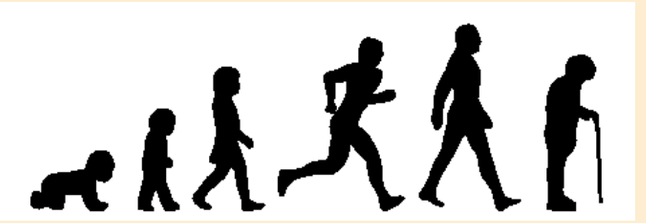
Patient Guide to Hip Arthritis and Surgery

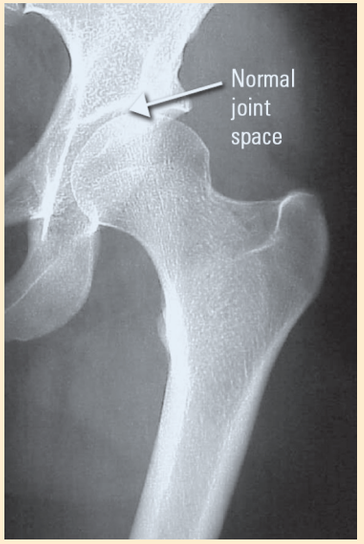


Arthritis of the hip

Arthritis of the hip is a condition in which the smooth gliding surfaces of your hip joint (*articular cartilage*) have become damaged. This usually results in pain, stiffness, and reduced flexibility. The most common type of arthritis, *osteoarthritis,* typically develops in older patients due to a lifetime of wear and tear. It can also occur in someone whose hip did not develop normally.

Less common forms of arthritis include *traumatic arthritis,* which develops as a result of an injury such as a fracture in the hip joint that does not heal properly, and *rheumatoid* or *inflammatory arthritis,* which results from an inflammatory condition or autoimmune disease. Arthritis may also result from *osteonecrosis,* which may develop rather unexpectedly, resulting in the sudden onset of pain in the hip.

In total hip replacement surgery, the portions of the hip joint that contain the damaged surfaces are replaced with biocompatible devices that provide a smooth and painless range of motion. Your surgeon will make every effort to restore your hip to a condition that resembles its healthy preoperative status. You should discuss what realistic outcome to expect with your surgeon.

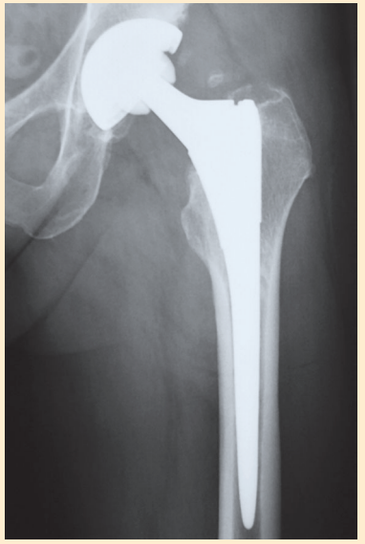


Normal hip

In an x-ray of a normal hip, the articular cartilage (the area labeled “normal joint space”) is clearly visible.

Arthritic hip

The joint space has considerably narrowed, with the result that the head of the femur (the “ball” at the top of the thigh bone) is in direct contact with the bone of the acetabulum (“hip socket”), a condition called “bone-on-bone.”



Total hip replacement

Implants anchored inside the femur and acetabulum form a new ball-and-socket joint that is held in place by muscles and soft tissues. Implants may be secured to your bone by cement or they may have textured surfaces to encourage bone ingrowth.

Mr Achan - Consultant Orthopaedic Surgeon

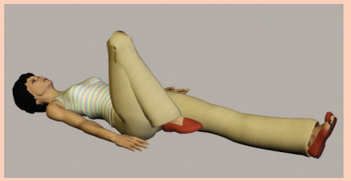
Preventing dislocation:

"The 90-Degree Rule"

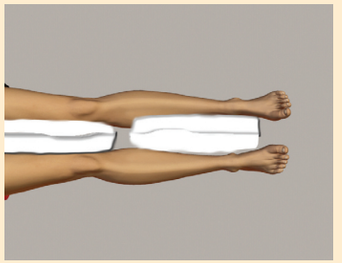
To minimize the risk of dislocating your hip replacement, keep in mind the 90-Degree Rule: ***Do not bend your leg at the hip past 90 degrees*** (a "right angle"). Also avoid crossing your legs and squatting.

YES!

NO!



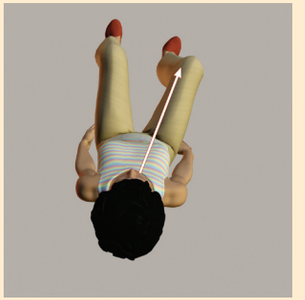
To make sure you do not break the 90-Degree rule while sleeping, keep a pillow or two between your legs.

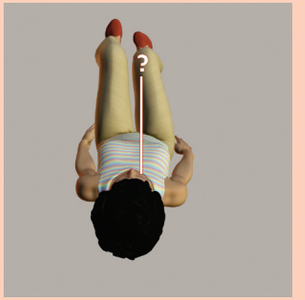


Do **NOT** reach down to put on your shoes—use an elongated shoe horn.

Do **NOT** reach over in bed to pull up your blankets—use your "reacher."

Another good rule of thumb: If you can see the inside of your knee (on the operated side), you're OK; if you can't, you're not OK.

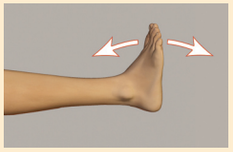




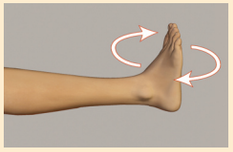
Early postoperative exercises

These exercises are important for increasing circulation to your legs and feet to prevent blood clots. They also are important to strengthen muscles and to improve your hip movement. Do not give up if some exercises feel uncomfortable at first: they will speed your recovery and reduce your postoperative pain. All exercises should be done SLOWLY.

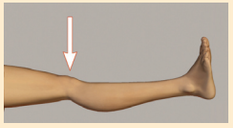
Not every exercise is appropriate for every patient. Your therapist will check off the exercises that are right for you. Unless otherwise indicated, do these exercises every day in three sessions: morning, afternoon, and night.



Ankle pumps: Slowly move your foot up and down. Do this exercise several times as often as every 5 or 10 minutes. This exercise can be done while you are either lying down or sitting in a chair. You can begin this exercise immediately after surgery in the recovery room. Keep doing it periodically until you are fully recovered.

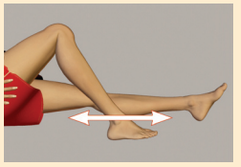


Ankle rotations: Move your ankle inward toward your other foot and then outward away from your other foot. *Do not rotate your knee*—just your ankle. Repeat 5 times in each direction. This exercise can be done while you are either lying down or sitting in a chair.

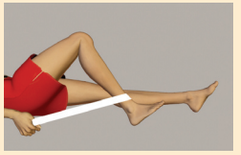


Quad set: Tighten your thigh (quadriceps) muscle. Try to straighten your knee while pushing the back of your knee to the bed. Hold for 5 to 10 seconds. Repeat this exercise 10 times for each leg (not just your operated leg).

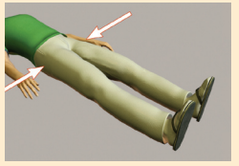
Bed-supported knee bends: Slide your heel toward your buttocks, bending your knee and keeping your heel on the bed. Do not let your knee roll inward nor let your hip exceed 90 degrees. Repeat this exercise 10 times.



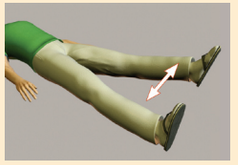
If at first you find this difficult to do, you can use a rolled-up sheet or towel to help pull your ankle



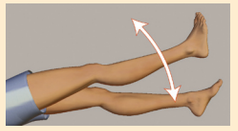
Buttock contractions: Tighten buttock muscles and hold to a count of 5. Repeat this exercise 10 times.



Abduction exercise: Slide your operated leg out to the side as far as you can and then back. Repeat this exercise 10 times.



Straight leg raises: Tighten your thigh muscle with your knee fully straightened on the bed. As your thigh muscle tightens, lift your leg several inches off the bed. Hold for 5 to 10 seconds, then slowly lower your leg. Repeat this exercise 10 times for each leg (not just your operated leg).



(*Exercises continue on the next page*)

Early postoperative exercises (continued)

Standing Exercises

Soon after your surgery, you will be out of bed and able to stand. You will require help until you regain your strength and are able to stand independently. While doing these standing exercises, make sure you are holding on to a firm surface such as a bar attached to your bed, a wall, or a sturdy chair.

Repeat each the following exercises 10 times per session:

Standing knee raises: Lift your operated leg toward your chest. Do not lift your knee higher than your waist. Hold for a count of 2 or 3 and put your leg down.

Standing hip extensions: Lift your operated leg backward slowly. Try to keep your back straight. Hold for a count of 2 or 3 and then return your foot to the floor.

Standing hip abduction: Be sure your hip, knee, and foot are pointing straight forward. Keep your body straight. With your knee straight, lift your operated leg out to the side. Slowly lower your leg so your foot is back on the floor.

Advanced exercises and activities

A full recovery will take time. The pain from your problem hip before your surgery and the pain and swelling after surgery have weakened your hip muscles. The following exercises and activities will help your hip muscles recover fully.

Elastic tube exercises. These exercises should each be done 10 times morning, afternoon, and night, with one end of the tubing around the ankle of your operated leg and the opposite end of the tubing attached to a stationary object such as a locked door or heavy furniture. Hold on to a chair or bar for balance.

Resistive hip flexion: Stand facing away from the door or heavy object to which the tubing is attached, with your feet slightly apart. Bring your operated leg forward while keeping the knee straight. Allow your leg to return to its previous position.

Resistive hip extensions: Face the door or heavy object to which the tubing is attached and pull your leg straight back. Allow your leg to return to its previous position.

Resistive hip abduction: Stand sideways from the door or heavy object to which the tubing is attached and extend your operated leg out to the side. Allow your leg to return to its previous position.

(*Exercises continue on the next page*)

Advanced Exercises and Activities (continued)

Stationary bicycle exercise: Exercising on a stationary bicycle is an excellent activity to help you regain muscle strength and hip mobility. Adjust the seat height so that the bottom of your foot just touches the pedal with your knee almost straight. Pedal backwards at first. Pedal forward only after a comfortable backwards cycling motion is possible. As you become stronger (at about 4 to 6 weeks) slowly increase the tension on the pedals. ***Keep in mind the 90-Degree Rule* (page 16)*: Do not raise your knee higher than your hip.*** Pedal forward 10 to 15 minutes twice a day, gradually building up to 20 to 30 minutes 3 to 4 times a week.

Walking: Take a cane with you until you have regained your balance skills. In the beginning, walk 5 or 10 minutes 3 or 4 times a day. As your strength and endurance improve, you can walk for 20 or 30 minutes 2 or 3 times a day. Once you have fully recovered, regular walks, 20 or 30 minutes 3

Do's and Don'ts

Precautions are necessary to prevent the new joint from dislocating and to ensure proper healing. Here are some of the most common:

- DO cut back on your exercises if your muscles begin to ache—but don't stop doing them!
- DO keep the leg facing forward at all times.
- DO keep the operated leg in front as you sit or stand.
- DO get into a car by "backing in" and sitting first, then bring both legs into the car—but DON'T drive while on medications that could make you drowsy.

- DON'T bend at the waist beyond 90 degrees.
- DON'T bring your knee up higher than your hip.
- DON'T cross your legs for at least eight weeks.
- DON'T lean forward while sitting or as you sit down.
- DON'T reach down to pull up blankets when lying in bed.
- DON'T stand pigeon-toed.
- DON'T try to pick up something on the floor while you are sitting.
- DON'T turn your feet or knees excessively inward or outward.

Getting around after your surgery

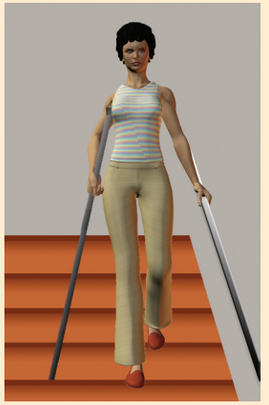
Walking with a walker or crutches: Stand comfortably and erect, with your weight evenly balanced on your walker or crutches. Move your walker or crutches forward a short distance. Then move forward, lifting your operated leg so that the heel of your foot touches the floor first. As you move forward, your knee and ankle will bend and your entire foot will rest evenly on the floor. As you complete the step, allow your toe to lift off the floor. Move your walker or crutches again, and reach forward with your hip and knee for your next step. Remember, touch your heel first, then flatten your foot, then lift your toes off the floor. Walk as rhythmically and smoothly as you can, but don't hurry. Adjust the length of your step and speed as necessary to walk with an even pattern. As your muscle strength and endurance improve, you may spend more time walking. Gradually, you will put more and more weight on your leg.

Walking with a cane or single crutch: A walker is often used for the first several weeks to help your balance and to avoid falls. A cane or single crutch is then used for several more weeks until your full strength and balance have returned. Use the cane or crutch in the hand *opposite* the operated hip. You are ready to use a cane or single crutch when you can stand and balance without your walker, when your weight is placed fully on both feet, and when you are no longer leaning on your hands while using your walker.

Climbing and descending stairs: Going up and down stairs requires both flexibility and strength and so should be avoided if possible until healing is complete. If you must use stairs, you may want to have someone help you until you have regained most of your strength and mobility. Always use a handrail for support ***on the side of your unaffected leg*** and move up or down the stairs one step at a time:

Going up stairs:
1. Step up on your unaffected leg.
2. Next step up on your operated leg.
3. Finally bring up your crutch(es) or cane(s).

Going down stairs, reverse the process:
1. Put your crutch(es) or cane(s) on the lower step.
2. Next step down on the operated leg.
3. Finally, step down on the unaffected leg.



Remember to always lead **UP** the stairs with your unaffected leg, and **DOWN** the stairs with your operated leg.

Risk factors and complications

There are risks in any type of surgery, not just hip replacement surgery. The *general* risks of hip replacement surgery—such as a bad reaction to anesthesia or heart attack—are no greater than in most other types of surgery. To help prevent your developing a blood clot, your surgeon may prescribe a blood-thinning drug (such as Coumadin or Lovenox). Alternatively, or in addition, pump-driven compressive devices may be applied to your legs following surgery to reduce the chances of clot formation.

The following are among the possible complications following hip replacement surgery. While this list is not complete, it includes complications you should be aware of.

Dislocation. Every hip replacement risks dislocation ("popping out"), especially during first days and weeks following surgery. Fortunately, this is one complication that you can do much to prevent. (See "Preventing dislocation: The 90-Degree Rule" on page 16.)

If you do dislocate your hip, notify your surgeon at once. Your surgeon will instruct you on how to get help immediately—either at his/her hospital or the nearest emergency room. Every orthopaedic surgeon knows how to reduce a dislocated hip replacement ("pop it back in"). To help prevent this from happening again, your surgeon may recommend that you wear a brace to reduce motion. Although the possibility of replacement hip dislocation never completely goes away, the risk is greatly reduced once the soft tissues that surround your hip heal, after about three months.

Always remember the 90-Degree Rule and avoid extreme twisting and bending.

Implant loosening and wear. The typical hip replacement has a 90-95% probability of functioning well for more than 10 years. This is still not forever. Over time the implant may show signs of wear, or it may loosen, and so may require a second replacement ("revision"). Continuing research promises to increase implant lifetimes and make replacement even easier in the future. Feel free to discuss the current state of technology with your surgeon regarding implant designs.

Infection. Although infection in a hip replacement is relatively rare, it is a serious complication that requires urgent, aggressive treatment. Many infections can be avoided. For example, standard dental procedures, including routine cleaning, carry the risk of bacteria entering your bloodstream and infecting your hip implant. Taking an antibiotic approximately an hour before your procedure can greatly reduce or eliminate this risk. The same rule applies to medical procedures such as surgery or even a colonoscopy. Ask your surgeon for guidance when you are scheduled for one of these procedures.

Nerve or blood vessel injury. There is a risk of damage to nerves or blood vessels in hip replacement surgery—as in any other kind of surgery—but it is extremely low. If you experience sudden numbness or weakness in your leg or foot in the days following surgery, notify your nurse or doctor immediately.

Unequal leg lengths. In patients with hip arthritis, the leg with the arthritic hip is often shorter than the other. While your surgeon will make every attempt to make your legs the same length, this is not always possible—or even desirable. The vast majority of patients will not notice any significant difference. If there is a noticeable difference, a shoe lift is usually sufficient to relieve any discomfort.