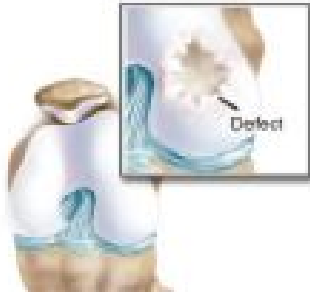


OATS Osteochondral Allograft/Autograft Transfer System

What is wrong with my knee?

There are two types of cartilage in your knee – articular cartilage and meniscal cartilage. The menisci are pads of cartilage that sit between the tibia (shin bone) and femur (thigh bone). Articular cartilage is a particular type of cartilage called hyaline cartilage (derived from the Greek word hyalos, meaning glass). Hyaline cartilage is a hard, white shiny material that allows the bones to glide easily past each other as the knee joint moves. It has an amazingly low coefficient of friction – just 1/15th that of ice. The special nature of this material, however, also makes it particularly vulnerable once it becomes damaged. We typically refer to this articular cartilage damage as chondral defects or lesions.

www.medicalmatters.com



What causes a chondral defect?

Articular cartilage injuries are common. There are several ways in which your articular cartilage can become damaged. A sudden direct blow to the cartilage such as a bad fall directly onto your knee can cause a chondral lesion. Another common cause is osteochondritis dissecans (OCD). OCD is a condition that is thought to occur due to poor

blood supply to the underlying bone resulting in a piece of cartilage and subchondral bone separating from the articular surface. If you have had a previous injury to your ligaments and/or menisci then you are at greater risk of articular cartilage damage due to the altered mechanics of the knee joint.

How is a chondral defect diagnosed?

Articular cartilage damage is difficult to diagnose. There isn't a particular test at present that can be carried out as part of a physical examination that is able to reliably diagnose an articular cartilage injury. The history of your problem can provide many clues. Symptoms may include pain, swelling, and/or locking. However, these symptoms mimic many other knee problems. Articular cartilage damage is typically diagnosed only after other knee problems are been excluded. Plain X-rays aren't very helpful in diagnosing articular cartilage defects. Defects are typically not seen on x-rays unless there is also a bony defect. MRI scans are routinely done and commonly will show a chondral defect but not always. MRI scans are also very helpful in diagnosing meniscus tears and ligament injuries. Chondral defects are frequently diagnosed at the time of surgery.

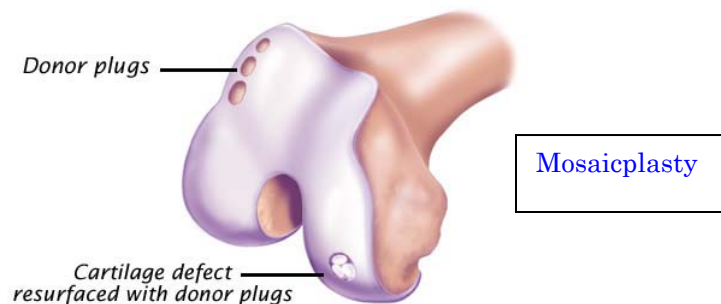


How is a chondral defect treated?

Articular cartilage has no blood supply; therefore, it can not heal itself when damaged. Treatment depends on the severity of symptoms. In a low demand patient who is not experiencing much pain or mechanical symptoms such as locking, conservative treatment is appropriate. Non-operative treatment consists of nonsteroidal anti-inflammatories (nsaids) and activity modification. Older patients who are experiencing pain, locking, or catching may elect to have a routine knee arthroscopy to remove any articular cartilage flaps. Many younger high demand patients will elect to have a more extensive surgery called OATS.

What happens if I need surgery?

OATS is an abbreviation for osteochondral autograft/allograft transfer system. A chondral defect is like a “pothole” in your femur. When the chondral defect is small, an autograft transfer is usually done. Autograft refers to taking tissue from your own body to “fill in” the defect. The goal is to restore the structure of normal articular cartilage. This is also called mosaicplasty. It is like “robbing Peter to pay Paul”.



When the defect is large, an allograft is used. This involves taking tissue from a cadaver to replace the bone and cartilage loss. It is like putting a “plug in the pothole”. Not all patients are candidates for this surgery. Contraindications include advanced osteoarthritis, rheumatoid arthritis, total meniscectomy, and ligament tears. Return to activities after OATS is generally 6-9 months.

