



THE UNIVERSITY OF KANSAS HEALTH SYSTEM

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# Knee Replacement Surgery Exercise and Mobility Guide



# Exercises are an important part of your surgery recovery

You will perform exercises twice daily during your hospital stay with the help of the physical therapy staff and continue after discharge. These exercises are designed to develop strength and improve function. The mobility strategies described in this booklet can help you perform daily activities in a safe, comfortable and efficient manner.

## Equipment

You will need a walking device at the time of discharge. Typically, this is a front-wheeled walker. **Four-wheeled walkers are not recommended because they don't give you the stability or support you need postoperatively.** Most insurance companies will cover one walking device. You may also wish to have a cane after you transition off the walker. Your outpatient physical therapist will discuss this transition with you. A cane is used on the **opposite** side of the affected leg. For example, if you had your left knee replaced, you will use the cane in your right hand.

Most other equipment is not likely to be covered by insurance. You may want to arrange for a shower chair, a toilet seat riser, grab bars, a reacher, a sock aid, a long-handled sponge or a long-handled shoehorn to be available when you go home. Occupational therapy will address your appropriate equipment needs for bathing, toileting and dressing.

## In-home guidelines

- Keep pathways clear and surfaces secure. Remove throw rugs where you can.
- Do not get down on your knees to clean floors.
- Do exercises on a bed or other supportive surface, not the floor. You may want to use a trash bag or a large piece of plastic to help your leg slide on soft surfaces like a mattress.
- Keep often-used kitchen and bathroom supplies within easy reach, such as grooming supplies, extra toilet paper and heavy pots or pans.
- Plan ahead and gather all supplies for a project at one time rather than getting up repeatedly to get needed ingredients or utensils.
- Pace yourself. Batch activities whenever it makes sense. For example, get your breakfast and feed your dog at the same time; however, don't exhaust yourself in one sitting. Use your energy when it's highest to accomplish your most intense tasks of the day rather than later in the evening when you're more tired and sore.
- Consider a chair or stool for use in the kitchen to prepare food.

# Activity guidelines following surgery

The following are general guidelines regarding what you should be able to do during your recovery process. Your progress may be different, but ongoing improvement is expected. Your surgeon and outpatient physical therapist may provide further guidance about your individual progression and recovery.

## **Weeks 1-2**

- Walk at least 300-500 feet with support of a device.
- Climb and descend a flight of stairs with a device and/or handrail one foot at a time once a day.
- Straighten your knee completely.
- Actively bend your knee at least 90 degrees.
- Dress and bathe independently with equipment as needed.
- Gradually resume light home duties.
- Complete your home exercise program 2-3 times a day.

## **Weeks 3-4**

- Complete and continue goals remaining from weeks 1-2.
- Continue to progress with exercises.
- Actively bend your knee more than 90 degrees.
- Walk at least one quarter mile.
- Progress from your walker to a cane or single crutch as instructed by your therapist.
- Climb and descend a flight of stairs one foot at a time as needed.
- Resume all light home duties with help as needed.
- You may begin driving if you had left knee surgery and you are not taking pain medications that would impair your safety.

## **Weeks 5-6**

- Complete and continue activities, exercises and goals from previous weeks.
- Walk with a cane or single crutch.
- Increase your walking distance.
- Actively bend your knee to at least 110 degrees.
- Resume all light home duties.
- You may be able to drive a car if you had right knee surgery and your surgeon/physician assistant/nurse practitioner approves.

## **Beyond week 6**

- Complete and continue activities, exercises and goals from previous weeks.
- Walk without a cane or crutch without a limp.
- Resume low-impact activities as your surgeon/physician assistant/nurse practitioner approves.

# Pre- and postoperative exercises

Perform these exercises before surgery to prepare your leg for recovery. In the many years this surgery has been done, the people who do these exercises before surgery tend to have more satisfying outcomes than those who don't. Exercise affects how well your knee will work for you postoperatively, so following these exercise guidelines will set you up for success.

These are the same exercises you will be doing in the Joint Replacement Center during the days following surgery. While you are in the hospital, you will be doing most of them in your recliner. You will be given a single-sheet handout of these exercises before you leave the hospital.

With any exercise, avoid holding your breath or bearing down. All exercises should always be performed with good control in order to benefit the muscle. Avoid flinging your leg or dropping it down after raising it. Controlling the muscle will be much more worth your time and effort.

An ice pack on your knee for 10-20 minutes following exercise will help with discomfort and swelling.

# Lying down and sitting exercises

**Ankle pumps** - Move ankles up and down, pointing and flexing your feet. Complete 30 repetitions.



**Quad sets** - On your back or reclined in your chair, press your knee straight by tightening the quadriceps muscles on the front of your thigh. Hold for 5 seconds. Complete 30 repetitions.



**Gluteal sets** - On your back or reclined in your chair, tighten your buttocks. Hold for 5 seconds. Complete 30 repetitions.



# Lying down and sitting exercises

**Abduction and adduction** - On your back or reclined in your chair, slide your leg out to the side. Keep toes pointed up and knee straight. Return leg to the starting point. Complete 30 repetitions.



**Heel slides** - On your back or reclined in your chair, bend your knee, sliding your heel toward your buttocks. Complete 30 repetitions.



**Short arc quads** - On your back or reclined in your chair, place a 6-8 inch roll under your knee. You can use a rolled-up towel, folded pillow or a bolster. Keeping your knee on the roll and with good control, straighten your leg so that your foot rises up off the surface. Complete 30 repetitions.



# Lying down and sitting exercises

**Straight leg raises** - On your back or reclined in your chair, keeping your knee straight and toes pointed up, tighten your quadriceps muscles on the front of your thigh and lift your leg about 12 inches from the surface. You may want to bend your opposite knee up for support and leverage. Take care to lower the leg with good control. Complete 30 repetitions.



**Seated knee flexion** - Sitting in a straight-backed chair, bend your knee back as far as possible, keeping your hips on the chair. Assure that your hip, knee and ankle are in good alignment, not allowing your foot to creep out to the side. You may want to use a towel or trash bag for ease of sliding on the floor. Complete 20 repetitions.



## Lying down and sitting exercises

**Long arc quads** - Sitting in a straight-backed chair with your thighs supported, fully straighten your knee, keeping your thigh on the chair. Complete 30 repetitions.



**Seated knee extension stretch** - Prop the foot of your affected leg on a chair or stool. Place a towel roll or bolster under your ankle so your calf is unsupported.

*Before surgery:* Stay in this position for 15 to 20 minutes. You may place weight just above your knee to help stretch it. A bag of rice works well for this.

*After surgery:* Hold this position for 5 minutes and avoid placing weight beyond that of the ice pack on your incision until it is healed.



# Standing exercises

*Hold your walker or a sturdy surface like a heavy chair back or a counter. Use the surface for support as needed, but your balance should primarily be maintained without leaning forward or pulling backward on the support surface.*

**Standing toe raises** - Stand at supportive surface, taking care not to excessively lean onto it. Raise up onto your toes. Complete 30 repetitions.



**Standing hip abduction** - Stand at a supportive surface, stand tall and remain upright. With knee straight and toes forward, move your leg directly out to the side without leaning to the opposite side. Complete 30 repetitions.



# Standing exercises

**Standing hip extension** - Stand at a supportive surface, stand tall and remain upright. With knee straight, move your leg directly back without leaning forward. Complete 30 repetitions.



**Standing knee flexion** - Stand at a supportive surface. Keep top part of your leg still and bend at your knee moving your heel toward your buttocks. Do not let your thigh move forward. Complete 30 repetitions.



# Standing exercises

**Mini-squats** - Stand at a supportive surface. Bend at hips and knees as if to sit halfway down into a chair behind you. Your chest remains open and your knees should not move forward past your toes. Complete 30 repetitions.



# Postsurgery mobility

You may be able to manage your surgical leg without assistance, or you may find using a gait belt or bathrobe belt helpful initially to move your leg on or off the bed.

## Getting out of bed

- Scoot toward the edge of the bed.
- Roll onto your side or lean up onto your elbows.
- Move your legs off the edge of the bed.
- Push up with your arms so you are sitting upright.
- Scoot far enough to the edge so both feet are on the floor.

## Getting into bed

- Back up to the edge of the bed so both legs are touching it.
- Reach back and sit on edge of the bed.
- Move the walker out of the way but within reach for when you get out of bed.
- Scoot back onto the bed and get legs up onto the bed as you turn to lie down.



# Postsurgery mobility

## **Chairs, beds and toilets**

Sit on chairs and toilets that keep your knees below your hips. Avoid low surfaces or particularly soft surfaces like a low couch. Standing from a surface with armrests is easier.

## **Standing up**

- Scoot close to the edge of the bed or chair.
- Have your surgical leg out in front further than your non-surgical leg for comfort.
- Lean forward and push up.
- Never pull up on your walker; instead, place both hands beside you on the bed or chair.
- Once you have risen, place your hands on the walker and stand upright.

## **Sitting down**

- Fully turn so the backs of your legs touch the bed or chair or toilet.
- Place your surgical leg forward to avoid undue pressure as you sit.
- BOTH hands reach back for the bed or chair. This provides you support and control as you sit. "Plopping" into the chair may cause pain. Controlled lowering is safer and more comfortable.



# Postsurgery mobility

## Walking

- Once standing, place your walker forward.
- Step forward with your surgical leg about halfway between the back and front legs of the walker.
- Bring your other leg forward to meet up with your surgical leg.

When you keep your surgical leg even or in front of your other leg, it is more comfortable and you will have more control. As you progress with your walking, you should walk with one foot in front of the other, taking even steps. You never want your feet to be past the front walker legs. When turning, the same sequence applies, though step size may be modified to make your turn. When backing up, you will want to reverse this process, stepping back with your nonsurgical leg first.

## Stairs and curbs

Your physical therapist will address stairs with you before you leave the Joint Replacement Center. During your hospital stay, you will want the practice of stairs to be as similar as possible to your stairs at home. For example, if you have only one railing on your left going up, practice that setup. You may consider placing both hands on one rail if this is the case. Using your walker on stairs is often unstable and risky. Discuss with your therapist other options for managing your walker on stairs.

### **“Up with the good, down with the bad”**

This phrase will help you remember that the safest and most comfortable way to manage stairs is to step up with your “good” (nonsurgical) leg first, then bring your surgical leg up to the same step. Descend the stairs with your “bad” (surgical) leg first, then bring the nonsurgical leg.

Ultimately, the goal is to go up and down stairs step-over-step, but this is not recommended initially.

## Stairs

Use sturdy railings as they are available. You may find placing both hands on one rail provides additional support. Alternatively, you may find going down backward is more comfortable. Regardless of these modifications, the leg stepping sequence remains the same.



# Postsurgery mobility

## Curb

You may place **all four legs** of the walker up onto the curb or down onto the street and proceed as with stairs, stepping UP with your nonsurgical leg first, DOWN with your surgical leg first.



## Getting in and out of the car

Low cars or vehicles that are high enough to require an additional step up (e.g., a large truck) will make your transfer more difficult. If possible, a vehicle you can place your hips on the seat with ease is preferred initially.

Do NOT hold onto things that move as they may not offer support when you need them. Avoid holding onto the car door or window or the seatbelt. Instead, reach for stable surfaces like the car seat or seat back, the dash, the frame of the car or other internal fixed handgrips. You may consider a small removable device that fits into the door latch on the frame of your car for extra support. This item is readily available online or at discount retailers.

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# Postsurgery mobility

## Getting in and out of the car

- Always wear a seatbelt for safety. After your surgery you may appreciate the extra support the seatbelt provides.
- Slide the car seat back as far as it goes and recline it for more space.
- For fabric-upholstered seats, place a trash bag on the seat for ease of turning, if necessary.
- Approach the car and turn fully before sitting.
- DO NOT place your leg inside the car before sitting as you may have done before.
- Sit on the car seat with both legs still outside the vehicle.
- Scoot well into the car, far enough back to be able to clear the frame with your surgical leg.
- Shift into your desired spot in the seat.

To exit the car, reverse the process. Again, scoot back toward the other seat in order to clear your leg with greater ease, have both feet on the ground, then push up to stand using stable support.



# Postsurgery mobility

## Bathing

You may not get down into the tub to soak until you receive approval from your surgeon. You may sit on a chair or bench or stand to shower. Assure all items you will need are in reach including the shower head if you are using a handheld shower. A long-handled sponge may be beneficial to reach your feet. Use a rubber mat or nonskid adhesive on the floor of the tub or shower for safety. You may want to remove sliding shower doors and place a curtain, at least temporarily. Grab bars may make your bathing experience safer and more manageable. The ideal setup for bars is usually one vertically outside the shower or one horizontally in front to hold as you get in, in addition to one on the inside wall. If you have staples, keep the incision dry until they are out. Press and Seal or plastic wrap secured with tape may be used to keep your incision covered.

## Stepping into the tub with a walker

- Place the shower chair in the tub facing the faucets.
- Approach the tub with your walker.
- Hold onto grab bars, if available, as you side step over the tub.
- If using a shower chair:  
Approach the chair as you would a standard chair, both legs back against it for placement, slide your surgical leg forward and lower yourself with control.

## Stepping into the shower with a walker

- Back up to the shower until both heels touch the lip of the shower.
- Step in with your nonsurgical leg, following with the surgical leg. Keep your hands on the walker.
- You may then hold onto grab bars if you have them.
- If using a shower chair: Approach the chair as you would a standard chair, both legs back against it for placement, slide your surgical leg forward and lower yourself with control.



# Postsurgery mobility

## Tub transfer using a bench or shower chair

- Place the bath bench in the tub facing the faucets.
- Approach the bench as you would a standard chair, both legs back against it for placement, slide your surgical leg forward and lower yourself with control. Reach for the seat of the bench instead of the backrest before lowering yourself.
- Move the walker out of the way but within reach.
- Turn and lift legs over the side of the tub. Leaning back will help ensure you don't bend more than 90 degrees at your hip as you bring your leg over the side of the tub in order to maintain your hip precautions. You may find it necessary to have assistance as you move your legs over the side of the tub.



## Getting out of the tub

- Dry off as much as possible while still in the tub.
- Lift legs over and out of the tub.
- Assure your feet are dry and you aren't at risk of slipping on a wet floor.
- Push up from the seat of the bath bench or use grab bars, if available.



# Postsurgery mobility

## Putting on shoes and using a long-handled shoehorn

Shoes should be supportive and enclose your heel (not flip-flops or open-back slippers). Do not wear shoes that have a higher heel as they may place your knee in a less stable position making walking more difficult and increasing your risk of falling.

- Sit on a supportive surface that permits you to maintain your balance and have both feet on the ground.
- Use a long-handled shoehorn or reacher to slide your shoe in front of your foot.
- Place the shoehorn in the shoe.
- Place your foot in the shoe with the shoehorn at your heel
- Push your foot down into your shoe, sliding down the shoehorn.
- Fasten your shoe. You may want to use elastic shoe laces or Velcro to secure your shoes safely with greater ease.





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