

Adolescent Knee Pain

There is a high incidence of knee pain found in adolescent boys and girls, which typically follows a growth spurt. Muscle tissue typically expands slower than bone, resulting in tightness of the hamstring, iliotibial band (ITB), hip flexor, quadriceps, and gastrocnemius (calf). As these muscles surround the knee joint, tightness can alter the mechanics of the patella (knee cap). As the knee bends and straightens, as it does with walking or running, the patella must move up and down in the groove at the end of the femur (thigh bone). Tight muscles can cause the patella to move out of the groove, irritating the underside of the patella and creating a global knee pain – known as “patellofemoral syndrome.” Simple stretching and strengthening of the muscles around the knee can restore normal mechanics, resulting in improved function with less pain. Below are some sample stretches to decrease patellofemoral syndrome.

Hamstring

Standing, place one foot on a step or stool, with the heel down and toes up. Keeping the leg straight, hinge at the hip, moving your chest forward while keeping the back straight. Feel the stretch on the back side of the upper leg. Hold 20 seconds, 3 times for each leg.

ITB

Standing, cross the right leg in front of the left leg, then lean to the right. Feel the stretch along the outside of the left leg, the left hip, and/or the left buttock. Hold 20 seconds and repeat 3 times for each leg.

Quadriceps

Standing, grasp one ankle, pull up while bending the knee, moving the heel toward the buttock. Feel the stretch in the front of the thigh. Hold 20 seconds and repeat 3 times for each leg.

Gastrocnemius (calf)

Standing, place one foot in front of the other. Keep the back leg straight, heel on the ground, and bend the front leg, lunging forward. Feel the stretch in the calf of the back leg. Hold 20 seconds and repeat 3 times for each leg.

Hip Flexor

Kneeling on one knee, place the other foot forward in a half kneel. Lunge forward while keeping the back leg flat, and feel the stretch at the top of the thigh of the back leg. Hold 20 seconds and repeat 3 times for each leg.

Doing these stretches prior to and following exercise has shown to be beneficial in decreasing patellofemoral knee pain. If there are any additional questions or concerns, please feel free to contact one of the therapists at CPRS Physical Therapy.