

Learning Objectives:

1. To become familiar with the patterns of injuries to the labrum and the articular cartilage
2. To learn about the normal anatomic variants, that should not be misinterpreted as injuries
3. To become familiar with the mechanisms and imaging findings associated with femoroacetabular impingement
4. To learn about the different imaging techniques and their strength and weaknesses in the assessment of femoroacetabular impingement

The acetabular labrum consists of fibrocartilage. Injuries occur most commonly at the base of the labrum. Intra substance tears of the labrum or tears that extend in the labrum are less common. The most common site of injury to the labrum is the antero-superior aspect of the acetabulum. Chronic injuries can be associated with a perilabral cyst formation. A normal sulcus at the base of the labrum may be present postero-superior or antero-inferior. Cartilage injuries occur most common at the antero-lateral aspect of the acetabulum or at the acetabular rim. Cartilage injuries at the femoral side are much less frequent and occur later. A characteristic area for femoral cartilage injuries is the parafoveal region. Femoroacetabular impingement is an important mechanism that results in premature osteoarthritis of the hip joint. Femoroacetabular impingement may be caused either by an abnormal proximal femur (Cam-femoroacetabular impingement caused by a eccentric femoral head) or an abnormal acetabulum (Pincer femoroacetabular impingement caused by an over coverage by the acetabulum). Femoroacetabular impingement may lead to labral tears and cartilage damage. The acetabular cartilage may be delaminated from the subchondral bone in patients with cam deformities. Other causes of hip impingement such as ischiofemoral impingement, subspine impingement or iliopsoas impingement have been described. Ischiofemoral impingement is caused by narrowing of the space between the ischial tuberosity and the lesser trochanter. The subspine impingement is caused by an enlarged anterior inferior iliac spine, for example after an avulsion injury in the adolescent. Iliopsoas impingement is a controversial entity that may be caused by a conflict between the iliopsoas tendon and the anterior hip capsule.