

Pes Anserine Bursitis of the Knee

Introduction

Pes Anserine Bursitis



Welcome to BodyZone Physiotherapy's patient resource about Pes Anserine Bursitis of the Knee.

Bursitis of the knee occurs when constant friction on the bursa causes inflammation. The bursa is a small sac that separates the bone from tendons that rub over the bone. Bursae can also protect other tendons as tissues glide over one another. Bursae can become inflamed and irritated causing pain and tenderness.

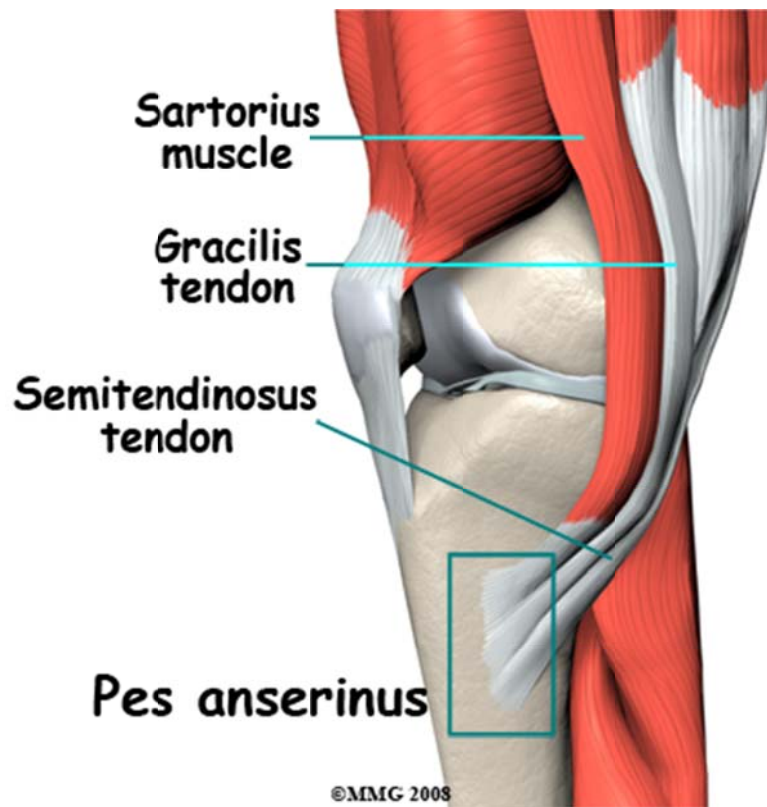
This guide will help you understand:

- what part of the knee is affected
- what causes this condition
- how doctors diagnose this condition
- what treatment options are available

Anatomy

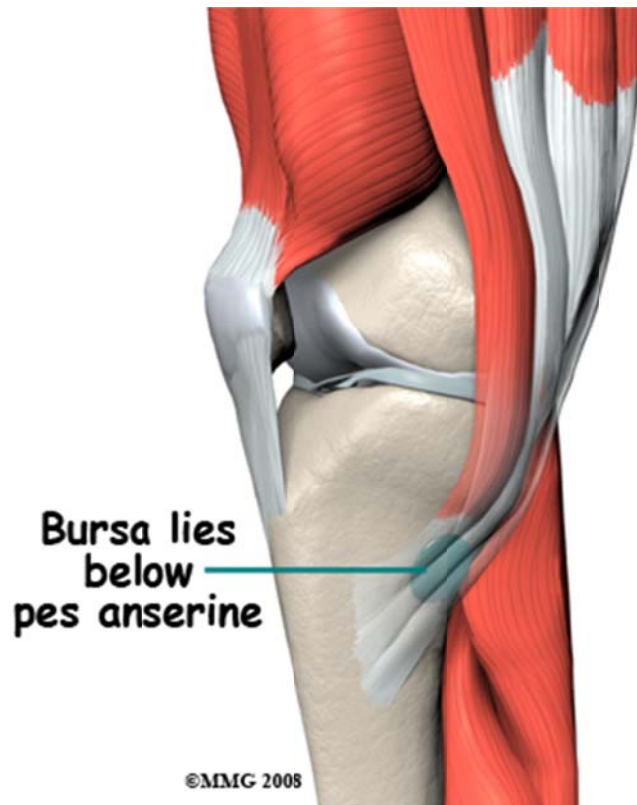
What parts of the body are involved?

The pes anserine bursa is the main area affected by this condition. The pes anserine bursa is a small lubricating sac between the *tibia* (shinbone) and the hamstring muscle. The hamstring muscle is located along the back of the thigh.



There are three tendons of the hamstring: the *semitendinosus*, *semimembranosus*, and the *biceps femoris*. The semitendinosus wraps around from the back of the leg to the front. It inserts into the *medial* surface of the tibia and a connective tissue of the lower leg. Medial refers to the inside of the knee or the side closest to the other knee.

Just above the insertion of the semitendinosus tendon is the *gracilis tendon*. The gracilis muscle *adducts* or moves toward the body. The semitendinosus tendon is also just behind the attachment of the *sartorius muscle*. The sartorius bends and externally rotates the hip. Together, these three tendons splay out on the tibia and look like a goosefoot. This area is called the *pes anserine* or *pes anserinus*.



The pes anserine bursa provides a buffer or lubricant for motion that occurs between these three tendons and the *collateral ligament* (MCL). The MCL is underneath the semitendinosus tendon.

Causes

What causes this problem?

Overuse of the hamstrings, especially in athletes with tight hamstrings is a common cause of goosefoot. Runners most often. Improper training, sudden increases in distance run, and running up hills can contribute to this condition.



It can also be caused by trauma such as a direct blow to this part of the knee. A contusion to this area results in a release of synovial fluid in the lining of the bursa. The bursa then becomes inflamed and tender or painful.

Anyone with osteoarthritis of the knee is also at increased risk for this condition. And alignment of the lower extremities can be a risk factor for some individuals. A turned out position of the knee or tibia, *genu valgum* (knock knees), or a turned in position can lead to pes anserine bursitis.

Symptoms

What does the condition feel like?

The patient often points to the pes anserine as the area of pain or tenderness. The pes anserine is located about two to three inches below the joint on the inside of the knee. This is referred to as the *anterior* knee or *proximedia* tibia. Prox is short for proximal and medial. This term refers to the front inside edge of the tibia.

Area of pain



Some patients also have pain in the center of the tibia. This occurs when other structures are also damaged such as the *meniscus* (cartilage). The pain is made worse by exercise, climbing stairs, or activities that cause resistance to the tendons.

Diagnosis

When you visit BodyZone Physiotherapy, we will take a history and do a physical examination. A history and physical examination will help our physiotherapist differentiate pes anserine bursitis from other causes of anterior knee pain, such as patellofemoral syndrome or arthritis. We will also assess hamstring tightness. This is done in the *supine* position (lying on your back). Our physiotherapist will *flex* (bend) your hip to 90 degrees. Your knee is then straightened as far as possible. The amount of knee flexion is an indication of how tight the hamstrings are. If you can straighten your knee all the way to this position, then you do not have tight hamstrings.

Some patients may be referred to a doctor for further diagnosis. Once your diagnostic examination is complete, the physiotherapists at BodyZone Physiotherapy have treatment options that will help speed your recovery, so that you can quickly return to your active lifestyle.

Our Treatment

Non-surgical Rehabilitation

The goal of BodyZone Physiotherapy treatment for overuse injuries such as pes anserine bursitis is to reduce the inflammation of the injured tissues. Stopping the activity that brings on or aggravates the symptoms is the first step toward pain relief.

Reducing Inflammation

Bedrest is not required but it may be necessary to modify some of your activities. This will give time for the bursitis to calm down and for the pain to subside. Our physiotherapist will advise you to avoid stairs, climbing, or other irritating activities. This type of approach is called *relative rest*.

We may recommend the use of ice and anti-inflammatory medications in the early, inflammatory phase. The ice should be applied three or four times each day for 10-15 minutes at a time. Ice cubes wrapped in a thin layer of toweling or a bag of frozen vegetables applied to the area work well.

Our physiotherapists often instruct athletes to perform an ice massage. A cup of water is frozen in a Styrofoam container. The top edge of the container is torn away leaving a one-inch surface of ice that can be rubbed around the area. The Styrofoam protects the hand of the person holding the cup while applying the ice massage. The pes anserine area is massaged with the ice for 3-5 minutes or until the skin is numb. Caution is advised to avoid frostbite.

Over-the-counter *nonsteroidal antiinflammatory drugs* (NSAIDs) such as Ibuprofen may be advised. In some cases, your physician will prescribe stronger NSAIDs. Our physiotherapist can also use a process called *iontophoresis*. Using a low electrical charge, an antiinflammatory drug can be pushed through the skin to the inflamed area. This method is called *transdermal drug delivery*. Iontophoresis puts a higher concentration of the drug directly in the area compared to taking medication by mouth. This process does not deliver as much drug as a local injection.

Increasing Flexibility

Improving flexibility is a key part of the prevention and treatment of this condition. Your physiotherapist will advise you to perform hamstring stretches at least twice a day for a minimum of 30 seconds each time. Holding the stretch for one minute has been proven even more effective. Some patients must perform this stretch more often – even once an hour if necessary.

Do not bounce during the stretch. Hold the position at a point of feeling the stretch but not so far that it is painful or uncomfortable. Deep breathing can help ease the discomfort. Try to stretch a little more as you breathe out.

Strengthening Exercises

Quadriceps strengthening is also important. This is especially true if there are other areas of the knee affected. The quadriceps muscle along the front of the thigh extends the knee and helps balance the pull of the hamstrings.

Some times our physiotherapists recommend a special type of exercise program called *closed kinetic chain* (CKC) exercises performed for about six to eight weeks, to assist with quadriceps strengthening. The CKC may include single-knee

squats and leg presses. Resisted leg-pulls using elastic tubing are also included. This exercise program is gradually progressed during the eight-week session.

Prognosis for Pes Anserine Bursitis

Pes anserine bursitis is considered a *self-limiting* condition. This means it usually responds well to treatment and without further intervention. Athletes may have to continue our program of hamstring stretching and CKC quadriceps strengthening on a regular basis.

Athletes may return to sports or play when the symptoms are gone and are no longer aggravated by certain activities. Protective gear for the knee may be needed for those individuals who participate in contact sports. During our rehabilitation, activity level and duration are gradually increased. If the symptoms don't come back, the athlete can continue to full participation in all activities.

At BodyZone Physiotherapy, our goal is to help speed your recovery so that you can more quickly return to your normal activities. When your recovery is well under way, regular visits to our office will end. Although we will continue to be a resource, you will be in charge of doing your exercises as part of an ongoing home program.

Post-surgical Rehabilitation

If the bursa is removed, you follow the same steps of rehab and recovery outlined under Nonsurgical Treatment.

Surgery

Surgery is rarely needed for pes anserine bursitis. The bursa may be removed if chronic infection cannot be cleared with antibiotics.

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