

# **Treatment of Acetabular Chondral Lesions with Microfracture Technique Using a Curve Guide, Flexible Drill and Hyaluronic Acid Scaffold Membrane Augmentation.**

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## **Introduction:**

The diagnosis and treatment of chondral lesions of the hip remain a challenge for orthopedic surgeons. Acetabular cartilage lesions are frequently found during hip arthroscopy (1,2). The acetabulum is the most common location of chondral lesions in the hip, with one study reporting that 88% of chondral defects are found in the anterior superior acetabulum (3).

McCarthy and Lee found that 59% of chondral injuries occurred in the anterior acetabulum, and 24% occurred in the superior acetabulum. Chondral lesions usually do not have self-healing properties (4). The goal of microfracture is to promote the migration of stem cells and growth factors from beneath the subchondral bone plate into the cartilage defect, which eventually heals to form fibrocartilage (5).

## **Technique Description:**

After the patient is under general anesthesia, they are placed on the traction table. The hip is first approached through the anterolateral portal, and then the mid-anterior portal and distal anterolateral accessory portal are created and used as working portals. When a focal and full-thickness cartilage lesion of less than 2 cm<sup>2</sup> is identified, the microfracture procedure is performed. Using a ring curette, loose cartilage is scraped to create perpendicular borders. Then, the microfracture is realized with a drill bit through a curve drill guide. Start from the periphery of the defect and work towards the center, placing the holes 3 to 4 mm apart to avoid subchondral plate fractures and with a depth of 2 or 4 mm. The hyaluronic acid scaffold is cut to fit the chondral defect and then inserted and gently adapted to the chondral defect using a probe with the joint dry.

## **Results:**

Domb et al. published results with a minimum 5-year follow-up after hip arthroscopy with microfracture as a part of hip arthroscopy, demonstrating favorable outcomes in

72% of patients (5). A systematic review showed that microfracture and autologous chondrocyte transplantation are associated with equivalent improvement in clinical outcomes in patients with high-grade chondral defects in the hip in the short- and midterm follow-up (5 to 72 months) (6).

### **Keywords**

Acetabular chondral lesions, Hip arthroscopy, Microfracture, Hyaluronic acid scaffold

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