Discoid Meniscus

A discoid meniscus is an abnormally shaped meniscus in the knee. It is more prone to injury than a normally shaped meniscus.

Some people with discoid meniscus may go through their entire lives and never experience any problems. Most people, however, will have knee problems related to the discoid meniscus. Symptoms often begin during childhood.

Anatomy

The meniscus is a wedge-shaped piece of cartilage that acts as a "shock absorber" between your femur (thighbone) and tibia (shinbone). The meniscus protects the articular cartilage that covers the ends of the bones and helps the knee to easily bend and straighten.

There are two menisci in the knee: the medial meniscus on the inside of the knee, and the lateral meniscus on the outside. Healthy menisci are shaped like crescent moons (in fact, "meniscus" comes from the Greek word for crescent).

The meniscofemoral ligament attaches the meniscus to the tibia bone so that it does not float around in the knee. This ligament also provides a blood supply to a small portion of the meniscus.

Description

A discoid meniscus is shaped like a half moon or complete circle, rather than a crescent moon. It occurs on the lateral side (outside) of the knee in about 1% to 3% of the population, and even less commonly on the medial side of the knee. In about 20% of cases, discoid meniscus is found in both knees.

Types of Discoid Meniscus

There are three types of discoid menisci:

- **Incomplete.** The meniscus is slightly thicker and wider than normal.
- **Complete.** The meniscus completely covers the tibia.
- **Hypermobile Wrisberg.** This occurs when the meniscofemoral ligament that attaches the meniscus to the tibia is absent. Without this ligament, even a fairly normally shaped meniscus can sometimes slip into the joint and cause pain, as well as locking and popping of the knee.

Discoid Meniscus Injuries
A discoid meniscus is more prone to injury than a normal meniscus. The thick, abnormal shape of a discoid meniscus makes it more likely to get stuck in the knee or tear. If the ligament attachment to the tibia is also missing, the risk for injury is even greater.

Once injured, even a normal meniscus is difficult to heal. This is because the meniscus lacks a strong blood supply and the nutrients that are essential to healing cannot reach the injured tissues.

**Cause**

No one is really sure what causes a discoid meniscus. Some doctors think that because there is an abnormal ligament attachment, the meniscus stretches out while a child is developing (after birth) and a discoid meniscus forms.

Injuries to the discoid meniscus often occur with twisting motions to the knee. In many cases, however, children who have never experienced a major injury may have locking and popping of the knee.

**Symptoms**

The most common symptoms of a discoid meniscus or torn discoid meniscus are:

- Pain
- Stiffness or swelling
- Catching, popping, locking of the knee
- Feeling that the knee is "giving way"
- Inability to fully extend (straighten) the knee

**Doctor Examination**

*Medical History and Physical Examination*

After discussing your child’s medical history and any events that occurred before symptoms started, your doctor will examine your child’s knee.

Your child may or may not have tenderness where the bones meet.

To test for discoid meniscus, your doctor will twist your child’s knee with the knee bent and straightened. In many cases of discoid meniscus, there is a popping or clunking sensation. This can sometimes even be heard. In extreme cases, part of the meniscus will pop out of the knee joint and can be seen right under the skin.

*Imaging Tests*

**X-rays.** Although x-rays do not show tears of soft tissues like the meniscus, they can show whether there are other problems in the knee. In addition, because the discoid meniscus is so thick, the space between the femur and tibia on the lateral part of the knee may appear widened on an x-ray.

**Magnetic resonance imaging (MRI) scan.** This study can create detailed images of the soft tissues of the knee joint and is the best imaging test for discoid meniscus.
The MRI can show the abnormal shape of the discoid meniscus, as well as tears within the meniscus. However, the rare Wrisberg type of discoid meniscus cannot be tested with an MRI scan because the problem only occurs when the patient is moving.

An MRI study involves lying still for 30-45 minutes. Many young patients require some sedation or anesthesia to complete the test.

**Treatment**

Sometimes, a doctor discovers a discoid meniscus when evaluating the knee for a different problem. If the discoid meniscus is not causing any symptoms, then specific treatment for it may not be necessary.

When a discoid meniscus is causing pain, popping, or other symptoms, however, your orthopedic surgeon will probably recommend arthroscopic surgery.

**Surgical Treatment**

Knee arthroscopy is one of the most commonly performed surgical procedures.

During arthroscopy, the surgeon inserts a small camera, called an arthroscope, into the knee joint. The camera displays pictures on a television screen, and the surgeon uses these images to guide miniature surgical instruments.

Most arthroscopic surgeries are done on an outpatient basis. Patients usually go home a few hours after the procedure.

**Anesthesia.** To prevent pain during the procedure, the patient is given anesthesia. Local and regional types of anesthesia numbs just parts of the body, and the patient remains awake. General anesthesia puts the patient to sleep. Most children are given general anesthesia for arthroscopic surgery.

**Surgical Procedure.** In many cases, the most effective treatment is to remove the part of the discoid meniscus that is torn.

Some tears of the discoid meniscus can be repaired, rather than removed. In these cases, the surgeon will use stitches to sew the meniscus to the lining of the joint.

**Rehabilitation**

After surgery, your doctor may put your knee in a brace or a soft bandage wrap. You may need to use crutches for a short period of time. Very young children may need a wheelchair for several weeks because they do not have the balance or strength to use crutches.

Once the initial healing is complete, your doctor may prescribe physical therapy exercises to restore strength and mobility. These may be done at home or with a physical therapist.

**Recovery**

Most patients return to normal daily activities after arthroscopy for a discoid meniscus. However, if the meniscus was removed, there is a risk for continued pain and, potentially, early arthritis.

Surgeons sometimes recommend that patients avoid sports that overstress the knee with cutting type movements. These include soccer, tennis, basketball, and football.