Osteochondral Lesions/Osteochondritis Dessicans

Osteochondral lesions or osteochondritis dessicans can occur in any joint, but are most common in the knee and ankle. Such lesions are a tear or fracture in the cartilage covering one of the bones in a joint. The cartilage can be torn, crushed or damaged and, in rare cases, a cyst can form in the cartilage.

In the knee, such cartilage damage can occur between the femur (thigh bone) and the tibia (shin bone). In the ankle, osteochondral lesions usually occur on the talus, which is the bone that connects the leg to the foot.

Symptoms

After the initial pain and discomfort of a strain or sprain subsides, individuals usually resume or even increase their activity level. If an osteochondral lesion has occurred, however, everyday activities that put pressure on the joint, may lead to pain and swelling, although the joint usually is fine when at rest. A patient with an osteochondral lesion will often feel a dull ache in the joint and may also experience a mild locking or clicking of their knee or ankle joint. The affected joint may also seem to be loose.

Causes and Risk Factors

Usually, an osteochondral lesion occurs when there is an injury to the joint, especially if there is an ankle sprain or if the knee is badly twisted. Individuals who play sports such as soccer, football, rugby and golf may be at risk of an osteochondral lesion. Although the cause of such lesions is unknown, they may involve a genetic predisposition to such a condition. They also may be caused by abnormal bone development, especially when they occur in children. Repetitive trauma has also been associated with the development of such lesions.

Diagnosis

It can be challenging to diagnose an osteochondral lesion at the time of injury. Many scans may miss the damage caused by the lesion, which is also masked by the sprain or trauma that caused the injury.
A physician will examine the joint for instability and range of motion. An X-ray may be ordered, but a cartilage tear is difficult to see on an X-ray, so a magnetic resonance imaging (MRI) or computed tomography (CT) scan may be required. In some cases, both an MRI and CT are needed to diagnose an osteochondral lesion.

### Treatments

Although wearing a brace or cast may ease the discomfort of an osteochondral lesion, they are usually not enough to remedy the problem permanently, except in children, who can respond well to non-surgical treatment.

For adults, such a condition usually requires surgery. The type of surgery that is most effective depends on the size, location and severity of the lesion. Most commonly, a surgeon will perform an arthroscopic exploration and treatment. The damaged cartilage is cleaned out and removed. If the damage is small, the surgeon may drill into the bone, which causes a small amount of bleeding and encourages healing. If damage is extensive, then a bone graft can be inserted to replace the cartilage. For older patients, a knee replacement may be an option. It is not a preferred option for younger patients, since failure of the knee replacement and the need for revision is more likely in younger patients.

After surgery, weight should be kept off the affected knee or ankle for four to six weeks. In some cases a cast must be worn for part or all of that period. Physiotherapy is then recommended to rehabilitate the affected knee or ankle. The vast majority of patients experience no pain or swelling even 10 years after surgical treatment of such lesions in the ankle. Treatments for lesions in the knee are more challenging, but also have promising outcomes.