

## ***PLICA SYNDROME***

### **DESCRIPTION**

Plica is a fold of joint lining (synovial tissue) that is a remnant of tissue from embryologic development. During embryologic development, bands of tissue divide the limbs into joints. These bands may persist into adulthood in up to 60% of people though it infrequently causes symptoms. There are several different band types that may exist. These bands may become thickened and inflamed causing varying symptoms.

### **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 of time, arising from a sitting position and/or walking or running up or down stairs or hills.
- Catching, locking, and clicking of the knee
- Pain and tenderness under the knee cap (patella).

### **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 that has lots of nerve endings.

### **RISK INCREASES WITH**

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

### **POSSIBLE COMPLICATIONS**

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

### **GENERAL 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 modifying the activity that produces the symptoms. These may be carried out at home, though 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 uncommonly necessary. Surgery is usually reserved for cases where symptoms persist despite conservative treatment. Surgery is usually performed arthroscopically to remove the plica as an outpatient (go home the same day) procedure.

## **MEDICATION**

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take if surgery planned in 7 days or less), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact him/her immediately if any bleeding, stomach upset or an allergic reaction occurs.
- 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, though not usually for acute injuries.

## **HEAT AND COLD:**

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 - 15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

## **NOTIFY OUR OFFICE IF**

- Symptoms get worse or do not improve in 2 weeks despite treatment
- If you have surgery any of the following occur:
  - You experience pain, numbness, or coldness in the foot and ankle
  - Blue, gray or dusky color appears in the toenails
  - Increased pain, swelling, redness, drainage or bleeding in the surgical area.
  - Signs of infection (headache, muscle aches, dizziness, or a general ill feeling with fever)
- New, unexplained symptoms develop. Drugs used in treatment may produce side-effects.