

# Post Knee Replacement Recovery





# Table of Content

<b>1. Introduction</b>	<b>04</b>
<hr/>	
<b>2. Managing Pain</b>	<b>05</b>
<hr/>	
<b>3. Home Exercises</b>	<b>06</b>
3.1. Stretching Exercises	
3.1.1. Hamstring Stretch/Knee Extension	
3.1.2. Heel Slide/Knee Flexion	
<hr/>	
3.2. Strengthening exercises	
3.2.1. Quads Set	
3.2.2. Inner Range Quads	
3.2.3. Straight Leg Raise	
3.2.4. Hip Abduction (Side Lying)	
3.2.5. Bridging	
3.2.6. Seated Knee Extension	
3.2.7. Sit-to-Stand	
3.2.8. Hip Abduction (Standing)	
3.2.9. Hip Extension (Standing)	
3.2.10. Step Up/Step Down	
<hr/>	
3.3. Balance Exercises	
3.3.1. Single Leg Standing	
3.3.2. Heel Toe Walk	
<hr/>	
3.4. Scar Mobilisation Exercise	
<hr/>	
<b>4. Managing Activities of Daily Living</b>	<b>16</b>
<hr/>	

## 01

# Introduction

You have just undergone a knee surgery.

**This booklet is designed to provide you with:**

- General advice on how to manage at home after the surgery
- Guidance on home exercises to help you regain strength

## 02

## Managing Pain

- Some pain in the initial period is common as you heal.
- You may take your pain medicine as instructed by your surgeon.  
Do speak to him/her if you need more medications.
- Alternatively, you may use a cold pack if the wound area is painful or warm to touch.  
Apply the cold pack with a layer of towel between the cold pack and skin for about 15 to 20 minutes each time.  
You may do this 3 to 4 times per day, or after you have done your exercises.
- Perform the exercises as prescribed by your therapist (refer to the next section).

## Home Exercises

You should perform the exercises as prescribed by your therapist. If you have any questions, please check with your therapist before working on the exercises.

### Why is it important to exercise after a knee replacement surgery?

- Restore normal movement in your joints
- Build up strength in the surrounding muscles
- Ease pain and swelling
- Help you get back to your normal activities
- Help with circulation, especially right after surgery, to prevent blood clots from forming in the veins

## Stretching Exercises

### Hamstring Stretch/ Knee Extension

To stretch your lower body and hamstring muscles



1. Sit on your bed or firm surface.
2. Straighten your operated leg and place your hands above your knee joint.
3. Lean forward at your hip to stretch your hamstring as you keep the knee straight.
4. Hold for 10-20 seconds. Repeat 10 times.

## Heel Slide/ Knee Flexion

To increase the range of motion at the hip and knee



1. Sit on your bed or a firm surface.
2. Using a towel to assist, gently slide the heel of the operated leg up towards your buttock.
3. Do not overstretch.
4. Hold for 10 seconds, and repeat for 10 times.

## Strengthening Exercises

### Quads Set

To strengthen the muscles at the front of the thigh



1. Lie on your bed and place a small towel under your operated knee.
2. Straighten your leg as much as possible and push down onto the towel by tightening your quadriceps (knee muscle).
3. Hold for 10 seconds. Repeat 10 times.

## Inner Range Quads

To strengthen the muscles at the front of the thigh



1. Lie on your bed, or sit with your operated knee straightened.
2. Place a small pillow or rolled-up towel under your operated knee.
3. Tighten your knee muscles and lift your heel off the bed.
4. Keep your knee firmly down on the pillow/towel.
5. Hold for 10 seconds. Repeat 10 times and 2 more sets.

## Straight Leg Raise

To strengthen the muscles at the front of the thigh



1. Lie on your bed or on a firm surface.
2. Lift your operated leg about 10 inches off the bed, keeping your knee straight.
3. You may bend the other leg to maintain neutral spine as much as possible.
4. Hold for 10 seconds. Repeat 10 times and 2 more sets.



## Hip Abduction (Side Lying)

To strengthen the side hip muscles



1. Lie on your side. Keep your upper leg straight while bending the other leg.
2. Lift the upper leg about 5 to 10 inches off the bed, keeping your knee straight.
3. Hold for 10 seconds. Repeat 10 times and 2 more sets.

## Bridging

To strengthen your buttock muscles



1. Lie on your bed or on a firm surface. Bend both knees.
2. Slowly raise your hips by pushing through your heels.
3. Your hips should be in line with your trunk and knees.
4. Hold for 10 seconds. Repeat 10 times and 2 more sets.

## Seated Knee Extension

To strengthen the muscles at the front of the thigh



1. Sit on a sturdy chair.
2. Straighten the operated knee as shown in the picture.
3. Hold for 10 seconds. Repeat 10 times and 2 more sets.

## Sit-to-Stand

To strengthen the lower limb muscles



1. Sit at the edge of the chair, feet shoulder width apart and slightly behind knees.
2. Lean trunk forward to stand up.
3. Straighten back in upright posture.
4. Slowly bend at the hips and lean trunk forward to sit back onto chair.
5. Repeat for 10 times and 2 more sets.

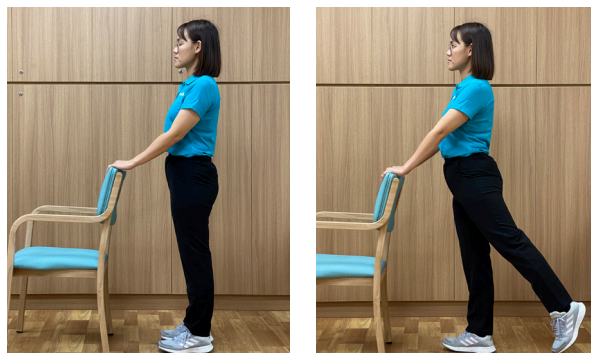
## Hip Abduction (Standing)

To strengthen the  
side hip muscles



1. Stand behind a chair and place 1 hand on the chair for support.
2. Slowly lift your operated leg to the side.
3. Keep your back straight.
4. Hold for 10 seconds. Repeat 10 times and 2 more sets.
5. Repeat on the other side, standing on your operated leg.

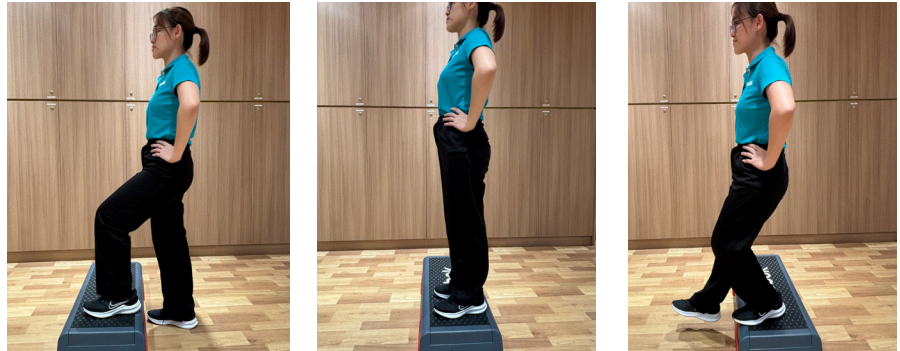
## Hip Extension (Standing)



1. Stand behind a chair with hands on the chair for support.
2. Slowly lift your operated leg back, keeping your knee straight.
3. Keep your back straight.
4. Hold for 10 seconds. Repeat 10 times and 2 more sets.
5. Repeat on the other side, standing on your operated leg.

## Step Up/ Step Down

---



1. Find a step of about 2-4 inch in height. You may place a sturdy chair next to you and use it for support as needed.
2. Place operated leg onto the step.
3. Step up onto the step and straight your knee.
4. Place your non operated leg onto the step.
5. Repeat 10 times.

### **Step Down**

1. Stand on the step with both legs.
2. Slowly step down with the non operated leg, maintaining balance on the operated leg.
3. When the non operated leg is fully on the ground, bring the operated leg down.
4. Repeat 10 times.

## Balance Exercises

### Single Leg Standing

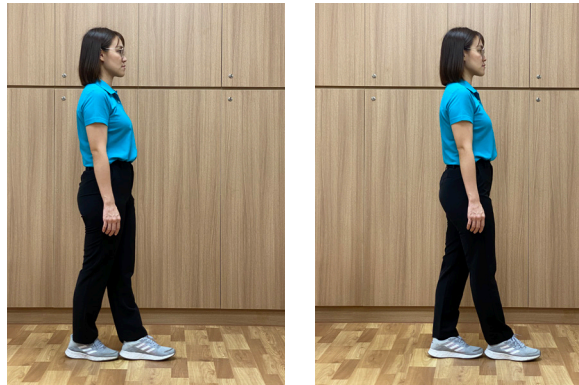
---



1. Stand behind a chair and hold onto chair for support as needed.
2. Bend your non operated knee and stand straight with your operated leg.
3. Hold for 10 seconds. Repeat 10 times.
4. You may repeat on the other side.

### Heel Toe Walk

---



1. You may start with walking beside the wall with hand on the wall for support or walk under supervision of a person if you find this exercise difficult.
2. Walk by placing one foot directly in front of the other. You should walk in a straight line.
3. Repeat for 5 laps.



## Scar Mobilisation Exercise

To increase range of motion in the knee and reduce pain after a knee injury

**Scar mobilisation exercise should only be done on scars that have healed. Stop immediately if you experience the following:**

- Redness
- Bleeding
- Scar feels warmer than the skin around it
- More pain than usual where the scar is



1. Using your index and middle fingers, make small circles over the scar (ensure that the scar has already healed) and the skin surrounding it.
2. Massage the area where the scar is, in an up-down motion.
3. Massage the area where the scar is, from side to side.



## 04

# Managing Activities of Daily Living

Please consult your therapist if you have any doubts on the following activities.

## Transferring from Wheelchair to Chair/Bed



**Step 1:** Position the wheelchair next to the non-operated leg. Lock the wheelchair and move the foot and arm rest out of the way (if necessary).



**Step 2:** Shift to the edge of the wheelchair so that both of your feet are on the floor and reach across to the armrest of the chair.



**Step 3:** Stand up slowly and shift your weight towards the chair.



**Step 4:** Side step with your legs as needed.



**Step 5:** Slowly lower yourself to the chair.



## Using a Walking Frame

---



**Step 1:** Place the walking frame slightly in front of your feet. Be sure that all four legs of the frame are in contact with the ground.

**Step 2:** Step forward with the operated leg. Keep the foot within the frame. Avoid stepping too close to the front of the frame.

**Step 3:** Step forward with the non-operated leg to align with the other foot. Repeat the process.

## Using a Walking Stick / Quad Stick

---



**Step 1:** Hold the stick at the side of your non-operated leg. Place the stick slightly in front of your feet. If you are using a quadstick, ensure all four legs of the quadstick are in contact with the ground.

**Step 2:** Step forward with the operated leg such that it is aligned with the stick. Gently press down onto the stick with your hand for stability and support as you step forward.

**Step 3:** Step forward with the non-operated leg to align with the other foot. Repeat the process.

## Climbing the Stairs

### Up the stairs



**Step 1:** Place your hand on the handrail.

**Step 2:** Step up with the non-operated leg. If you are using a stick/quadstick, hold it on the other hand and on the same step as your operated leg. You may press lightly on the stick for support as your step up.

**Step 3:** Step up with the operated leg, and bring up the stick if you are using one.

### Down the stairs



**Step 1:** Place your hand on the handrail.

**Step 2:** Step down with the operated leg. If you are using a stick/quadstick, place the stick on the step below.

**Step 3:** Step down with the non-operated leg.

**A tip to help you remember!**

“Up with the good” and “Down with the bad”

## Use of Assistive Devices to Help With Daily Activities



Install a raised toilet seat to help in sitting and standing



Use a shower chair to ensure a safer environment, especially for those who are unable to stand for long periods



Use a hand-held shower head to help in showering, especially for those who have difficulties balancing and will need to be seated



Use a long handle bath sponge to help in showering



Install grab bars for support to minimise slips and falls



Use a long handle reacher to assist in wearing of pants



Use a shoe horn to help you put on slip-on shoes easily



#### SERVICES

Senior Day Care | Home Care | Nursing Home | Active Ageing  
Rehabilitation and Wellness | Family Medicine | Dental

#### COMMUNITY SUPPORT

Active Ageing Centres | Community Care | Henderson Home

#### NTUC HEALTH CO-OPERATIVE LIMITED

55 Ubi Ave 1 #08-01 Singapore 408935

**T:** +65 6590 4300 | **F:** +65 6590 4389 | **E:** enquiries@ntuhealth.sg

**W:** www.ntuhealth.sg |  NTUCHealth



Printed in March 2024