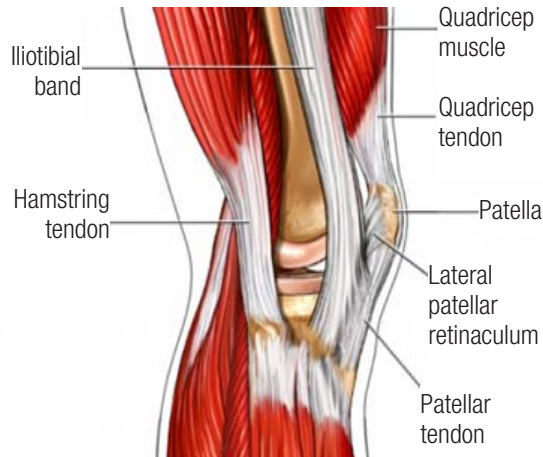


## INFORMATION GUIDE

# Patellofemoral Pain Syndrome



## WHAT YOU MAY EXPERIENCE

- Dull achy pain along the inner aspect or just below the kneecap.
- Pain with hills or using stairs.
- Worse after prolonged sitting with the knees bent.
- Cracking in the knee or dull achy pain.
- Knee may want to “catch” or feel like it wants to give out.

## POSSIBLE SOURCES

- **CHONDROMALACIA PATELLA:** Roughening or softening of the cartilage under the patella caused by the kneecap not tracking properly.

## CONTRIBUTING FACTORS

- Mechanical conditions including wide hips (females), knock knees, patella alta (high patella), and subluxating patella.
- Weakness of the quad, especially the VMO (Vastus Medialis Oblique Muscle), which runs along the inner aspect of the thigh and connects at the knee, as well as the gluteus medius muscle.
- Overuse or an increase in hill running or stair use.
- Over pronation of the foot.

## EXCESSIVE PRONATION

- Pronation is a normal movement of the foot that allows the arch to flatten to a degree, which helps the body to absorb shock and adapt to different ground surfaces.
- If the foot is weak or tired and/or the footwear is not supportive, then the arch can flatten more than normal, which is excessive pronation.
- Flattening of the arch (excessive pronation) increase stresses on the foot, which can further contribute to ankle, knee, hip and low back problems (a chain reaction).

## QUICK FIX

The **3 S's - Stretching, Strengthening, and Supporting**, along with ICE and REST have been found to be the simplest and most effective for these injuries:

1. **Stretching** of the hamstring, quad, calf and IT Band will help to decrease pressure at the kneecap (*see reverse side*).
2. **Strengthening** of the quad, especially the VMO (vastus medialis oblique muscle) will help the kneecap to glide more correctly through the groove at the knee joint (*see reverse side*).
3. **Supporting** the foot with proper shoes and insoles can prevent or help to eliminate the vast majority of lower extremity problems due to faulty biomechanics. You may consult with your Sports Medicine Physician or Sports Medicine Physical Therapist for guidelines about this. They can guide you to an appropriate running store.

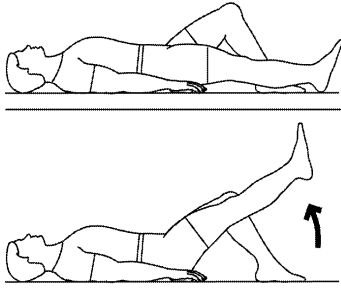
## FOLLOW-UP

If these quick fixes do not help resolve your problem:

1. Consult with your medical practitioner: Primary Care or Sports Medicine Physician.
2. Referral to Physical Therapist where a combination of manual therapy & specific exercises may help resolve your problem.
3. If damage is significant, you may be referred to an Orthopedic Surgeon.

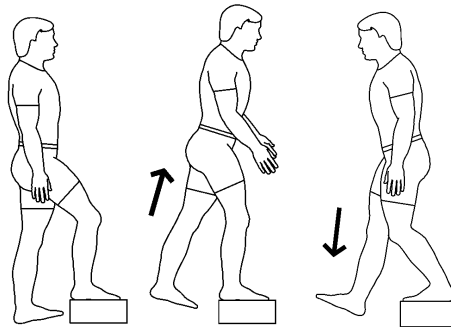
# Patellofemoral Pain Syndrome Exercises

## 1. STRAIGHT LEG RAISE & MUNCIE STRAIGHT LEG RAISE



Tightened muscles on front of thigh then lift leg 6" from surface. Keep knee locked.  
 Keeping leg straight turn toes outwards. Tightened muscles on front of thigh then lift leg 6" from surface. Keep knee locked.  
 Hold 10 seconds. Repeat 10 times

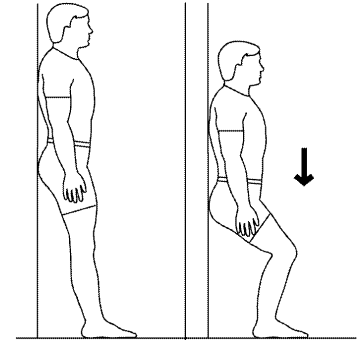
## 2. STEP UPS/DOWNS



From floor level, place right/left foot on step. Step up slowly for a 3 count. Return with 3 count to start position.  
 Repeat 10 x for 2-3 sets

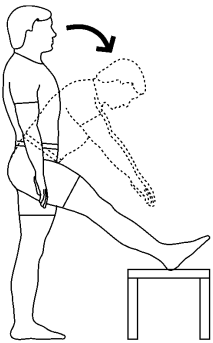
Stand on step and slowly lower right/left foot to the floor. Stepping backward, slowly return to start position.  
 Repeat 10 x for 2-3 sets

## 3. WALL SLIDE



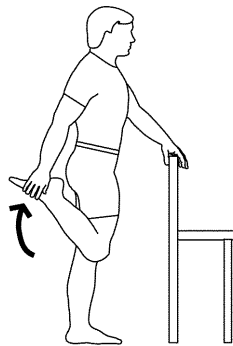
Leaning back and shoulders against wall, slowly lower buttocks until thighs are parallel to the floor.  
 Hold 10 seconds. Repeat 10 times.

## 4. HAMSTRING STRETCH



Place foot on stool (hold on to the back of a chair if needed). Slowly lean forward keeping back straight, until stretch is felt in back of thigh. Not necessary to touch toes.  
 Hold 30 seconds. Relax.  
 Repeat 3 times on each side.  
 Do 1-2 sessions a day.

## 5. QUADRICEPS STRETCH



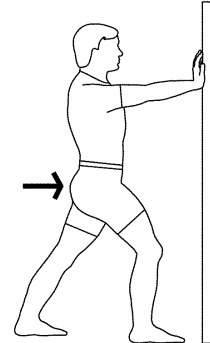
Pull heel toward buttock until a stretch is felt in front of thigh. Move bent knee behind hip to maximize stretch. DO NOT JACK-KNIFE FORWARD.  
 Hold 30 seconds.  
 Repeat 3 times.  
 Stretch after warm up and after cool down.

## 6. IT BAND STRETCH



Cross right/left leg over the other, then lean to the right/left until a stretch is felt over the outside of hip.  
 Hold 30 seconds.  
 Repeat 3 times.  
 Stretch after warm up and after cool down

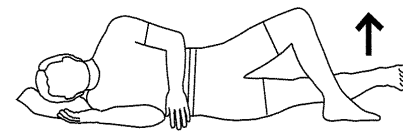
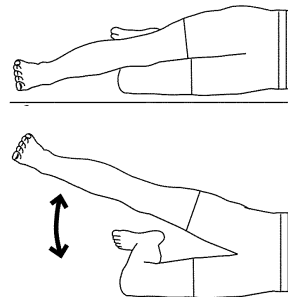
## 7. CALF STRETCH



Stand with involved foot back, and leg straight. Keeping heel on floor and turned slightly outward, gently lean into wall until stretch is felt in calf. Hold 30 seconds.  
 Then bend both knees until a stretch is felt lower in calf.  
 Hold 30 seconds.  
 Repeat 3 times on each side.

## 8. HIP ABDUCTION

Lie on floor, on either right or left side, with back and shoulders against wall. Keep toes pointing forward. Lift right/left leg 8-10 inches from floor. Bring leg back down, keeping it from touching down completely between repetitions.  
 Repeat 10 times per set.  
 Hold for 10 seconds each.  
 Do 1 to 2 sessions per day.



Lie on floor, on either right or left side, with back and shoulders against wall. Cross top leg over bottom leg. Keep toes pointing forward. Lift right/left leg 4-6 inches from floor. Bring leg back down, keeping it from touching down completely between repetitions.  
 Repeat 10 times per set.  
 Hold for 10 seconds each.  
 Do 1 to 2 sessions per day.

Sports Medicine is available for questions. Please call 616.252.7778 to speak with a member of our care team or to schedule an appointment.