
ALTEON®
design is
instrumental
Exactech®

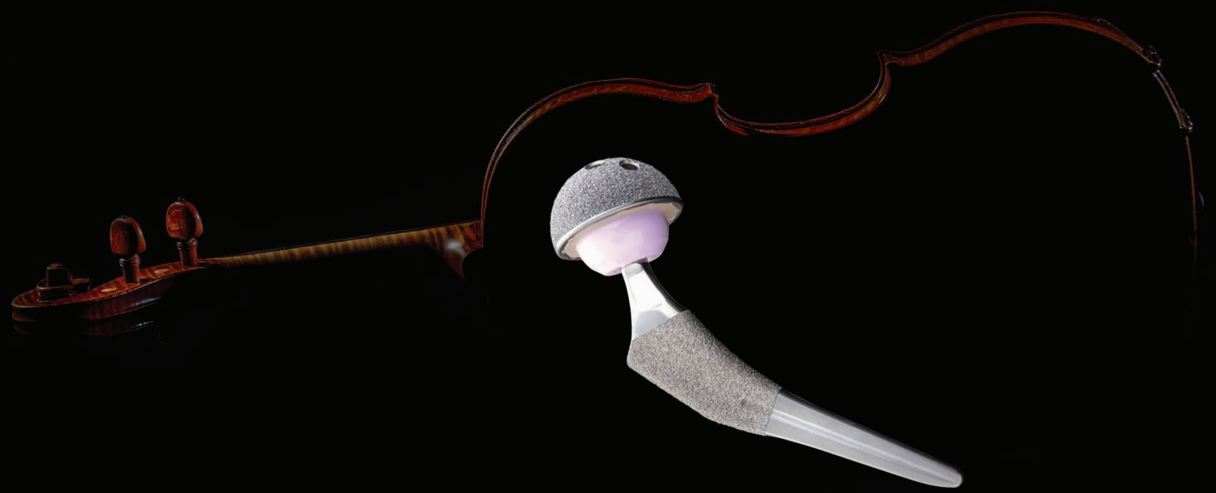
Through the Eyes of a Surgeon

Exactech started with a dream shared by orthopaedic surgeon Bill Petty, MD, his wife Betty, and biomedical engineer Gary Miller, PhD. Drs. Miller and Petty had worked with several orthopaedic companies and thought they saw some things they could do differently, and better. They wanted to make a difference in the quality of care provided to patients suffering from injuries or arthritic disease. The Pettys and Dr. Miller made the first step toward realizing their vision by incorporating Exactech in 1985. Since that time, we have leveraged our founding principles to look at clinical challenges through the eyes of a surgeon. It's all about working together, focusing on your needs and then engineering innovative solutions that improve patient outcomes for hip, knee and extremities surgery.

Science As Our Guide

We let science be our guide and conducted an extensive research review to identify the best of the best in design and materials. These proven features were blended with masterfully crafted innovations, culminating with the Alteon® Platform System. Designed one piece at a time, Alteon has come together like a well-orchestrated symphony. The composition of each implant and instrument is built upon the success of the last, creating a surgical experience that is harmonizing both for the surgeon and O.R. staff. With intraoperative flexibility and simplicity, Alteon sets the stage for you to create an ovation-worthy performance in the operating room.

anatomic harmony



responsive to the needs of the patient

Alteon® Primary Stems

Alteon® HA Femoral Stem

The design philosophy of the Alteon® HA Femoral Stem evolved from more than 25 years of clinical use. It is a fully hydroxyapatitie-coated prosthesis which provides an excellent surface for bone ongrowth and biologic fixation.[1-5] With incremental stem sizing, proportional neck geometry, and reduced stem lengths, the HA Stem adheres to the core design principles of the philosophy.[6]

Alteon Highly Polished Stem

The Alteon Highly Polished Stem is a highly polished cobalt chrome cemented stem which fits within the Alteon HA broach cavity. The highly polished surface of this stem is designed to reduce the amount of wear particles.[7,8]

Alteon Tapered Wedge Stem

The Alteon Tapered Wedge Femoral Stem incorporates specific design features to achieve immediate axial and rotational mechanical stability between the medial and lateral cortices of the femoral canal. It features an optimized overall length and proximal/distal sizing to achieve fixation in all primary femur types (Dorr A, B, C) without compromising the implant features or surgical technique.[9]

Alteon Neck Preserving Stem

Developed for primary femoral solutions, the Alteon Neck Preserving Stem is a conservative treatment option, designed for maintaining the maximum amount of proximal femoral bone.[10] With a curved geometry and broach-only system, the implant is designed to preserve host bone and follow the native anatomy.

Alteon HA Femoral Stem

Alteon HPS Stem

Alteon Tapered Wedge Stem

Alteon Neck Preserving Stem

striking balance between strength and beauty

Alteon® Cup and Liner

Seamlessly integrated with the Alteon® Platform system, the Alteon Cup is beauty refined. This acetabular system provides multiple cup implant configurations and bearing options which can be used for various surgical applications.

Asymmetric Porous Coating

The TAC™ porous technology strikes the optimal balance between material strength, pore size and porosity. The TAC proprietary process creates a unique 3-D structural lattice of irregular shaped particles with increased average pore size and greater porosity than traditional spherical beads.[11]

Vitamin E Enhanced Liners

Alteon XLE highly crosslinked vitamin E enhanced acetabular liners are designed to provide low wear while maintaining mechanical strength, reducing the free radicals, and oxidative degradation.[12,13]

Optimized Head/Cup Aspect Ratio

This allows one to achieve the maximum head/cup combination while still maintaining polyethene thickness.[14]

Three-part Locking Mechanism

The Alteon Cup features a three-part locking mechanism with more than 15 years of clinical use. It consists of an apical tab intended to prevent liner translation and pullout, recessed scallops intended to provide rotational control, and a fully congruent liner/ shell designed to virtually eliminate micromotion and minimize the potential for backside wear.[15,16]

the right note

achieving operative predictability

Alteon® Monobloc Revision Stem

The Alteon® Monobloc Revision Femoral Stem is a press-fit, distally fixed, one-piece tapered, splined titanium stem. The Monobloc Revision Stem intends to achieve axial and rotational mechanical stability and operative predictability through a carefully engineered combination of design features.

Taper Angle and Spline Design

The 3.5 degree taper angle and flat/broad spline geometry play an integral part in the mechanical stability that is designed to resist axial subsidence and rotation.[17]

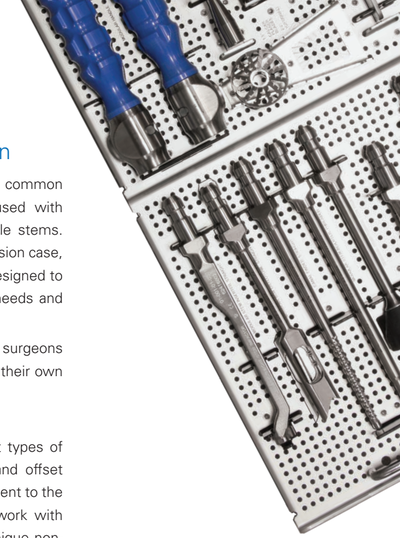
Lengths

195mm / 245mm / 295mm

Note: The length is measured from the center of rotation to the distal tip of the stem

in tune

accommodates your surgical needs



Platform Instrumentation

The Alteon family shares a set of common femoral instruments that can be used with any surgical approach across multiple stems. Whether performing a primary or revision case, the streamlined instrumentation is designed to accommodate a variety of surgical needs and provide ease of use.

Several key instrument options allow surgeons to choose their preference based on their own approach:

Acetabular Cup Impactors

This system includes many different types of cup impactors, with both straight and offset versions. With an easy on/off attachment to the shell, the connection mechanisms work with either a threaded connection or a unique non-threaded mechanism.

Reamer Handles

Both crossbar and single bar-style reamers with offset or straight configurations are provided to accommodate the surgical approach and allow for proper preparation of the acetabulum.

Broach Handles

The broach handles include straight, single offset and dual offset options to facilitate ease of use in various THA surgical approaches. They were designed to minimize motion between the broach and broach handle to help ensure proper preparation of the femoral canal.

References

1. **Vidalain JP.** Twenty-year results of the cementless Corail stem. Int Orthop. 2011 Feb;35(2):189-94.
2. **Hallan, G, Lie SA, Furnes O, Engesaeter LB, Vollset SE, Havelin LI.** Medium and long term performance of 11516 uncemented femoral primary stems from the Norwegian arthroplasty register. J Bone Joint Surg [Br] 2007 Dec;89(12):1574-80.
3. **Froimson M, Garino J.** Minimum 10-Year Results of a Tapered, Titanium, Hydroxyapatite Coated Hip Stem: An Independent Review. J. Arthroplasty. 2007;22:17.
4. **Reikeras O et al.** 0% Aseptic Loosening at 12 years. Acta Orthop Scand, 2004.
5. **Ma J, Huang Z, Shen B, Yang J, Zhou Z, Kang P, Pei F.** Effects of prosthesis of fixed neck length on the lower limb lengthening of Chinese people after the THA; Chinese Journal of Bone and Joint Surgery, 2013-05.
6. **Vidalain JP.** Twenty-year results of the cementless Corail stem. Int Orthop. 2011 Feb;35(2):189-94.
7. **Janssen D, van Aken J, Scheerlinck T, Verdonschot N.** Finite element analysis of the effect of cementing concepts on implant stability and cement fatigue failure. Acta Orthop. 2009 Jun;80(3):319-24.
8. **Clauss M, Gersbach S, Butscher A, Ilchmann T.** Risk factors for aseptic loosening of Müller-type straight stems: a registry-based analysis of 828 consecutive cases with a minimum follow-up of 16 years. Acta Orthop. 2013 Aug;84(4):353-9. doi: 10.3109/17453674.2013.810517. Epub 2013 Jun 25.
9. **Data on File at Exactech.** TR-2013-039. Wedge Femoral Stem Template Study Report.
10. **Data on file at Exac tech.** TR-2013-071. Quantified Volume and Native Femoral Neck Preserved with Neck Preserving Stem Compared to Two Traditional Total Hip Arthroplasty Stems.
11. **Data on File at Exactech.** TM-2019-1129. Comparison of TAC Porous Coating and Spherical Bead Coating.
12. **Oral, E, Muratoglu, O.** "The effects of high dose irradiation on the cross-linking of vitamin E-blended ultrahigh molecular weight polyethylene," Biomaterials 29 (2008) 3557-3560.
13. **Oral, E, Muratoglu, O.** "Vitamin E diffused, highly crosslinked UHMWPE: a review," Int Orthop. 2011 Feb; 35(2): 215-223.
14. **Data on file at Exactech.** TM-2019-0009. Alteon Cup Head/Liner to Cup Aspect Ratio and Resulting Polyethylene Thickness.
15. **Data on file at Exactech.** 711-01-81. Thermal Effects of Polyethylene on Shell/Liner Congruency.
16. **Data on file at Exactech.** 711-03-40 Rev. A Connexion GXL® Design Rationale.
17. **Pierson J, Small S, Rodriguez J, Kang M, Glassman A.** The Effect of Taper Angle and Spline Geometry on the Initial Stability of Tapered, Splined Modular Titanium Stems. J Arthroplasty. 2015 Jul;30(7):1254-9.

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