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Total Hip Joint Replacement Gait Instructions

David F. Scott, MD

Walking Recommendations

Use your walker or cane as needed for assistance during the first 6-weeks after hip replacement surgery. See recommendations on progressing beyond the use of a cane/walker below. Young, healthy, or active hip patients can progress as tolerances allow.

The following are for guidelines only; individual patients may demonstrate high variability in their abilities after surgery. You are not "behind schedule" if you do not meet these recommendations.

- **Week 1 after surgery:** Goal of home ambulation, short distances frequently (every hour) throughout the day with assistive device (front-wheeled walker or cane).
- **Weeks 2-3:** Goal of short community distances; for instance 1/4 to 1/2 a city block, several times per day with rest breaks as needed.
- **Weeks 3-4:** Short community shopping excursions; 3/4 to a full city block with rest breaks as needed, multiple times during the day. During weeks 3-5, walking endurance usually increases if you have been consistent with your home program.
- **Weeks 4-5:** Ambulation distances up to 1 mile (2-3 city blocks), resting as needed.
- **Weeks 5-6:** Ambulation distances of 1-2 miles; able to meet shopping needs once released to driving. May still require rest for distances greater than a mile. Activity tolerances may still be limited.

When do I stop using the walker?

Your goal after hip replacement surgery is to restore normal walking ability (gait) without a walking aide (walker or cane). If you've used these devices for years prior to hip replacement surgery, the surgery itself may not lessen your need for such a device, especially if you have concerns regarding balance or walking safety.

Everyone, after hip replacement surgery, tends to demonstrate some degree of the following walking abnormalities. These walking impairments are often the cause of a referral for physical therapy care to help correct these problems after surgery.

The first, and most common, walking problem occurs when the hip replacement patient takes a long step (stride) with the hip replacement leg and a short step with the uninvolved leg. This is done to prevent extension of the surgical hip, which can cause a stretching discomfort in the groin. Trying to stretch the hip, as outlined, will help to decrease this groin soreness as you walk.

RECOMMENDATION: You should try and concentrate on taking longer strides on your non-operative leg.

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The second most common walking problem is bending the knee too early before the leg normally swings forward during walking. Again, most often, this is done to avoid extending the operative hip too far backwards.

RECOMMENDATION: You should try to keep the heel of the operative leg on the ground the same amount of time as the non-operative leg.

A third common gait fault occurs when total hip replacement surgery patients lean forward at the waist prior to pushing off the extended operative leg. Again, the patient is attempting to avoid hip extension.

RECOMMENDATION: To correct this problem, concentrate on keeping your shoulders back and walking upright, taking even strides on both the right and left legs.

Trendelenburg Gait Pattern

One fault that is very difficult to break is a limp that occurs when the operative leg is directly below the pelvis on the ground. This fault is most often seen when the trunk bends too far over the operative hip. A muscle on your hip, the gluteus medius muscle, often weakens significantly after surgery.

When you walk, this muscle tightens to keep the pelvic ring level as your other leg swings forward. When it is weak, the trunk shifts to the weak side to keep the pelvis level without using this muscle.

This gait abnormality is called a trendelenburg gait. Many patients will adopt this pattern before hip surgery to reduce weightbearing through a sore hip. If this walking pattern continues, the hip muscles responsible for hip stability stay weak and do not strengthen normally.



*Figure 5 -
Trendelenburg hip
pattern (right hip)*

Walking Aide Progression Progressing from a walker to a single-point cane

As you begin to put more weight on your operated leg, you may progressively decrease the use of your ambulatory aids. Most patients leave the hospital with a front-wheeled walker. Once stability and symptoms improve, most patients will progress to a cane. Let your pain, balance, sense of safety and common sense guide you as to when to progress from the walker to a cane. A common problem, seen in physical therapy departments, is progression from a walker to no assistive device at all. It is a rare patient that is able to walk without any walking impairments after hip replacement surgery and, as a result, discontinuing use of a walking aide too early is not advocated.

Instead, our office recommends you use a cane in the hand opposite the hip replacement until your hip strength improves. For a right hip replacement, the cane should be in your left hand.



Figure 6 - Walking progression using a single point cane

To progress out of a cane, you must be able to walk without a limp when not using the assistive device (walking aide) AND demonstrate a negative trendelenburg sign test* (see test below).

You should press the cane down when you walk to help offload weight from the operative hip. The cane always moves with the operative leg.

Trendelenburg Sign (single leg balance) Test

In order to progress out of using a cane, your hip muscles must be strong enough to support the weight of your trunk and provide adequate stability for your leg to swing beneath the pelvis during normal walking.

An easy test to determine if you have enough strength for normal walking is to stand in front of a mirror and balance on your operative leg.

With normal strength, your pelvis should be level and your trunk should be aligned vertically. If you feel you are leaning too far over your operative hip, if the pelvis drops towards your unweighted side, or if you need to hold on to something for balance, you do not yet have enough strength for walking without an assistive device.

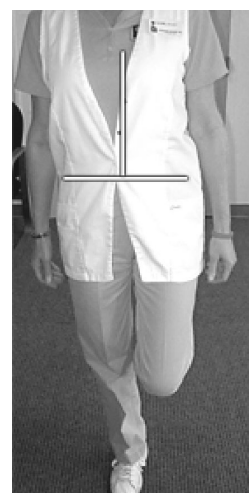


Figure 7 - Trendelenburg test (right hip)
Minimally positive test-
note right trunk lean

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The length of time that it takes to get off your walking aide is not important and will not determine the success or failure of your hip replacement.

You will walk without support when you feel you are safe and can walk comfortably without dropping your hip or limping.

Some patients can do this within 2 weeks after surgery while others take 6-8 weeks or longer. Continue to use support as needed to minimize limping. Often it is helpful to have family members watch your walking and provide input as they may be able to see gait abnormalities that you are unaware of.



DO NOT take a step unless your walker is flat on the ground. This photo illustrates a poor approach to using a standard walker. Front-wheeled walkers are preferred for safety after hip replacement surgery.



When walking with a walker, crutches or cane, DO NOT TURN BY PIVOTING ON YOUR OPERATED LEG. After surgery, the hip muscles can be weakened and pivoting over your operative hip is not recommended for the first 6-8 weeks after surgery.

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Stair Climbing

Your therapist will show you how to use your walker correctly in the hospital. Be sure to tell your hospital therapist if you must climb stairs once you return home so that you are adequately trained to do this correctly.

Always remember, when climbing stairs, start with your strong leg going up. When descending stairs, start with your weak leg going down. Remember the heaven and hell analogy; up with the good, down with the bad.

When going up and down stairs with a walker, you also should have a sturdy handrail.

Going Up Stairs:

Turn the walker sideways so that one pair of walker legs is beside your operative leg.

Place one hand on the leading handle of the walker. Place your other hand on the stair railing.

Lift and place the walker sideways on the first step.

Move your strong leg onto the first step.

Lift your injured leg to the same step by using the support of the walker-handrail combination and by pushing with your strong leg.

Repeat going up each step starting with the walker, strong leg, then weak leg.

You may need to move the walker above the intended stair you wish to step on (see picture). Try bending forward at the trunk and position your shoulders directly over the handle of the walker to prevent tipping.



Going Down Stairs:

Turn the walker sideways so that one pair of walker legs is beside your operative leg.

Place one hand on the handle of the walker closest to the top of the stairs. Place your other hand on the stair railing.

Lift and place the walker sideways on the first step.

Move your injured foot down onto the first step by taking the weight of your body on your hands and the good leg.

Shifting body weight to your hands, lower your good foot down to the same step.

Repeat going down each step starting with the walker, weak leg, then strong leg.



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Alternate technique with a folding walker:

Going Up Stairs:

Fold your walker and place it sideways on the step in front of you using one hand.

Push down on the folded walker for support and hold onto the handrail with the other hand.

Step up with your strong leg.

Bring your weak leg up to the same step.

Repeat going up each step, starting with the walker, strong leg, and then weak leg.

At the top of the stairs, unfold the walker and place it on the landing. Make sure you hear the walker "click" into the locked position. Place both hands on the walker before commencing your walk.



Going Down Stairs:

Fold your walker and place it on the step you are going to.

Hold onto it with one hand and hold onto the handrail with the other.

Step down with your weak leg.

Bring your strong leg to the same step.

Repeat going down each step starting with the walker, weak leg, and then strong leg.

At the bottom of the stairs, unfold the walker and place it on the landing. Make sure you hear the walker "click" into the locked position. Place both hands on the walker before commencing your walk.



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Traveling over a curb:

Walk straight up to the curb.

Put all four legs of the walker up on the curb.

Push straight down on the walker and step up first with the strong leg.

Then, step up with the weak leg.



Going Down A Curb:

Walk up to the edge of the curb.

Put all four legs of the walker on the ground below.

Step down with your weak leg, then your strong leg.

Never go down a curb backwards.



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Going up stairs with a cane (or crutches)

Remember the heaven and hell analogy; up with the good, down with the bad.

The strong (non-operative) leg goes first.

The operative leg goes second.

The cane or crutches go last.



Going down stairs with a cane (or crutches)

The cane or crutches go first.

The operative leg goes second.

The strong (non-operative) leg goes last.

