



Saskatchewan
Health Authority

Elective Knee Replacement

Post-Operative Exercise Booklet

CEAC 1286
May 2022
Regina Area



This booklet belongs to:

**Elective Knee Replacement
Post-Operative Exercise Booklet**

You must bring this book with you to all your therapy appointments.

You have an appointment to see your physiotherapist
at the Surgical Assessment Centre on:

Date (mm/dd/yyyy)	Time
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

If you need to change your appointment, call 306-766-0414



This booklet guides you in your physiotherapy journey from after your surgery to your first follow up appointment with your surgeon and outpatient physiotherapy sessions.

The Surgical Assessment Centre calls you 48 to 72 hours after you are discharged from the hospital to check on your recovery.

You are expected to complete your prescribed exercises twice a day, practice walking, and apply ice as needed to your surgical area as part of your recovery.

If you have questions about your therapy, call 306-766-0414.

Photographs and diagrams courtesy of SHA Medical Media Department and Hip and Knee Treatment and Research Centre.



Understanding Your Pain

Several things contribute to pain and management. Before surgery, you have been experiencing “arthritic pain”, which is often described as dull, aching pain. This pain should stop with surgery. After surgery, you experience pain for a different reason called “surgical pain”. This pain improves with time.

Reduce Pain and Swelling

Ice and Heat

- Apply ice for 10 to 15 minutes to the operated knee, especially after exercise. You can use ice as needed every 1 to 2 hours.
- **Do not** apply heat to your incision area. Talk to your physiotherapist before using any heat.

Pain Medication

- Take your medication as prescribed in hospital.
- It is important that your pain is controlled so that you can complete your 2 exercise sessions every day.
- Take your pain medication 30 to 45 minutes before your exercise session.

Swelling Control

- You can help control/reduce the swelling in your knee by elevating your leg above the level of your heart for 20 minutes, 2 to 3 times a day.
- Elevate your entire leg by placing pillows underneath the entire operated leg, not just under the knee.





Walking

Soon after surgery, you begin to walk short distances in your room. It is important to know your 'weight bearing status' when you begin to walk. Weight bearing means how much pressure you can put on your operated leg.

Weight Bearing as Tolerated

Stand up as straight as you can. You are allowed to put as much weight as you feel comfortable with on your operated leg.

Partial Weight Bearing

You are allowed to put a maximum of 50% of your body weight through the operated leg.

How Much Should I be Walking/ Standing?

Start with walking short distances in the hospital. Once you go home, gradually increase your walking in your house, within your tolerance. Standing for long periods can increase your pain. An increase in knee pain and swelling, or an increase in night pain may indicate you have been doing too much. Try not to stand or walk for more than 10 minutes at a time for the first few weeks after surgery. If pain and swelling is controlled, then you may gradually increase the time on your feet.

You must continue using your walker or crutches for 6 weeks after surgery.

Your surgeon or physiotherapist instructs you when to start using a cane.



Sit to Stand

When rising from a seated position, **place the foot of your operated leg ahead of the other foot.** Put most of the weight through your arms and non-operated leg as you push up into a standing position.



Walking With Your Walker

Sequence: 1. Walker 2. Operated Leg 3. Non-operated Leg

Keep your head up. Advance the walker about an arm's length away. Step halfway into the walker with your operated leg, followed by your non-operated leg. Stand up tall and straight. Wear good supportive footwear with non-slip soles whenever possible.



Stairs

Going Up Stairs

1. Hold the handrail with one hand and a cane or crutch in the other.
2. Step your non-operated leg up first. Bring your operated leg and the cane or crutch up onto the step.



Going Down Stairs

1. Hold the handrail with one hand and a cane or crutch in the other.
2. Step down with your operated leg, along with your cane or crutch. Step down with your non-operated leg.





My Knee is Getting More Stiff and Sore! What Do I Do?

If you have any of the following after you are discharged from hospital, see your health care provider or go to a walk-in clinic right away:

- increasing redness around your knee
- increased temperature around your knee
- increased incision drainage
- generally feeling unwell.

Use the diagrams on the following pages to help track how much your knee is bending and straightening. If you are experiencing an increase in knee stiffness and no increase in range of motion, are you:

- **Doing enough exercises?** If your knee is becoming stiffer, increase the frequency of exercises you are doing. You must hold the stretch at least 5 seconds at the end of your range of motion. It is normal to have pain while doing the exercises.
- **Taking your pain medication as prescribed in the hospital?**
- **Icing your knee frequently?** Ice your knee for 10 to 15 minutes, especially after the exercises. You can ice every 1 to 2 hours.
- **Elevating your leg above the heart level?** Lay down on a bed or sofa with your entire operated leg elevated for 20 minutes, 2 to 3 times a day.
- **Doing too much other activity?** A sudden increase in activity is a reason for an increase in knee swelling and stiffness. Take more rest breaks.
- **Staying in one position for too long?** Change positions regularly because staying in one position for too long can increase your stiffness.

Immediate Post-Operative Exercises

Circulation Exercises

- Pump your feet up and down.
- Do this 10 times every hour that you are awake while in hospital.



Ankle Circles

- Rotate your feet in each direction.
- Do this 10 times every hour that you are awake while in hospital.





Knee Squeezes

- With your legs straight out in front of you, squeeze the muscles on the front of your thighs and buttock muscles.
- Hold for 3 seconds. Relax. Repeat 10 times, 3 to 4 times every day.



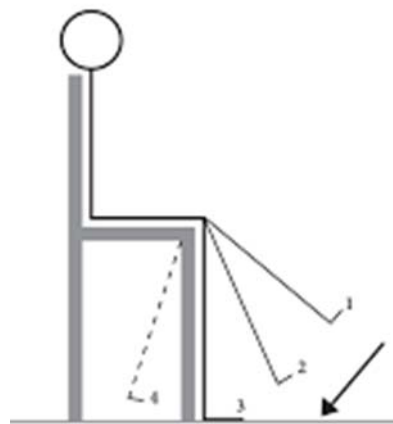
Breathing Exercises

- Sit or lie down.
- Inhale deeply through your nose.
- Without exhaling, take 3 small “sniffs” to fill your lungs. Hold 2 to 5 seconds. Exhale.
- Do this 10 times every hour that you are awake while in hospital.



Estimate Your Knee Bend

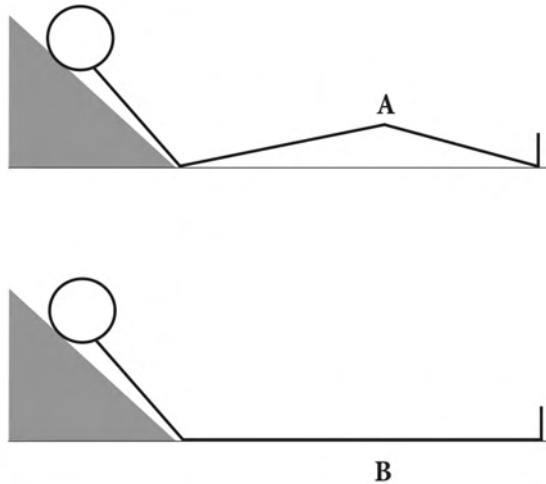
Sitting in a chair with your body weight evenly distributed on both buttocks and your back against the chair, bend your operated knee by sliding your heel under the seat. Use the diagram below to estimate how much your knee is bending. Your goal is to get to at least position 3 or further by 2 weeks after your surgery.



If you are having difficulty achieving position 2, you need to do more of your knee bending exercises on pages 13 and 14.

Estimate your Knee Straightening

Lie on your back. Try to straighten your knee as much as possible. Use the diagrams below to estimate how straight your knee is. Your goal is to achieve **position “B”** in 4 to 6 weeks after your surgery.



If you are having difficulty achieving position “B”, try to do more of your knee straightening exercises on page 13, 14 and 15 and the knee stretch on page 15.

Post-Operative Knee Exercises

Begin these exercises while in hospital and continue to do them at home once discharged.

Seated Knee Straightening/Bending

1. Sit in a chair or on your bed with good posture. Lift leg.
2. Pull your toes up and straighten your knee.
3. Hold for a count of 5 seconds then slowly lower your foot and bend your knee as far back as you can.
4. Do the same with the other leg.
5. Start with 10 repetitions, alternating legs. Gradually progress to 30 repetitions on each leg, 2 times every day.



Knee Squeezes

1. Lie on your back with your legs straight. You can place a small roll under your knees.
2. Pull your toes up, push the backs of your knees down, tightening your thigh muscles. Hold for a count of 5. Relax.
3. Start with 10 repetitions. Gradually increase to 30 repetitions, 2 times every day.



Knee Bending

1. Lie on your back.
2. Keep your toes pointed toward the ceiling as you slide the heel of your operated leg towards your buttocks.
3. Hold for a count of 5. Slowly slide your foot back to the starting position.
4. You may use a strap around your foot to help your knee bend further.
5. Alternate with the other leg.
6. Start with 10 repetitions. Gradually progress to 30 repetitions on each leg, 2 times every day.



Knee Straightening

1. Lie on your back with a roll under your knees. The roll should be about 6 to 8 inches in diameter - a coffee can works well.
2. Pull your toes up and lift your heel off the bed, straightening your operated knee. Keep the back of your knee on the roll.
3. Hold for a count of 5. Slowly lower your foot back to the starting position.
4. Alternate with your other leg.
5. Start with 10 repetitions. Gradually progress to 30 repetitions, 2 times every day.



Straight Leg Raise

1. Lie on your back with your operated leg straight and your other knee bent.
2. Pull your toes up, tighten your thigh muscle and lift your operated leg off the bed, keeping your leg straight. Lift your leg 4 to 6 inches off the bed or floor.
3. Hold for a count of 5. Slowly lower your leg.
4. Start with 10 repetitions, 1 time. Gradually progress to 30 repetitions, 2 times every day.



Knee Stretch

1. Lie on your back with a roll under your ankles. The roll should be big enough so that the back of your calf does not touch the bed.
2. Keep your knee and foot pointed toward the ceiling.
3. Let the back of your knee relax, helping to straighten your knee.
4. Hold this position for 5 minutes. Do this twice a day.





DO NOT
start the following exercises until
directed by your physiotherapist.

Stair Stretch

1. You will need to use a set of stairs with a railing or you can put a low stool (6 to 8 inches high) inside your walker.
2. Place the foot of your operated leg on the bottom stair or on the stool.
3. Shift your weight forward onto the operated leg, trying to bring your knee further than your toes. Keep the back foot on the floor.
4. You should feel a strong stretch in the front of the knee.
5. Hold for a count of 10.
6. Repeat 10 times, 2 times every day.

Progressions:

1. Increase the hold to 20 counts.
2. Move the foot up to the second step.



Squat

1. Stand tall with good posture, feet shoulder width apart.
2. Using a chair or counter for balance, start squat by bending at your hip.
3. Squat as low as is comfortable for you.
4. **Do not** let your knees come over your toes - stick your hips back as if you were sitting in a chair.
5. Hold the squat position for a count of 5. Return to standing position.
6. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Standing Knee Flexion

1. Stand tall and use chair or counter for support.
2. Bend your operated knee, bringing your heel toward your buttocks.
3. Keep your trunk upright, **do not** bend forward.
4. Hold knee bend position for a count of 5.
5. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.

Progression: Add an ankle weight or resistance band.



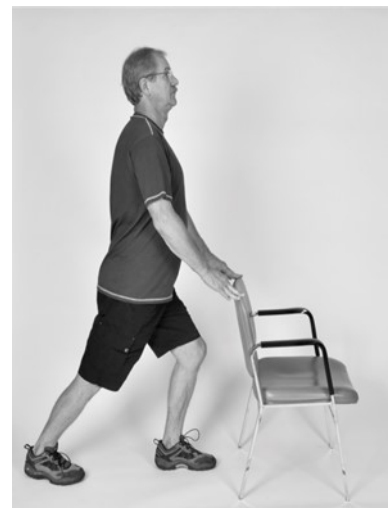
Calf Raise

1. Stand tall and use a chair or counter for support as needed.
2. Rise up onto your tip toes, lifting your heels off the ground.
3. Stay on your toes for a count of 5. Lower your heels.
4. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Calf Stretch

1. Stand tall in front of a wall, chair or counter with your strong leg forward and your operated leg back.
2. Lean forwards bending the front knee. Keep your operated knee as straight as you can with your heel on the ground.
3. You should feel a stretch in the back of your operated leg.
4. Hold 30 seconds. Repeat 3 times, 2 times every day.



Standing Hip Abduction

1. Stand tall and use a chair or counter for support.
2. Keep your toes pointed forward. Lift one leg out to the side.
3. Keep your trunk upright. **Do not** lean over.
4. Hold the leg lift for a count of 5. Return to the starting position.
5. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.

Progression: Add a resistance band or ankle weight



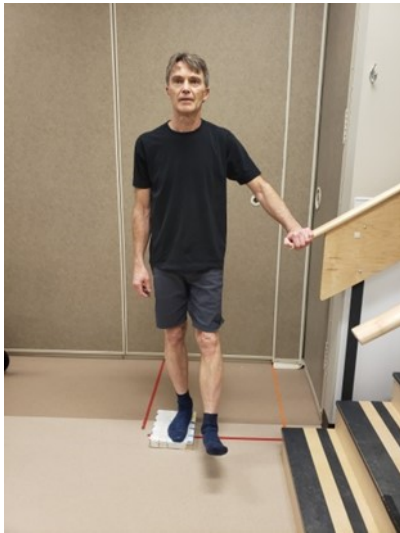
Balance

1. Stand tall and use a chair or counter for support.
2. Lift 1 leg off the floor, maintaining your balance.
3. Try to hold the position for 5 seconds to start, work up to holding the position for 30 seconds.
4. Repeat the exercise until your leg feels tired. Repeat on the other leg, 2 times every day.



Heel Dabs

1. Stand on a phone book or 2 inch riser with your operated leg.
2. Hold onto a counter for balance.
3. Put your non-operated leg in front of you as if preparing to take a step down.
4. Slowly bend the operated knee until the heel of the front foot touches the floor and then straighten knee to return.
5. **Do not** put weight through the front foot, just touch the floor and go back up.
6. Keep your hip, knee and foot in line.
7. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



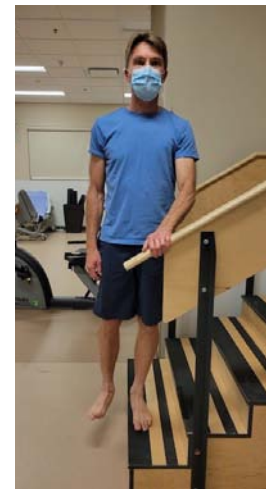
Step Up

1. Stand tall in front of a step.
2. Place your operated leg on the step. Bring the non-operated leg onto the step.
3. Step backward off the step, bringing the non-operated leg down first, followed by the operated leg.
4. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Lateral Step Up

1. Stand tall and sideways next to a step with your operated leg on the bottom step.
2. Step up by straightening your knee of the operated leg.
3. Slowly lower your non-operated leg back to the floor by bending your operated knee.
4. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Chair Squat

1. Stand tall in front of a chair.
2. Lower into a squat by bending your hip. **Do not** let your knees come over your toes.
3. Lower down until your buttocks just touch the chair then return to the starting position.
4. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



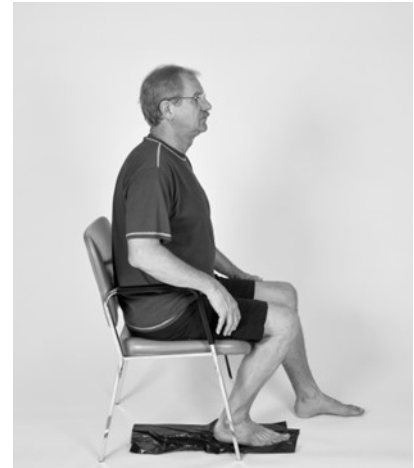
Seated Hamstring Stretch

1. Sit on the edge of a chair with good posture.
2. Put your operated leg out in front of you, keeping your knee as straight as possible.
3. Lean forward from your hips, keeping your chest up until you feel a stretch in the back of your operated leg.
4. Hold 30 seconds. Repeat 3 times, 2 times every day.



Seated Foot Slides

1. Sit in a chair with good posture.
2. Slide your foot of the operated leg back underneath the chair, bending your knee.
3. **Do not** let your hip come off the seat of the chair.
4. You can place a towel or garbage bag under your foot to help it slide easier.
5. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Seated Foot Slides with Overpressure

1. Sit in a chair with good posture.
2. Slide your foot of your operated leg back underneath the chair, bending your knee.
3. Apply overpressure to the movement by placing your foot of the non-operated leg over the ankle of your operated leg.
4. Hold for a count of 10. Return to the starting position.
5. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Resisted Knee Flexion

1. Sit in a chair with good posture.
2. Attach a resistance band to the ankle of your operated leg and to something solid in front of you, such as a table leg.
3. Starting with your knee of your operated leg straight, bend your knee pulling your foot underneath the chair.
4. Hold for a count of 5. Return to the starting position.
5. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Resisted Seated Knee Extension

1. Sit in a chair with good posture.
2. Attach a resistance band to the ankle of your operated leg and to the leg of the chair. You can use an ankle weight.
3. Slowly straighten your knee. Hold for a count of 5. Return to the starting position.
4. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Prone Knee Bend

1. Lie on your stomach. You can place a folded towel under your operated knee for comfort.
2. Bend your knee of your operated leg, bringing your heel toward your buttocks.
3. Hold for a count of 5. Return to the starting position.
4. You may use the non-operated leg to apply overpressure to increase the knee bending.
5. Repeat 10 times. Gradually progress to 30 repetitions, 2 times every day.



Prone Knee Straightening

1. Lie on your stomach with your feet hanging over the edge of the bed.
2. Place a folded towel under your operated knee.
3. Put a weight on your ankle, or use your other foot to put downwards pressure on the ankle of the operated leg.
4. Hold for 5 minutes. Repeat 2 times every day.



Clamshell

1. Lay on your non-operated side with a pillow between your knees and your hips and knees slightly bent.
2. Keep your feet together as you separate your knees.
3. **Do not** let your hips roll forward or back.
4. Hold for a count of 5.
5. Start with 10 repetitions. Gradually increase to 30 repetitions, 2 times every day.



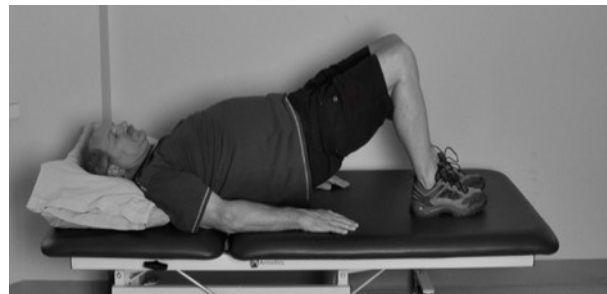
Side Lying Hip Abduction

1. Lay on your non-operated side with your bottom knee bent for support.
2. Keeping your toes pointed forward, lift your top leg.
3. Keep your pelvis rolled slightly forward. **Do not** let your hips roll back.
4. Hold the leg lift for a count of 5. Slowly lower the top leg to the starting position.
5. Repeat 10 times. Gradually increase to 30 repetitions, 2 times every day.



Bridge

1. Lay on your back with your knees bent and your arms at your sides.
2. Tighten your abdominal muscles. Lift your hips by squeezing your thigh and buttock muscles.
3. Hold the bridge for a count of 5. Slowly lower your hips.
4. Repeat 10 times. Gradually increase to 30 repetitions, 2 times every day.



Stationary Cycling

1. You can use an upright or recumbent bike.
2. The seat position is very important. Adjust the seat position so that there is just a slight bend in your knee when the pedal is furthest away from you.
3. To work on range of motion in the knee, **do not** put any tension/resistance on the pedals. Focus on straightening and bending the knee as you pedal. If you cannot make a full pedal revolution at first, go as far as you can in one direction, then reverse. Aim for 5 minutes.
4. To work on leg strength, add resistance to the pedals. You should still be able to comfortably pedal. Start with 5 minutes and gradually work up to 20 minutes of cycling.





Resuming an Active Lifestyle

Activities allowed during the first 6 weeks after surgery:

- Walking with your walking aid - no more than 10 minutes at first. If you notice increased swelling or pain, you may be walking too much. If your pain and swelling is controlled, then you may gradually increase your walking as tolerated.
- Swimming - your incision must be well healed before you swim to avoid infection.
Do not do whip kick.
- Stationary cycling - **do not** start cycling until you have talked to your physiotherapist.

Activities allowed at 6 to 8 weeks after surgery:

- Golfing - start at the driving range.
- Gardening - raised garden beds and long handled tools are recommended to avoid excessive knee bending.
- Kneeling - use a pillow or knee pads for comfort.
- Driving - talk with your surgeon about when you can begin driving.

Activities allowed at about 12 weeks after surgery:

- Cycling on a regular bike - raise the seat to prevent excessive knee bending.
- Gentle dancing.
- Low impact aerobics.

Talk to your surgeon about high impact/risk activities such as skiing, skating and tennis. Only do high impact activities such as jogging, basketball or racquetball following your surgery if specifically approved by your surgeon.



Resuming an Active Lifestyle

General Fitness

- You can return to the activities you used to do before your surgery, following the guidelines on the previous page.
- Remember to start slowly as you have been less active since your surgery. Start with a few minutes of activity and gradually progress.
- Low impact activities are best, such as swimming, biking and walking. Talk to your physiotherapist about specific questions you have.



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