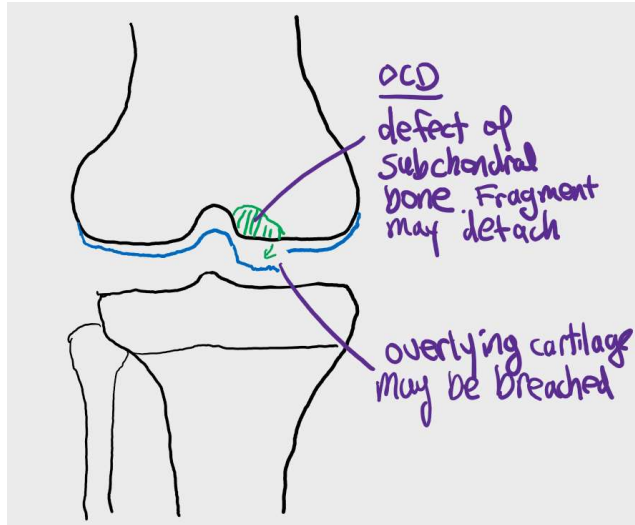


## Osteochondritis Dissecans (OCD) of the Knee – Take Home Points for Primary Care Physicians

### What is OCD?

Osteochondritis dissecans (OCD) is a focal abnormality of subchondral bone that can lead to detachment of a bone fragment and overlying cartilage (See Figure). It typically affects children and adolescents. Most patients are athletes, and risk of OCD is higher in boys than girls.



The most common location for OCD is at the knee, but it can also occur at the elbow (capitellum) or ankle (talus). At the knee, most cases involve the medial femoral condyle, and less often involve the lateral femoral condyle, and the patella.

The pathophysiology is not well understood, but repetitive microtrauma and local vascular insufficiencies are contributing factors.

### Why is it important to recognize this condition?

OCD of the knee can be an uncommon cause of knee pain in the pediatric population. If left untreated, it can lead to degeneration of the cartilage and early osteoarthritis.

### How does OCD present? And how do you diagnose it?

OCD has 3 main presentations

1. Incidental discovery on imaging, patient is asymptomatic
2. Pain during sports and activities
3. Continuous pain (this may be insidious onset), swelling, and/or locking of the joint

On exam, joint effusion may be present, and there may be tenderness at the site of OCD (e.g. medial femoral condyle). The Wilson test helps to detect medial condyle lesions – The test is positive if there is pain with internal rotation of tibia during extension of knee between 90 and 30 degrees, and relief of pain when the tibia is rotated laterally.

Differential diagnoses include meniscal tears, symptomatic discoid meniscus, osteochondral fracture, ACL injury, and patellofemoral syndrome.

Plain radiograph is the first step of investigations. AP, lateral, and tunnel views of the knee should be obtained. Findings can range from focal lucency to visibly detached fragment. MRI can be ordered to further characterize the lesion.

### **What is the prognosis of OCD?**

OCD can heal over time or get worse. Factors that are associated with better prognosis include younger age (presence of open physes), smaller size of lesion, and location at the medial femoral condyle. Unhealed lesions, especially those that lead to loose fragments, can progress to osteoarthritis.

### **How do you treat OCD?**

1. Asymptomatic patients should be monitored until radiographs are normal.
2. In general, initially treatment is usually 3-6 months of sports restriction. When adherence to restrictions is poor, a long-leg cast can be used for immobilization in the short term (e.g. 6 weeks).
3. MRI should be obtained for any patient with persistent pain after initial treatment, in older children (boys > 13, girls > 11) at initial presentation, or atypical location of lesion (i.e. not medial femoral condyle) to further characterize the lesion
4. Unstable appearing lesions on imaging or persistent pain after 3-6 months of conservative treatment are indications for surgical referral

In summary, OCD is an abnormality of subchondral bone that most commonly affect the medial femoral condyle of the knee. It is an important diagnosis to consider in an active pediatric/adolescent patient presenting with knee pain with or without mechanical symptoms. Diagnosis can be made with plain radiography, and the lesion can be further characterized by MRI. Mainstay of treatment is cessation of sports activities for 3-6 months, and refractive cases require surgery.

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