Physical Therapy for Distal Femoral Replacement

This book has information about your distal femoral replacement and the exercises you will need to do after your surgery. Your therapist will put a check (√) by the information below that applies to your surgery.

Surgery Information:

1. Femoral replacement
   - ☐ Cemented
   - ☐ Non-cemented

2. TKA type (total knee replacement)
   - ☐ Hinged
   - ☐ Allograft
   - ☐ Prosthetic composite

3. Patellar (knee cap) replacement
   - ☐ Yes
   - ☐ No

4. Muscle flap transfer
   - ☐ Yes
   - ☐ No

5. Nerve weakness
   - ☐ Femoral
   - ☐ Tibialis posterior

This handout is for informational purposes only. Talk with your doctor or health care team if you have any questions about your care.

© August 7, 2017. The Ohio State University Comprehensive Cancer Center – Arthur G. James Cancer Hospital and Richard J. Solove Research Institute.
6. Leg length change
   ☐ Yes
   ☐ No

7. Weight bearing status
   ☐ Weight bearing as tolerated (WBAT)
   ☐ Toe touch weight bearing (TTWB)
   ☐ Non weight bearing (NWB)

Physical therapy goals for distal femoral replacement:

- Ambulation without assistive device
- ROM = 0-110 degrees
- Quadriceps and hamstring strength 5/5

Comments:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Early Post Surgery Rehab (First 2 Weeks After Surgery)

- Knee immobilizer
- Weight bearing status _____ WBAT _____ PWB _____ NWB _____ TTWB
- Ambulation training /stair training wearing immobilizer
- Upper extremity strengthening
- Transfer training
- Quad sets/hamstring sets/gluteal-buttock sets/abduction/adduction hip strengthening wearing immobilizer

Quad Sets
1. Tighten your muscles on the top of your thigh by pushing knee down into surface.
2. Hold 10 seconds.
3. Repeat 10 times. Do 3 sets of 10 each day.

Hamstring Sets
1. Tighten your muscle on the bottom of your thigh by pushing heel down into surface.
2. Hold 10 seconds.
3. Repeat 10 times. Do 3 sets of 10 each day.
Gluteal/Buttock Sets
1. Tightly squeeze the muscles in your bottom.
2. Hold for 10 seconds, then relax.
3. Repeat 10 times. Do 3 sets of 10 each day.

Lying Side Leg Lift (abduction)
1. Lie on your side with your leg that had the surgery on top. Put a pillow between your legs.
2. Only bend your lower leg if needed for support, but keep the top leg with the knee immobilizer straight.
3. Raise the top leg up about 12 inches, keeping the knee straight by tightening the muscles on the front of your thigh.
4. Hold and lower leg slowly.
5. Repeat 10 times. Do 3 sets of 10 each day.
Lying Side Leg Lift (adduction)
1. Lie on your side with your leg that had the surgery on the bottom.
2. Keep your top leg bent with your foot on the mat.
3. Keep your bottom leg with the knee immobilizer straight.
4. Tighten your muscles and lift your lower leg up toward the ceiling.
5. Repeat 10 times. Do 3 sets of 10 each day.

Ankle Pumps
1. Move your foot up and down as if you were pushing down or letting up on a gas pedal in a car.
2. Repeat 10 times. Do 3 sets of 10 each day.
Standing Leg Lift to the Side

1. Stand holding on to a counter or chair for support.
2. Keep your leg straight with toes pointed forward.
3. Lift your leg that had the surgery out to the side with knee immobilizer in place.
4. Return slowly.
5. Repeat 10 times. Do 3 sets of 10 each day.
Two Weeks After Surgery

- Quad/hamstring sets
- Range of motion (ROM) - progress range of motion as tolerated, but not past 110 degrees flexion
- Independent with transfers
- Ankle foot orthotic (AFO), if needed
- WBAT if cemented, TTWB if press fit for 6 weeks
- Continue with isometric exercises

Heel Slide (Knee flexion)

Use a plastic trash bag or a small board sprinkled with powder under your leg to reduce friction. A small towel under the heel may also help.

1. While lying on your back, slide your heel toward your buttocks and bend at the knee.
2. Do not lift your heel off the surface or turn your leg in or out. Keep your knee pointed toward the ceiling.
3. Hold for 10 seconds then slide your heel slowly back straightening the knee.
4. Repeat 10 times. Do 3 sets of 10 each day.
Hip Abduction
1. Lie on your back with both legs straight.
2. Slide your leg out to the side and return it to center. Keep your knees straight and toes pointed toward the ceiling while doing this exercise.
3. Repeat 10 times. Do 3 sets of 10 each day.

Short Arc Quad
1. Place a blanket roll under the knee of your leg that had the surgery.
2. With your thigh resting on the blanket, lift your heel off the bed and straighten your knee as much as possible.
3. Pause and then slowly lower heel.
4. Repeat 10 times. Do 3 sets of 10 each day.
**Straight Leg Raise**

1. Keep your leg that had the surgery straight and tighten the muscles in the front of your leg.
2. Lift your leg up toward the ceiling about 12 inches off the ground.
3. Repeat 10 times. Do 3 sets of 10 each day.

![Straight Leg Raise Image]

**Lying Side Leg Lift (abduction) with Hold**

1. Lie on your side with your leg that had the surgery on top. Put a pillow between your legs.
2. Only bend your lower leg if needed for support, but keep the top leg with the knee immobilizer straight.
3. Raise the top leg up about 12 inches, keeping the knee straight by tightening the muscles on the front of your thigh.
4. Hold leg up for 15 - 30 seconds and lower leg slowly.
5. Repeat 10 times. Do 1 set of 10 each day.

![Lying Side Leg Lift Image]
Hamstring Curl

1. Stand up straight holding on to a counter or chair for support.
2. Stand with your weight on one foot and move the other leg back slightly with toes on the ground.
3. Lift the foot by bending the knee toward your buttocks and hold. Do not bend your knee more than 110 degrees.
4. Lower the foot slowly by straightening the knee.
5. Repeat 10 times. Do 2 sets of 10 each day.
Advanced Routine

- Graded progression of exercises
- Balance training
- Precautions for tissue affected by chemo/radiation therapy
- Upper extremity strengthening
- Straight leg raises with increasing weights
- Short arc quads with increasing weights
- Hamstring strengthening with increasing weights
- Abductor strengthening
- Hip extensor strengthening
- Aerobic strengthening with reclining/seated bike or elliptical

Seated Hamstring Curl with Theraband

1. Loop the theraband around the leg of a heavy chair, table or bed that is facing you.
2. Loop the other end over your ankle.
3. Slowly bend your knee, then slowly return to the starting position.
4. Repeat 10 times. Do 2 sets of 10 each day.
Mini-Squats
1. Stand and hold onto a heavy chair.
2. Slowly bend your knees, keeping both feet on the floor.
3. Return to the starting position by straightening your knees fully.
4. Repeat 10 times. Do 2 sets of 10 each day.

Chair Sit to Stand
1. Sit on the edge of a heavy chair with your feet flat on floor.
2. Lean forward and stand upright, extending your knees fully. Try not to use your hands to push up from the chair.
3. Repeat 10 times. Do 2 sets of 10 each day.
**Front Step Ups**

1. Place one foot on a step.
2. Push up and straighten your leg to stand with both feet on the step.
3. Slowly bend your leg and then lower your other foot to the floor.
4. Repeat 10 times for each leg. Do 2 sets of 10, 1 to 2 times a day.

**Lateral Step Ups**

1. Stand with one foot on a step and your other leg off. Straighten the knee of your leg on the step and raise the hip of the leg off the step.
2. Repeat 10 times for each leg. Do 1 to 2 sets, 1 to 2 times a day.