

Exercises that Can Help Prevent Patellofemoral Pain Syndrome in Overweight Adults

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Abstract: *Patellofemoral pain syndrome is pain at the front of knee around kneecap (patella). It is sometimes called 'runner's knee' as it is more common in people who participated in sports that involve running and jumping. The knee pain become worse when kneeling, squatting, ascending or descending stairs climbing, sitting for long period of time. The skeletal structure of the knee is simple. The kneecap is attached to the bottom part of the femur and the top part of the tibia. The network of connective tissue around it isn't so simple. This connective tissue helps the knee hinge and protects its structure. PFPS often involves inflammation or irritation of some of that connective tissue. An exercise program designed to improve fitness is essential for most adults.*

Keywords: Patellofemoral pain syndrome, Physical exercise.

1. Introduction

The term Anterior knee pain and Patellofemoral pain syndrome are often used synonymously to describe a syndrome, that includes pain in the anterior part of the knee that can result from patellar dislocation, patellar subluxation or, on occasion, no trauma^[1, 2, 3]. The prevalence of Patellofemoral pain syndrome has been reported as between 15 - 45% of the population^[4].

Overweight complicates this condition as the structures of the anterior knee including the patella experience increase force up to five times our body weight^[5].

Individuals with the condition are most typically identified by ruling out other conditions^[6], by their history, as well as reporting the Functional abilities as assessed by the Anterior Knee Pain Questionnaire (AKPQ)^[7]. Overweight is general due to extra body fat.

Increase of weight effects the structure of the anterior knee including the patella experience increase force up to five times of our body weight^[5].

Exercises to Help Patellofemoral Syndrome^[7]

Hamstring Wall Stretch:

Stretching is a valuable part of an exercise program for PFPS. This one uses the wall to stretch the muscles located on the back of the leg.

Step 1: Lie on your back in a doorway with one leg flat on the floor and extending through the doorway.

Step 2: Slide the other leg up the wall until it is almost straight and you feel a gentle stretch.

Step 3: Keep one heel in contact with the wall and one heel in contact with the floor. Don't point your toes.

Step 4: Hold for at least one minute.

After you have been doing this exercise for a while, work your way up to holding the stretch longer.

Straight - Leg Raises to the Front:

Although this exercise seems easy, it is a good strength - builder.

Step 1: Lie on your back with one leg bent at the knee, foot flat on the floor. Keep the other leg straight.

Step 2: Tighten the thigh muscles and raise the straight leg about a foot off the ground. Hold.

Step 3: After a few seconds, slowly lower the leg to the ground.

Step 4: Rest a few seconds between repetitions.

Step 5: Repeat with the other leg.

Try for 8 to 12 repetitions.

Hip Circles:

This exercise increases both flexibility and strength.

Step 1: Lie on your side with legs slightly bent and hips stacked.

Step 2: Straighten the top leg and tighten the muscles.

Step 3: Circle the leg in a clockwise direction 20 times.

Step 4: Do 20 circles in a counterclockwise direction.

Step 5: Switch to your other side and repeat.

The circles should be medium - sized, neither large and sweeping nor tiny. Try for three sets of this exercise.

Lateral Step - Ups:

This exercise requires a step. If you don't have a platform, you can use a stair - step. If your knee pain is severe, you may need to use a lower step.

Step 1: Standing beside the platform, lift the adjacent foot, and place it on the platform.

Step 2: Step up on the platform and let the other foot come off the ground, hanging loosely.

Step 3: Lower the hanging foot to the ground and step down.

Step 4: After you have completed your reps, repeat on the other side.

Try for three sets of 15 step - ups.

Hip Adductor Strengthening:

The adductors are fan - shaped muscles in the upper thigh that stabilize the hip joint. This exercise strengthens them.

Step 1: Sit in a chair and squeeze a soft ball between your knees.

Step 2: Hold the squeeze for 5 to 10 seconds; then release.

Repeat 5 to 10 times. If you don't have a ball, place your balled fists next to each other between your knees and squeeze.

Safety Considerations:

These exercises are safe for most people. You may feel a little pain around the kneecap as you are doing the exercises. This is normal. If an exercise makes your knee sore or swollen, talk to your doctor or physical therapist before you do it again. If your knee pain was an overuse injury, look for ways to avoid overdoing it again. If you are an athlete, resume training slowly. Be sure you are warming up before exercise and wearing proper footwear.

2. Conclusion

Physical exercise has many health benefits and the evidence for this continues to accumulate. Health care professionals should incorporate counselling to patients for physical exercise in their daily clinical practice, while health policy makers and community physicians should see to implementation of this at the community level. In short, exercise is really good for you, so keep it up.

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