

## Patellofemoral Stretching and Strengthening Home Exercise Program

### Stretching

All stretches should be completed as 3 sets of 30 seconds, unless otherwise instructed. Lower extremity stretching should be completed 2-3 times per day. These stretches should be performed on both lower extremities following a good warm-up.

### **Gastrocnemius (Calf) Stretch**

**Seated** – Wrap a towel or rope around the bottom of the foot near the toes. With your knee completely straight, pull your toes towards your body until a stretch is felt in the back of the lower leg.

**Standing** – Standing at a solid surface with your knees completely straight and your toes propped up, move your hips forward until a stretch is felt in the back of the lower leg.



### **Soleus (Calf) Stretch**

**Seated** – Wrap a towel or rope around the bottom of the foot near the toes. With a slight bend in your knee, pull your toes towards your body until a stretch is felt in the back of your leg near the ankle.

**Standing** – Standing at a solid surface with a slight bend in your knee and your toes propped up, move your hips forward until a stretch is felt in the back of the lower leg.



### Hamstring Stretch

**Supine** – Wrap a towel or rope around the bottom of the foot near the toes. With your knee completely straight, begin to lift your leg in the air until a stretch is felt along the entirety of the back of your leg.

**Standing** – Rest your heel on top of a chair or other raised surface. With your leg and back completely straight, bend at the knee and waist and bring your chest down until a stretch is felt along the entirety of the back of your leg.



### Quadriceps Stretch

**Prone** – Lying on your stomach, wrap a towel or rope around your foot. Pull your heel towards your bottom until a stretch is felt in the front of your thigh.

**Standing** – Prop your foot on a chair between knee and waist height so that your knee is bent about 90°. Hold something in front of yourself for balance and squat slightly on the leg you are balancing on. Continue to lower yourself until a stretch is felt in the front of your thigh.



### Hip Flexor Stretch

**Standing** – Standing in a split leg position, with your feet firmly planted on the ground, allow your back hip to push forward until a stretch is felt in the hip. A slight arch in the back can sometimes help with the stretch.

**Kneeling** – While kneeling on the floor or a mat, get into a lunge position. Place your hands on your waist, and bring your hips forward until a stretch is felt in the front of the back hip.



### Iliotibial Band (ITB) / Tensor Fasciae Latae (TFL) Stretch

**Standing** – With one leg crossed behind the other, and while holding on to something for support, gently push the hip of the leg in back away from your support. The stretch should be felt along the outside of the leg being pushed away from the support.

**Supine** – With a towel or rope around the bottom of the foot near the toes, lay on your back with your leg in the air completely straight. Allow this leg to slowly cross your body until a stretch is felt along the outside of the hip and leg.



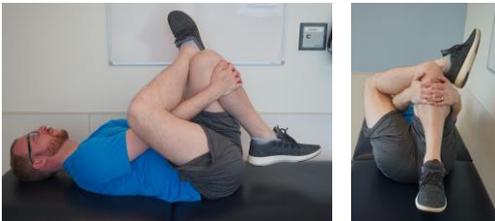
### Butterfly Stretch

**Seated** – While seated, bend your knees and place the bottoms of your feet together. Rest your elbows on your knees and apply pressure until a stretch is felt along the inner thighs.



### Piriformis Stretch

While lying on your back, cross one leg over the other so that your ankle is resting on the other knee. Grab both hands in front that knee and pull it up towards your chest. Perform this until a stretch is felt across your bottom and into your back.



### **Strengthening**

All exercises should be completed as 3 sets each of 30 seconds, unless otherwise noted or instructed. Patellofemoral exercises should be completed 1-2 times per day, 5 days a week. These exercises should be performed on both sides following a good warm-up.

### **Planks**

**Front** – Lay on your stomach. Raise up on your elbows and toes to bring your hips off of the ground. Maintain a straight line posture from head to toe.

**Side** – Lay flat on your side. Raise up on your elbow and side of your foot to bring your hip off of the ground. Maintain a straight line posture from head to toe and complete on both sides.

**Reverse** – Lay flat on your back. Raise up on your elbows and heels to bring your hips off of the ground. Maintain a straight line posture from head to toe.



### **Hip Abduction Circles**

Lay on your side and lift your leg straight in the air. In this position, draw circles in a clockwise and then counterclockwise direction; 30 times in each direction. Perform this on both legs.



### **Leg Lifts**

**Front** – Lay on your back propped up on your elbows with your hips, knees and ankles in line. Raise your foot towards the ceiling until a 45 degree angle is created at the hips, and then slowly lower back down. Progress this exercise by adding a cuff weight to the knees or ankles.

**Side** – Lay on your side with shoulders, hips and knees all in a straight line. Raise your foot towards the ceiling with your toe pointed forward and your knee straight. Lift until a 45 degree angle is created at the hips, and then slowly lower back down. Progress this exercise by adding a resistance band or cuff weight to the knees or ankles.



### Clam Shells

Lay on your side with your hips and knees bent to 45 degrees so that your heels are in line with your bottom. Keep your ankles touching, and lift your top knee towards the ceiling as high as you can. Slowly lower your knee back down. Do not allow your top hip to roll backwards throughout this motion. Progress this exercise by adding a resistance band at the knees.



### Terminal Knee Extensions

Seated with the legs hanging and knees bent to 90°, attach a weight to one ankle. Fully extend that knee so the leg is straight, squeeze the quad muscle, and then slowly lower back down to the starting position.



### Bridges

Lay on your back with your hands on the ground beside you. Then bend your knees and place your feet flat on the floor, shoulder width apart. Raise your bottom off the ground with a straight back, maintaining your shoulders on the ground. Hold for 10 seconds and then lower back down to the ground. Perform this exercise as three sets of ten. Progress this exercise by lifting one foot off of the ground during the lifts.



### Lunges

Standing with your hands on your hips and your feet shoulder width apart, take a step forward and lower yourself in a controlled fashion. Allow your back leg to lower to a point just before it touches the ground. Allow your lead leg to lower to a 90° angle if possible. Step backwards and return to your starting position. Then follow this same motion with the opposite leg.



### Sit-Ups / Crunches

Lay on your back with your knees bent, feet flat on the ground, and your arms by your side. Use your stomach muscles to curl yourself up and lift your shoulder blades a few inches off the ground. Lower yourself back down slow and controlled. Do your best to maintain a neutral head/neck posture and not strain yourself.



### Single Leg Squats

Start standing on one leg with the same side hand holding a table or chair for stability. Slowly perform a single leg squat, lowering yourself to a comfortable point. In a controlled fashion raise yourself back to the start position. Be sure to keep your knee in line with your lower leg, and don't allow your knee to move beyond your toes. After one set, repeat on the other leg.



### Supermans

Lay on your stomach with your legs straight and your arms reached out over your head. Squeeze your buttocks and shoulder blades together to lift your legs and arms off the ground. Your body should resemble a crescent moon. Hold this position for 10 seconds and then lower slowly. Perform this exercise as three sets of ten.

