

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

Knee Exercises with Resistance **EX11**

You can place lightweights around your ankle and repeat all or any of the above exercises. These resistance exercises can begin 3 to 6 weeks after surgery. Start with 1/2 kg weight and gradually increase them as you gain strength.



(Inexpensive wrap-around ankle weights with Velcro straps can be purchased at most sporting goods stores.)

Exercycling **EX12**

At first, adjust the seat height so that the bottom of your foot just touches the pedal with your knee almost straight. Peddle backward at first, forward only after a comfortable cycling motion is possible backwards.



Exercycle for 5 to 10 minutes once or twice a day. Gradually increase the tension on the exercycle & steadily build up to 20 to 30 minutes, three or four times a week. Please do it under the supervision of your physical therapist.

Walking **EX13**

Initially walking is done with the help of a walker or two crutches. Don't hurry and walk as rhythmically and smooth as you can.

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 use a cane and eventually walk without an aid.

At first stand comfortably and erect with your weight evenly balanced on your walker. Advance your walker a short distance; then reach forward with your operated leg with your knee straightened so that your touch heel first. Other leg is moved forward in a similar fashion.

Stair Climbing and Descending **EX14**

Stairs can be started under guidance of a therapist as soon as you can bear all your body weight on your operated leg. Initially do one step at a time with stick in one and railing with other hand.



Also do not begin with high stairs (height > 7").

One side TKR : Upstairs: Un-operated leg 1st followed by Operated leg and Stick; **Downstairs:** Stick and Operated leg followed by Un-operated leg.

Bilateral TKR: Use dominant leg 1st for going up & down the stairs followed by stick and other leg.

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TOTAL KNEE REPLACEMENT EXERCISE GUIDE



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Exercises after total knee arthroplasty is essential for speedy recovery by restoring knee strength and mobility. They also help in reducing postoperative swelling, preventing vein clots and controlling pain. Start these exercises as soon as you are able to and should not be stopped even after regaining full strength. Whenever your pain increase, —take rest, elevate the limb and use ice packs frequently. Do the exercises 2-3 times a day. **WALKING IS THE BEST EXERCISE**, but should be done in long corridors, park or driveway and not inside the room. **NO EXERCISE SHOULD BE FORCEFUL OR PAINFUL.**

Ankle Pumps / Ankle toe movements **EX01**

Move your foot up and down rhythmically by contracting the calf and shin muscles. Perform this exercise periodically for two to three minutes. In addition you can rotate your foot clockwise & counterclockwise. Continue this exercise until you are fully recovered and ankle and lower-leg swelling has subsided.



Quadriceps Sets **EX02**

While lying down, keep a towel roll (pillow) under the ankle. Push the knee back on the bed keeping the ankle dorsiflexed (try to straighten the knee) while you tighten your thigh muscles. Hold for 10 seconds, repeat 10 times. Later progressive weights at the ankle may be used.

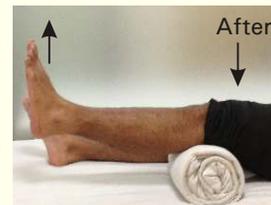


Knee Extension Exercise: Short Arc Quadriceps **EX03**

While lying down keep a thick pillow under your knee (4-6 inches) and keep back of your knee in contact with pillow all the time. Tighten your thigh



muscles while raise the heel to straighten your knees. Hold for 10 seconds. Return to the starting position and relax. Repeat 10 times. Later progressive weights at the ankle may be used. Can also do in sitting position.



Straight Leg Raises **EX04**

Tighten the thigh muscle with your knee fully straightened on the bed, as with the Quad set. Lift your leg several inches, hold for 10 seconds. Slowly lower. Repeat 10 times. Repeat as above. Later progressive weights at the ankle may be used. You also can do leg raise while sitting. Fully tighten your thigh muscle and hold your knee fully straightened with your leg unsupported. Repeat as above.



Knee Extension & Quadriceps Strengthening Exercise **EX05**

Sit in a high chair with your thigh supported, bend your knee back as much as you can and hold for 10 seconds. Thereafter gradually straighten your knee and hold for 10 seconds. Hold your knee in this position for 10 seconds. Repeat as above. Later progressive weights at the ankle may be used. Other person can help you with their hand for resistance.



Standing Knee Bends **EX06**

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. Repeat several times until fatigued.

Bed Supported Knee Bend (Closed Chain Exercise) **EX07**

While lying (or sitting) in bed bend your knee as much as possible while sliding your foot 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 Bends **EX08**

Lying on your back, place a folded towel over your operated knee and apply gentle pressure through the towel to bend your knee. Hold for 10 seconds; repeat several times.



Knee straightening stretch **EX09**

This exercise helps you in straightening your involved knee. Sit in a sturdy chair with your heel up on another chair, or a footstool, in front of you. Tighten your thigh muscles to push back the knee downwards and keep the leg straight hold for 5 to 10 seconds, and repeat several times.



Knee Bending Stretch **EX10**

Bend your knee as much as possible while sitting bedside (Can also do it in bed). Hold your knee in a maximally bent position for 5 to 10 seconds and then straighten.

