## Paper #48

## Are There Disease-Specific Articular Cartilage Wear Patterns in Various Pre-Arthritic Hip Disorders?

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Notes

**Introduction:** The aim of this study was to determine the disease-specific patterns of articular cartilage damage in patients undergoing hip arthroscopy for the treatment of FAI, DDH or combined FAI/DDH pathologies.

Methods: A multicenter longitudinal cohort was utilized to identify 1358 patients who underwent a hip arthroscopy (alone or in common with an open procedure) for the treatment of acetabular DDH or/and FAI. The mean patient's age at the time of surgery was 30.5 (range: 8-68) and there were 944 females (70%). The average BMI was 25 (range: 17-53). Acetabular and femoral head chondromalacia was classified arthroscopically by location and severity. Only lesions grade =2 (malacia, debonding, cleavage and defect) were reported. Radiographic evaluation included: acetabular inclination (AI), lateral center edge angle (LCEA) and alpha angle. Hips were categorized as: DDH (n:466) (LCEA <25-alpha angle<55), DDH+Cam (n: 101) (LCEA<25 and alpha angle >55), Cam FAI (n:466) (LCEA>25-alpha angle >55), Pincer FAI (n:42) (LCE>35) and Combined Cam/Pincer FAI (n:283) (LCEA>35 and alpha>55).

**Results:** Overall, articular cartilage damage was observed in 90% of the hips. Patients over 20-years-old had significantly more cartilage wear at the acetabulum and femoral head (99% vs 83%) (11% vs 2%) (p<0.001). For all groups, the most commonly affected area was the anterior and superolateral areas in the acetabulum and the anterolateral aspect of the femoral head. Patients with CAM lesions presented significantly (p<0.001) higher wear in the posterior aspect of the acetabulum. The DDH group presented significantly more wear in the posteromedial femoral head (p=0.01).

**Conclusion:** This study shows that there are specific articular cartilage wear patterns in various pre-arthritic hip diseases. A posterior acetabular wear was pathognomonic of Cam lesions. Patients with DDH had a specific pattern of wear in the posteromedial aspect of the femoral head.