One System. Two Solutions.
The versatility of an anatomic and reversed shoulder in one system.
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.

“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.
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.
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 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 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.
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

| 1.5 mm Low Offset | 3.5 mm High Offset |

Offset trays provide up to 2.6 mm of medial soft tissue relief.
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.

Simply Anatomic.

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 CONVERSION
The Aequalis Ascend Flex planers may be used to ensure a smooth transition when converting from an Anatomic to Reversed.

A SIMPLE FINDING
Clinical studies have demonstrated that preserving the glenoid subchondral plate is critical to successful long-term outcomes. \(^1,^2\)

AN INSIGHTFUL DISCOVERY
The average arthritic glenoid is 22\% flatter than a normal glenoid and has 3\times the variance when compared to normal anatomy. Yet, glenoids on the market today generally offer only one radius of curvature.

A SIMPLE SOLUTION
The first of its kind, the Aequalis™ PerFORM™ glenoid system offers implants with multiple backside curvatures to better match arthritic anatomy. Backside support matter, ream less and get more.

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.

GLENOID OPTIONS

Keeled  
Pegged  
CortiLoc™
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.

OPTIMIZED ROTATION

The 145° humeral inclination of the Aequalis Ascend Flex lateralizes the humerus compared to the Grammont design placing tension on the internal/external rotators. The offset reversed trays, unique to Tornier, provides the option of medial-lateral adjustments for precise soft-tissue tensioning resulting in optimized rotation.

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.
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 implant support.

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.
5 PROTECT
6 TRIAL
7 IMPLANT

ANATOMIC

REVERSED
References

1. Patterns of Loosening of Polyethylene Keel Glenoid Components After Shoulder Arthroplasty for Primary Osteoarthritis.
   - Gilles Walch, MD, Allan A. Young, MD, Pascal Boileau, MD, Markus Loew, MD, Dominique Gazielly, MD and Daniel Mole, MD.

2. Results of a convex-back cemented keeled glenoid component in primary osteoarthritis: multicenter study with a follow-up greater than 5 years.
   - Gilles Walch, MD; Allan A. Young, MD; Barbara Melis, MD; Dominique Gazielly, MD; Markus Loew, MD; and Pascal Boileau, MD.

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.