



Kinesis
Medical Centre

Lumbopelvic Stabilization and Gluteal Re-training

Active Rehabilitation Program

The muscles that control the hips, pelvis and lower back are complex and need to work together to effectively allow us to carry out our day-to-day activities. Dysfunctional movement patterns in these muscle groups can predispose an individual to a number of musculoskeletal disorders including (but not limited to):

- Greater Trochanteric Pain Syndrome (“trochanteric bursitis”)
- Patellofemoral Pain Syndrome
- Plantar Fasciopathy
- Achilles Tendinopathy

There are many other structures in this region that can cause pain, so it is important to consult a medical professional to properly diagnose which structure(s) is/are contributing to your pain. They will examine you thoroughly to identify any medical, biomechanical or activity-related factors that may be indirectly contributing to the problem, and can guide further investigations and treatments.

The following active rehabilitation program is designed to work on more than just strengthening and stretching. The main focus of the program is to re-train proper muscle activation patterns so that the stabilizing musculature of the lower back and pelvis can work together more effectively.

Each day, choose one exercise booklet – Day #1 or Day #2. Do **ALL** Warm-Up exercises, and then choose one exercise from each muscle group set. The exercises progress from easy to difficult. Don’t rush your progression through the various levels. Make sure you can do them properly and easily for at least a week before moving on to the next level. Repetition and consistency are key, so try to do these exercises 5-7 days per week (three sets of 10-15 repetitions, if not otherwise specified).

“Don’t practice until you get it right. Practice until you can’t get it wrong.”

-- Unknown

Need help?

Physiotherapy

Your physical therapist and athletic trainers also play a critical role in the rehabilitation process by coaching you through the exercises, tailoring the exercises to your specific needs and monitoring your progress.

Breaking bad habits can be very difficult, especially when they feel “normal” to you. The process often requires a step-wise progression that can be coordinated by your physiotherapist, who can also provide symptomatic relief in the form of soft tissue modalities (active release, deep heat, TENS, etc.).

Day #1: Warm Up



1. Lie on your back with your knees bent, one foot on the opposite knee.
2. Use your foot to lower your knee towards the ground until you feel a stretch across your outer buttock.
3. Hold for 20 seconds, then release. Repeat on other side.



1. Sit down with one leg extended in front of you and the other bent on the side.
2. With the opposite hand (if possible), reach for the foot or the ankle. Keep your lower back arched as you bring the torso. You should feel a comfortable stretch behind the thigh.
3. Hold for 20 seconds, then release. Repeat on other side.



1. Kneel on one knee creating a 90° angle with the opposite hip. (You can use a chair for support.)
2. Tilt your pelvis backwards to flatten your lower back and transfer your weight forward until you feel a gentle stretch on the front of your hip/groin.
3. Hold for 20 seconds, then release. Repeat on other side.



1. Sit on a chair with one foot over the opposite knee in a figure 4 position.
2. Push on your knee downward and lean your upper body forward until you feel a comfortable stretch in your buttock.
3. Hold for 20 seconds, then release. Repeat on other side.



1. Place your foam roller on the floor.
2. Roll the entire outside of your thigh from your pelvis to your knee in an up and down motion.
3. Maintain your abs tight and proper low back posture during the exercise.

It may be helpful to watch yourself in a mirror to make sure your hips are level.



1. Stand on a step with one foot off the side holding a railing or chair.
2. Slowly lift the hip of your floating (non-weight bearing) leg towards the ceiling as high as possible while keeping your upper body upright. Hold for 20 seconds.
3. Slowly lower back to the starting position without going lower than the other side. Your hips should be level.



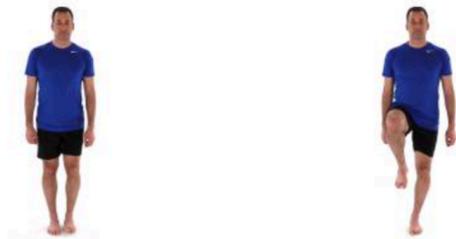
1. Lie on your back with a pillow under your knees and a resistance band tied around your knees.
2. Push your legs outwards until you feel the full resistance of the band (a slight stretch of the band).
3. Hold for 20 seconds, then release.

**** You can also perform this exercise with your feet flat on the floor and knees bent (picture on right).*

You will likely progress at different rates for each set of exercises. That's ok! Find the exercise in each set that is at your ability level, and progress when you are ready.

Day #1: Single Leg Stance Series

Level 1



1. Stand in good posture with your feet close together and your hands at your side.
2. Lift one leg in front of you to 90 degrees keeping your pelvis PERFECTLY STILL. (Putting your hands on your hips and watching yourself in a mirror can help determine if your pelvis is tilting or rotating.)
3. Hold for 20 seconds. Repeat on other side.

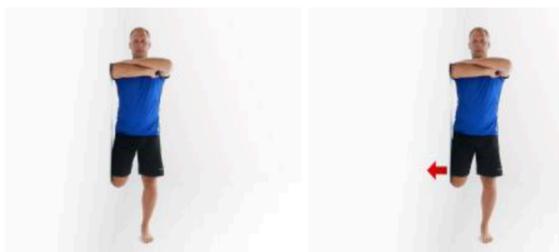
Level 2



1. Stand upright on one leg, with a slight bend in your supporting knee and hands on your hips.
2. Keeping your upper body stable and your kneecap aligned over your second toe, lift your other leg in the following pattern, returning to the starting position between each step:
 - a) out in front of you, b) out to the side, and c) out behind you.

**** See how far you can reach your leg without bending your upper body.*

Level 3



1. Stand next to a wall on one leg, with the floating leg touching the wall.

****Be sure to have the support foot facing forward and your knee cap aligned with your second toe.*
2. Push the knee of the floating leg against the wall, keeping your upper body completely still. Activate your buttock muscles to keep the support leg from rotating or tilting.
3. Hold for 20 seconds. Relax and repeat.

You can make any of these exercises more challenging by standing on a less stable surface (e.g. a thick pillow or BOSU ball).

Level 4



1. Stand on one leg in an airplane position (see picture) with your hips parallel to the floor, knee slightly bent and your hands on the hips.
2. In a slow and controlled movement, rotate your whole body to one side, "opening-up" completely at the hips and pelvis.
3. Slowly return to the initial position and continue the rotation in the opposite direction, "closing" at the hips and pelvis.

**** Be sure to keep your your knee stable (no wobbling) and kneecap aligned over your second toe throughout the entire exercise!*

Day #1: Hip Strengthening with Band Series

13 Level 1



1. Attach a band to your ankle and secure the other end under the leg of a chair.
2. Stand holding the back of a chair.
3. Slowly lift your leg out behind you, while keeping your back straight. Return to the starting position.

14 Level 2a



1. Attach a band to your ankle and secure the other end under the leg of a chair.
2. Keeping your knee straight and toes pointing forward, slowly lift the leg out to the side without turning your foot out or tilting your upper body.
3. Slowly return to the starting position. Keep your hips and pelvis level.

15 Level 2b



1. Same exercise as above, except with the foot rotated outward or inward slightly.

16 Level 3



1. Loop a band around both feet.
2. Keeping one foot heavily anchored to the floor with a slight bend in the knee, slide the other foot out to the side side and tap the floor.
3. Slowly return back to the starting position and repeat.

17 Level 4



1. Using a longer elastic band with a loop on each end, place the band on the ground and step onto it with your feet shoulder-width apart on either side of centre.
2. Cross the band to make an "X" and grip the ends of the elastic with your fists anchored on the sides of your hips. Knees are slightly bent.
3. Keeping your knees bent and your back upright, shuffle to the side 5-10 steps in slow and controlled movements. Repeat in the other direction.

*** Be sure to keep the torso upright, and do not let the pelvis tilt or rotate.

Day #1: Hip Rotator Series

Focus on engaging the hip rotator muscles in the side of the buttock! As you progress, increase the tension in the band.

18 Level 1



1. Lie on your side with both legs slightly bent at the hips and knees.
2. Lift your top leg, keeping your knees bent and your heels together. Your hip should rotate so that your foot and your kneecap are pointing upward at the end of the movement.
3. Slowly return to the initial position and repeat.

19 Level 2a



1. Lie on your side with an exercise band wrapped semi-tightly around your thighs, just above your knees.
2. Lift your top leg, keeping your knees bent and your heels together. Feel the added resistance of the band. Again, your hip should rotate so that your foot and your kneecap point upward at the end of the movement.
3. Slowly return to the initial position and repeat.

20 Level 2b



1. Lie on your back with a band around your knees, knees bent and feet flat on the floor.
2. Slowly spread your knees apart keeping your feet together. Slowly return to the starting position. Repeat.

Day #1: Lateral Plank Series

Level 1



1. Lay on your side with your knees bent and your upper body supported on your forearm.
2. Lift the hips off the floor until you form a straight line with your thighs and torso. Your weight shoulder now be supported on your elbow and knee. Hold for 10 seconds.
3. Lower back to the starting position. Repeat.

Level 2



1. Lay on your side with your knees bent to 90 degrees and your upper body supported on your forearm.
2. Lift the hips off the floor until you form a straight line with your thighs and torso. Your weight shoulder now be supported on your forearm and knee. Hold for 10 seconds.
3. Lift your upper leg by contracting your buttock muscle, still maintaining the alignment of your torso and bottom leg.
4. Reverse the movements and lower back to the starting position. Repeat.

Level 3



1. Lie on your side with your legs straight and your upper body supported by the forearm.
2. Lift the hips off the floor until you form a straight line with your legs and torso. Hold for 10 seconds. Your weight shoulder now be supported on your forearm and feet. Hold for 10 seconds. (You can use your top hand to push into the ground and help lift your pelvis.)
3. Lower back to the starting position. Repeat.

Level 4



1. Lie on your side with your legs straight and your upper body supported by the forearm.
2. Lift the hips off the floor until you form a straight line with your legs and torso. Your weight shoulder now be supported on your forearm and feet. Hold for 10 seconds.
3. Lift your upper leg by contracting your buttock muscle, still maintaining the alignment of your torso and bottom leg.
4. Reverse the movements and lower back to the starting position. Repeat.

Day #2: Warm Up



1. Sit with your back straight and cross one leg over the other.
2. Hold your knee with the opposite arm and pull your knee across your chest towards the opposite shoulder until you feel a stretch on the outside buttock of the bent leg.
3. Hold for 20 seconds.



1. Lie on your back with your thigh vertical and knee bent to 90 degrees.
2. Hold the thigh with both hands, and then slowly straighten the knee until you feel a stretch in your hamstring.
3. Hold for 20 seconds.



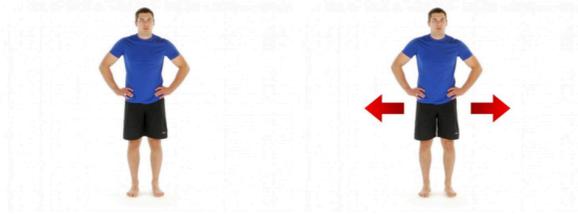
1. Kneel on one knee creating a 90° angle with the opposite hip. (You can use a chair for support.)
2. Tilt your pelvis backwards to flatten your lower back and transfer your weight forward until you feel a gentle stretch on the front of your hip/groin.
3. Hold for 20 seconds, then release. Repeat on other side.



1. Sit on a chair with one foot over the opposite knee in a figure 4 position.
2. Push on your knee downward and lean your upper body forward until you feel a comfortable stretch in your buttock.
3. Hold for 20 seconds, then release. Repeat on other side.



1. Place your foam roller on the floor.
2. Roll the entire outside of your thigh from your pelvis to your knee in an up and down motion.
3. Maintain your abs tight and proper low back posture during the exercise.



1. Stand with your feet slightly wider than shoulder width.
2. Contract the muscles on the side of your hips as if you were trying to push your feet sideways. There should be no actual movement.
3. Hold for 20 seconds, then release.



1. Lie on your side, knees and hips slightly bent, with a pillow or two between your knees (you may also place a pillow underneath your head and your hip for support).
2. Lift the top leg just barely above the pillow.
3. Hold for 20 seconds, then release.

**** This can be made more difficult by keeping the upper leg straight, or adding a weight around the ankle.*

Day #2: Single-Leg Squat Series

Don't be discouraged if initially you have difficulty supporting your weight in a squat position. Lower yourself as far as you can - you will progress as your leg muscles strengthen.

Level 1



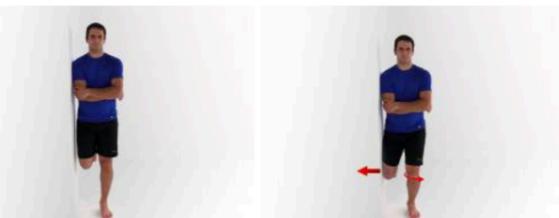
1. Stand on one leg, with the supporting knee slightly bent and both arms extended in front of you for balance.
 2. Keeping your knee stable and aligned over your foot, slowly push your hips backward as if you're going to sit down in a chair.
- *** As you progress, you will be able to lower yourself further. Do not let your knee bend past 90 degrees.*
3. Slowly return to the starting position. Make sure your hips and pelvis stay level and do not tilt or rotate.

Level 2



1. Using a loop of elastic band, step on the band with one foot and hold the band in the same hand with the arm down at your side. Lift the opposite foot so you are standing on one leg.
 2. Keeping your body upright and pelvis level, slowly bend your supporting knee as you push your hips backwards.
- *** The band should be short enough so that it maintains tension throughout the entire movement.*
3. Slowly return to the starting position and repeat.

Level 3



1. Stand next to a wall on one leg, with the supporting knee slightly bent and the floating knee/thigh pressed firmly against the wall (see picture).
2. Maintaining the pressure against the wall, slowly lower yourself with the supporting leg. The knee should be kept stable (no wobbling) and the pelvis kept level.
3. Slowly push yourself back up to the starting position.

Day #2: Lateral Straight Leg Raise Series

Level 1



1. Lie on your side with your bottom leg bent at the knee and your top leg straight.
2. Lift up your top leg to 45 degrees, keeping and your pelvis stable.
3. Slowly lower your leg back to the starting position. Repeat.

*** As you lift your leg, you can keep your foot pointing forward, or gradually rotate your hip so that your foot is pointing upwards at the end of the movement.
 *** Focus on engaging your lateral gluteal muscles on the side of your buttock.

Level 2



1. Lie on your side with your knee and hip slightly bend.
2. Contract your buttock muscles and lift your upper leg 8-10 inches off the ground. Keeping your knee straight, draw circles - 10 forwards, 10 backwards - with your foot.
3. Relax and repeat.

*** You can vary the size of the circles, or experiment with various patterns (shapes, letters of the alphabet, tapping your heel and toe to the ground, etc.)

Level 3



1. Lie on your side with your bottom knee bent and your body supported by your forearm and knee. Your torso is straight, in-line with your thighs, and your top leg is straight.
2. Lift your top leg parallel to the floor and draw circles with your entire leg, toes pointing outward and slightly upward. Draw 5-10 circles in each direction.

***Keep your pelvis/torso stable and held in a straight line. Try not to sag or rotate at the hips.

Day #2: Fire Hydrant Series

Level 1



1. Lie on your side with your hips and knees slightly bent.
2. Keeping the leg slightly bent and the pelvis stable, lift the upper leg and rotate at the hip until the foot and the knee cap are pointing upward.
3. Slowly return to the initial position and repeat.

*** You can make this more challenging by adding a weight around the ankle.

Level 2



1. Start your hands and knees with your back flat, and your hips and knees bent at 90 degrees.
2. Keeping your knee bent, raise one leg out to the side and hold for 5 seconds. Keep your pelvis and shoulders parallel to the floor.
3. Return to the starting position and repeat.

*** Level 3: Repeat this exercise with an elastic band tied between your ankles. The tension in the band can be adjusted as needed.

Day #2: Hip Extensor Series

Level 1



1. Lie on your back with your knees bent and feet flat on the floor.
2. Contract your buttocks to lift your hips off the ground until your trunk is aligned with your thighs. Keep your core engaged with your belly button pulled inward toward your spine.
3. Hold for 10 seconds. Slowly return to the starting position. Repeat.

Level 2



1. Same exercise as above, but keep your arms crossed over your chest.

Level 3



1. Lie on your back with a small ball (e.g. soccer ball) between your bent knees.
2. Keeping the ball held tight between your knees, squeeze your buttocks together to lift your pelvis off the ground. Lift your pelvis until your thighs are in line with your upper body. Keep your back flat.
3. Hold for 3 seconds. Slowly return to the starting position.

Level 4



1. Lie on your back with your knees bent and one leg crossed over the other with the ankle resting on the other knee.
2. Squeeze your buttocks together to lift your pelvis off the ground. Lift your pelvis until your thighs are in line with your upper body. Keep your back flat.
3. Hold for 3 seconds. Slowly return to the starting position.

Level 5



1. Follow Level 1, Steps #1 & #2.
2. Lift one leg off the ground and straighten the knee. Draw 1-5 small circles in the air in each direction (clockwise and counter-clockwise).
****Be sure to keep the pelvis stable while drawing these circles.*
3. Repeat with the other leg.

**** As you progress, you can trace different patterns (e.g. figure-8, A-Z, numbers 1-9) and hold the position for longer intervals.*

Level 6



1. Lie on your back with one knee bent to 90 degrees, and the other leg extended out away from you with the knee straight.
2. Keeping your core engaged with your belly button pulled inward toward your spine, lift your pelvis off the ground as high as possible.
3. Hold for 5 seconds. Slowly return to the starting position. Repeat with the other leg

**** As you progress, perform this exercise with your arms crossed over your chest.*