

# MPT EXERCISE PROGRAM

## EXERCISE 1: STATIC QUADRICEPS SET WITH EXTENSION MOBILIZATION



Purpose: To strengthen your thigh muscles and regain the ability to straighten your knee.

1. Sit on a mat supported by your hands or elbows with the leg to be exercised out straight and the other leg bent.
2. Place the heel of the leg to be exercised on a rolled towel so that the calf is slightly off the mat.
3. Pull your foot back towards your face.
4. Tighten your thigh muscle and push your knee down towards the mat.
5. Hold for 10 seconds while breathing normally. Repeat x 10.
6. If you are strengthening both legs you may alternate left and right.
7. To progress this exercise add more repetitions or another set.

## EXERCISE 2: REPEATED KNEE EXTENSION CHALLENGES



Purpose: To improve the ability to straighten your knee.

1. Sit on a mat supported by your hands or elbows with both legs out straight.
2. Bend the knee of the leg to be exercised slightly and then push the leg back out as straight as possible by tightening your thigh muscle and pushing the knee down. *If possible your heel should come up as the knee goes down.*
3. Hold your thigh tight and knee down for 3 seconds then bend your knee again and repeat.
4. Perform for 30 seconds total or for 10 repetitions.
5. Rest for 1 minute and then perform another 10 repetitions.
6. When you have completed both sets you may go to the next exercise or perform these exercises with the other leg.

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## EXERCISE 3: REPEATED KNEE FLEXION CHALLENGES



Sit on a mat supported by your hands or elbows with both legs out straight.

1. Bend the knee of the leg to be exercised slightly and then bend the knee further by bringing your heel as close as possible to your buttocks.
2. Add a gentle pull with your arms around your lower leg to the point of feeling a gentle to moderate stretch in the knee.
3. Hold for 3 seconds.
4. Relax and return your knee to the partially bent position.
5. Fully bend your knee again and hold for 3 seconds.
6. Perform this cycle for 30 seconds total or for 10 repetitions.
7. Rest for 1 minute and then perform another 10 repetitions.
8. When you have completed both sets you may go to the next exercise or perform these exercises with the other leg.
9. If this exercise is painful use less pulling force to bend the knee.

## ALTERNATIVE TECHNIQUE: REPEATED CHALLENGES TO KNEE FLEXION WITH A TOWEL OR STRAP



1. If you have trouble reaching your leg to perform the repeated challenges to knee flexion, you may use a towel or strap and lay flat on your back.
2. Pull to the point of producing a well tolerated gentle to moderate stretch in the knee.

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## EXERCISE 4: DOUBLE LEG MINI SQUAT



Purpose: To strengthen the hip and thigh muscles and to regain the ability to fully straighten the hips and knees.

1. Stand straight holding the back of a chair or a solid stair post.
2. Point both feet straight forward.
3. Squat partially keeping your trunk upright, your knees centered over your feet and your buttocks pointed slightly backwards.
4. Return to the starting position by powerfully contracting your buttocks and anterior thigh muscles.
5. When you are in the full upright position, continue to hold the contraction for another 3 seconds attempting to straighten the hip and knees as fully as possible.
6. Repeat 10X or until fatigued.
7. Progress this exercise by increasing the number of repetitions or adding another set.



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## EXERCISE 5: SINGLE LEG MINI SQUAT



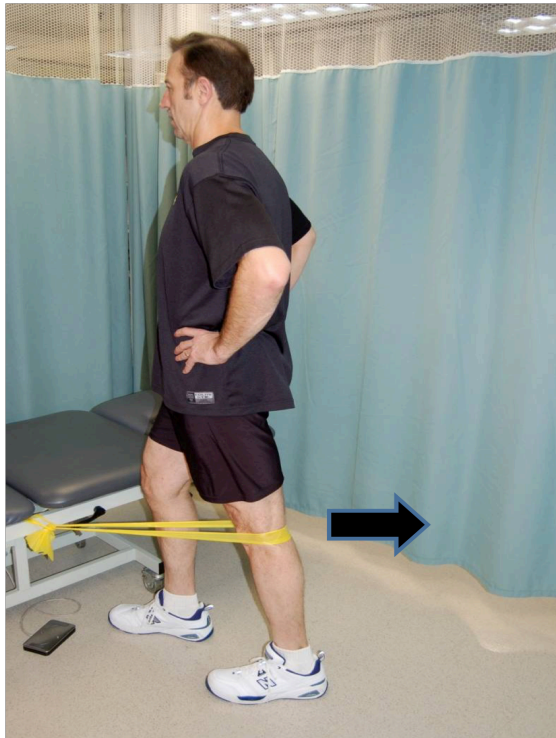
Purpose: To strengthen the hip and thigh muscles and to regain the ability to fully straighten the hips and knees.

1. Stand straight holding the back of a chair or a solid stair post.
2. Point both feet straight forward.
3. Lift the leg not to be exercised off the floor by bending the knee.
4. Squat partially on one knee by keeping your trunk upright, your knee centered over your feet and your buttocks pointed slightly backwards.
5. Return to the starting position by powerfully contracting your buttocks and anterior thigh muscles.
6. When you are in the full upright position, continue to hold the contraction for another 3 seconds attempting to straighten the hip and knee as fully as possible.
7. Repeat 10X or until fatigued.
8. Progress this exercise by increasing the number of repetitions or adding another set. You can also remove your hand from the chair for a balance challenge.
9. If this exercise is painful decrease the distance that you are squatting or slightly point your foot in or out.



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## EXERCISE 6: TERMINAL KNEE EXTENSIONS



Purpose: To strengthen the hip and thigh muscles and to regain the ability to fully straighten the hips and knees.

1. Securely fasten an elastic band loop around a solid object at about knee height.
2. Wear supportive shoes and place the band around the knee of the leg to be exercised.
3. Take a step backwards and bring the leg back until the band is tight, keeping the other leg forward for balance.
4. Standing upright, slightly bend the knee then contract the hip and thigh muscles to return the knee to the straight position.
5. Hold this position with the muscles tight for 3 seconds while pushing the hip and knee to the fully straight position then slowly return the knee to the bent position.
6. Perform 10X or until the muscles are fatigued.
7. Progress this exercise by performing more repetitions, adding another set, or using a stronger elastic band.

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## EXERCISE 7: HAMSTRING STRETCH



Purpose: To increase flexibility in your hamstring muscles.

1. Lay flat on your back with both legs extended.
2. Bring the thigh of the leg to be exercised  $\frac{1}{2}$  way to your chest so that your knee points straight up.
3. Keep the hip and knee of the opposite leg straight with the foot pointed straight up.
4. With both hands behind your thigh, straighten the knee until there is a gentle stretch in the back of your thigh.
5. To increase the intensity of the stretch pull your foot towards your face.
6. Hold the position for 30-60 seconds while breathing normally.
7. Repeat 3X.
8. If you are exercising both legs you may alternate stretches of the left and right leg for a total of 3 stretches each.

## EXERCISE 8: CALF STRETCH

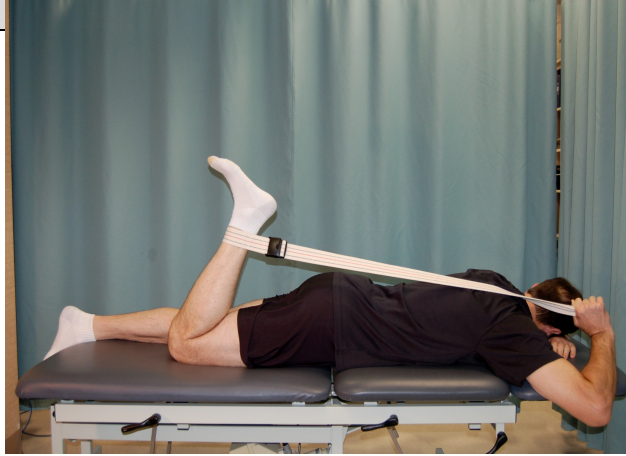


Purpose: To decrease tightness in the calf muscles.

1. Wear supportive shoes and stand with both hands shoulder height on a wall.
2. Put the leg to be stretched behind you with the foot flat on the floor pointing straight forward and the knee straight.
3. Place the opposite foot close to the wall.
4. Lean forward until there is a gentle to moderate pull in the calf muscles.
5. Hold 30-60 seconds while breathing normally.
6. Repeat 3X.
7. If you are stretching both legs you may alternate left and right.

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## EXERCISE 9: QUADRICEPS AND HIP FLEXOR STRETCH



Purpose: To increase flexibility in the quadriceps muscles.

1. Lay on your stomach with a strap or 2 linked belts around your foot.
2. Your physical therapist may guide you to use a small pillow under your stomach or a rolled towel under the front of your pelvis to prevent back pain.
3. Keep your legs together.
4. Bend the knee of the leg to be exercised slightly then bring the strap over your shoulder and pull with one or both arms until there is a gentle to moderate pull in the front of the thigh.
5. Do not use your hamstring muscles to bend the knee as this causes cramping in the back of your thigh.
6. Do not reach for the ankle with your hand as this causes twisting of the back.
7. Hold the stretch for 30 to 60 seconds while breathing normally.
8. Repeat 3X and then if needed stretch the other leg in the same manner.
9. If this stretch causes lower back pain try to keep your spine straight by putting a pillow under your stomach, rolling your pelvis slightly posterior, and/or pulling more gently on the strap.
10. If having your knee against the mat causes knee pain try using a pad under your thigh above the knee.