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## Arthroscopic Hip Surgery Physical Therapy Protocol

The intent of this protocol is to provide guidelines for your patient's therapy progression. It is not intended to serve as a recipe for treatment. We request that the PT/PTA/ATC use appropriate clinical decision-making skills when progressing a patient.

Please contact our office if there are any questions about the protocol or your patient's progression.

Please keep in mind common problems that may arise following hip arthroscopy: hip flexor tendonitis, adductor tendonitis, sciatica/piriformis syndrome, ilial upslips and rotations, LB pain from QL hypertonicity and segmental vertebral rotational lesions. If you encounter any of these problems, please evaluate, assess, and treat as you feel appropriate, maintaining precautions and guidelines at all times.

Gradual progression is essential to avoid flare-ups. If a flare-up occurs, back off with therapeutic exercises until it subsides. Please reference the exercise progression sheet for timelines and use the following precautions during your treatments. Thank you for progressing all patients appropriately. **Successful treatment requires a team approach, and the PT/PTA/ATC is a critical part of the team! Please contact me at any time with your input on how to improve the therapy protocol.**

Please send therapy progress notes and renewal therapy prescription requests with the patient or by fax to (203) 785-7132. Notes by fax must be sent 3 days prior to the patient's visit to internally process this request. We appreciate your cooperation in this matter.

***Please Use Appropriate Clinical Judgment During All Treatment Progressions***

**Begin therapy POD #3 (unless otherwise instructed)**

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## **\*\* MODIFICATIONS FOR SPECIFIC PROCEDURES \*\***

Please see operative report for specifics and consider the following therapeutic techniques. Please utilize the most conservative protocol when multiple surgical procedures were performed.

### Labral Reconstruction:

- 20 lbs FFWB with crutches x 6 weeks post op
- Brace for post op stability x 6 weeks
- Phase I ROM limitations maintained x 6 weeks
- Can progress from Phase 1 to non-weight bearing strengthening portions in Phase 2

### Microfracture:

- 20 lbs FFWB with crutches x 6 weeks post op
- Can progress from Phase 1 to non-weight bearing strengthening portions in Phase 2

### Capsular Plication for Hip Laxity:

- Avoid combined extension and external rotation x 6 weeks
- No prone ROM x 6 weeks or over stretching ROM
- Gradually progress AAROM and strength under patient's control within comfort

### Gluteus Medius Repair:

- Please refer to gluteus medius repair protocol for WB precautions and additional restrictions

### Iliopsoas Release:

- Begin gentle stretch beginning with prone lying (Phase 1)
- Gentle active release of iliopsoas (Phase 2)

### Piriformis Release:

- POD #1 begin stretching piriformis (flexion, add, ER) without causing anterior hip pain and sciatic nerve flossing (Phase 1)
- Gentle active release of piriformis (Phase 2)

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## Phase 1 – Immediate Rehabilitation (day after surgery – end of week 2):

### Goals:

- Protection of the repaired tissue
- Prevent muscular inhibition and gait abnormalities
- Diminish pain and inflammation

### Precautions:

- 20 lb. flat-foot weight-bearing in brace x 2 weeks post-op, unless noted otherwise per page 6
- Brace worn at all times, including sleeping, except when in PT or while using the CPM/bike
- Do not push through pain or pinching, gentle stretching will gain more ROM
- Gentle PROM only, no passive stretching
- \*\*Avoid capsular mobilizations\*\***
- \*\*Avoid any isolated contraction of iliopsoas\*\***

### Guidelines:

**P/AAROM: within range limitations, pain free, do NOT exceed in PT:**

- Flexion: 90°
- Ext: 0°
- Abd: 25-30°
- IR in 90° hip flexion: 0°; IR neutral (prone): within comfort zone
- ER in 90° hip flexion: 30°; ER neutral (prone): 20°

### Initial Exercises:

#### Stationary Biking

- An upright or recumbent stationary bike may be used for up to 2 hours a day, 7 days a week, for 8 weeks following surgery, **zero resistance only**
- Bike seat should be placed so that the hip does not exceed 90° flexion. Tips: upright bike – place seat high and sit upright; recumbent bike – recline seat (if able) and keep more slouched posture.
- Do NOT use bike for 2-4 hours consecutively, instead break it up throughout the day.

#### Passive interventions:

- STM (scar; ant, lat, med and post aspects of hip; lumbar paraspinals; quad/hamstring)
- Ice prn post treatment

#### Active interventions (all within ROM guidelines):

- Isometrics: quad sets, gluteal sets, TA isometrics with diaphragmatic breathing
- Prone lying (modify if having LB pain) – avoid all prone activities in patients with instability
- Heel slides, supine hip ER/IR with hip neutral and knee ext, prone quad stretch
- Gentle, submaximal hip isometrics begin at 2-3 weeks post op

### Gait Training:

When protocol allows, discharge hip brace, emphasize normalized gait mechanics and wean from assistive device. This is generally at 2 weeks post op unless instructed otherwise or per patient specific procedure modifications on page 6.

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## Phase 2 – Transitional Phase of Rehabilitation (week 3 – end of week 6):

### Criteria for progression to Phase 2:

#### **Full Weight Bearing Must Be Achieved Prior To Progressing To Phase 2**

Non weight bearing exercise progression may be allowed if patient is not progressed by MD to full weight bearing (Please see page 6 for procedure specific instructions)

#### **Goals:**

- Protection of the repaired tissue
- Restore Normal Gait Pattern
- Restore Full Hip ROM
- Initiate strengthening of hip, pelvis, and LE
- Emphasize gluteus medius strengthening (non-weight bearing)

#### **Precautions:**

- Gradually progress ROM as tolerated, **within pain-free zone if allowed per protocol\*\***
- No forced (aggressive) stretching of any muscles
- No joint/capsular mobilizations – to avoid stress on repaired tissue
- Avoid inflammation of hip flexor, adductor, abductor, or piriformis
- No treadmill walking for fitness/cardiovascular training until Phase 5

#### **Intermediate Exercises**

- **Gentle strengthening; ROM must come before strengthening**
- Start strengthening progression for hip flexion, extension, abduction, and IR/ER (see appendix)
- Pelvic floor strengthening
- Initiate light quad and hamstring strengthening
- 1/2 kneel: gentle pelvic tilt for gentle stretch of iliopsoas
- Quadruped rocking (gentle prayer stretch) for flexion ROM
- Continue Gait progression:
  - Weight shift side to side then weight shift forward/backward
  - Step over small obstacle with non-surgical leg (focus on hip extension on surgical leg)
- Balance progression: double leg to single leg balance
- Stationary bike with NO resistance until 6 weeks post op

## Phase 3 – Intermediate Rehabilitation (week 7 – end of week 9):



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## Criteria for progression to Phase 3:

Full Weight Bearing Must Be Achieved Prior To Progressing To Phase 3

Hip strength of 3+/5

Full hip ROM or approximating full ROM depending on surgical procedure performed

## Goals:

Full Hip ROM and Normal Gait Pattern if not yet achieved

Progressive Strengthening of Hip, Pelvis, and LE's

**Emphasize gluteus medius strengthening in weight bearing**

## Precautions:

No forced (aggressive) stretching of any muscles

No joint/capsular mobilizations – to avoid stress on repaired tissue

Avoid inflammation of hip flexor, adductor, abductor, or piriformis

## Intermediate Exercises

- Continue with progression of exercises from appendix
- Crab / monster walk
- Increase intensity of quadriceps and hamstring strengthening
- Quadruped lumbar / core stabilization progression  
(Pelvic tilts to arm lifts to hip extension to opposite arm/leg raise)
- Balance progression: single leg balance to compliant/uneven surface
- Elliptical / stair stepper
- Step and squat progression
- Slide board: hip abduction / adduction, extension, IR/ER.  
No forced abduction. Stop short of any painful barriers.

## PHASE 4 – Advanced Rehabilitation (week 10 – end of week 12):

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## Criteria for progression to Phase 4:

Full Hip ROM and Normal Gait Pattern

Hip flexor strength of 4-/5

Hip abd, add, ext, and IR/ER strength of 4/5

## Goals:

Focus on restoration of muscular strength and endurance

Focus on restoration of patient's cardiovascular endurance

## Precautions:

No contact activities

No forced (aggressive) stretching

No joint mobilizations – to avoid stress on repaired tissue

## Exercises:

- No treadmill walking for fitness/cardiovascular training until Phase 5
- Continue with progression of exercises from appendix
- Anterior/side plank progression
- Lunges, all directions
- Single leg squat

## Phase 5 – Sport Specific Training > 12 weeks:

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## Criteria for progression to Sport Specific Training:

- Hip flexor, Hip add, abd, ext, IR/ ER strength of 4+/5
- Cardiovascular endurance equal to pre-injury level
- Demonstrates proper squat form and pelvic stability with initial agility drills.
- Stable single-leg squat.
- Return to sport activities as tolerated without pain, consistent with MD orders.

## Exercises:

- Customize strengthening and flexibility program based on patient's sport and/or work activities
- Jogging
- Z cuts, W cuts, carioca
- Agility drills
- Gradual return to sport

## Functional Testing: Biomechanics 3D Motion Analysis

- Typically performed for appropriate patients at the 4-6 month post op follow up visit with MD
- Testing is utilized to determine return to sport planning / safe progression of activity

**Note:** Return to sport based on provider team input and appropriate testing. All times and exercises are to serve as guidelines. Actual progress may be faster or slower, depending on each individual patient, as agreed upon by the patient and his/her team of providers.

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## Recommended sitting position when having to sit for longer durations:

(Right leg in picture is surgical leg)



## EXERCISE ADDENDUM:

Below is a list of exercises with ideal progressions. It is recommended to begin with the first exercise listed, least difficult/resistance, and progress down the list towards highest difficulty/increased resistance when appropriate. Be sure to differentiate between pain and muscular soreness. Pain should be avoided during progression of exercises.

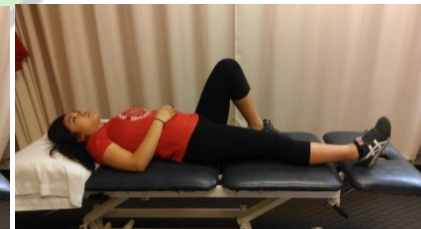
### 1. HIP FLEXION

#### A. Seated isometric with manual resistance:



Patient is seated at edge of plinth. Therapist or patient provides manual resistance through thigh, while the patient simultaneously pushes upward into the resistance. Hold for 5-10 seconds and then relax. This may need to be started with less than 100% intensity.

#### B. Supine heel slide:



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Patient lies on back with legs extended. The patient activates core musculature to keep spine in neutral, and slowly slides involved heel towards buttocks. The patient returns to starting position while keeping abdominals contracted and low back flat on the table. This can be made harder by performing with shoe on for some resistance.

## C. *Supine march:*



Patient lies on back in hook-lying position. The patient activates core musculature to keep spine in neutral. The patient slowly lifts one leg at a time 2-3 inches off table, and then slow returns to starting position keeping back and pelvis still. Then alternate to the other leg as if marching in place.

## D. *Standing step taps:*



Patient stands facing step and engages core musculature. Then patient lifts involved LE to tap stair. Return LE to starting position. Begin with 2-inch stair and increase height gradually as strength improves. Encourage performance without use of UE for support, unless needed to prevent LOB.

## E. *Standing march:*

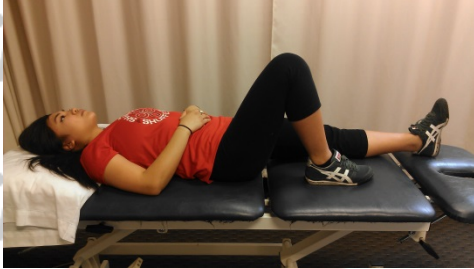




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Patient stands with core musculature activated. The patient raises involved hip to a 90 degree angle, allowing bend in the knee. Return to starting position. Then alternate to the other leg as if marching in place. Encourage performance without use of UEs for support, unless needed to prevent LOB.

## F. *Straight leg raise:*



Patient lies on back with uninvolved knee bent in hook-lying position. The involved thigh is tightened, and the leg is raised 8-10 inches off table. Return to starting position, maintaining contraction at thigh. Do not perform if there is a lag in knee extension or pain in the anterior hip.





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## 2. HIP ABDUCTION:

### A. *Supine and seated isometric:*



Patient lies on back in hook-lying position or sitting. Position belt around the knees, or may use manual resistance, if available. The patient presses knees outward into belt or therapist's hand. Hold for 5-10 seconds and then relax. Modification: may be performed with involved LE bent against wall with pillow, and pressing knee/lower thigh outward into pillow/wall.

### B. *Standing hip abduction:*



Patient stands with surface in front for UE to prevent loss of balance. Then bring LE out to the side, away from body, keeping the trunk vertical while avoiding leaning. Perform on one side then switch and perform on the other leg.

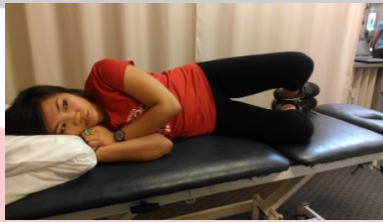
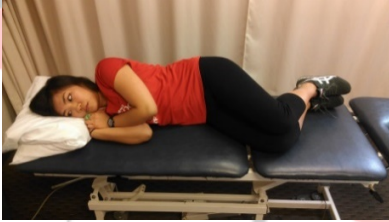
### C. *Isometric hip abduction with bridging*



Perform supine isometric as described above, with use of Theraband or Pilates ring as form of resistance. While maintaining this contraction, the patient raises hips up from table and the return to starting position. Start with slow repetitions and progress to hold for 3-5 seconds. (Pt must perform 3B and 3C without compensation before this can be added.)

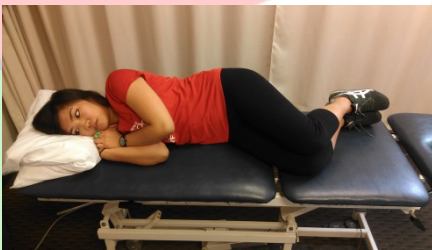
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## *D. Side-lying clam shell:*



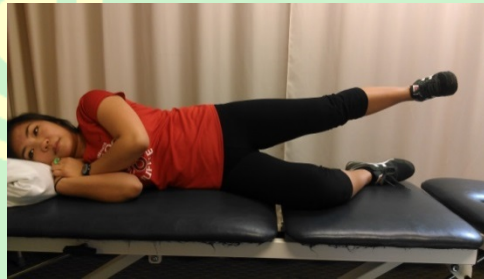
Patient lies on side with knees bent. The patient is instructed to contract core musculature and pull belly button towards spine. Then, keeping ankles together and spine still, the patient raises the top knee. Perform first without resistance and then add Theraband as able.

## *E. Side-lying bent knee hip abduction*



Patient lies on side with knees bent same start position as Side-Lying Clam Shell. Then keeping both knees bent at 90°, tighten the muscles of the core and the top leg. Raise the top leg, and be sure not to rotate at the hip. When lowering the leg, the knee and foot/ankle should make contact with the lower leg at the same time. Perform first without resistance and then add Theraband to increase difficulty.

## *F. Side lying hip abduction*



Patient is instructed to lay on side with bottom knee bent for stabilization. Then tighten the muscles on front of the top thigh keeping it straight. Lift the top leg, being sure not to turn foot up towards ceiling. Make sure the leg moves in a straight vertical motion and the pelvis does not rotate. Perform first without resistance, then add Theraband or ankle weights to increase difficulty.

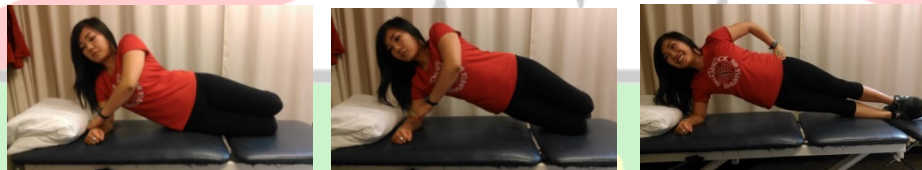
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## *G. Crab Walk*



Patient stands with knees slightly bent and then is instructed to step to the side while keeping toes pointing forward. The patient will step to the side with one foot first, then together with the other. This is to be done for roughly 30-45 feet and then without turning around return to the other direction. Perform first without resistance, then add Theraband to increase difficulty.

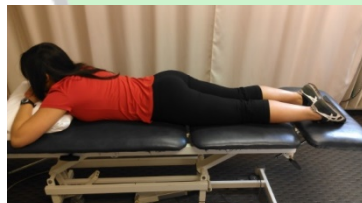
## *H. Side Plank*



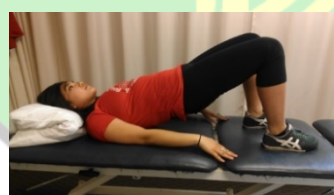
Patient begins lying on side with knees bent and arm under your body. Keep your hips in neutral, so that your feet are behind you. Contract core muscles and raise thigh off table with weight on your elbow and knee, so that your body is in a straight line. Hold this for 10 seconds initially and gradually increase to 60 seconds. To increase difficulty, straighten your legs and maintain balance on elbow and the feet.

## **3. HIP EXTENSION**

### *A. Supine/ Prone Glut Set:*



The patient either lies on their back or stomach and with knees extended. The patient then tightens and maintains contraction of gluteal muscles for a 5 second hold; relaxing between each rep.



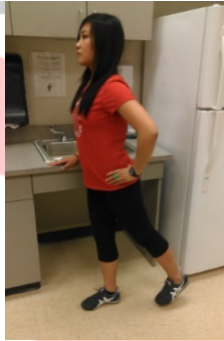
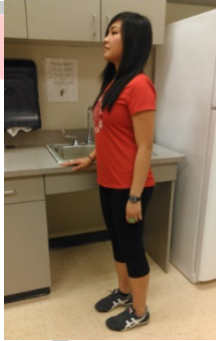
### *B. Bilateral Bridging:*

Patient is instructed to lie on back with knees bent, feet planted on floor. Maintain core stability and keep spine straight while contracting the glut muscles. Raise buttock from floor until hips are in line with shoulders and knees. Start with slow repetitions and progress to holds from 2-10 seconds.



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## *C. Standing hip extension:*



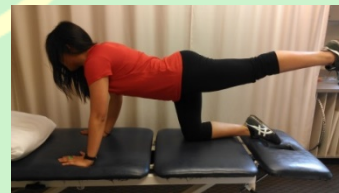
Patient stands on both feet, then contracting core and glut muscles, kick one leg behind. The patient should maintain an upright stance with no trunk lean, and keep pelvic height even. Perform first without resistance, and then add Theraband to increase difficulty.

## *D. Isometric hip abduction with bridging:*



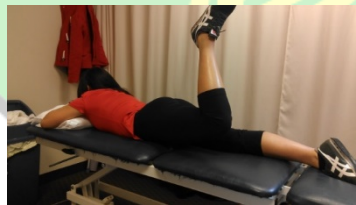
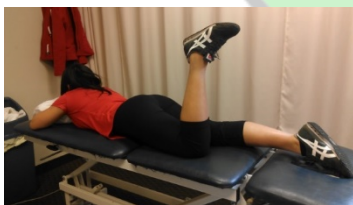
Perform supine isometric as described above, with use of Theraband or Pilates ring as form of resistance. While maintaining this contraction, the patient raises hips up from table and the return to starting position. Start with slow repetitions and progress to hold for 3-5 seconds.

## *E. Quadruped hip extension:*



Patient is instructed to begin on all fours with knees under hips and hands under shoulders. Then keeping one knee bent, contract core and glut muscles to extend one leg behind, maintaining even hip height and spinal neutral. To increase difficulty, extend leg straight, eventually adding resistance by adding ankle weights.

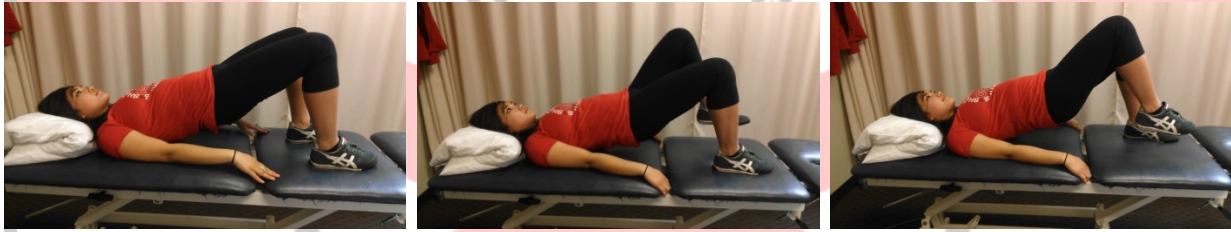
## *F. Prone bent knee hip extension:*



Patient is instructed to lie on stomach with abdomen and head supported. Then with one knee bent, tighten abdomen, and raise leg off floor bringing the foot towards ceiling. Avoid arching low back. Perform first without resistance, and then add Theraband or ankle weights to increase difficulty.

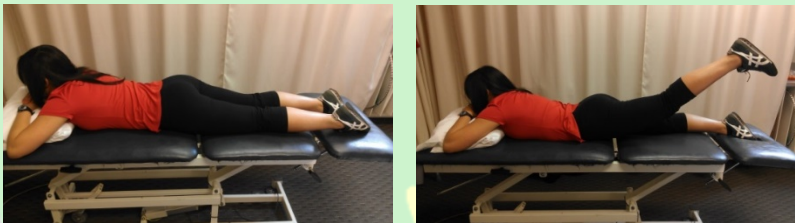
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## *G. Bridge and march:*



Patient is instructed to lie on back with knees bent, feet planted on floor. Contract glut and core muscles to raise both hips off floor as in bilateral bridging. Maintain muscle contraction to lift one foot 1-2 inches off the floor; do not allow hips to drop. Lower foot to floor keeping the hips lifted, and then raise other foot to same height and repeat. (Patient must perform 1E without compensation before this can be added.)

## *H. Prone Hip Extension:*



Patient is lying on stomach with both knees extended. Then, tighten muscle on front of thigh to maintain a straight leg. Avoid arching the lower back by contracting the core throughout the exercise. Contract glut muscles to then lift leg from the surface while keeping point of hip in contact with the table. Perform first with no resistance, and then add ankle weights to increase difficulty.

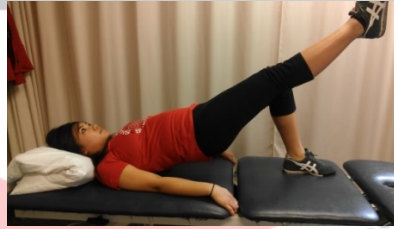
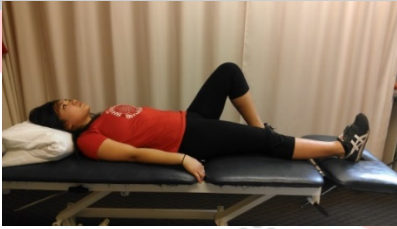
## *I. Bridge and Kick out:*



Patient is instructed to lie on back with knees bent, feet planted on floor. Contract glut and core muscles to raise both hips off floor, as in bilateral bridging. Maintain muscle contraction to lift one foot off the floor, do not allow hips to drop. Straighten your raised leg out, and then bend it back and lower foot to floor keeping the hips lifted. Then raise other foot to same height and repeat. (Patient must perform 1F without compensation before this can be added.)

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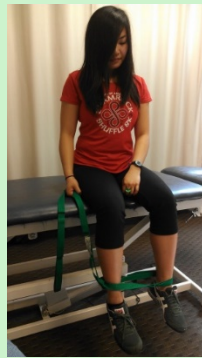
## *J. Unilateral Bridge:*



Patient is lying on back with both knees bent, feet planted on floor. Contract the abdominal muscles to raise one foot 1-2 inches off the floor. Then the patient tightens glut muscles and while not allowing pelvis to drop, raises the hips to about knee height. Lower hips to floor and repeat. Then perform with other foot staying in contact with the floor. Progress from repetitions to 2-8 second holds. (Patient may progress to completing with knee extended in air when able to complete 1F without compensation.)

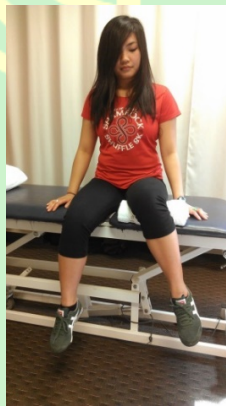
## **4. HIP INTERNAL ROTATION/ EXTERNAL ROTATION**

### *A. Isometric seated:*



Patient is instructed to sit on edge of table with legs over edge. For internal rotation loop a belt around the ankles, keep knees bent at right angle, and pull ankles out against the belt while keeping knees still. For external rotation, stay in same position and place a pillow or ball between the ankles. Keep knees at right angle, and then squeeze ankles together against pillow while keeping knees still.

### *B. Seated AROM:*



Patient sits on the side of the bed as with isometrics, only without the ball or belt at the ankles. While sitting with good posture to avoid pelvic tilt, slowly rotate the foot in toward the opposite leg and then move it out to the outside. Be sure that your knee does not move in and out as compensation. Perform first with no resistance, and then add ankle weights to increase difficulty.



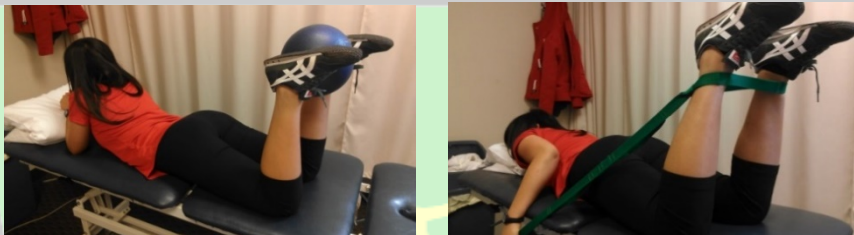
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## C. Bent knee fall out/in:



Patient is instructed to lie on back with leg bent and foot planted on floor. Tighten abdominal muscles and allow knee to fall out towards floor. Return to neutral position. Then tighten abdominal muscles and allow knee to fall in towards midline of body. Perform first with no resistance, and then add ankle weights around the knee to increase difficulty.

## C. Prone Isometric:



Patient is instructed to lie on stomach with knees bent. For internal rotation loop a belt around the ankles, keep pelvis flat, knees bent at right angle, pull ankles out against the belt. For external rotation, stay in same position and place a pillow/ball between the ankles. Keep pelvis flat and knees at right angle, and then squeeze ankles together against pillow or ball.

## D. Prone AROM:



Patient lies on stomach with one leg straight, the other knee bent (foot up towards the ceiling). Slowly lower leg out to side keeping pelvis on the table, keep stomach tight. Return to neutral position and then allow leg to lower in towards other leg. Perform first with no resistance, and then add ankle weights to increase difficulty.

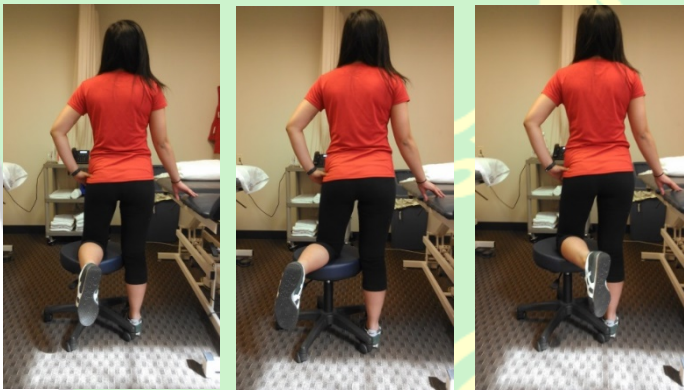
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## *E. CKC rotation:*



Patient stands with one foot on slick surface (i.e. tile floor or slide board). A towel may be useful in decreasing friction. Tighten the abdominals and keep the pelvis facing straight ahead. Rotate the leg so that the toe points out and then turn the leg to point the toe in.

## *F. Kneeling on stool:*



Patient places knee of surgical leg on a stool that is appropriate height so that the pelvis/hips stay level. The other foot is planted on the ground for stability. Tighten core muscles and glut muscles so that hips remain at same height. Rotate hip so that ankle comes out to the side and then back in towards other leg. Perform first without resistance, and then add Theraband to increase difficulty.