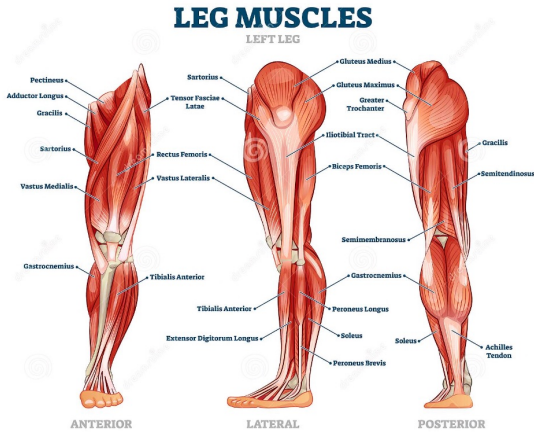


Muscles of The Upper Leg



There are many muscles within your upper leg from your hip bones to your knee! Due to mass amount and size of your leg muscles, they have a tendency of feeling tight or sore based on your physical activity throughout the day! Simple stretches and exercises to bring attention to some of the biggest leg muscle groups can significantly help with pain and tightness.

QUADRICEPS FEMORIS MUSCLE GROUP

The quadriceps (or commonly called “quads”) are located on the upper half of the leg and help to flex the hip and extend the knee. There are four individual muscles that make up the Quadriceps group.

Rectus Femoris

This muscle originates on the pelvis and travels down the femur to insert on the knee cap (or patella). This muscle helps to flex the hip to lift the leg as well as extend the knee.

Vastus Lateralis

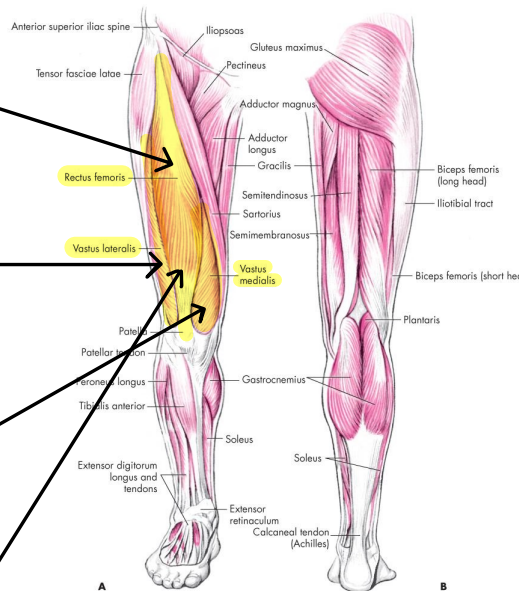
This muscle also inserts on the pelvis but travels along the side of the femur to attach on the outer side of your knee. This muscle works with the other quadriceps muscles to flex at the hip to extend the knee

Vastus Medialis

This muscle originates on the femur and inserts on the inner side of the knee cap. It runs along the inner thighs to flex the hip to lift the leg as well as extend the knee.

Vastus Intermedialis (not seen)

This muscle is deeper within the quadriceps muscle group, so it cannot be seen in an image like the one to the right unless the Rectus Femoris is split in half. This muscle also helps to flex the hip and extend the knee.



Quadriceps Strengthening Exercises

Forward Lunge



To being a forward lunge, start with both feet standing hip width apart. With one foot, step forward far enough so that your front knee is at a 90° angle. Push down into the group while engaging your core to bring your lunging leg back to the starting position and bringing your upper body back to standing. Hold onto a chair or counter if extra stability is needed!

Heightened Knee Extension



In a heightened knee extension, begin with one leg stable on the ground and another leg slightly raised on a stable surface such as a board, a yoga block, or even a book. Engage the core as you step up on the raised leg while squeezing the working (raised) quadricep group. Slowly lower the raised leg back down to the ground, and continue with 4-6 repetitions.

Laying Extended Leg Raise



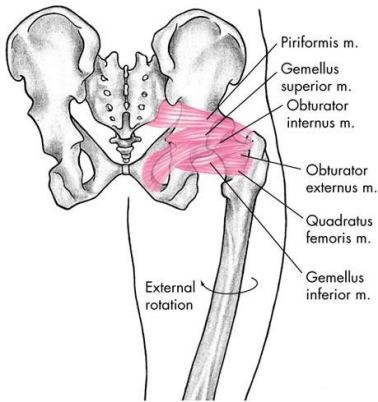
While laying on your back in a supported position with your torso and head raised, extend both legs in front with toes facing up to the sky. Squeeze both your core and quadriceps muscles to raise one leg to a 45° angle relative to your other leg. Slowly lower the leg back down and repeat the other side. Repeat both sides 4-6 times.

Seated Knee Extension



In a seated position on the floor or on a yoga mat, bend on knee up to your chest for support. With the other leg, slightly bend your knee so that only your heel is touching the ground. Flex your hamstring muscles to extend your knee and hold the contraction for 5-10 seconds. Release the muscle to go back to the initial position, and repeat other side.

SIX DEEP LATERAL ROTATOR MUSCLES



The rotator muscles within the hip joint help to externally rotate your femur within the socket of the femur. This muscle group includes six separate muscles; the Piriformis, the Gemellus Superior, Gemellus Inferior, Obturator Extremes, Obturator Internus, and the Quadratus Femoris. These muscles can become tight if you are seating or have your legs crossed for too long, so the stretches and exercises below are great to help relax and extend these muscles!

Rotator Muscles Exercises and Stretches

Seated Leg Cross



Seated in a supportive chair and in an upright position, raise one leg and place that ankle over the opposing knee, Try to release any tension in the hip of the crossed leg to allow more range of motion for the stretch. To increase intensity, press down on the knee of the crossed leg. To decrease intensity of the stretch, cross knee completely over the supportive knee. Hold for 20-30 seconds.

Seated Leg Extension



To begin this stretch, sit in a supportive chair with both legs in front. Remain stable in the core and shift your body to one side of the chair. Extend the outside leg back into a lunge while remaining seated with the opposite leg. To feel the stretch within the deep rotator muscles and the deep hip flexors, push your heel away from your body while remaining stable in your upper body. Hold the stretch for 15-20 seconds. Slowly return to a seating position and repeat on the other side.



For this exercise, begin with a resistance band around your lower thighs. While keeping your legs firmly placed on the ground, pull the band apart by moving your knees outward, or what's also known as abduction. Once you have reached your fullest contraction, slowly bring your knees back together and repeat 6-8 times.

Seated Knee Abduction

HAMSTRING MUSCLE GROUP

The hamstring muscle group includes three separate muscles on the back side of your upper leg. Through all three muscles, this group helps to extend at the hip (to cause your leg to go back) and your knee to flex (or bend).

Semimembranosus

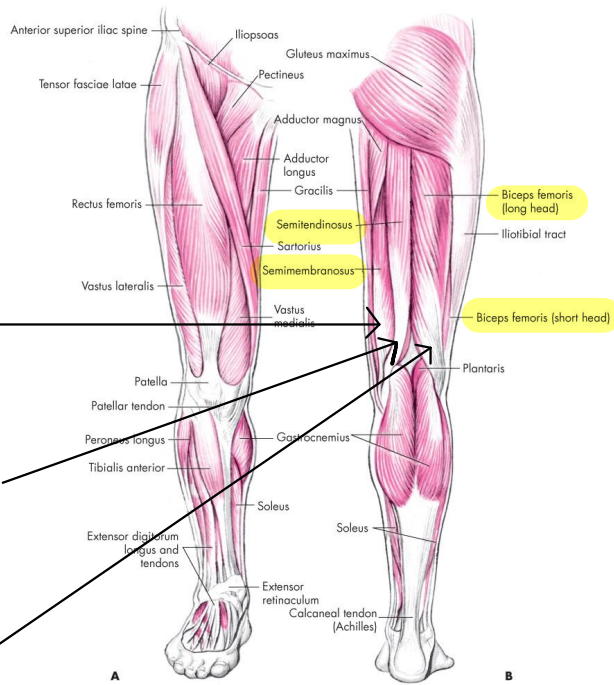
This muscle is deep within the collection of hamstring muscles and connects the inner hip bones to the inner knee and femur. This helps to extend and internally rotate the hip and flex and internally rotate at the knee.

Semitendinosus

This muscle lays slightly on top of the Semimembranosus, but attaches and originates at the same points. It also does the same actions as it extends and internally rotates the hip and flexes and internally rotates the knee.

Biceps Femoris

This muscle is located on the posterior side of your leg and connects the inner hip bones to the outer knee. It has two “heads” of the muscle, meaning that it also attaches on your femur in addition to your hip. This muscle helps to extend and externally rotate the hip as well as flex and externally rotate the knee.



Hamstring Exercises and Stretches

Seated Toe Reach



To begin this stretch, sit on a supportive chair or on the ground. If you are in a chair, be sure to put another chair or supportive surface a leg’s distance away from you. While keeping one foot planted on the ground, raise your leg to the supportive surface away from you, or on the ground in front of you. On the same side as the leg you raised, reach your hand towards your toes. Hold this stretch for 10-15 seconds and rest. Repeat this stretch 2-3 for best results.

Laying Knee Flexion



In this exercise, begin laying on your stomach with your head rested on your forearm. Have both legs extended straight behind you with the tops of all 10 toes touching the ground. With one leg, slowly bend your knee and raise your foot towards your glutes, hold for 3 seconds, and lower back down to the floor. Repeat this 6-8 times on both legs.

Standing Toe Reach



This stretch is very similar to the Seated Toe Reach stretch but standing! Begin standing a leg's distance away from a bench, chair, or bed. Remaining stable, lift one leg so that it is raised up on the bench. Once your leg is placed, be sure your hips are level and knees are slightly bend for stability. Reach with the same-side hand towards your toes and hold for 10-15 seconds. Repeat this stretch on both sides 2-3 times.

Seated Stretch using Band



This stretch is just like the one we do in our Moving Through Parkinson's classes! Begin by sitting upright in a supportive chair. Place a stretchy band around the toes of one foot and gently raise your leg using the band. Hold for 10-15 seconds and lower slowly to place the lifted heel to the group. Repeat 3-4 times. You should feel the stretch through the bottom of your glutes though your upper leg to your knee.

