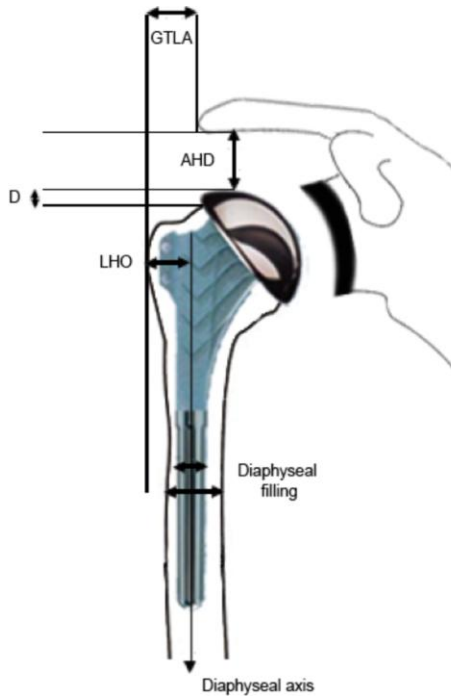


**Fig. E-1**  
Fracture sequela involving humeral head osteonecrosis and valgus malunion of the greater tuberosity (type 1C). In this case, use of a short humeral stem mitigated the risk of both diaphyseal humeral fracture and medial positioning of the humeral head. Note the appropriate relationship between the head of the prosthesis and the greater tuberosity. It is important to consider both the anteroposterior and lateral projections when planning reconstruction in cases of malunion.



| <b>Radiographic Measurements</b> | <b>Mean</b> | <b>Range</b> |
|----------------------------------|-------------|--------------|
| <b>AHD</b>                       | 10          | 3 to 20      |
| <b>D</b>                         | 3.3         | -7 to +11    |
| <b>GTLA</b>                      | 10.8        | 0 to 27      |
| <b>LHO</b>                       | 18.3        | 6 to 38      |
| <b>Diaphyseal filling</b>        | 39.6%       | 23% to 57%   |

**Stem positioning**

|                    | <b>Valgus</b>  | <b>Varus</b>   | <b>Neutral</b> |
|--------------------|----------------|----------------|----------------|
| Number of patients | 24             | 8              | 23             |
| Value (°)          | 5° [1° to 14°] | 7° [2° to 15°] |                |

Fig. E-2

Radiographic measurements on a postoperative anteroposterior radiograph. AHD = acromiohumeral distance, D = distance between the top of the greater tuberosity and the top of the humeral head prosthesis, GTLA = greater tuberosity lateral offset, and LHO = lateral humeral offset. Diaphyseal filling was evaluated in only forty-seven patients (short stems were excluded); all other radiographic measurements were evaluated in all patients.

TABLE E-1 Other Variables with Potential Influence on Clinical Outcomes After Shoulder Arthroplasty for Type-1 Fracture Sequelae

| Variables   | Outcome Measure | P Value | Test   |
|---|-----------------|---------|--------|
| Preoperative status of rotator cuff: torn or thin versus normal                 | Constant score  | 0.36    | T test |
| Initial fracture treatment: conservative versus surgical                        | Constant score  | 0.30    | T test |
| Surgical procedure before arthroplasty versus no surgical procedure on shoulder | Constant score  | 0.20    | T test |
| Postoperative radiograph (Fig. E-2): $D \leq 0$ versus $D > 0$                  | Constant score  | 0.13    | T test |
| Osteonecrosis versus no osteonecrosis   | Constant score  | 0.59    | T test |
| Delay between trauma and arthroplasty: <24 months versus >24 months             | Constant score  | 1       | T test |