

**STEVEN CHUDIK MD**  

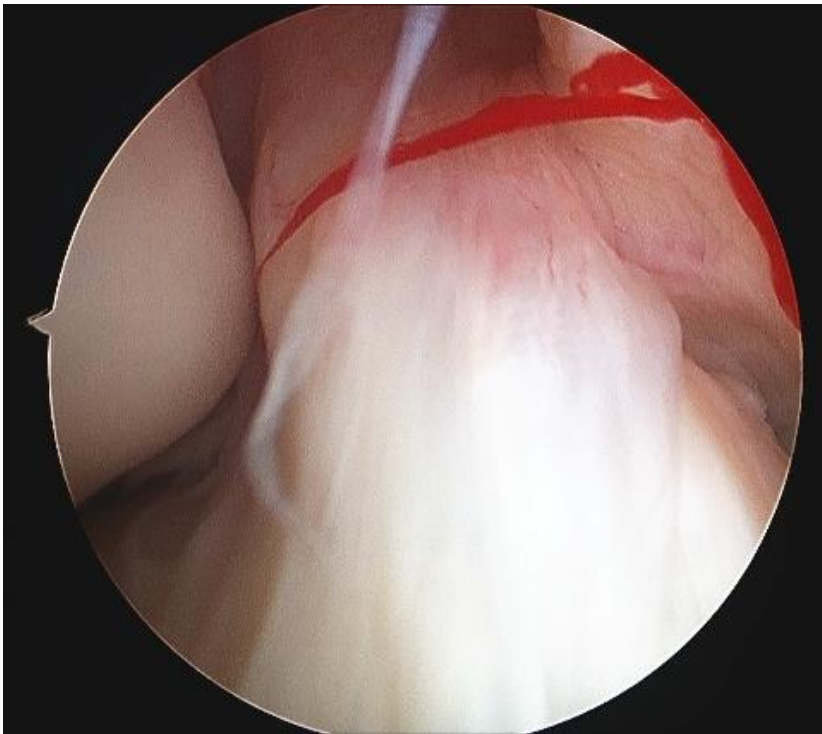
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**SHOULDER, KNEE & SPORTS MEDICINE**

## Plica Syndrome

The plica is a fold of joint lining (synovial tissue) that is a remnant of tissue from embryological development. During embryological development, bands of tissue divide the limbs into joints. These bands may persist into adulthood in up to 60 percent of people, although it infrequently causes symptoms. Several different band types may exist. These bands may become thickened and inflamed, causing varying symptoms.



Arthroscopic view  
of a plica

### Frequent Signs and Symptoms

- Pain in the front of the knee, often toward the inside of the knee, especially with kneeling, squatting, sitting for long periods, arising from a sitting position, or walking or running up or down stairs or hills
- Catching, locking, and clicking of the knee
- Pain and tenderness under the kneecap (patella)



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### **Etiology (Causes)**

Trauma to the knee, either direct or with repetitive knee bending and straightening activity, causes thickening of the plica, and it loses its elasticity (becomes less stretchy). As a result, the plica pinches on the inner knee joint (medial femoral condyle) and inner patella. The pain is felt to be due to pinching or pulling of the plica band, which has many nerve endings.

### **Risk Factors**

- Sports that require repeated, forceful straightening or bending of the knee (such as kicking and jumping)
- Repeated injuries to the knee
- Sports in which the knee may receive direct injury (volleyball, soccer, football) or that require prolonged kneeling

### **Prevention**

- Proper padding can reduce direct injury to the fat pad.
- Allow complete recovery before returning to sports.

### **Outcomes**

Usually there is complete recovery with proper treatment.

### **Potential Complications**

- Frequent recurrence of symptoms, resulting in chronically inflamed tissue and eventually a chronic problem
- Disability severe enough to diminish an athlete's competitive ability
- Delayed healing or resolution of symptoms, particularly if activity is resumed too soon
- Risks of surgery, including infection, bleeding, injury to nerves (numbness, weakness, paralysis), continued pain and pinching of the fat pad, and rupture of the patellar tendon



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### Treatment Considerations

Initial treatment consists of medications and ice to relieve pain and reduce inflammation, stretching and strengthening exercises (of the hamstrings and quadriceps), and modification of the activity that produces the symptoms. These may be carried out at home, although occasionally referral to a physical therapist or athletic trainer may be indicated. Occasionally your physician may recommend an injection of cortisone to reduce the inflammation of the plica. Arch supports may also be recommended. Surgery is not usually necessary; it is usually reserved for cases in which symptoms persist despite conservative treatment. Surgery to remove the plica is usually performed arthroscopically on an outpatient basis (you go home the same day).

### Possible Medications

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within seven days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Topical ointments may be of benefit.
- Stronger pain relievers may be prescribed as necessary by your physician, usually only after surgery. Use only as directed and only as much as you need.
- Injections of corticosteroids may be given to reduce inflammation, although not usually for acute injuries

### Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

### Notify My Office If Symptoms Worsen



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