

Ankle Osteochondral Lesion

The ankle is a joint and meant to move. It is composed of 3 bones: tibia, fibula, talus. These 3 bones are lined with cartilage. This cartilage is what makes the joint move smoothly. The cartilage surface is also known as the chondral surface. When this cartilage is damaged or deteriorated it can cause pain. This can occur after an ankle fracture, an ankle sprain, or simply deterioration with time. These areas of cartilage damage are known by multiple names such as osteochondral defect (OCD), osteochondral lesion of the talus (OLT), osteochondral fracture, cartilage defect, or chondral fissuring. This is in effect a small area of arthritis in the ankle. The symptoms are pain, swelling, and occasionally popping and grinding known as crepitance. Cartilage does not regrow and heal itself, thus requiring surgery to heal the cartilage.

The treatment is based on the size of the lesion. This handout focus' on smaller lesions. These are normally treated with a scope aka arthroscopically. Here cameras and instruments inserted into the ankle through small incisions.

- **Microfracture** – Most common method of treatment. In this technique holes are drilled into the bone under the OLT. This releases cells from within to bone to leak out and form new cartilage in the OLT. This cartilage is not as durable as normal ankle cartilage. Results vary but at 10 years after surgery 80-90% of patients are at least satisfied with this surgery and 80-90% of patients can play the sport of their choice. Some studies show that with time the repair degrades. Some patients will continue to have pain and require further surgery in time.
- **Biocartilage** – A mixture of allograft (cadaver) cartilage mixed with concentrations of your own blood. It is placed on the OLT and held with an absorbable glue. The idea is to “patch” the OLT. Patient outcomes are similar to microfracture with patients not reporting a difference in pain and function. Some studies show a lower revision rate than microfracture, while others are not as promising. Biocartilage can only be performed if the size, shape and location of the OLT is appropriate.
- **Debridement** – In some instance the OLT cannot be repaired either due to size, shape or location. In these cases a debridement in performed. In a debridement the loose pieces and edges of the cartilage are trimmed and smoothed. The goal is to prevent painful clicking and popping. The results are not as predictable, however sometimes it is the best treatment option.

Large OLT (greater than 150mm²)

- **Bulk Allograft or OATS** – meant for large OLT. During this procedure the OLT and underlying bone is removed. It is replaced with either bone and cartilage from your own knee or a cadaver bone and cartilage. Osteotomies (bone cut with saw) are needed to access the joint. Due to the bone being replaced, it requires greater time for recovery. The results for larger lesions are good, but not great. Pain is
- **Total Ankle Replacement** – when the lesion or multiple lesions are too large and too involved an ankle replacement is needed. The bone and cartilage of both the talus and tibia are removed and replaced with metal and plastic. Afterwards patients can perform light exercise such as doubles tennis or a jog. This procedure is reserved for patients older than 50.