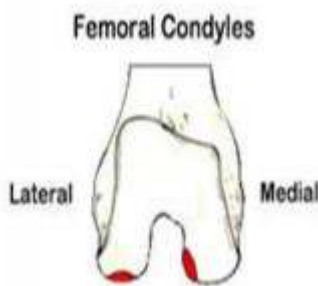


## Osteochondritis Dissecans

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**Osteochondritis Dissecans** or **OCD** is a condition that occurs when fragments of bone below the joint surface lose blood supply and separate from the rest of the bone. The most common site for OCD is the knee. In the knee the most common location is the lateral side of the medial femoral condyle. Although no one knows why a segment of bone should lose its blood supply, most doctors believe that it is due to repetitive trauma.

OCD occurs commonly in the older child and adolescent who actively participate in sports. The theory is that the repetitive motion of the sport, like soccer, causes a small segment of the bone to fatigue and fracture under the surface. The continued micro-trauma from repetitive loading, i.e.: continued running on the already injured knee prevents the defect from healing and loosens the bone fragment. The loose fragment then can cause swelling and pain. It can also occur in any age group after an acute injury. In those cases, the bone may be fractured and the fractured part of the joints surface fails to heal. The most common symptoms of OCD are pain and swelling.



OCD is usually diagnosed with specific x-ray images. In a growing child, an early lesion may heal with crutches, rest and a brace or cast. An MRI is often necessary to grade the lesion and determine the best treatment. If the defect is displaced or loose and/or an MRI shows fluid under it, surgery may be necessary.

If surgical intervention is necessary and the cartilage fragments have not broken loose the surgeon may fix them in place using pins or screws that are sunk into the cartilage after drilling the base to stimulate the blood supply. The pins are often dissolving (bioabsorbable) and don't need to be taken out once the bone heals.

If fragments are loose the surgeon may clean the cavity to reach fresh healthy bone and attach a bone graft in position with pins and screws. Fragments that cannot be mended are cleaned and drilled to stimulate new growth of cartilage.

**Shallow Cartilage Defects** may be different from OCD and can be caused by wear and tear or arthritis. These can be treated by a technique called microfracture. In the micro-fracture technique, the surface is drilled or "cracked" with a microscopic drill or awl to help blood and marrow get to the surface. Just like aerating the soil before seeding the lawn, the idea is to promote the formation of new fibro-cartilage. The new cartilage would then cover the surface with fresh tissue.

**Loose Bodies:** If the symptoms for a cartilage defect is ignored and spontaneous healing doesn't occur, cartilage and its base eventually separates from the diseased bone and a fragment breaks loose into the knee joint. It can then cause locking, sharp pain, and leg weakness. If the fragments are loose, the surgeon may scrape the cavity to reach fresh bone and add a bone graft and fix the fragments in place. Fragments that cannot be mended are removed. This leaves a defect or hole that needs repair. Small defects can be treated with microfracture, but larger ones require grafting. This can be, autograft (transplanting cartilage from one part of the knee to another), allograft (frozen grafts from a donor), cultured cartilage or newer synthetic bone substitute that fill in overtime with the patient's own cells.



Their newer method of bone defect repair is FDA approved for filling the bone defects left by the loose body. In some cases, replacement of the defect with this synthetic graft made of bio-absorbable scaffold with a calcium laden base promotes blood flow to the avascular area and aids in the healing process.

The calcium base promotes the formation of new bone at the base of the defect and the cap allows for fibrocartilage growth. Dr. Reznik has been performing the "OBI" grafting procedure for several years with excellent results and has been selected as one of fourteen surgeons in the United States to study the long-term benefits of this technology.

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