

What's New in Sports Medicine

High Incidence of Cam FAI in Athletes

By Dr. William Renner

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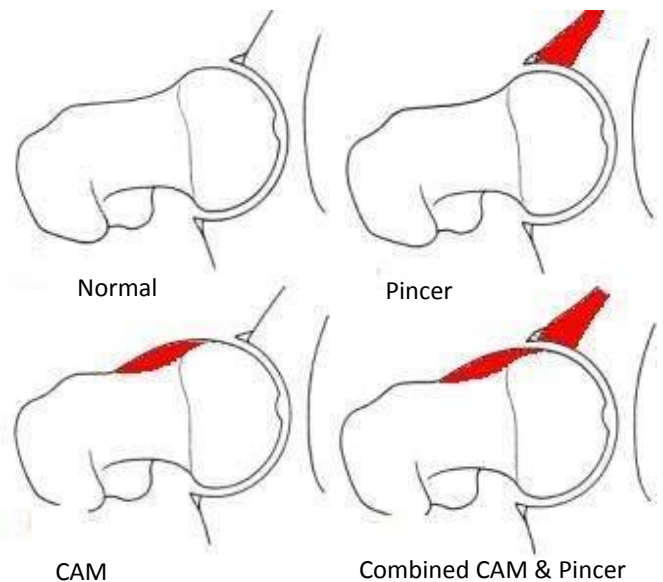
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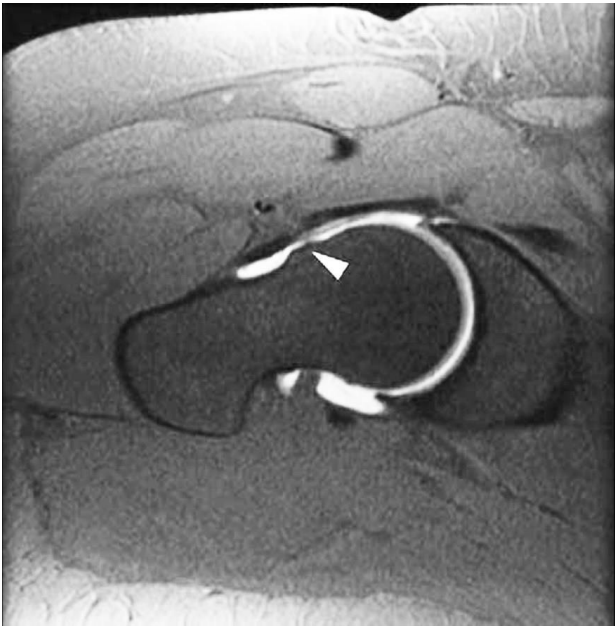
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Recent studies of FAI reveal the very high incidence of cam deformity (femoral neck bump) in Athletes. The cam deformity is a major risk factor for osteoarthritis of the hip and labral tears. More than half of the athletes studied, average age 25, had evidence of cam deformity as compared to only 23% of age-matched controls. In one study, cam deformities gradually developed during maturation of the skeleton in young soccer players, suggesting playing soccer was causative of cam.

Young patients with labral tears nearly always have FAI, most commonly cam deformity. 90% of labral tears and chondral defects occur at the anterior-superior portion for the acetabulum.



Cam impingement is caused by a nonspherical head. Pincer impingement is caused by excessive acetabular coverage. Most patients (85%) have a combination of both. Both result in limited hip motion



MR image of CAM Femoral head deformity (FAI) bump at anterior lateral hip.

50% of young athletes have FAI, most have cam deformity.

Nearly all young people with labral tears have FAI.

90% of labral tears occur at the anterior-superior portion for the acetabulum.

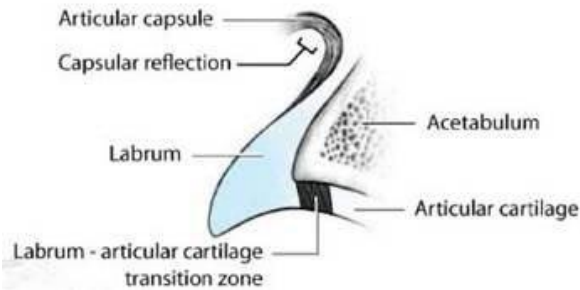


Diagram of normal labrum with normal junction of articular cartilage and fibrocartilaginous labrum

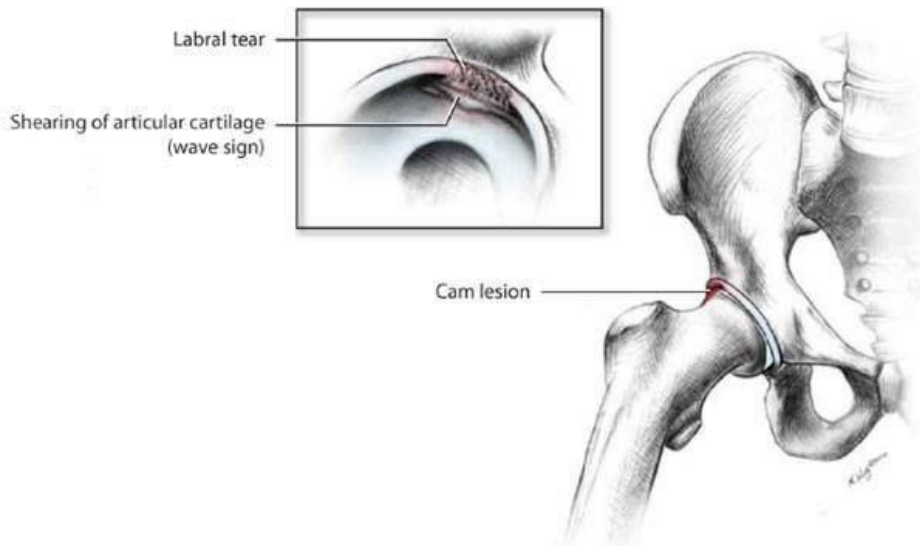


Type 1 involves the attachment of the articular hyaline cartilage from the fibrocartilaginous labrum at the transition zone

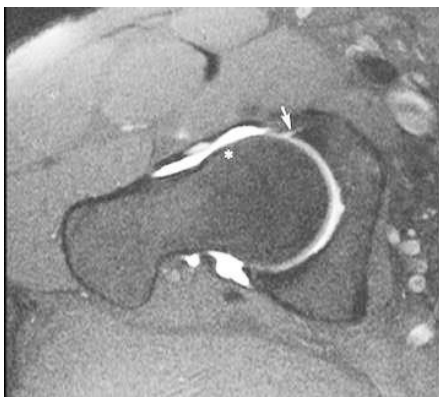
There are 2 main types of labral tears. Type 1 involves the attachment of the articular hyaline cartilage from the fibrocartilaginous labrum at the transition zone. Type 2 labral tears are of the substance of the labrum.



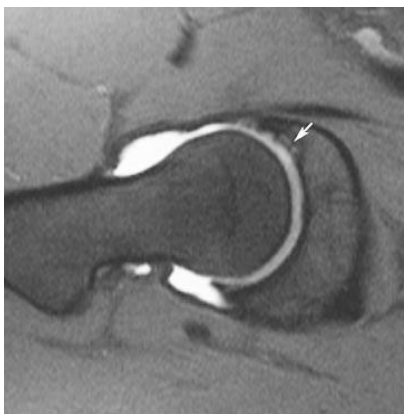
Type 2 labral tears are of the substance of the labrum.



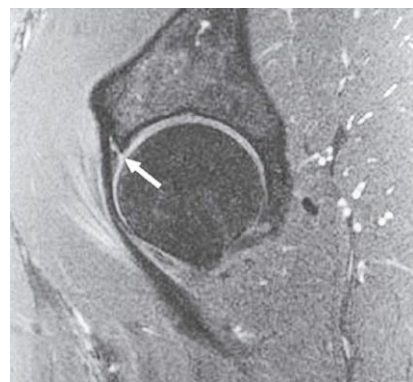
CAM deformity appears to be caused by abutment of the femoral head-neck junction against the acetabulum bump, the nonspherical deformity of the femoral head. The bump lifts up the labrum and can shear the articular cartilage from the labrum resulting in chondral injury and labral tear.



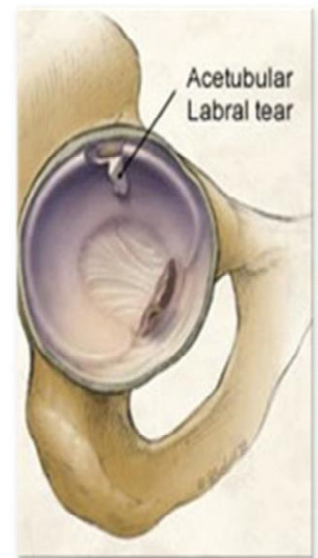
MR image of cam deformity with femoral neck bump (asterisk) and associated labral tear (arrow)



MR with FAI and chondral defect. Both labral tears and chondral defects occur most commonly at the anterior-superior portion for the acetabulum.



Type 1 tears at the transition zone of the attachment of the articular cartilage with the fibrocartilaginous labrum.



Surgical studies suggest that debridement of labral tears in young people relieve hip pain in about 65% of cases, however if the labral tear can be repaired, pain is relieved in about 88% of patients. Type 1 tears at the attachment of the articular hyaline cartilage with the fibrocartilaginous labrum may be easier to repair.