Pelvic Stabilization, Lateral Hip and Gluteal Strengthening Program

**Introduction**

Pelvic Stabilization program is geared toward improving the function and strength of the pelvis and hip regions which will address faulty movement pattern. Lower back, hip, knee and ankle problems can be affected by inefficient pelvic and/or hip stabilization. The body works as whole and when certain body region are inefficient, and then the body will find a way to make the movement happen using another muscle or joint in a way that was not intended. Muscles being weak or tight may contribute to the previous mentioned problems. Stretching is not addressed in this program, but can be found in other UHS Athletic Medicine programs on the website which include cord flexibility, dynamic flexibility, Pilates flex and stretch and static flexibility programs.

The muscles that play a great role in stabilization include gluteus medius, gluteus maximus, piriformis and deep core muscles. The gluteus medius might be the most important for weakness causes such problems at ITB syndrome and patella-femoral syndrome. Below are diagrams of the pelvis and lumbar spine with muscles of importance.

Pilate’s principles are important concepts to follow in this program which focus on centering or maintaining the body in a neutral position. At the pelvis which should be in the middle versus being tilted forward or backwards thus keep the pelvis center allows for proper exercising. Compare this concept to a pot of soup. If the pot is tilted forward or backwards the soup with pour out, but level, the soup stays in the pot. Proper body alignment allows the muscles of the body to work in harmony.

While performing these exercises, please be aware of good body position, number of repetitions and resistance. Please apply the centering concept when performing all these exercises and keep movement in controlled, small ranges; then increase range without sacrificing quality control. Start with low number of repetitions and gradual increase with the principle that never sacrifice quality. When adding resistance start with 1 lb and increase by 1 lb with maximum of 3-5 lbs.

If you experience pain or discomfort lasting longer than 1 day, please seek assistance from a medical professional. These exercises are not to replace working with a rehabilitative allied health care professional. When in doubt see a medical professional.

**Dynamic Stability Bridge Series**

**Double Leg Bridge**

- Position and Movement: Supine, keep heels close to the glutes.
- Keep hips level. Abdominals engaged with a neutral pelvis. Focus on stabilizing legs through the glutes instead of the hamstrings. Raise and lower hips slowly and with control.
- Reps: 8-10 times

**Single Leg Bridge**

- Position and Movement: Same as double leg bridge, but only one leg is fixed on the ground. Other leg remains lifted off the floor ideally 90 degrees. The lifted leg should be straight with a flexed foot.
- Reps: 8-10 times each side
Rotary Stability

**Clam Level 1**
Position and Movement: Sidelying, heels are in line with the gluteals. Make sure the hip flexion is only at 45 degrees. Knees flexed to 90 degrees.
Abdominals engaged with a neutral pelvis. Keep hips stacked, don’t allow them to rock open. Abduct the top leg. At peak height, your positioning resembles an open clamshell. Feet remain in contact throughout arc.
Reps: 8-10 times each side

**Clam Level 2**
Position and Movement: Advance to level 2 by lifting lower legs up to a 45 degree angle.
From this lifted position, abduct the top leg. Pause at the top and slowly and with control lower top leg. Feet remain in contact the entire time.
Reps: 8-10 times each side

**Clam Level 2 with Knee Extension**
Position and Movement: Align the body as for Clam Level 2. Abduct top leg. Hold this open clam shell position and add knee extensions. The bottom leg remains lifted the entire time.
Reps: 8-10 times each side

**Clam Level 2 with Small Ball at Feet**
Position and Movement: Align the body as for Clam Level 2, add small weighted ball between feet. Abduct top leg while ball and feet remain in contact.
Reps: 8-10 times each side

**Clam Level 3**
Position and Movement: Align the body as for Clam Level 2, then extend the underneath leg, keeping the top hip and knee flexed with the foot hooked behind the underneath leg. Lift top leg. Pause at the top and slowly and with control lower top leg.
Reps: 8-10 times each side

Mobility

**Sidebend**
Position and Movement: Lie on your side with body propped up on elbow and forearm. Top arm resting on top leg. Lift pelvis off the floor. Simultaneously, reach top arm upwards toward ear and stretch the uppermost side of trunk.
Reps: 6-8 times on each side
**Plank Series**

**Sideplank Static Holds**
Position and Movement: Sidelying with upper body propped on elbow and forearm. Top arm is resting on top leg. Lift pelvis. Maintain straight alignment of body while holding sideplank position.
Reps: 4: hold 15-30 seconds, alternating sides to avoid overload to upper extremity
Sets: 2-4 each side

**Sideplank with Abduction Static Leg Holds**
Position and Movement: Sidelying with upper body propped on elbow and forearm. Top arm is resting on top leg. Lift pelvis while simultaneously lifting top leg to abducted position. Keep body in straight alignment while maintaining sideplank with leg lift position.
Reps: 4: hold 15-30 seconds, alternate sides to avoid overload to upper extremity
Sets: 2-4 each side

**Sideplank with Abduction Leg Raises and Lowers**
Position and Movement: Sidelying with upper body propped on elbow and forearm. Top arm is resting on top leg. Lift pelvis while simultaneously lifting top leg to abducted position. Maintain sideplank while raising and lowering top leg to an inch above bottom leg. Feet do not come into contact.
Reps: 6-8 raises and lowers, alternate sides to avoid overload to upper extremity
Sets: 2-4 each side

**Raised Sideplank Static Holds**
Position and Movement: Sidelying with arm extended under shoulder. Top leg is crossed over bottom leg so that feet are in a straight line. Top hand rests on hip. Lift pelvis.
Reps: 4: hold for 10-15 seconds, alternate sides to avoid overload to upper extremity
Sets: 2-4 each side

**Raised Sideplank with Static Abduction Leg Lift Holds**
Position and Movement: Sidelying with arm extended under shoulder. Top leg is crossed over bottom leg so that feet are in a straight line. Top hand rests on hip. Lift pelvis while simultaneously lifting top leg. Maintain lifted pelvis and leg in abducted position.
Reps: 2: hold 10-15 seconds, alternate sides to avoid overload to upper extremity
Sets: 2-4 each side

**Raised Sideplank with Abduction Leg Raises and Lowers**
Position and Movement: Sidelying with arm extended under shoulder. Top leg is crossed over bottom leg so that feet are in a straight line. Top hand rests on hip. Lift pelvis while simultaneously lifting top leg. Maintain lifted pelvis while raising and lowering top leg. Feet do not come into contact.
Reps: 4-6 raises and lowers, alternate sides to avoid overload to upper extremity
Sets: 2-4 on each side
Lateral Hip Circuits

Circuit A:

**Equipment:** Yoga mat, cuff weights (optional)

**Start Position:** Place both feet in the top left corner of mat, sidelying at a 45 degree angle. Bottom hand supports head and is in line with torso. Place top hand down on mat, in front of torso to aid in keeping hips stable and balanced. Keep hips stacked one on top of the other. Engage abdominals the entire time. Lift the top leg first for all of these exercises. After completing entire series, switch corners, to lie on opposite side.

**Reps:** Start with 5 reps for each exercise. Do each rep slowly and controlled. Continuously flow from one exercise to the next without resting. Progress up to a maximum of 12 reps, then add small (1.5-2.5 lb) cuff weight.

**Exercises:**

1) **Abduction Lifts**
   Lift top leg 12 inches from bottom leg, lower top leg down. Don’t let legs touch. Top foot is flexed the entire time.

2) **Abduction Lifts with Internal Rotation**
   Repeat exercise #2, except top knee and foot are turned in. Top foot is flexed the entire time.

3) **Bent Knee Abduction Lifts aka: Fire Hydrants**
   90 degrees of hip flexion and knee flexion. Foot is flexed. Lift leg up and out without losing 90/90 position or rolling torso/hips back. Start and end with top leg parallel to floor.

4) **Large Clockwise Circles**
   Looking down at feet, make a large clockwise circle with top leg. Leg reaches long with pointed toe. Don’t let top leg touch down. Keep it lifted at least an inch from the bottom leg.

5) **Large Counter-clockwise Circles**
   Repeat exercise #4, except make counter-clockwise circles with top leg.
6) **Small Clockwise Circles**

Repeat exercise #4, except place L Leg in slight hip extension and foot is flexed. While keeping leg at hip height, make small clockwise circles the size of a dinner plate with L leg.

![Image of a person making small clockwise circles with their leg]

7) **Small Counter-clockwise Circles**

Repeat exercise #6, except make counterclockwise circles.

![Image of a person making small counterclockwise circles with their leg]

8) **Toe Taps**

Top foot is pointed entire time, tap foot in front of bottom leg and then behind bottom leg.

![Image of a person doing toe taps]

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**Circuit B:**

**Equipment:** Box (At least 6 inches in height) and Small Cuff Weight (2.5 lb)

**Start Position:** Place cuff weight on R ankle. Step onto the edge of the box and balance on L leg. It is important to stand up straight, keep the torso still and engage abdominals throughout all exercises. L shoulder must be kept stacked directly over L hip. The R leg does not rest in between movements nor does it touch the box. After completing entire series, switch, and place cuff weight on L ankle and reference starting position of stance leg. You will perform a prep exercise for circuit B called a pelvic drop to ensure proper form during circuit B.

**Reps:** Start with 5 reps for each exercise. Do each rep slowly and controlled. Continuously flow from one exercise to the next without resting. Progress up to a maximum of 12 reps.

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**Prep Exercise for Circuit B: Pelvic Drop**

Step onto the edge of the box and balance on L leg. Place hands on hips. Stand tall with abdominals engaged. The R hip should be lower than L hip at start position. Then lift R hip on stance leg up to level of L hip. Be sure not to hip hike L hip, as the focus is on the R hip. Fatigue should be felt in the R hip and gluteal.
Exercises:

1) Hip Flexion:
   Lift leg in front of you. Foot is flexed the entire time. Return to start position.

2) Abduction:
   Lift leg out to the side only as far as you can control and maintain your center (small movement). Foot is flexed entire time. Return to start position and repeat.
   Keep leg in line with body throughout exercise.

3) Abduction with Internal Rotation:
   Repeat exercise #2, except foot is pointed down and in.

4) Abduction with Hip Extension:
   Lift straight leg diagonally, out and behind at a 45 degree angle. Foot is pointed entire time. Minimize lumbar extension.

5) Hip Extension:
   Lift straight leg behind you. Foot is pointed entire time. Return to start position and repeat. Minimize/avoid lumbar extension.

6) Large Clockwise Circles:
   Move straight leg in large clockwise circles. Foot is pointed entire time. Circles are as large as you can control while maintaining while centered.
7) Large Counterclockwise Circles:
   Repeat exercise #6, except make counterclockwise circles.

8) Single Leg Box Squat:
   Bend knee of stance leg until opposite heel touches floor lightly. Straighten stance leg back to start position. Keep pelvis level throughout exercise. As you squat, avoid bending knee over toe. Foot with cuff weight is flexed the entire time. Sit back, engage gluts.

Advanced Lateral Hip and Gluteal Strengthening Exercises

Fire Hydrants
   Position and Movement: On all fours, hands directly under shoulders and knees over hips. Abdominals are engaged. Lift leg up and out maintaining 90 degrees of hip flexion and knee flexion. Avoid rotating hips or arching back as you lift the leg. Goal is to lift thigh to level of torso. Foot is flexed the entire time.
   Reps: 8-10 lifts
   Sets: 2-3 on each side

Physioball Sidelying Pelvis Static Holds:
   Position and Movement: Physioball placed between legs at the ankle. Begin with smaller physioball. Elbow under shoulder. Body in neutral alignment. Top hand on hip, do not use it lift the body off the floor. Squeeze Physioball between legs while lifting pelvis off the floor. Lift until only foot is touching the floor.
   Reps: 4: hold for 10-15 seconds, alternate sides to avoid overload to upper extremity
   Sets: 2-4 on each side

Physioball Sidelying Pelvis Raises and Lowers:
   Position and Movement: Physioball placed between legs at the ankle. Begin with smaller physioball. Elbow under shoulder. Body in neutral alignment. Top hand on hip, do not use it lift the body off the floor. Squeeze Physioball between legs while lifting pelvis off the floor. Lift until only foot is touching the floor. Lower pelvis back towards the mat until it is 1 inch above the mat.
   Reps: 4 to 6 raises and lowers. Alternate sides to avoid overload to upper extremity.
   Sets: 2-4 on each side.
**Frankenstein Slides**

Position and Movement: Set the core. Hands on hips. Legs straight. Take small lateral steps. Can add resistance band at ankles or knees or (both for advanced challenge).

Reps: 15-20 steps
Sets: 2-4

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**On all 4’s Clockwise and Counterclockwise Circles with Hip in Extension**

Position and Movement: On all fours, hands directly under shoulders and knees over hips. Both hands and one knee are placed on an unstable surface such as a dynadisk. To increase instability, don’t allow foot of bent knee to touch the mat. Lift opposite leg into hip extension. While hip is lifted in extension, make small clockwise and counterclockwise circles with the leg. This is an advanced core and balance challenge while working the gluteals. Avoid rotating hips or arching back as you lift the leg.

Reps: 5 clockwise and 5 counterclockwise circles on each leg
Sets: 2-4 each leg

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**Modified Raised Sideplank Abduction Leg Raises and Lowers**

Position and Movement: Sidelying with arm extended under shoulder. Bend knee of bottom leg. Top leg is straight and toe is pointed. Body is aligned in a straight line. Top hand rests on hip. Lift top leg to abducted position. The goal is to lift it to parallel. Raise and lower top leg without coming into contact with the mat.

Reps: 4-6 raises and lowers, alternate sides to avoid overload to upper extremity
Sets: 2-4 on each leg