Isolated Greater Tuberosity Fracture

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What is it?

Neer classification  « T » of AST classification  AO classification
General considerations

12-16% of proximal humerus fractures
Perron (2003)
Hovelius (1993)
Cleeman (2000)
Chun (1994)
General considerations

On average 8 +/- 3.2 mm below the top of the articular segment (Iannotti 1992)

Very little tolerance for GT displacement
Superior displacement (subacromial outlet impingement)
Posterior displacement

GECO 2012
2 different Mechanisms

1. Direct impaction against acromion or superior glenoid (Barh

2. Avulsion injuries in association with anterior GH dislocation
   Gibbons 1909
   Abdelnoor 1991
   Baker 1965
   Sheuer 1980
   Watson-John 1955
   Wolf 1987
Evaluation

What about association with cuff tear?

What about association with neurologic problems?

What about 3 or 4 undisplaced HH fracture?
X Rays

1- Anteroposterior (AP)
2- Scapula Y-view
3- Axillary view?
4- AP in IR and ER

CT Scan

Determining the amount of tolerable displacement
Axial view (posterior displacement)
Coronal view (superior displacement)
3-D reconstructions
Others exams?

MRI


Echo

Non operative treatment?
... for undisplaced GT fractures

Operative treatment?
... for displaced GT fracture

What about «GT fracture displacement»?

More than 1cm


What about « GT fracture displacement»?

Bigliani LU, Flatow EL, Pollock RG. Fractures of the proximal humerus

A new suggestion for the treatment of minimally displaced fractures of the greater tuberosity of the proximal humerus.
Approach

Superior approach


Deltopectoral approach

Arthroscopy

Carrera 2004
Ji 2007
Joshi 2005

Taverna 2004
Garstmann 1996
Kim 2008
Fixation

Isolated screw fixation

Green A, Norris T.
Complications of non-operative management and internal fixation of proximal humerus fractures.

Suture fixation

Gerber C, Warner JP.
Alternatives to hemiarthroplasty for complex proximal-humeral fractures.