



# Total Knee Replacement (TKR)

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## Introduction

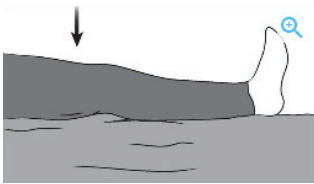
Total knee arthroplasty (TKA) or total knee replacement (TKR) is a common orthopaedic surgery that involves replacing the articular surfaces (femoral condyles and tibial plateau) of the knee joint with smooth metal and highly cross-linked polyethylene plastic. TKA aims to improve the quality of life of individuals with end-stage osteoarthritis by reducing pain and increasing function. In the early phase, patients can be taught to use the stairs with their non-operated leg leading on the ascent, and their operated leg leading on the descent.

## TKR Guidelines:

Regular exercise to restore strength and mobility to your knee and a gradual return to everyday activities are important for your full recovery after knee replacement. Your orthopaedic surgeon and physical therapist may recommend that you exercise for 20 to 30 minutes, 2 or 3 times a day and walk for 30 minutes, 2 or 3 times a day during your early recovery.

### Ankle Pumps

Move your foot up and down rhythmically by contracting your calf and shin muscles. Perform this exercise for 2 to 3 minutes, 2 or 3 times an hour in the recovery room. Continue this exercise until you are fully recovered and all ankle and lower-leg swelling has subsided.



### Quadriceps Sets

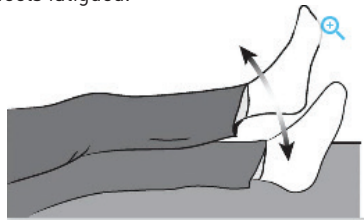
Tighten your thigh muscle. Try to straighten your knee. Hold for 5 to 10 seconds. Repeat this exercise approximately 10 times during a two-minute period, rest one minute, and then repeat. Continue until your thigh feels fatigued.

### Straight Leg Raises

Tighten your thigh muscle with your knee fully straightened on the bed, as with the quadriceps set above. Lift your leg several inches. Hold for 5 to 10 seconds. Slowly lower.

Repeat until your thigh feels fatigued.

You also can do leg raises while sitting. Tighten your thigh muscle and hold your knee fully straightened with your leg unsupported. Repeat as above. Continue these exercises periodically until full strength returns to your thigh.



### Knee Straightening Exercises

Place a small rolled towel just above your heel so that your heel is not touching the bed. Tighten your thigh. Try to fully straighten your knee and to touch the back of your knee to the bed. Hold fully straightened for 5 to 10 seconds.

Repeat until your thigh feels fatigued.

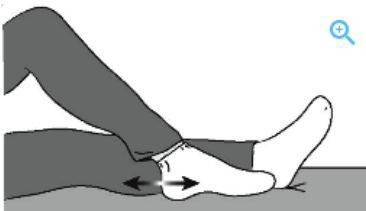


### Side leg raise

Lie on your right side with your legs extended out straight. Use your right hand or a cushion to support your head. Slowly raise your left leg as high as you can. Hold this position for 5-10 seconds before lowering your leg back down. Do 2 to 3 sets of 5 to 10 repetitions on each side.

### Adductor strengthening exercise

Lie on your back with both knees bent. Place a pillow between the knees. Squeeze your knees together in to the pillow. Hold this position for 5-10 seconds. Do 2 to 3 sets of 5 to 10 repetitions on each side.



### Bed-Supported Knee Bend

Slide your foot toward your buttocks, bending your knee and keeping your heel on the bed. Hold your knee in a maximally bent position for 5 to 10 seconds and then straighten. Repeat several times until your leg feels fatigued or until you can completely bend your knee.

### Assisted Knee Bend

Lying on your back, place a folded towel over your operated knee and drop the towel to your foot. Bend your knee and apply gentle pressure through the towel to increase the bend. Hold for 5 to 10 seconds.



### Standing Knee Bend

Standing erect with the aid of a walker or crutches, lift your thigh and bend your knee as much as you can. Hold for 5 to 10 seconds. Then straighten your knee, touching the floor with your heel first.



### Sitting Supported Knee Bend

While sitting at your bedside or in a chair with your thigh supported, place your foot behind the heel of your operated knee for support. Slowly bend your knee as far as you can. Hold your knee in this position for 5 to 10 seconds. Repeat several times until your leg feels fatigued or until you can completely bend your knee.

### Sitting Unsupported Knee Bend

While sitting at bedside or in a chair with your thigh supported, bend your knee as far as you can until your foot rests on the floor. With your foot lightly resting on the floor, slide your upper body forward in the chair to increase your knee bend. Hold for 5 to 10 seconds. Straighten your knee fully.

Repeat several times until your leg feels fatigued or until you can completely bend your knee.



### Walking

Soon after your surgery, you will begin to walk short distances in your hospital room and perform everyday activities. This early activity aids your recovery and helps your knee regain its strength and movement.

### Stair Climbing and Descending

The ability to go up and down stairs requires both strength and flexibility. At first, you will need a handrail for support and will be able to go only one step at a time. Always lead up the stairs with your good knee and down the stairs with your operated knee. Remember, "up with the good" and "down with the bad." You may want to have someone help you until you have regained most of your strength and mobility.

Stair climbing is an excellent strengthening and endurance activity. Do not try to climb steps higher than the standard height (7 inches) and always use a handrail for balance. As you become stronger and more mobile, you can begin to climb stairs foot over foot.



Stair climbing and descending using a crutch