# OSTEOCHONDRITIS DISSECANS OF THE KNEE

Osteochondritis Dissecans (OCD) is a lesion that affects a small area of cartilage and/or bone. The cause of this lesion is unknown. Most of them are found in the knee at the end of the thigh bone. About ten percent are found on the undersurface of the kneecap. OCD lesions are 4 times more common in adolescent males than in adolescent females. One in five people who have an OCD on one side will develop an OCD on the other side. Other less common sites for OCD lesions are the elbow and ankle joints

**Types:** There are three types of OCD lesions based on the status of the growth plate near the lesion.


(1) The juvenile type is found in patients with completely open growth plates. This type has the best potential for healing.

(2) The adolescent type has partial closure of the growth plate and prognosis is unknown because the lesion may act as either the juvenile or adult type.

(3) In the adult

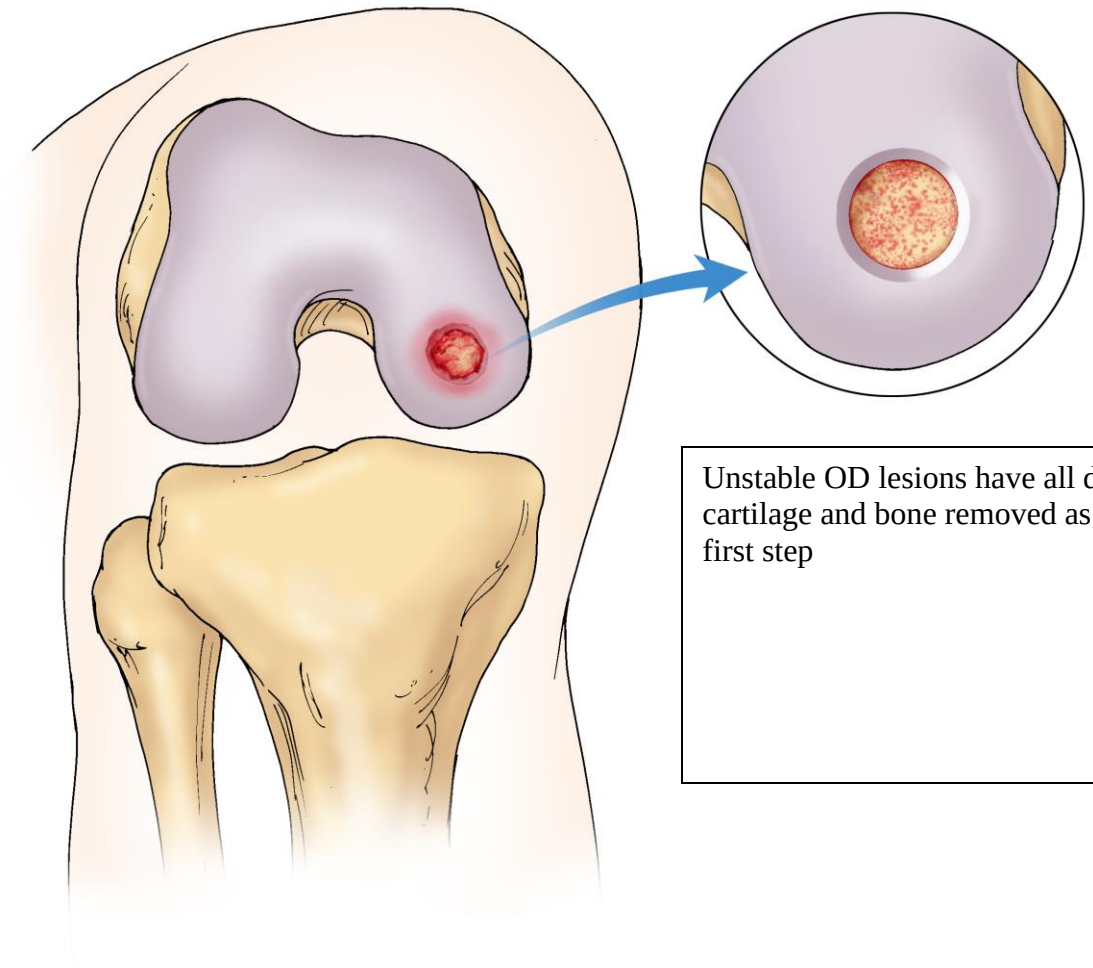
type, growth plates are closed and the potential for healing is not as good as the juvenile type.

**Evaluation**: The lesion can usually be seen on regular x-rays. MRI is useful for determining the size of the lesion, whether there is fluid between the cartilage and the bone, and whether there is bone attached to the cartilage. A bone scan / MRI can assess blood flow in the area of the OCD, with increased blood flow indicating an increased chance of healing.

**Treatment:** The healing potential of an OCD is dependent on many factors. Treatment is influenced by the age of the patient and characteristics of the fragment itself. The outcome depends on the size of the lesion, the location of the lesion, how long the lesion had been present, and whether the lesion is stable or a loose, mobile fragment.

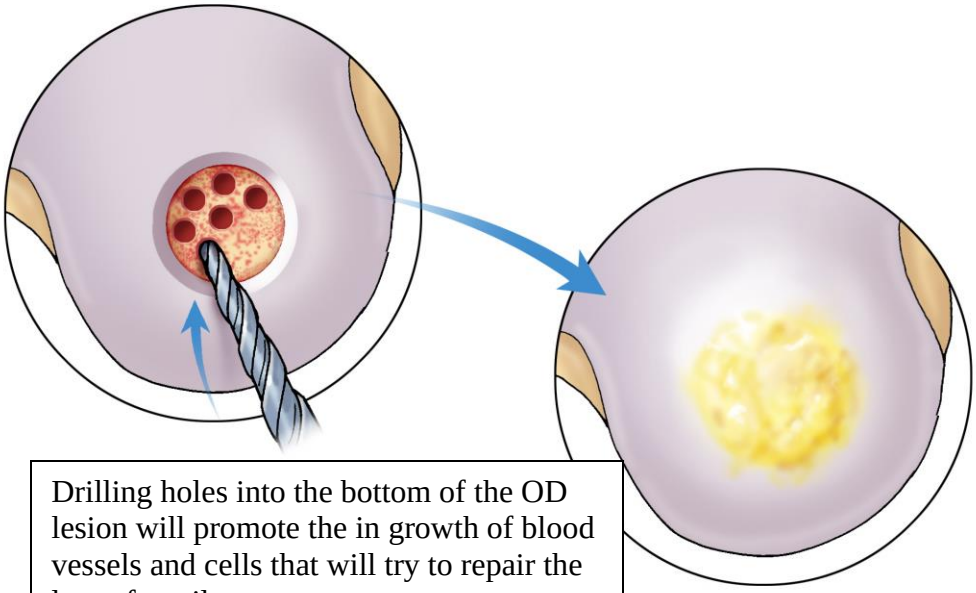
Closed, stable lesions have the best prognosis and usually do well without surgery. Conservative management generally includes activity modification and immobilization, additional Vitamin D intake until the x-ray becomes more normal.

For lesions that are unstable there are several options for surgical treatment.

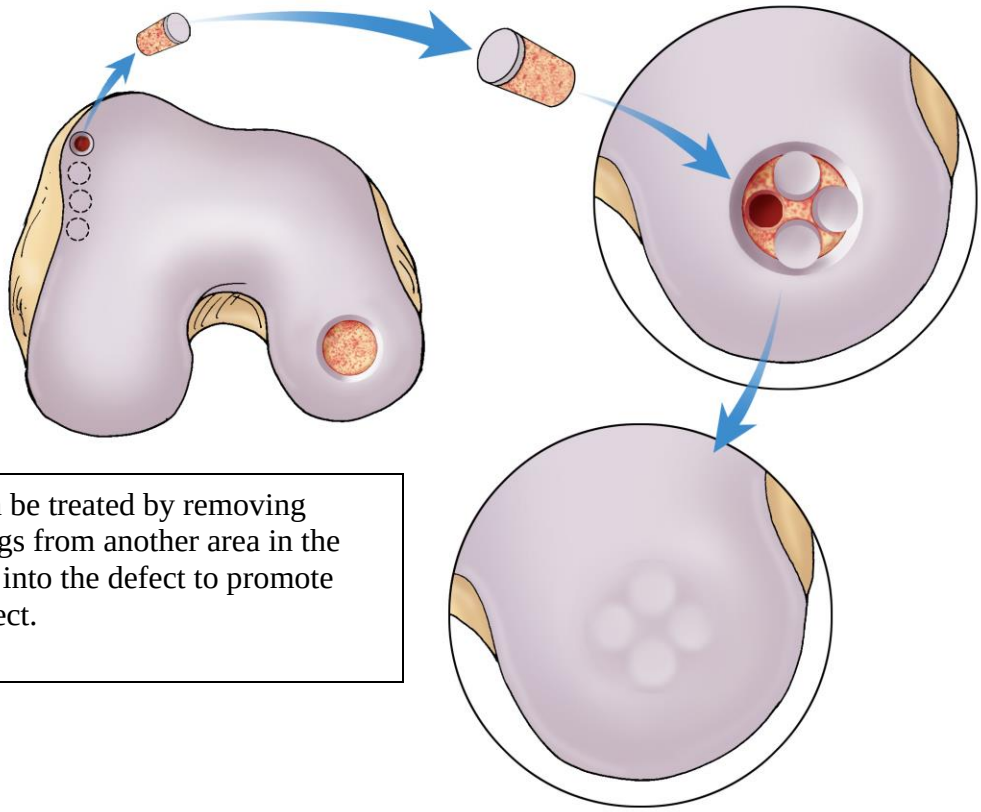


Unstable OD lesions have all dead cartilage and bone removed as the first step

These include drilling the lesion to promote new growth of blood vessels, opening the knee joint and pinning the fragment in place, or removing the lesion as a small round plug and replacing it with a plug of cartilage and bone from a non-weight bearing part of the knee. Autogenous Chondrocyte implantation (ACI) is a two step process due to the very large size of the OD lesion. In the first step the dead bone fragments are removed down to bleeding bone. From within the knee, a healthy piece of cartilage is removes arthroscopically. The cartilage is sent to a lab to grow the cartilage cell over a 2-3 month process. The 2nd stage requires a surgical insion to place the cartilage cells into the knee and keep them in place with a special flap that is sewn down over the bone defect. The injected cartilage cells may take several months to create a new lining for the knee.

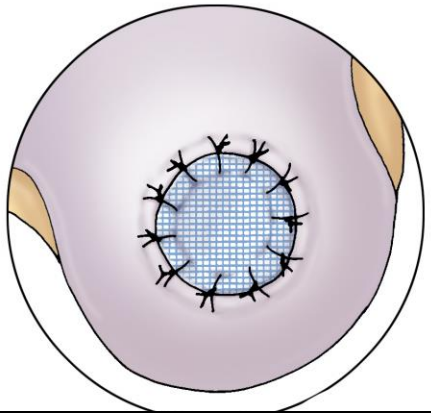


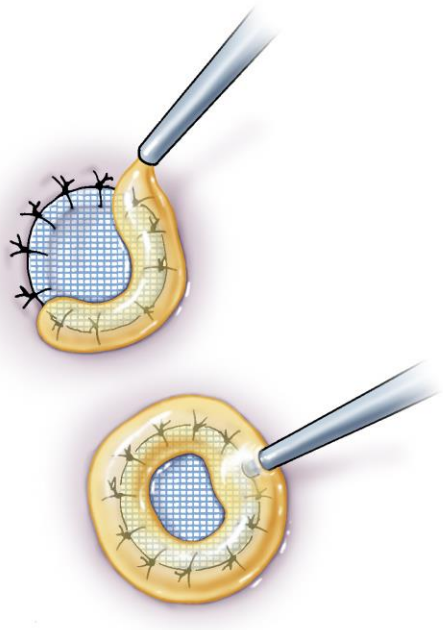
Drilling holes into the bottom of the OD lesion will promote the in growth of blood vessels and cells that will try to repair the loss of cartilage



Larger OD lesions can be treated by removing cartilage and bone plugs from another area in the area and placing them into the defect to promote healing of the OD defect.

The goals of surgical treatment are to eliminate the symptoms, halt progression of the lesion, restore the joint surface, and ultimately to prevent osteoarthritis.





ACI require the injection of laboratory grown cartilage cells under a flap that is sewn over the bone defect. The cells are kept in place with special fibrin glue until they create a new joint cartilage layer

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