



Aequalis Ascend[™] Flex

CONVERTIBLE SHOULDER SYSTEM



Aequalis Ascend[™] Flex

CONVERTIBLE SHOULDER SYSTEM

A N A T O M I C



One System. Two Solutions.

The versatility of an anatomic and reversed shoulder in one system.



R E V E R S E D





CONTINUING THE AEQUALIS™ LEGACY

Tornier first introduced the key principles for anatomic shoulder reconstruction with the launch of the Aequalis shoulder system for over two decades. The Aequalis system was born out of a landmark study of the proximal humerus performed by Gilles Walch, M.D. and Prof. Pascal Boileau, which detailed four anatomic variables: version, inclination, medial offset and posterior offset. Building upon this legacy and remaining true to its principles, the Aequalis Ascend™ Flex has given rise to the next generation of anatomic implant design. Derived from an extensive 3 dimensional CT database of humeral specimens, the Aequalis Ascend Flex prosthesis design mimics the internal humeral geometry and is the first humeral stem that is truly anatomic from the inside out.



"The Aequalis Ascend Flex convertible prosthesis has been carefully built upon the Tornier legacy and clinical understanding of the Aequalis anatomic and reversed systems. The evolved implant design and instrumentation has been developed and evaluated to make no compromises with surgical efficiency, implant accuracy, and overall system flexibility."

GILLES WALCH, M.D.




Aequalis Ascend[™] Flex
CONVERTIBLE SHOULDER SYSTEM



The Aequalis Ascend Flex convertible shoulder system provides anatomic and reversed options within a single system offering precise intra-operative implant-to-patient fit and easy conversion to reversed if necessary.

Simply Better.

SIMPLIFIED SHOULDER RECONSTRUCTION BEGINS HERE

The Aequalis Ascend™ Flex stem provides a platform for anatomic, reversed, and conversion procedures. The universal female taper connection provides the simplicity of one stem and one technique for three different procedures. In addition, the short stem design eliminates canal-based constraints to allow for anatomic stem placement, preserves bone stock for future prosthetic intervention, and addresses the potential effects of stress shielding. This new system also offers the time-saving benefit of press-fit fixation.





BONE PRESERVATION

The short stem design preserves bone stock for future prosthetic intervention both proximally and distally.

TUBEROSITY PRESERVING GEOMETRY

Unlike traditional stems, the curved stem design preserves the supraspinatus tendon insertion and preserves greater tuberosity bone stock.

DISTAL BONE PRESERVATION

Short stem preserves distal canal for future surgical interventions.



Press-Fit (Standard & Long)

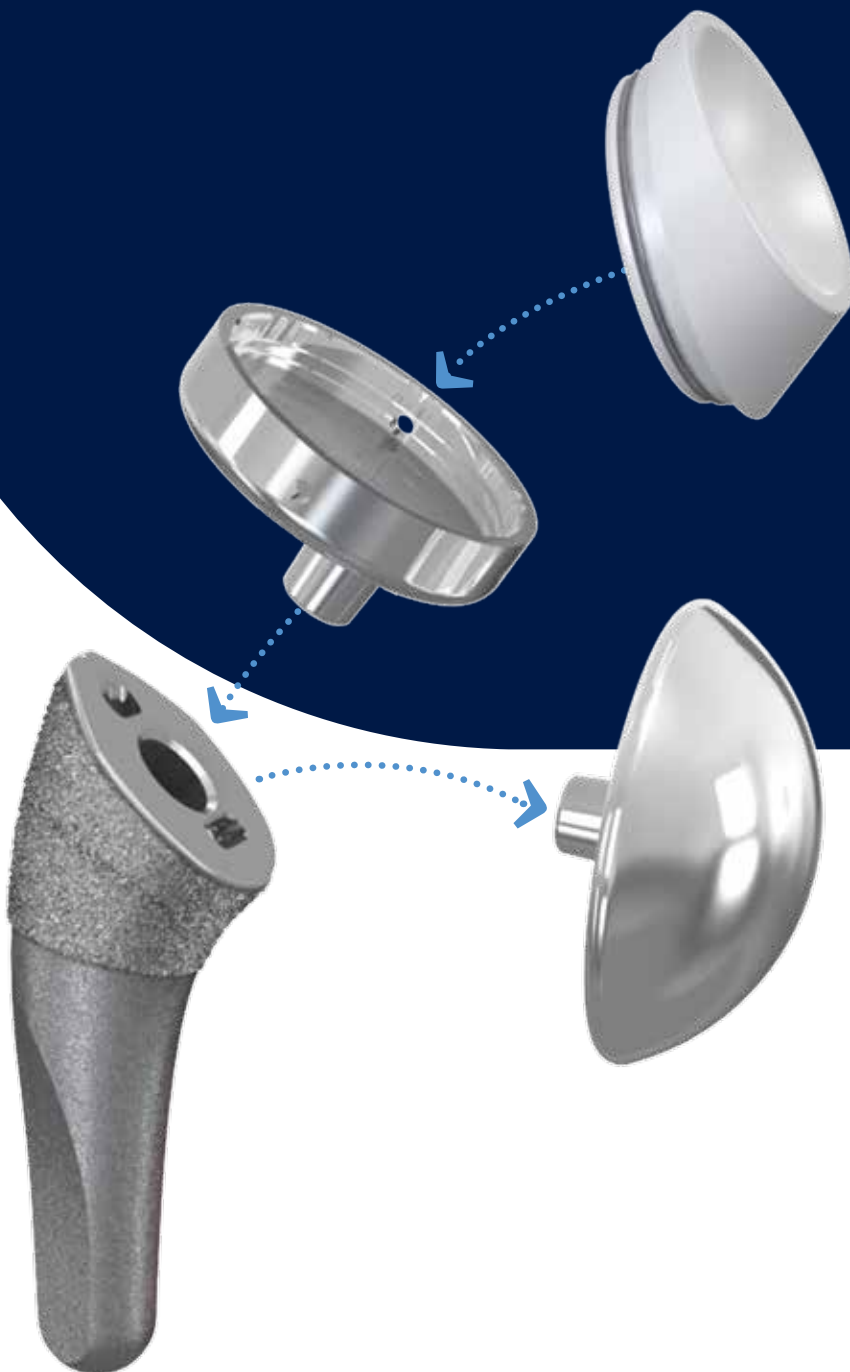
Cemented (Standard & Long)

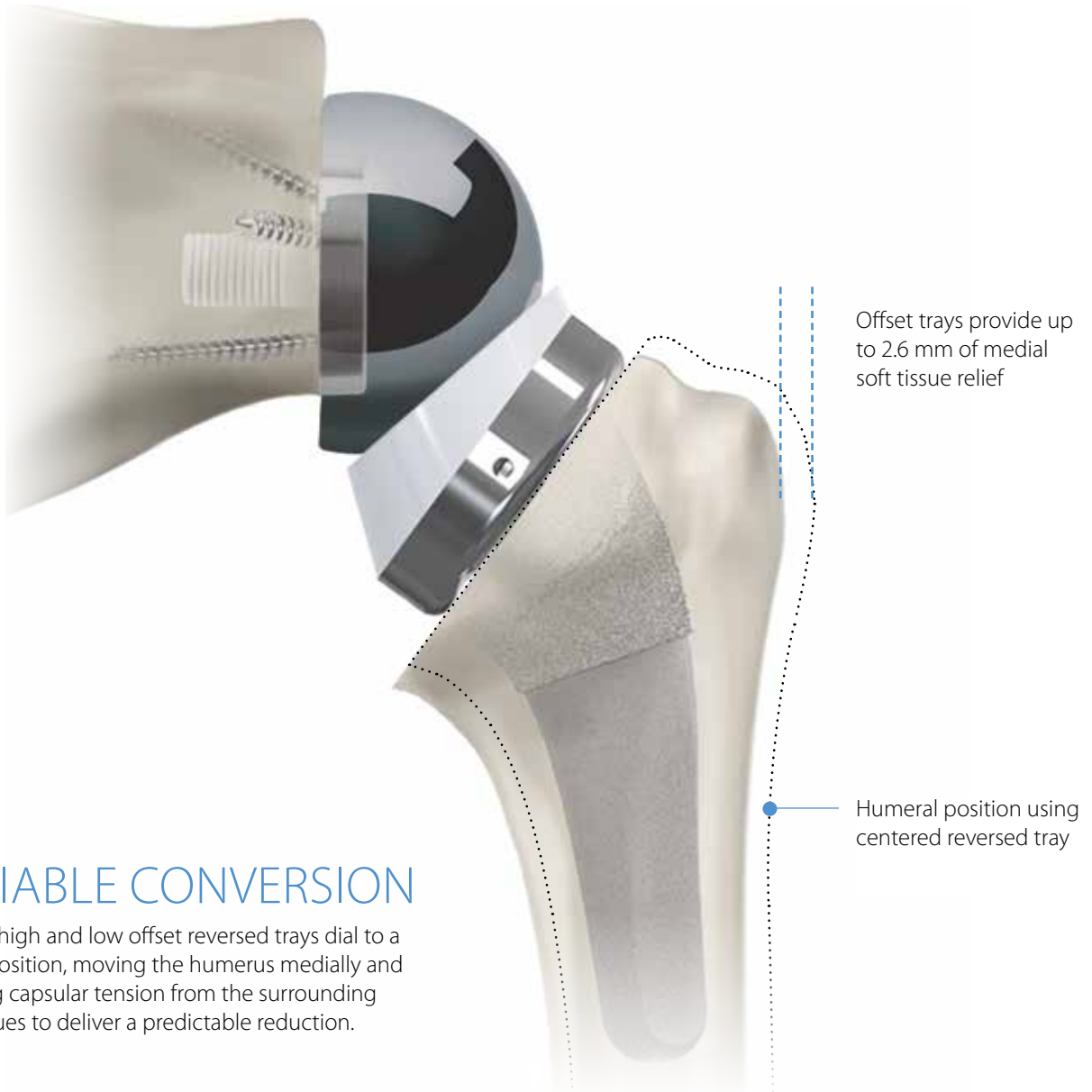
PRESS-FIT FIXATION

The Ascend Flex system is available with a proximal PTC titanium plasma spray coating for press-fit application to save time in the OR. It is also available in a highly polished surface finish for cemented use and long stem options in both press-fit and cemented designs to address clinical need and surgeon preference.

Simply Convertible.

Aequalis Ascend™ Flex implants eliminate the unnecessary steps of stem removal, added trauma to the patient, and potential increase in complications during conversion from an anatomic to reversed prosthesis. Its unique, adaptable implants provide a means to relieve soft tissue tension, resulting in more predictable reduction and reduced operative time without the need for additional humeral resection.





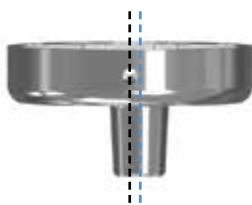
RELIABLE CONVERSION

Unique high and low offset reversed trays dial to a lateral position, moving the humerus medially and relieving capsular tension from the surrounding soft tissues to deliver a predictable reduction.

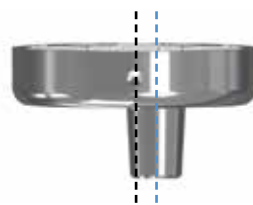
REVERSED TRAYS



Centered



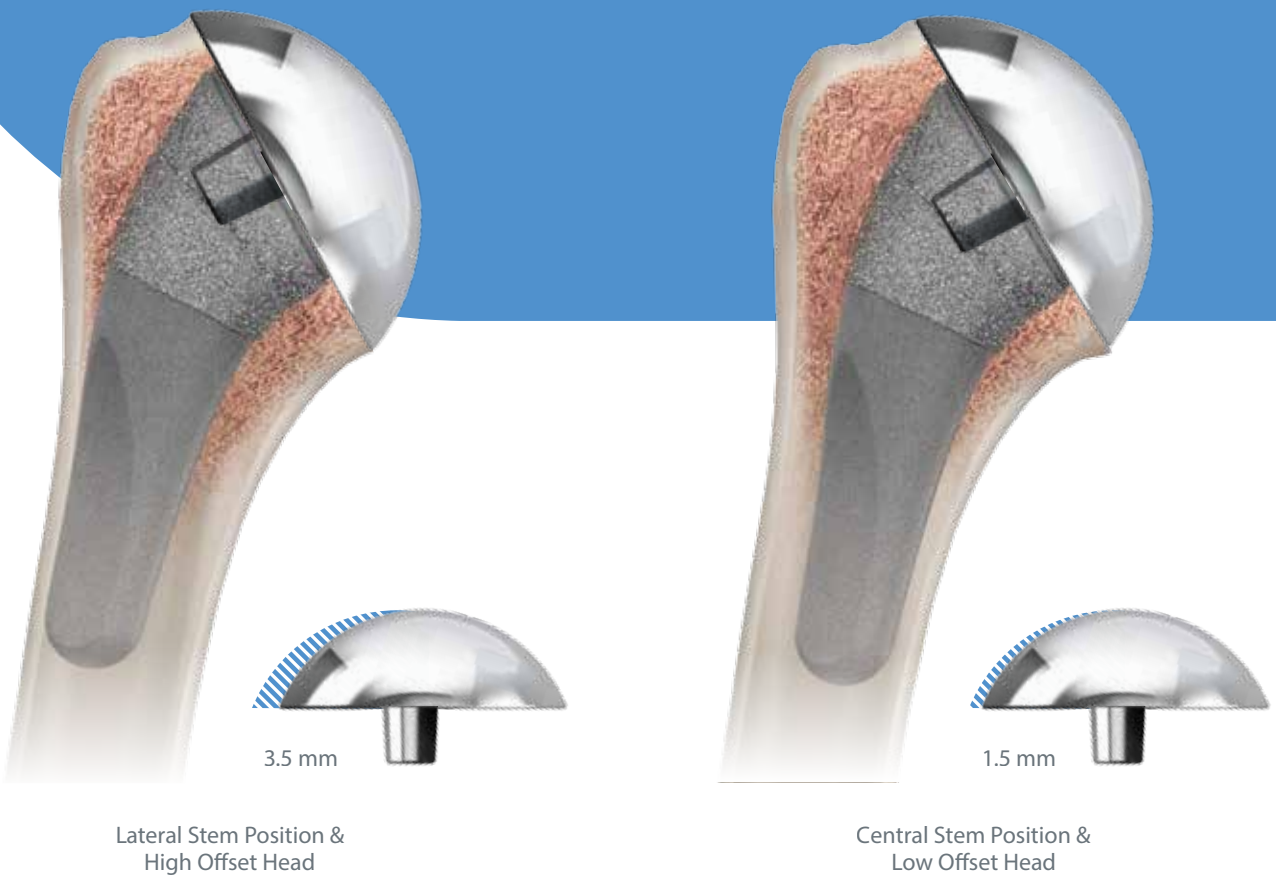
1.5 mm Low Offset



3.5 mm High Offset

Simply Anatomic.

The Aequalis Ascend™ Flex Shoulder System achieves accurate and efficient restoration of natural shoulder biomechanics across a wide range of patients by addressing the variables associated with humeral inclination, stem orientation within the humerus, and head positioning on the resected surface.



EFFICIENT, ACCURATE, ANATOMIC RESTORATION

Regardless of stem position within the resected humeral surface, low and high eccentric heads infinitely dial to quickly and accurately create an anatomic reconstruction.



HUMERAL RESECTION ACCURACY

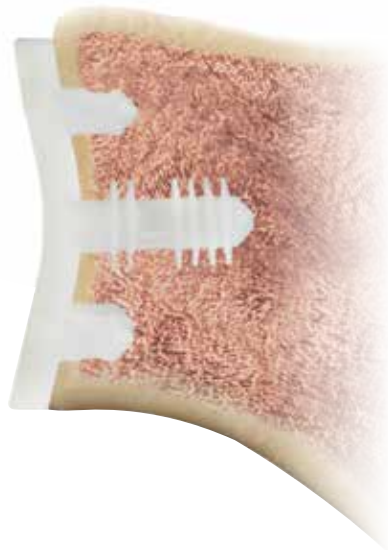
The Aequalis Ascend Flex planers may be used to correct imperfections in resected humeral cut surfaces to ensure flush seating of the humeral head and a smooth transition between the head and bone.



IMPROVED STEM ALIGNMENT

The anatomically curved short stem design more easily achieves anatomic alignment and reduces the extra steps commonly performed with traditional length canal-dependent straight stems to obtain proper head coverage.

PROVEN GLENOID FIXATION



300%

Increased Initial Pullout Strength

Compared to similar competitive glenoid design¹

90%

Central Fin Bone Incorporation^{2,3}

0%

Glenoid Loosening^{2,3}

GLENOID OPTIONS



CortiLoc™



Pegged



Keeled

Simply Reversed.

The Aequalis Ascend™ Flex reversed implants reduce scapular notching while maximizing abduction, adduction, and rotation, providing the ideal range of motion for activities of daily living. Extensive reversed glenoid options provide optimal fixation and intra-operative flexibility for varying patient anatomies.



INCREASED ABDUCTION

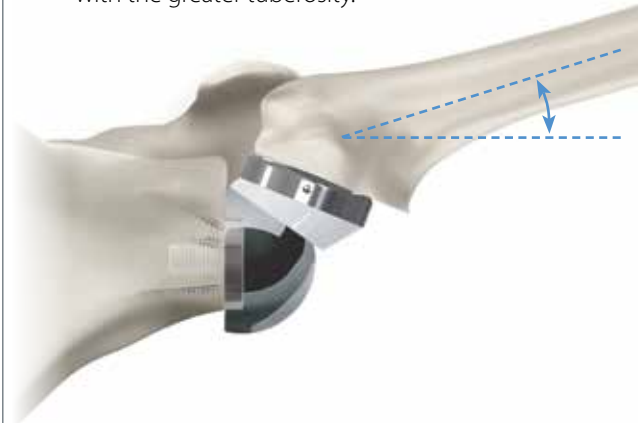
TRADITIONAL CENTERED METAPHYSIS

Inability to offset a centrally constrained metaphysis may lead to early acromial impingement with the greater tuberosity.



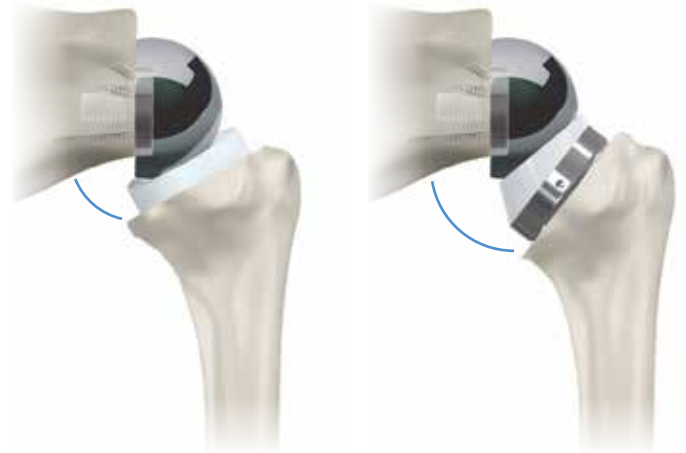
AEQUALIS ASCEND FLEX OFFSET REVERSED ADAPTER

Offset reversed trays increase abduction compared to traditional centered metaphysis designs by reducing acromial impingement with the greater tuberosity.



IMPROVED ADDUCTION & REDUCED NOTCHING

The 145° humeral inclination of Aequalis Ascend Flex increases adduction with reduced inferior scapular impingement when compared to the Grammont design.



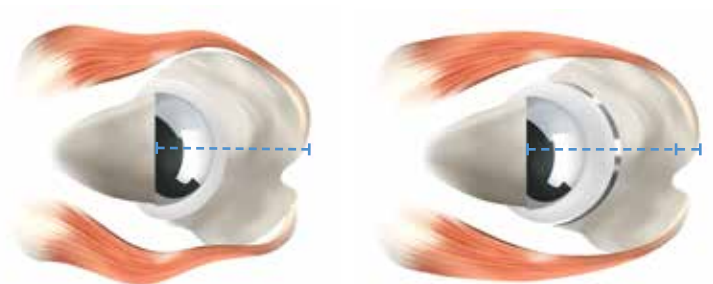
GRAMMONT

AEQUALIS ASCEND FLEX

OPTIMIZED ROTATION

Medial-lateral reversed tray adjustability allows precise soft tissue tensioning for optimized internal and external rotation.

Rotating the reversed tray lateralizes the humerus to remove soft tissue laxity and improve rotation. Conversely, dialing the tray laterally can reduce excess tension for easier reduction.



OPTIMAL GLENOID COMPATIBILITY

29 & 25 mm baseplate diameters, as well as standard and long post options, maximize fixation for a wide variety of patient anatomies and conditions. Options such as the lateralized sphere and BIO-RSA[™] technique, provide surgeons with additional opportunities to increase range of motion and reduce scapular notching.



Long Post Baseplate



Standard Post Baseplate



Lateralized Sphere



BIO-RSA



29 mm Baseplate



25 mm Baseplate

Simply Implanted.

The Aequalis Ascend™ Flex instrumentation provides a fast, bone conserving procedure that leverages the same humeral preparation for both anatomic and reversed procedures. Different than traditional instrumentation, the Aequalis Ascend Flex instrumentation focuses on bone compaction techniques that preserve bone and provide exceptional implant support.



1
ENTRY

2
SOUND & PUNCH

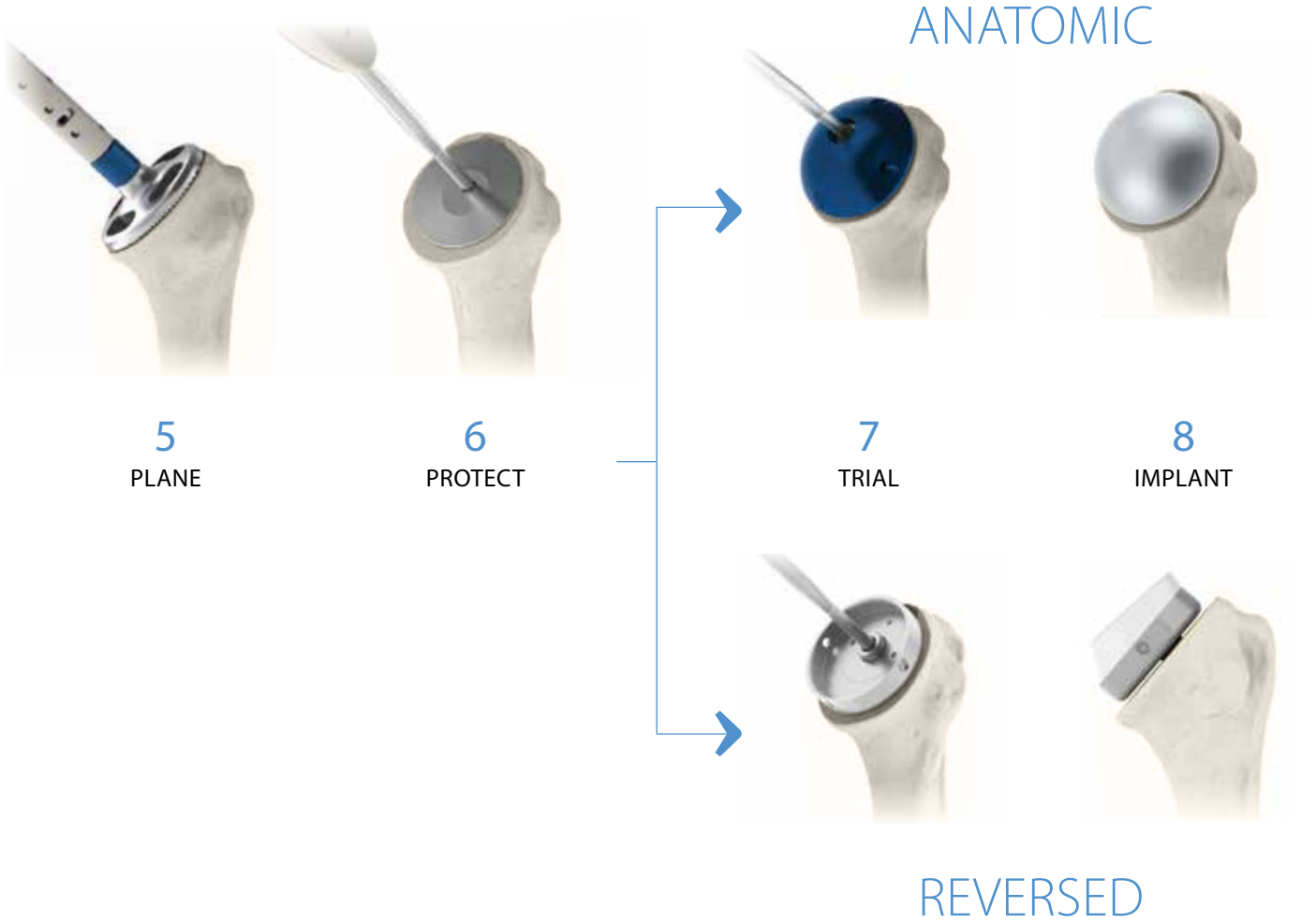
3
COMPACT

4
LOCK

BONE-PRESERVING INSTRUMENTATION

The sounders and compactors eliminate bone removal associated with traditional canal reamers and alternatively compact cancellous bone to create a dense bony bed to support the implant.





References

1 Tornier test data on file

2 Churchill RS. Trends in glenoid component design in unconstrained shoulder arthroplasty. *J Shoulder Elbow Surg.* 2011; 20: 41-46. doi:10.106/j.jse.2010.10.036

3 Based on 2 yr minimum clinical and radiographic follow-up



US HEADQUARTERS


Tornier, Inc.
10801 Nesbitt Avenue South
Bloomington, MN 55437
USA
+ 1 888 867 6437

INTERNATIONAL HEADQUARTERS

Tornier SAS
161 rue Lavoisier
38330 Montbonnot Saint Martin
France
+ 33 (0)4 76 61 35 00

www.tornier.com

Prior to using any Tornier device, please review the instructions for use and surgical technique for a complete listing of indications, contraindications, warnings, precautions, potential adverse events, and directions for use.

© 2014 Tornier, Inc. All rights reserved. Aequalis™, Ascend™, BIO-RSA™, CortiLoc™, Tornier™ and  are trademarks or registered trademarks of Tornier in the U.S. and other countries.