post-Op Exercise Plan

(to be completed by physical therapist)

Weeks 6-12

During weeks six - twelve of your recovery your exercise goals are:

Completed the following Stretching Exercises

Exercise Name	Number of repetitions	# of times/day

Completed the following Strengthening Exercises

Life After **Joint Replacement**

Regaining Mobility Safely, Slowly, Securely

At first

Most people experience reduction in joint pain and improvement in their quality of life following joint replacement surgery. While joint replacement surgery may allow you to resume many daily activities, don't push your implant to do more than you could before your problem developed.

Give yourself at least six weeks following surgery to heal and recover from muscle stiffness, swelling and other discomfort. Some people continue to experience discomfort for 6-12 weeks following their joint replacement.

During visits to the physical therapist's office, your therapist may use heat, ice or electrical stimulation to reduce any remaining swelling or pain. You should continue to use your walker or crutches as instructed.

Your physical therapist may use hands-on stretches for improving range of motion. Strength exercises address key muscle groups, including the buttock, hip, thigh and calf muscles. You can work on endurance through stationary biking, lap swimming and using an upper body ergometer (upper cycle).

Physical therapists sometimes treat their patients in a pool. Exercising in a swimming pool puts less stress on your joints and the buoyancy lets you move and exercise easier.

When you are safe putting full weight through the leg, several types of balance exercises can help you further stabilize and control the hip or knee. Finally, you will work with a group of exercises to simulate day-to-day activities, such as going up and down steps, squatting, rising up on your toes, bending down and walking on uneven terrain. You may be given specific exercises to simulate your particular work or hobby demands.

By six weeks, you may be able to return to many normal activities such as driving, bicycling and golf. When you see your surgeon for follow-up two to six weeks after surgery, he or she can advise you on both short and long-term goals.

As a rule, all joint replacement recipients should heed the following limitations during the first weeks after surgery:

- Expect to use a cane or walker for several weeks
- No kneeling, bending or jumping for the first month
- Don't drive until ok with your doctor (usually 4-6 weeks)
- No alcohol with pain medication
- Don't smoke – it slows healing
- You may hear some clicking in your knee as it heals; it's normal
- Avoid sexual activity until after six-week check-up
- Continue wearing elastic stockings until your return appointment

In general, physical activities should:

- Not cause pain, either during activity or later
- Not jar the joint, such as when running or jumping
- Not place the joint in extreme ranges of motion
- Be pleasurable

Additional tips for living with your new joint:

- Ask for help – while your goal is to eventually do things for yourself, don't take unnecessary risks by trying to do too much too soon.
- Recuperation takes approximately 6-12 weeks – you may feel weak during this time. Use ice for swelling and discomfort. Ice your knee for 15-20 minutes after each exercise period to reduce pain.
- Keep your appointments with your doctor – it's important to monitor healing and function on a regular basis. You may need to check in with your doctor two to three times during the first two years, and at intervals of two to three years thereafter. During those visits, your surgeon will take X-rays and monitor wear.
- Under optimal conditions, your artificial joint may last for many active years. You should always consult your orthopaedic surgeon if you begin to have pain in your artificial joint or if you suspect something is not working correctly.

- Watch for infection – your new joint is a foreign substance to your body. Germs from other infections can move to your new joint and cause infection. Call your family doctor immediately if you have any signs of infection, e.g., skin infection, urinary tract infection, abscessed teeth, etc. Early treatment is crucial.
- Alert your dentist or family physician – tell them about your joint replacement before any dental work or procedure, such as a cardiac catheter, bladder exam, or surgery. You may always need to take antibiotics first to prevent infection.
- Your new joint may set off metal detectors in airports and other secured buildings. Your doctor can give you an identification card to carry in your wallet.

Long Term

Most patients have less pain and better mobility after joint replacement surgery. Your physical therapist will work with you to help keep your new joint healthy for as long as possible. This may mean adjusting your activity choices to avoid putting too much strain on your joint. You may need to consider alternate work activities to avoid the heavy demands of lifting, crawling and climbing.

More extreme sports that require running, jumping, quick stopping or starting and cutting are discouraged. More low impact exercises such as cycling, swimming, golfing, bowling and level walking are ideal.

(Addendum)

Potential **Risks**

What to Know Before, During and After Surgery

The complication rate following joint replacement surgery is very low. Serious complications, such as joint infection, occur in less than 2%[1] of patients. Most of these can be avoided or treated when addressed early on. What to watch for:

- **Anesthesia complications** – A very small number of patients have problems with anesthesia. These problems can be reactions to the drugs used, problems related to other medical complications, and problems due to the anesthesia. Be sure to discuss the risks and concerns with your anesthesiologist.
- **Infection** – This may occur in the hospital, after you return home or years later. While many steps are taken to minimize the risk of infection, it can't be avoided altogether.

  In the hospital, you will receive antibiotics for 24-48 hours during and after surgery to help prevent infection. The operating room is a filtered, clean air environment, and the limb is washed, prepared with antiseptic solution and covered with sterilized drapes.

  Your surgeon and surgical assistants wear masks, sterilized gowns and two pairs each of sterilized gloves that are frequently changed. Some operating rooms have special air conditioning and filters. Your surgical team may also wear special space-suit like gowns.

  For years to come, you will need to tell doctors about your joint replacement and take antibiotics before undergoing even minor procedures to reduce the chance of infection in another part of your body spreading to the artificial joint. If an infection does occur, your surgeon will have a protocol to manage it.
- **Blood clots** – These may result from several factors, including decreased mobility following surgery, which slows the movement of the blood. Symptoms include a red, swollen leg, especially in the calf area, and shortness of breath.

  You can prevent blood clots with:

  - Blood thinning medications (anticoagulants)
  - Elastic support stockings to improve blood circulation
  - Plastic boots that inflate to promote blood flow in the legs
  - Elevating the feet and legs to keep blood from pooling
  - Moving toes and legs immediately after surgery
  - Walking within 24-36 hours of surgery, and then hourly
- **Pneumonia** – This is always a risk following major surgery. You will be assigned a series of deep breathing exercises to keep your lungs clear.

- **Dislocations and instability** – Your own hip is held in place with very strong ligaments and will only come out of joint (dislocate) with major violence such as in a car accident. An artificial hip is held in place by your own muscles. Stability also depends on the position in which the hip is placed by you and your surgeon.

  Although uncommon (less than two per 100 hips),[2,3,4] hip dislocation generally occurs with extremes in motion.[5] This is most likely to occur within the first 6-12 weeks after the surgery. Therefore, you must take precautions while sleeping, washing, bending and toileting. As time goes on, the risks are reduced; however, some precautions remain.

  If your hip comes out of joint it must be put back into place. This usually requires a very brief general anesthetic while the leg is firmly pulled until the artificial hip drops back into place. You may be able to avoid further problems by avoiding at risk positions.

- **Hematoma** – A brownish red fluid may drain out of your hip incision around two weeks after surgery. This is a common occurrence and you should not be alarmed by this drainage. Clean the incision with hydrogen peroxide, replace the dressing and notify your doctor.

- **Nerve and vessel injury** – The sciatic nerve, located adjacent to the hip, is vulnerable to injury and on rare occasions may cause weakness or loss of feeling about the foot.

- **Leg length alteration** – In general, leg length is maintained within 10mm of ideal. On some occasions, particularly when there is a hip deformity, significant leg length differences may arise and surgeons must compromise between leg length alteration and stability of the hip joint. You may not notice a minor leg length alteration of 5 mm or less. A simple heel raise may balance an alteration of 10mm or more.

- **Stiffness** – In some cases, the ability to bend the knee does not return to normal after knee replacement surgery. To be able to use the leg effectively to rise from a chair, the knee must bend at least to 90 degrees. A desirable range of motion is greater than 110 degrees.

  The most important factor in determining range of motion after surgery is whether the ligaments and soft tissues were balanced during surgery. The surgeon tries to get the knee in the best alignment so there is equal tension on all the ligaments and soft tissues.

  Sometimes extra scar tissue develops after surgery that can lead to an increasingly stiff knee. If this occurs, speak to your surgeon about resolving this issue.

- **Loosening** – The major reason artificial joints eventually fail continues to be a process of loosening where the metal or cement meets the bone. Great advances have been made to extend the life of an artificial joint, with many patients reporting excellent function for many years. If the pain of a loose joint becomes unbearable, another operation may be required to revise it.

Special **Situations**

Expert Care for Complex Surgical Situations

Revision Surgery – Revision surgery to replace or repair a worn out prosthesis requires specialized training and careful pre-operative planning for a good outcome and healthy recovery. Choose a surgeon and team experienced in performing many revisions to ensure optimal results.

Complex Revision Surgery – Just as a human joint can wear out over time, so can even the most advanced joint implants. Implant components may loosen and wear both over time and with heavy use. Younger, heavier and more active individuals are at greater risk for revision surgery.

Revision surgery is more complicated than the original joint replacement. After the first prosthesis and damaged bone are removed, metal wedges and bone grafts may be needed to replace the lost bone and fill in bone cavities. The top of the thighbone may need to be cut into segments, cleaned of old cement and then wired together around the new metal component. Secondary joint replacements should only be performed by surgeons specially trained in these procedures.

Bilateral Total Joint Replacement – Patients with severe, debilitating arthritis in the hip or knee joints on both sides may be candidates for simultaneous bilateral joint replacement surgery if they are under 80 years of age and in good cardiovascular health. During this procedure, both joints are removed and replaced with artificial prosthesis in a single operation.

Adult Reconstruction Surgery – Patients with extensive joint damage due to conditions such as rheumatoid arthritis, avascular necrosis or severe trauma may require more complex surgery to reconstruct their damaged joint. For these types of procedures, you should seek surgeons with special expertise and advanced training in adult reconstruction. They are skilled at utilizing prosthetics and bone grafts to reconstruct a severely damaged joint.

Peace of Mind Promotes **Positive Surgical Outcomes**

20 Tips to Help You Prepare for Joint Replacement Surgery

Getting physically and psychologically ready for joint replacement surgery can be an intense process. Those who are better prepared tend to achieve better results. Here are 20 tips for achieving optimal results:*

01. **Find an experienced surgeon** – Your orthopaedic surgeon will become an important person in your life for years to come. Make sure you are comfortable with your doctor's approach, level of experience and personality.
02. **Educate yourself about your surgery** – Learn as much as possible about pre-op preparations, the procedure, post-op care, precautions and possible complications. Ask your doctor to go over your surgical plan, outcomes and long-term care in detail.
03. **Seek a second opinion** – Your surgeon should honor your right to confer with another, well-respected orthopedist if you have any doubts.
04. **Plan ahead** – Schedule surgery when you can afford to take time off from work, and when it will be least disruptive to your family.
05. **Weigh risks versus benefits** – Reconcile the big picture in your mind so you don't go into surgery dwelling on risks or potential complications.
06. **Have a positive attitude** – Be encouraged and focus on the high rate of success for total joint procedures.
07. **Talk with past patients** – Hearing about other's successes can help you gain perspective and ease your mind.
08. **Visualize getting your life back** – The pain and deterioration of your joint severely diminished your quality of life. Think about how much things will improve after surgery.
09. **Realize feeling tense or anxious is normal** – Don't fight it!

10. **Actively participate** – Make a commitment to do your part to ensure a positive outcome and assume responsibility for your own care (i.e., follow precautions, do exercises daily, etc.). Consult with your orthopaedic surgeon with questions or concerns.
11. **Practice on crutches** – If you have spent time on crutches before, re-acquaint yourself with them so the awkwardness won't be overwhelming after surgery.
12. **Don't view the recovery process as time lost** – This is time to rest and recuperate. Time invested in rehabilitation is necessary for better health.
13. **Prioritize physical therapy** – Realize your physical therapy and post-op exercise regimen are critical for a successful outcome. Think of each exercise as a stepping-stone toward improved strength, range of motion and function.
14. **Prepare for downtime** – Remember you will be laid up for about 6 weeks. Organize, schedule appointments and take care of as much business as possible before surgery.
15. **Take multi-vitamins and eat well-balanced meals** – Be particularly health conscious during the weeks and months leading up to surgery to promote better healing.
16. **Be conscious of infection** – If you have any sign of any kind of infection anywhere in your body you must postpone surgery.
17. **Donate autologous units of blood** – You can donate your own blood in the weeks prior to surgery to be held for your operation.
18. **Ask about current medications** – Find out if you need to stop taking any prescription, over-the-counter or herbal remedies before surgery.
19. **Adapt your environment** – Get ready for homecoming before you go to the hospital by having a raised toilet seat, reachers and other adaptive equipment already available.
20. **Arrange for help** – Plan for someone to be with you, especially for the first week or two at home. If no one is available, make arrangements to enter a post-op inpatient rehabilitation facility until you are independent enough to care for yourself at home.

Never Lose Sight of Your Goals

The surgeon and surgical team do their work in the operating room. The rest is up to you. With inspiration and hard work, you will achieve great success throughout your rehabilitation, recovery and beyond.

**Adapted from an excerpt of "Arthritis of the Hip & Knee," by Allen, Brander M.D., and Stulberg M.D., as it appeared on HYPERLINK "http://arthritis.about.com/od/surgicaltreatments/a/tipsforsurgery.htm".*

Frequently Asked Questions about **Joint Replacement**

What is total joint replacement?

When a joint has worn to the point it no longer does its job, an artificial joint, or prosthesis, made of metal, ceramics and plastics can take its place. Total joint replacement surgery recreates the normal function of the joint – relieving discomfort and significantly increasing activity and mobility.

Why do hips and knees need replacement?

The hip joint is a "ball and socket" in which the upper end of the thighbone rotates inside a rounded area of the pelvis. The knee is a "hinge" that joins the shin to the thigh. Both joints are lined with cartilage, a layer of smooth, tough tissue that cushions the bones where they touch each other. With age and stress, the cartilage wears away and the bones rub against each other, causing friction, swelling, stiffness, pain and sometimes deformity.

When this happens, hip or knee replacement may relieve pain and restore mobility and quality of life.

Is joint replacement surgery safe?

Joint replacement is a safe and common procedure. Annually, nearly 150,000 people have hips and nearly 250,000 have knees replaced with positive results. Any surgical procedure involves risk. Hospital staff will review these with you and explain how your post-surgical program can reduce risk and aid in more rapid recovery.

What kinds of tests will I need before surgery?

All patients are required to have routine blood work and urinalysis at least 14 days before surgery. You must also have a physical examination within 30 days of the surgical date.

Patients over 50, and those with cardiac or respiratory history, must also have an EKG and chest X-ray within days of surgery. Most pre-admission testing can be performed either by your personal physician or at the hospital where the procedure will be performed.

Will I need to donate blood before surgery?

Some surgeries require you to donate blood if possible. This can be done any time within 35 days of surgery. If you can't donate your own blood, a designated donor may donate blood on your behalf. You may also receive blood from the hospital Blood Bank if necessary. The Blood Bank follows universal guidelines in screening blood and blood products to ensure safety.

Are there any medications I need to take before surgery?

You should take an iron supplement, particularly if you will be donating your own blood.

Are there any medications I need to stop taking before surgery?

You can take most medications up until the day of surgery. Don't take anti-inflammatory medications containing aspirin, which can act as blood thinners, within two weeks of surgery unless instructed otherwise by your physician.

What should I bring to the hospital?

Bring all of your personal toiletries and shaving gear, comfortable, loose fitting clothing, slip-on non-skid shoes or slippers with closed backs, a list of current medications including dosages and any paperwork the hospital has requested.

If you have a walker, cane or crutches, have someone bring them at discharge so the physical therapist can check them for size and stability.

Do not bring radios, televisions or large amounts of cash.

When should I arrive at the hospital for surgery?

You should arrive two hours before surgery time to go through admissions, change into hospital clothing, meet the anesthesiologist and nursing personnel and address any questions about the procedure.

Do not eat or drink after midnight on the day of your surgery. You may be allowed to take pre-approved medication with the least amount of water necessary. Report any medication taken, along with dosage, to your admitting nurse.

Can my family stay with me?

Your family may stay with you until you are taken to the operating room.

Do I need to be "put to sleep" for this surgery?

You may have a general anesthetic, which most people call being "put to sleep." Some patients prefer a spinal or epidural anesthetic, which numbs your legs without requiring you to sleep. You can discuss options with your anesthesiologist.

Will the operation hurt?

Many patients only experience mild discomfort in the days and weeks following joint-replacement. However, after years of living with joint pain, for most it is a welcome relief. As with any surgery, individual patient results and experiences vary. Make sure to talk with your doctor before surgery about your pain management options. You may receive pain medicine through your IV, through the epidural or in shots or pills. Most likely, you will be mobile within hours of surgery.

How long will the surgery take?

Depending upon the difficulty of your case, surgery can take anywhere from one to three hours, with an additional two to three hours in the recovery room.

Who will perform the surgery?

Your orthopaedic surgeon will perform the surgery. If an assistant helps, they may bill you separately.

Will the surgeon see my family immediately after surgery is completed?

Whenever possible, the surgeon or one of his assisting surgeons will meet with family members immediately after surgery. If for any reason this is not possible, you may contact the doctor's office to arrange a time to discuss how the surgery went.

What will my hospital stay be like?

You will most likely be "groggy" at first from the medications you receive in surgery. You will be transported from the recovery room to your hospital room once your surgeon and medical team deem it safe for you to be transferred.

Once you are fully awake, you will be able to drink and eat as tolerated. Your vital signs, urinary output and any drainage will be monitored closely by nurses on the orthopaedic surgery floor.

Pain medicine may be monitored closely. Make sure to talk with your doctor before surgery about your pain management options. You may receive pain medicine through your IV, through the epidural or in shots or pills. It may also be administered intravenously by "pain pump" for the first 24 hours, which allows you to control your own pain level up to a predetermined dosage.

Starting on day one post-operatively you will work two to three times a day with physical and occupational therapists, who will go over exercises and help you adapt daily activities to your post-operative limitations.

How long will I be in the hospital?

Most patients are hospitalized about four days, including the day of surgery. This may be extended to include treatment at a rehabilitation center or sub-acute facility. You should contact your health insurance provider to find out what, exactly, is covered and to obtain these provisions in writing.

Do I need someone to stay full-time with me when I go home?

It is best for someone to be with you the first 24 to 72 hours after discharge. If you live alone and a friend or relative offers to stay with you, take them up on the offer! If you can't arrange a full-time helper, perhaps a friend or neighbor can call daily to check on your progress. Home care can also be arranged through your case manager.

When can I go up and down stairs?

Many patients can climb stairs before leaving the hospital.

Will I need pain medicine after I'm discharged?

Most patients do benefit from a short-term course of pain medication. Expect to take some kind of pain medication for several weeks after discharge – especially at night or before therapy sessions. You can call your doctor's office for prescription renewals.

How long will I need to use my walker or crutches?

Your orthopaedic surgeon will work with your physical therapist to develop your specific ambulation plan. Generally, patients use a walker or crutches for the first six weeks after surgery. Then, they can graduate to a cane for about six weeks before walking on their own.

When can I go outside?

You may go outside at any time. Start with short trips at first – therapy, church – and increase the number and length of outside activities, as you feel more comfortable.

When can I drive?

Most patients must wait for six weeks before driving. However, some physicians may allow the patients to drive earlier if they feel the patients can do so safely. The type of surgery, side of surgery (left leg vs. right leg), and the patient's overall general condition will play a part in that decision. If you wish to drive earlier than the 6-week routine prescribed, you should discuss this with your surgeon and obtain his/her approval. Consult with your surgeon for further details.

When can I return to work?

Most patients wait until at least six weeks post-surgery to return to work. Some may return earlier if they can do so safely. You should discuss your own situation with your surgeon during a follow-up visit.

How often will I need to see my surgeon?

You will need to schedule your first post-operative visit two to three weeks after discharge. The frequency of additional visits will depend on your progress. Many patients are seen at six weeks, 12 weeks and then yearly.

When can I resume sports activities?

You may be able to try swimming, distance walking, hiking, bicycle riding, golfing and other low impact sports activities after a few weeks of rehabilitation and recovery.

Discuss your activity level and abilities with your surgeon.

When will I be able to have sexual intercourse after surgery?

In most cases, you may resume sexual activity when you feel comfortable enough to do so. Make sure to heed any position restrictions recommended by your caregivers. In general, most patients resume normal sexual activities within 4 to 6 weeks after surgery.

Will I notice anything different about my knee?

You may have a small area of numbness on the outside of the scar for a year or more. Kneeling may be uncomfortable for a year or so, and you may notice clicking when you move your knee.

Notes

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