

Acute Total Hip Replacement for Geriatric Acetabular Fracture: Anterior Intrapelvic Approach and Posterolateral Approach

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Background

In deciding to perform acute total hip arthroplasty in patients with an acetabular fracture, two factors must be considered: patient characteristics and fracture characteristics. Patient characteristics dictate whether a patient is a candidate for acute total hip arthroplasty. These patients are 55 years or older; are active, independent ambulators; and do not have any cognitive impairments. If a patient meets these criteria, then fracture characteristics are evaluated to determine the risks and advantages of performing acute total hip arthroplasty versus standard open reduction and internal fixation. Acetabular fracture characteristics that may benefit from acute total hip arthroplasty include superior dome impaction, inadequate articular surface reduction after open reduction and internal fixation, femoral head impaction, and pre-existing hip arthritis.

Purpose

This video describes the indications and technique for acute total hip arthroplasty in a geriatric patient with an incomplete both-column acetabular fracture.

Methods

This video discusses the case presentation of a 65-year-old male bicyclist who was struck by a vehicle and sustained an incomplete both-column acetabular fracture. Radiographs of the pelvis demonstrated quadrilateral plate displacement medially, superior dome impaction, and an iliac wing fracture that contained the weight-bearing portion of the acetabulum. Based on the patient's physiologic age, active lifestyle, and fracture characteristics, which portended a high risk for early posttraumatic arthritis of the hip, the decision was made to proceed with fixation and acute total hip arthroplasty.

Results

Radiographs obtained 6 months postoperatively demonstrated a healed iliac wing fracture, no evidence of hardware failure, no displacement of the acetabular or femoral component with good component positioning, and equal leg lengths. A video obtained at 6-month clinical follow-up shows the patient's ability to ambulate without an assistive device and with a normal gait.

Conclusion

Surgeons should consider open reduction and internal fixation with acute total hip arthroplasty for geriatric acetabular fractures in patients who are physiologically active and without cognitive impairments.