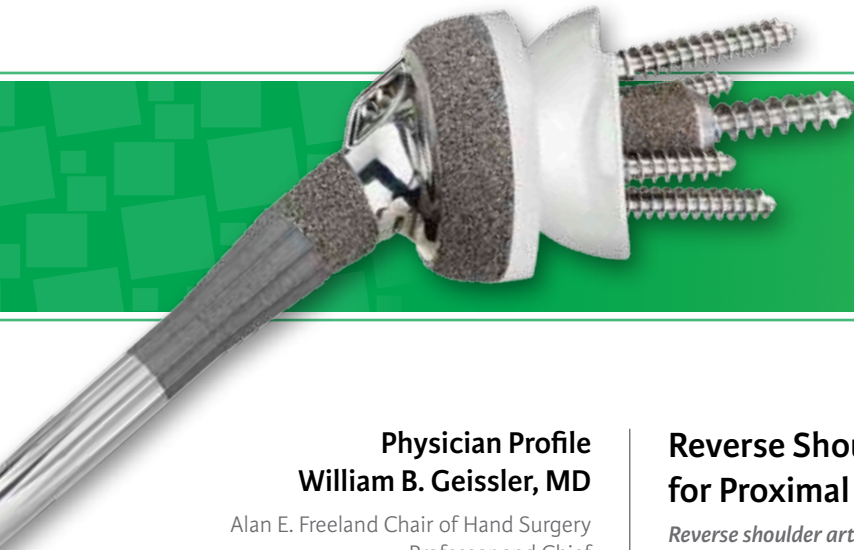


Integra®

Reverse Shoulder Arthroplasty

INTEGRA
LIMIT UNCERTAINTY



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Reverse Shoulder Arthroplasty for Proximal Humerus Fracture

Reverse shoulder arthroplasty is becoming increasingly popular for management of comminuted fractures of proximal humerus in older patients. Range of motion in patients who have been managed with reverse shoulder arthroplasty is, generally, significantly greater compared to traditional hemiarthroplasty.

Patient Profile/History

The patient was a 69 year old male who presented to the emergency room with a comminuted fracture to the proximal humerus following a fall. He was seen at an outside hospital and initially treated non-operatively. The patient had a second fall with a recurrent fracture to the proximal humerus.

The patient presents today with marked deformity, pain, and limitation of motion. Physical examination showed marked clinical deformity of the shoulder. He had no active motion to the shoulder secondary to pain and crepitus. He was extremely sensitive to palpation of the proximal humerus and there was marked crepitus with any passive motion. Due to the marked deformity and chronic fracture to the proximal humerus, it was recommended the patient undergo reverse shoulder arthroplasty.

Surgical Treatment

This patient was brought to surgery and the standard deltopectoral approach was made. On evaluation of the proximal humerus showed multiple small fragments complicated by early callus formation. Multiple comminuted bone fragments were removed. Due to the multiple small fragments, internal fixation of the fracture was not possible. At that point the Integra® Reverse Shoulder System arthroplasty prosthesis was utilized.

Postoperatively, the patient underwent a physical therapy program. At final follow-up, he had approximately 130 degrees of flexion and abduction. His strength was greatest grade four plus out of five. He was extremely pleased considering he had absolutely no motion preoperatively and in severe pain.

Pre-Op and Post-Op Radiograph/MRI/CT Images and Surgical Pictures

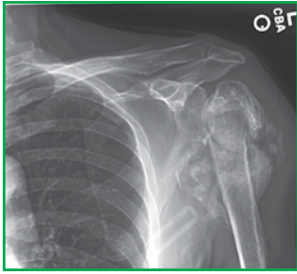


Figure 1 – Anterior/posterior radiograph demonstrating a very comminuted, displaced, and chronic fracture of the proximal humerus. There is marked bony deformity and callus formation from this injury.

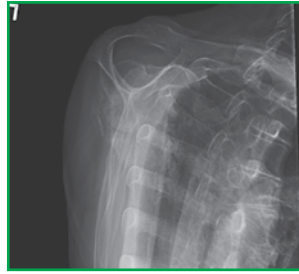


Figure 2 – Lateral radiograph showing comminuted chronic fracture of the proximal humerus. Note the shaft 100% displaced anterior to the humeral head. The patient was initially treated non-operatively at an outside institution.



Figure 3 – Intraoperative photograph showing the very comminuted fracture of the proximal humerus and multiple fragments in early callus formation.



Figure 4 – Inter-radiograph showing placement of the Integra Reverse Shoulder System prosthesis. Note the complete loss of the proximal humerus. The stability of the prosthesis is dependent on the distal press-fit fixation.

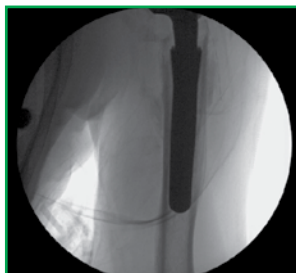


Figure 5 – Intraoperative fluoroscopy showing good alignment of the stem into the proximal humerus. The small lucency around the stem is secondary to the impacted bone.



Figure 6 – At six month follow-up, anterior/posterior radiograph shows an excellent reduction of the humerus under the glenosphere. Postoperatively, the patient had a very good, functional range of motion of the shoulder.

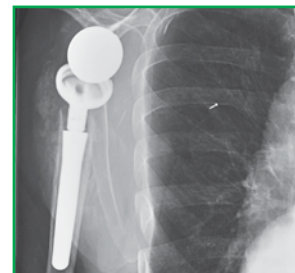


Figure 7 – Lateral scapula radiograph shows excellent reduction of the humerus under the glenosphere. Notice the screw, as seen in figure 6, is from another injury, and it is not in the vicinity of the shoulder.

Physician Conclusion

The patient presented with an extremely comminuted fracture of the proximal humerus which was chronic in nature with secondary callus formation. Once multiple, small callus fragments were excised, leaving virtually no proximal humerus, internal fixation was not a viable option. In this case, the Integra Reverse Shoulder System prosthesis was ideal because of its distal-fitting capability. The lack of proximal humerus bone to stabilize the prosthesis was not a concern as excellent fixation was achieved with diaphyseal fixation provided by the splined stem. The patient had excellent results following reverse shoulder arthroplasty in this unusual situation.

As the manufacturer of this device, Integra does not practice medicine and does not recommend this or any other surgical technique for use on a specific patient. The surgeon who performs any implant procedure is responsible for determining and using the appropriate techniques for implanting the device in each patient.

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