Arthroscopic Treatment of an Acetabular Labral Tear for a Patient with Coxa Vara, Acetabular Overcoverage, and Coxa Profunda

Jonathan Lee, Stephen Gillinov, Jeffrey Mun, Scott David Martin

Given the importance of the labrum for hip joint health and function, it is imperative that younger patients with symptomatic labral tears and minimal degenerative changes undergo repair in a safe and timely manner. Arthroscopic management is the preferred technique due to decreased morbidity and faster rehabilitation; however, unique bony morphology may challenge this approach. For patients with acetabular overcoverage and coxa profunda, limitations in arthroscopic instruments may lead to iatrogenic injury of the labrum and articular cartilage; increased traction may cause nerve damage; and bony overcoverage may limit access to the central compartment, necessitating a high degree of precision under fluoroscopic guidance. To ensure a successful labral repair for patients with challenging bony anatomy, it is imperative that hip arthroscopists are able to adapt their techniques. In this case report video, we present a 32-year-old male patient who has a 5-year history of intermittent left hip and lower back pain. Upon presentation, the patient describes pain in the groin and buttocks. There was no inciting event, and hip pain was aggravated by walking and periods of inactivity. Preoperative AP and Dunn lateral view radiographs of our patient were obtained and indicated the presence of acetabular overcoverage, CAM-type impingement, coxa vara, a negative Tönnis angle of -5 degrees, and coxa profunda. This combination of radiographic findings pose significant challenges for arthroscopic labral repair. The downward sloping acetabulum, coxa profunda, and decreased neck shaft angle from coxa vara limit central compartment access for the arthroscope and necessitates elevated distraction forces. As a result, the senior surgeon applied various techniques to allow for a safe and successful repair. Key pearls for this procedure include: 1) Utilizing the femoral head drop technique to reduce the risk of iatrogenic injury and neuropraxia for patients who have coxa vara, pincer-type FAI, a downward sloping sourcil, or coxa profunda, 2) Releasing traction at various timepoints throughout the surgery, 3) Leaving the patient's sock on during hip distraction, 4) Performing repeat fluoroscopy to optimize needle trajectory during initial portal placement, and 5) Being amenable to converting to an open surgery if the bony anatomy poses too significant of a challenge to safely scope without causing iatrogenic damage to the joint. In summary, arthroscopic labral repair can be a safe procedure for patients with challenging bony anatomy.