

= Prepatellar bursitis =

Prepatellar bursitis is an inflammation of the prepatellar bursa at the front of the knee . It is marked by swelling at the knee , which can be tender to the touch but which does not restrict the knee 's range of motion . It is most commonly caused by trauma to the knee , either by a single acute instance or by chronic trauma over time . As such , prepatellar bursitis commonly occurs among individuals whose professions require frequent kneeling .

A definitive diagnosis of the condition can usually be made once a clinical history and physical examination have been obtained , though determining whether or not the bursitis is septic is not as straightforward . Treatment of prepatellar bursitis depends on the severity of the symptoms . Mild cases may only require rest and icing of the knee . A number of different treatment options have been used for severe septic cases , including intravenous antibiotics , surgical irrigation of the bursa , and bursectomy .

= = Signs and symptoms = =

The primary symptom of prepatellar bursitis is the swelling of the area around the kneecap . It generally does not produce a significant amount of pain unless pressure is applied directly to the swelling . The area of swelling may be red (erythema) , warm to the touch , or surrounded by cellulitis , particularly if the area has become infected . In such cases , the bursitis is often accompanied by fever . Unlike arthritis , prepatellar bursitis generally does not affect the range of motion of the knee , though it may cause some discomfort when the knee is completely flexed . Flexion and extension of the knee may cause crepitus .

= = Causes = =

In human anatomy , a bursa is a small pouch filled with synovial fluid . Its purpose is to reduce friction between adjacent structures . The prepatellar bursa is one of several bursae of the knee joint , and is located between the patella and the skin . Prepatellar bursitis is an inflammation of this bursa . Bursae are readily inflamed when irritated , as their walls are very thin . Along with the pes anserine bursa , the prepatellar bursa is one of the most common bursae to cause knee pain when inflamed .

Prepatellar bursitis is caused by either a single instance of acute trauma to the knee , or repeated minor trauma to the knee . The trauma can cause extravasation of nearby fluids into the bursa , which stimulates an inflammatory response . This response occurs in two phases : The vascular phase , in which the blood flow to the surrounding area increases , and the cellular phase , in which leukocytes migrate from the blood to the affected area . Other possible causes include gout , sarcoidosis , CREST syndrome , diabetes mellitus , alcohol abuse , uremia , and chronic obstructive pulmonary disease . Some cases are idiopathic , though these may be caused by trauma that the patient does not remember .

The prepatellar bursa and the olecranon bursa are the two bursae that are most likely to become infected , or septic . Septic bursitis typically occurs when the trauma to the knee causes an abrasion , though it is also possible for the infection to be caused by bacteria traveling through the blood from a pre @-@ existing infection site . In approximately 80 % of septic cases , the infection is caused by *Staphylococcus aureus* ; other common infections are *Streptococcus* , *Mycobacterium* , and *Brucella* . It is highly unusual for septic bursitis to be caused by anaerobes , fungi , or Gram @-@ negative bacteria . In very rare cases , the infection can be caused by tuberculosis .

= = Diagnosis = =

There are several types of inflammation that can cause knee pain , including sprains , bursitis , and injuries to the meniscus . A diagnosis of prepatellar bursitis can be made based on a physical examination and the presence of risk factors in the person 's medical history ; swelling and

tenderness at the front of the knee , combined with a profession that requires frequent kneeling , suggest prepatellar bursitis . Swelling of multiple joints along with restricted range of motion may indicate arthritis instead .

A physical examination and medical history are generally not enough to distinguish between infectious and non @-@ infectious bursitis ; aspiration of the bursal fluid is often required for this , along with a cell culture and Gram stain of the aspirated fluid . Septic prepatellar bursitis may be diagnosed if the fluid is found to have a neutrophil count above 1500 per microliter , a threshold significantly lower than that of septic arthritis (50 @,@ 000 cells per microliter) . A tuberculosis infection can be confirmed using a roentgenogram and urinalysis .

= = Prevention = =

It is possible to prevent the onset of prepatellar bursitis , or prevent the symptoms from worsening , by avoiding trauma to the knee or frequent kneeling . Protective knee pads can also help prevent prepatellar bursitis for those whose professions require frequent kneeling and for athletes who play contact sports , such as American football , basketball , and wrestling .

= = Treatment = =

Non @-@ septic prepatellar bursitis can be treated with rest , the application of ice to the affected area , and anti @-@ inflammatory drugs , particularly ibuprofen . Elevation of the affected leg during rest may also expedite the recovery process . Severe cases may require fine @-@ needle aspiration of the bursa fluid , sometimes coupled with cortisone injections . However , some studies have shown that steroid injections may not be an effective treatment option . After the bursitis has been treated , rehabilitative exercise may help improve joint mechanics and reduce chronic pain .

Opinions vary as to which treatment options are most effective for septic prepatellar bursitis . McAfee and Smith recommend a course of oral antibiotics , usually oxacillin sodium or cephadrine , and assert that surgery and drainage are unnecessary . Wilson @-@ MacDonald argues that oral antibiotics are " inadequate " , and recommends intravenous antibiotics for managing the infection . Some authors suggest surgical irrigation of the bursa by means of a subcutaneous tube . Others suggest that bursectomy may be necessary for intractable cases ; the operation is an outpatient procedure that can be performed in less than half an hour .

= = Epidemiology = =

The various nicknames associated with prepatellar bursitis arise from the fact that it commonly occurs among those individuals whose professions require frequent kneeling , such as carpenters , carpet layers , gardeners , housemaids , mechanics , miners , plumbers , and roofers . The exact incidence of the condition is not known ; it is difficult to estimate because only severe septic cases require hospital admission , and mild non @-@ septic cases generally go unreported . Prepatellar bursitis is more common among males than females . It affects all age groups , but is more likely to be septic when it occurs in children .