

# Hip Arthroscopy at the University of New Mexico

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I have recently returned to UNM to further my interest in the hip. As orthopaedic surgeons, we are a very active cohort. Many of us played football or other sports that led to injuries we will, sooner or later, pay for with total joint arthroplasty. Certainly, we see this with knee and shoulder injuries. The hip is a different entity. While some athletes have a clear traumatic injury to the hip, most of us who develop hip osteoarthritis (OA) have no traumatic history.

The presence of anatomical abnormalities leading to osteoarthritis has been postulated for many years. Early description of femoral deformity as a possible cause by Dr. Harris in 1986 led to the perception that most OA of the hip was a result of underlying abnormalities.<sup>1</sup> There is even some evidence that some of these deformities have a degree of transmissibility.

Hip arthroscopy was first described in 1931 by Burman in a cadaveric study.<sup>2</sup> The first clinical description was in 1939 by Takagi in 4 patients.<sup>3</sup> Early applications were for septic arthritis, Charcot joints, and tuberculous arthritis. The 1980s saw a gradual increase in publications. Since 2003, there have been more than 10 publications each year.

The indications for the procedure have broadened as traction and instrumentation have allowed safer access to the joint. Labral tears, loose bodies, synovial chondromatosis, iliopsoas tendinopathy, adhesive capsulitis, arthritis, synovial chondromatosis, hip abductor tears, and trochanteric bursitis can be treated arthroscopically.

Acetabular labral tears are certainly the most common indication for the procedure but are sometimes difficult to diagnose on MRI. The exam can be very helpful with an audible or palpable click in some patients and impingement signs with pain on flexion, adduction, and internal rotation in many. The fact that this is mostly a secondary process has been appreciated only in the last 10 years.

In treating developmental dysplasia of the hip, Professor Ganz realized that some of his patients were developing problems as a result of overcorrection of the dysplasia.<sup>4</sup> This has become known as femoroacetabular impingement (FAI). Initially, the treatment of the excessive anterior acetabular coverage and femoral head-neck junction deformities was by open surgical dislocation. Arthroscopic techniques or a combined

limited open approach and arthroscopy have now been utilized with good results and less morbidity. There have been a number of publications linking the osseous abnormalities seen in FAI with the development of early osteoarthritis.

The abnormalities have been described as the cam deformity where the femoral head-neck offset is diminished, leading to impingement between the acetabular rim and a bony “bump.” This bump will shear the cartilage at the articular margin resulting in eventual delamination of the cartilage from the acetabulum. The pincer abnormality is secondary to overcoverage of the femoral head due to a very deep cup (*profunda*) or due to acetabular retroversion. Many hips have a combination of both of these entities.

The development of the cam deformity is controversial. Is it a subclinical slipped capital femoral epiphysis? A variant of Osgood-Schlatter’s of the hip? Is it hereditary or activity- related? Are there certain sports that are more likely to cause it? The answers to these questions are presently being investigated. The pincer abnormality, with a center-edge angle of  $>40^\circ$ , is more likely developed at an early age and not necessarily influenced by activity.

I have been personally affected by the “drama” of FAI. I have now had both of my hips replaced and have had 2 children with acetabular labral tears. Clearly, there is some hereditary factor. I can only speculate that my hip films as a youth were very similar to those of my son’s at age 19 when he sustained a labral tear and underwent staged bilateral hip arthroscopy. My hip films, taken at age 14 at Columbia-Presbyterian for hip pain, were destroyed. I became asymptomatic until later in life. My daughter had hip films taken at age 13 at Carrie Tingley Hospital and then developed bilateral hip pain with labral tears in her 20s. She has undergone 1 hip arthroscopy. Both of these offspring are doing well but the future of their articulations remains a concern.

There is evidence that acetabular rim trimming, labral repair, and femoral neck osteoplasty can be very effective in treating hip pain and returning patients to activity. Long-term follow-up is not yet available to determine whether our interventions can prevent the development of osteoarthritis. This will take many years to prove. We can only speculate. In most patients, the osseous abnormalities are present in both hips. Often

only one side is symptomatic, however. No surgeons have yet recommended that prophylactic surgery should be performed but this could change if it is ever proven that OA is prevented by this procedure.

As a result of this history, I became very interested in treating hip abnormalities. I attended courses and observed multiple surgeries and have been performing hip arthroscopy for the last 3 years. As with any surgery, there is a significant learning curve. I have helped most of my patients but not all have benefited. A few patients have gone on to have total hip arthroplasty. Others had more minor, but persistently symptomatic, cartilage damage.

In our brave new world of intense media scrutiny, hip arthroscopy has been one of the new procedures that has been singled out as being of questionable efficacy. A recent *New York Times* article stressed the fact that there is no clear proof about the effect of the procedure on subsequent OA and no clear proof that the cam deformity does not regrow.<sup>5</sup> The recent treatment of high profile athletes has led to this increased scrutiny, as well.

In the past, our procedures have not been assessed so critically. The world has changed. We are now at the mercy of the insurance industry as to whether new procedures will be recognized or reimbursed. There has been much effort to address the issue of reimbursement and recognition of procedural codes so that we can perform this procedure. This is still evolving, as is the reimbursement for most of our procedures.

How do we justify the development of new surgical techniques? Some techniques are variations on older approaches. Marketing has become an acceptable term in the discussion. We are always looking for ways to make our results better and to help more people but we must be wary of the learning curve and the marketing aspects.

In the academic setting, we must also wrestle with the desire to perform newer techniques and the concern over who should be applying these in their practices. We know there is a learning curve in any procedure that we do. As a resident, I was somewhat doubtful when a learned sage (Tom DeCoster) told me that I wouldn't really know how to perform a surgery until I had done more than 100. I realize that his analysis was correct and has been clearly documented in various studies. In fact, we are always learning and altering our practices to continually seek fewer complications and better outcomes for our patients. We have all witnessed bandwagons come and go. Some we have jumped on (and off), some we have let pass by. It is the nature of our profession that

we should continually learn. This activity improves our outcomes – we hope – and wards off senility.

I am hoping that by performing hip arthroscopy, I can prevent patients from having total hips at an early age but it will be difficult to know for many years whether this will be true or false. In the meantime, I will monitor hip scores and improve the immediate future for my patients in pain.

## References

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