



**TORNIER**  
**AEQUALIS™ FX**  
Shoulder System



SYSTEM OVERVIEW

# Simple in design, but used for the most complex fractures

Each year, approximately 4 million people in the United States seek medical care for shoulder conditions that include soft tissue trauma, fractures, rotator cuff tears, instability and arthritis.

Hemiarthroplasty for three and four-part Proximal Humerus Fractures is one of the most challenging procedures facing surgeons today. Options depend on fracture anatomy, bone quality and patient functional demands. Generally, percutaneous and/or plate fixation osteosynthesis is recommended for young patients with good bone. Hemiarthroplasty is indicated in the low-demand elderly patients with osteoporotic bone and severely displaced articular surface fractures.

The technical goal of hemi-arthroplasty is to recreate a patient's pre-fracture anatomy. Hemiarthroplasty for three and four-part fractures of the proximal humerus is the standard of care in most cases. It is, however, technically demanding and requires a meticulous attention to surgical detail. Proper component positioning, proper tuberosity reconstruction, and appropriate physician-directed physiotherapy is mandatory for a successful result.



*"The AEQUALIS™ Fracture prosthesis, which has been specifically designed for fractures, gives two times less tuberosity migration and two times less tuberosity nonunion or malunion (25% versus 49%) than the standard model. This allows us to confirm that bony healing is obtained more consistently with the later prosthetic models."*

**BOILEAU, 2001**

# Promote bone in-growth & tuberosity integration

## HA Coated Stem

The AEQUALIS™ stem is designed to be anatomically friendly thus providing surgeons with reproducible tuberosity fixation and post-operative shoulder function.

## Eccentric Dial Humeral Heads

Provide coverage of the reduced tuberosities.

## HA Coated Stems

The metaphyseal portion of the prosthesis has a roughened surface with a thin coating of hydroxyapatite to enhance early bonding with bone and provide excellent clinical results.<sup>1</sup>

## Innovative Metaphyseal Window

“Bone Bridge Fixation” allows the placement of any supplemental bone graft from the humeral head fragment, encouraging additional metaphyseal bone to stem fixation.

## Stem Design

Allows the anatomy to be restored by employing a medial tapered, flat lateral neck and low profile fin to permit correct positioning of the greater and lesser tuberosities and a polished neck to prevent suture abrasion.



*“Recent observations have suggested that geometry and surface contour of the proximal stem may affect tuberosity healing. Too thick a proximal humeral stem may result in pull-off of tuberosities by over-lateralizing them and preventing healing due to over-tensioning.”*

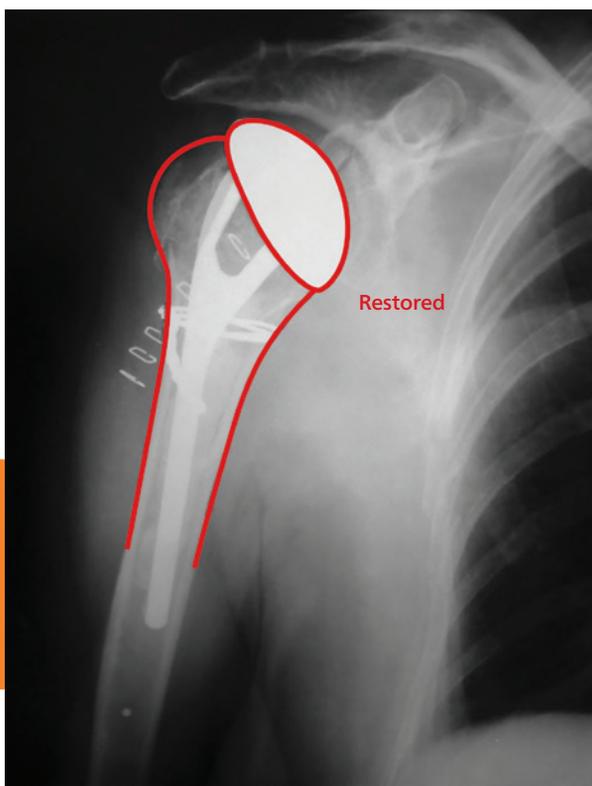
GERBER, 2005

# Dramatic reduction in tuberosity migration

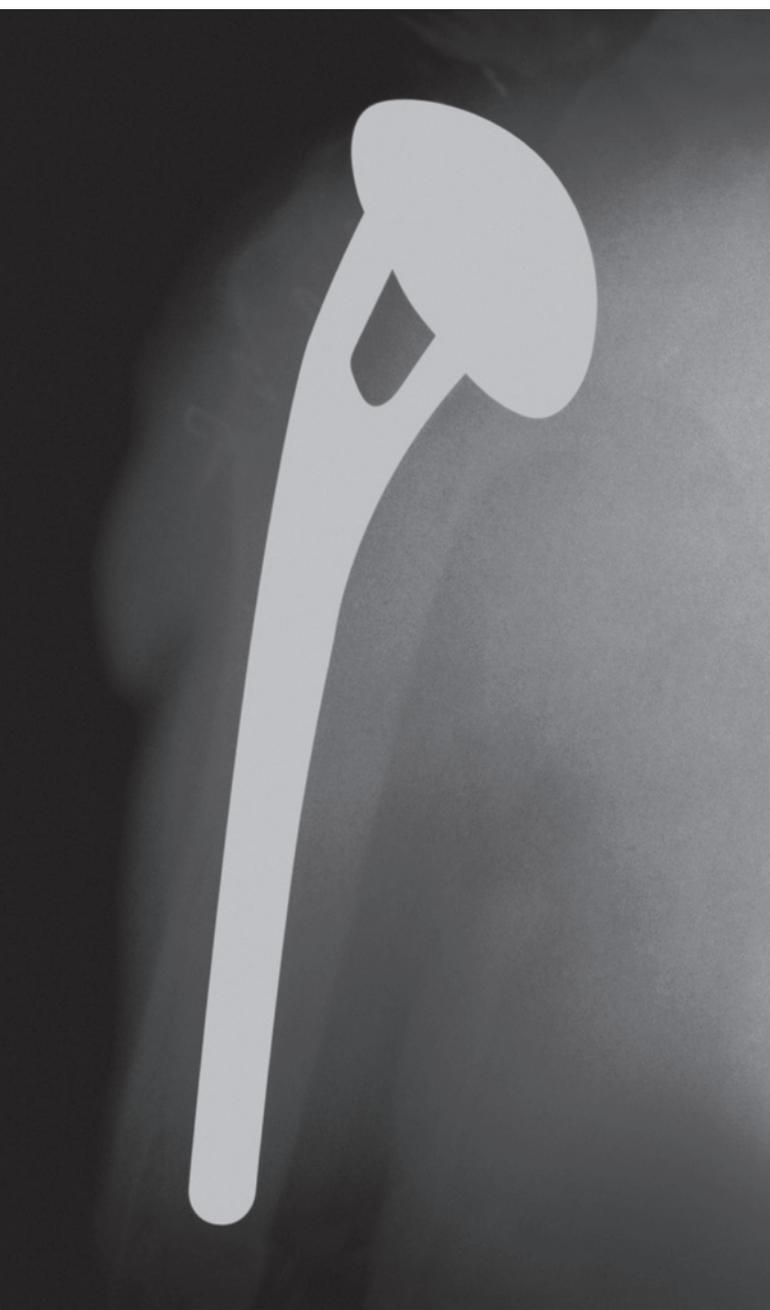
## Restore the Anatomical "Gothic Arch"

Combining a proven stem design and a four step reproducible technique, now allows a surgeon to recreate the anatomic gothic arch with stable tuberosity osteosynthesis.

The Gothic Arch of the shoulder girdle combined with anatomic tuberosity reconstruction can make this operative procedure reproducible using 4 steps. Restoration of the "Gothic Arch" with the use of a fracture stem designed specifically for proximal humerus fracture can yield healing results higher than 90%.<sup>2</sup>



Specifically designed for  
proximal humerus fractures



The AEQUALIS™ Fracture Shoulder System provides a superior foundation for the reattachment of the tuberosities while restoring center of rotation and function to the shoulder.

### AEQUALIS™ Fracture Shoulder System

*"Proximal humeral hemiarthroplasty is indicated for most patients with four-part fractures, displaced three-part fractures, fracture-dislocations, and head-splitting fractures of the proximal humerus—especially in elderly patients with low to moderate physical demands. ....Contraindications to shoulder fracture arthroplasty usually involve medical comorbidities that prevent surgical management in general. ....Selected younger patients or patients with valgus-impacted four-part fractures may be considered for osteosynthesis of the fracture instead of arthroplasty."*

– KRISHNAN, 2005

## Bibliography

Krishnan S, Boileau P, Pennington S, Burkhead W. Shoulder Arthroplasty for Fracture: Restoration of the "Gothic Arch". Techniques in Shoulder and Elbow Surgery (2005) 6(2): 57-66.

Boileau, P. Coste, J. Ahren, P. (2001) Prosthetic shoulder replacement for fracture: results of the multicentre study. In: 2000 Shoulder prostheses...two to ten year followup. (G. Walch, P. Boileau, and D. Mole, eds.). Montpellier: Sauramps Medical.

Gerber A, Warner J. Hemiarthroplasty for Management of Complex Proximal Humerus Fractures: Preoperative Planning and Surgical Solution. Complex and Revision Problems in Shoulder Surgery (2005) 15: 311-329.

## References

1. Capello W, D'Antonio J, Feinberg J, Manley M. Hydroxyapatite-Coated Total Hip Femoral Components in Patients Less Than Fifty Years Old. Clinical and Radiographic Results after Five to Eight Years of Follow-up. The Journal of Bone and Joint Surgery (1997) 79: 1023-1029.
2. Krishnan S. Carrell W. B. Memorial Clinic, Dallas, Texas. Shoulder Arthroplasty for Fracture: Restoration of the "Gothic Arch" follow up clinical summary. unpublished



1023 Cherry Road  
Memphis, TN 38117  
800 238 7117  
901 867 9971  
[www.wright.com](http://www.wright.com)

10801 Nesbitt Avenue South  
Bloomington, MN 55437  
888 867 6437  
952 426 7600  
[www.tornier.com](http://www.tornier.com)

Proper surgical procedures and techniques are the responsibility of the medical professional. This material is furnished for information purposes only. Each surgeon must evaluate the appropriateness of the material based on his or her personal medical training and experience. Prior to use of any Tornier implant system, the surgeon should refer to the product package insert for complete warnings, precautions, indications, contraindications, and adverse effects. Package inserts are also available by contacting Wright. Contact information can be found in this document and the package insert.

™ and ® denote Trademarks and Registered Trademarks of Wright Medical Group N.V. or its affiliates.  
©2016 Wright Medical Group N.V. or its affiliates. All Rights Reserved.