Physical Therapy for Internal Hemi-Pelvectomy

This handout has information about your internal hemi-pelvectomy 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. **Type of Surgery (location)**
   - □ Type 1 (Ilium)
   - □ Type 2 (Peri-Acetabular)
   - □ Type 3 (Pubic)

2. **Bladder involvement**
   - □ Yes
   - □ No

3. **Nerve weakness**
   - □ Femoral
   - □ Sciatic
   - □ Common Peroneal Nerve

4. **Leg length change**
   - □ Yes
   - □ No
5. **Weight bearing status with abductor brace**

- ☐ Weight bearing as tolerated (WBAT)
- ☐ Toe touch weight bearing (TTWB)
- ☐ Non weight bearing (NWB)

**Comments:**

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Post Surgery Rehab (The First 3 Months)

Your hip abductor brace should be set at 20 degrees of hip abduction and allow for 0 to 70 degrees of hip flexion. Your hip abductor brace should be worn when you are out of bed or moving, even when you are moving from bed to chair. Your abductor pillow should be used when you are in bed. It is important to keep your leg in a neutral position with your toes pointing up toward the ceiling.

**Do not** do any passive hip stretching. Passive range of motion can be done at your physical therapy appointment within the range of motion of your abductor brace. **Do not** use electrostimulation (E-stim) at any point during your recovery.

During the first 3 months after your surgery, you will:

- Move from non weight bearing (NWB) to toe touch weight bearing (TTWB) in your abductor brace
- Walk and step while wearing your abductor brace
- Strengthen your arms and shoulders
- Do transfer training with your abductor brace
- Strengthen your non-surgical leg
- Do quad, hamstring and gluteal sets and ankle pumps while wearing your abductor brace
- Work to prevent contractures in both of your knees and ankles
- Manage the swelling on your surgical leg

**Quad Sets**

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

Gluteal/Buttock Sets
1. Tightly squeeze the muscles in your bottom.
2. Hold for 10 seconds, and then relax.
3. Repeat 10 times. Do 3 sets, 1 to 2 times 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, 1 to 2 times each day.
**Calf Stretch**

1. Sit with your leg straight out in front of you.
2. Loop a towel or sheet around the ball of your foot.
3. Pull your foot back towards your body until you feel a moderate stretch.
4. Hold for 30 seconds and repeat 3 times. 1 to 2 times each day.

![Calf Stretch Image](image)

**Transverse Abdominis Contraction**

1. Relax on your back with your knees bent.
2. Breathe out and pull your tummy in.
3. Continue breathing and hold your tummy in for 5 seconds.
4. Repeat 10 times. Do 3 sets, 1 to 2 times each day.

![Abdominal Contraction Image](image)

**Short Arc Quad**

1. Place a blanket roll under the knee of your surgical leg.
2. With your thigh resting on the blanket, lift your heel off the surface and straighten your knee as much as possible.
3. Pause and then slowly lower your heel.
4. Repeat 10 times. Do 3 sets, 1 to 2 times each day.

![Short Arc Quad Image](image)

Physical Therapy for Internal Hemi-Pelvectomy
**Post Surgery Rehab (After 3 Months)**

Once your doctor lets you remove your hip abductor brace, you can walk around as tolerated (WBAT). **Do not** do any passive hip stretching at home. Only do your exercises with your physical therapist or a family member to help with leg control.

Starting 3 months after your surgery, you will improve your ability to stand and walk with less help from your brace. You may use an ankle-foot orthosis (AFO), if ordered by your doctor.

You will also do the following:
- Weight shifting while standing onto your surgical leg
- Dynamic balance training while weight shifting onto your surgical leg
- Short arc quads and move to straight leg raises
- Hip abductor strengthening while lying down
- Hip extensor strengthening in pain free range of motion
- Aerobic strengthening with reclining or seated bike or elliptical
- Advance core strengthening by doing pelvic tilts and moving to bridges
- Floor Transfers
- Advance stair training

**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 during this exercise.

1. While lying on your back, slide your heel toward your bottom and bend at your 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 your knee.
4. Repeat 10 times. Do 3 sets, 1 to 2 times each day.
**Bent Leg Fall Out**

1. Bend both of your knees and keep your feet flat on the mat, bed, or floor.
2. Keep one leg in place and slowly lower your other leg out to the side.
3. Bring your leg back to the center. Repeat 10 times. Do 3 sets, 1 to 2 times each day.

![Bent Leg Fall Out Image]

**Posterior Pelvic Tilt**

1. Lay on your back with your knees bent and your feet flat.
2. Flatten your back by tucking your bottom under.
3. Hold 5 seconds. Repeat 10 times. Do 3 sets, 1 to 2 times each day.

![Posterior Pelvic Tilt Image]

**Supine Hip Abduction**

1. Lay on your back with your knees straight.
2. Slide your surgical leg out to the side while keeping your heel on the surface of your mat, floor, or bed.
3. Return your leg back to center.
4. Repeat 10 times. Do 3 sets of 10, 1 to 2 times each day.

![Supine Hip Abduction Image]
Leg Kicks
1. While seated in a chair, lift your foot and straighten your knee.
2. Hold 5 seconds then lower your heel.
3. Repeat 10 times. Do 3 sets, 1 to 2 times each day.

Standing Hip Three-Way Kicks
This exercise should be done with your:
☐ Left Leg
☐ Right Leg
1. Stand up and hold onto chair in front of you.
2. Keep your knees straight and bring your leg in front of you. Do not lean backwards. Repeat 10 times.
3. Then bring your leg out to the side. Repeat 10 times.
4. Then bring your leg behind you. Repeat 10 times.
5. Do 3 sets of each exercise, 1 to 2 times each day.
**Mini-Squats**

1. Stand and hold onto a heavy chair.
2. Slowly bend your knees, while keeping both of your feet on the floor.
3. Return to the starting position by straightening your knees fully.
4. Repeat 10 times. Do 1 to 3 sets, 1 to 2 times each day.

![Mini-Squats Image]

**Standing Hamstring Curl**

*This exercise should be done with your:*

- Left Leg
- Right Leg

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 your toes on the ground.
3. Lift your foot by bending your knee toward your bottom and hold. **Do not** bend your knee more than 110 degrees.
4. Lower your foot slowly by straightening your knee.
5. Repeat 10 times. Do 3 sets, 1 to 2 times each day.

![Standing Hamstring Curl Image]
Weight Shifting
1. Stand up straight with your head up and look straight ahead.
2. Slowly shift your weight to your side as far as you can go without moving your feet. When you shift onto your surgical leg, squeeze your bottom.
3. Return to the center.
4. Then shift your weight back to your other side as far as you can.
5. Repeat 10 times on each side, 1 to 2 times each day.

Tap Ups
This exercise should be done with your:
☐ Left Leg
☐ Right Leg
1. Stand in front of a step.
2. Tap your foot up onto the step and then return it to starting position.
3. Repeat 10 times, 1 to 2 times each day.