

# 11453

Surgical Hip Dislocation: A Viable Technique for Treatment of an Aneurysmal Bone Cyst of the Acetabulum  
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### **Background**

Aneurysmal bone cysts (ABCs) are benign tumors of bone that most commonly affect adolescents and young adults. Although rare, ABCs of the pelvis present difficult treatment challenges due to the complexity of the surrounding anatomy. Intra-articular benign bone tumors of the hip, such as ABCs, present unique challenges because of the relative inaccessibility of the interior aspect of the acetabulum during a surgical exposure. There is little guidance in the orthopedic oncology literature on how to optimally manage these difficult cases. The surgical hip dislocation, as described by Ganz et. al in JBJS in 2001, provides excellent exposure of the articular surface of the hip joint and may provide the surgical exposure needed for the successful treatment of intra-articular pelvic ABCs.

### **Questions/Purposes**

- 1) To determine if a surgical hip dislocation can be utilized for the successful treatment of intra-articular benign bone tumor of the hip joint.
- 2) Describe a rare presentation of an ABC of the acetabulum causing hip subluxation and near dislocation.

### **Patients and Methods:**

A 16 y/o male presented with a four-month history of progressive right hip pain. Radiographs and MRI demonstrated an acetabular lesion causing joint subluxation and near dislocation of the hip. CT-guided biopsy was performed and pathology was consistent with a primary aneurysmal bone cyst. An anterior surgical hip dislocation through a posterior approach with a trochanteric flip osteotomy was used to approach the hip joint. The lesion was treated with curettage, high-speed burring, and bone grafting of the ABC. The trochanteric osteotomy was reduced and secured using screws. The patient was followed clinically and radiographically for three years, and his outcome was assessed using the Harris Hip Questionnaire.

### **Results**

The surgical hip dislocation allowed full visualization of the tumor and the involved area of the inner aspect of the peri-acetabular bone. This exposure facilitated complete curettage and burring of the lesion. The patient was treated postoperatively in a hip abduction orthosis and began full weight bearing at three months. At five-month follow-up, the patient ambulated without a limp and had weaned from crutches. At final follow-up, three years from surgery, he had no pain and nearly full range of motion of the hip. There was no evidence of recurrence or avascular necrosis. The patient's Harris hip Score was excellent (95.85).

### **Conclusions**

To our knowledge, this is the first described case of an intra-articular ABC treated utilizing a surgical hip dislocation as described by Ganz et. al in 2001. There are also very few reports of an intra-articular ABC causing hip subluxation. This report demonstrates that an anterior surgical hip dislocation may provide excellent exposure for the successful treatment of intra-articular benign bone tumors without the development of avascular necrosis.



Figure 1: Primary aneurysmal bone cyst of the acetabulum causing joint subluxation.



Figure 2: Concentric reduction at three-year follow-up without evidence of recurrence or osteonecrosis of the femoral head.