**PATELLOFEMORAL PROTOCOL STRENGTHENING EXERCISES**

**Quad Set**
Tighten the front thigh muscles (quadriceps) keeping the knee as straight as possible. Concentrate on contracting the inner quad muscle (VMO). Hold as tight as possible for 5 seconds, then completely relax the muscle.

Reps_________  Sets__________  Tempo______

**Straight Leg Raise**
Lean back on you elbows with your involved leg straight out and uninvolved bent. Keeping you leg straight, toes pulled towards shin, tighten VMO then lift your heel 12 inches. Hold for 5 seconds, then slowly return to starting position.

Reps_________  Sets__________  Tempo______

**Inside Leg Raise**
Lie on your side, with the uninvolved leg on top. Place the top foot just in front of the involved knee. Straighten the involved knee, pull the foot toward shin, tighten the VMO then lift the leg toward the ceiling. Hold for 5 sec, and then slowly return to the resting position.

Reps_________  Sets__________  Tempo______

**Calf Raises**
Stand with weight equally distributed on both feet. Push through toes to lift heels off floor. Hold for 5 seconds and then slowly lower to the resting position.

Reps_________  Sets__________  Tempo______

(Continued)
Squat

Stand with feet hip width apart and feet oriented forward. Begin movement by squatting down with hips going back and chest going forward like your sitting in a chair. Knees in alignment with, but do not go past your second toe. Do not allow knee to collapse inward, excessive arching in low back, and descend until hip height is even with the knees. Return to starting position.

Reps_________ Sets__________ Tempo______

Lunge

Stand with feet apart with involved leg forward. Align hip and knee with second toe. Maintaining a straight spine slowly lower the uninvolved knee to the ground pausing just before the floor. Do not allow knee to go beyond the second toe. It is important to keep a good arch in the foot and avoid having the knee collapse inward. Slowly return to the starting position.

Reps_________ Sets__________ Tempo______

Clam

Lie on uninvolved side with knees bent and band around knees. Keeping heels together rotate involved knee toward ceiling. Take careful consideration not to roll top hip or trunk. Hold contraction for 5 sec and slowly return to starting position.

Reps_________ Sets__________ Tempo______

(Continued)
**Single Leg Balance**

**Knee Straight**

Stand on involved knee. Focus on maintaining a neutral position in the arch of your foot. Maintain a forward orientation of your entire leg, avoiding inward rotation of the leg and collapsing of the foot.

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<th>Reps</th>
<th>Sets</th>
<th>Hold</th>
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**Knee Bent**

Start exercise with band behind slightly bent involved knee. Weight equally distributed between both feet with hip and knee aligned with second toe. Push through heel, tighten the quadriceps, and straighten the knee. Hold the contraction for 5 sec and slowly return to the starting position.

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**TKE**

**Start**

**Finish**

Stand on involved knee. Focus on maintaining a neutral position in the arch of your foot. Maintain a forward orientation of your entire leg, avoiding inward rotation of the leg and collapsing of the foot.

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**Step downs**

Stand on edge of step with involved leg, slowly perform single leg squat until uninvolved foot touches floor, slowly straighten involved knee, squeezing quad through the whole motion.