

The Vanguard Knee System offers **surgical simplicity** with complete component interchangeability.



References

1. Halder, H. Constraint testing of the Biomet Vanguard AS and CR-L Total Knee Replacement systems. University of Nebraska Medical Center UNIVERSITY MEDICAL ASSOCIATES. July 2005
2. Ritter, M.A. *et al.* Long-Term Follow-up of Anatomic Graduated Components Posterior Cruciate-Retaining Total Knee Replacement. *Clinical Orthopaedics and Related Research*. 388: 51–57, 2001.
3. Knutson, K. The Swedish Knee Arthroplasty Register. *Acta Orthopaedica Scandinavica*. 65(4): 375–86, 1994.
4. Paavolainen, P. *et al.* The Finnish Arthroplasty Register 1980–1994. Long-term Results of Total Joint Arthroplasty, 1995.
5. Emerson, R. *et al.* The AGC Total Knee Prosthesis at Average 11 Years. *Journal of Arthroplasty*. 15(4): 418–23, 2000.
6. Meding, J. *et al.* Total Knee Arthroplasty with 4.4mm of Tibial Polyethylene. *Clinical Orthopaedics and Related Research*. 388: 112–17, 2001.
7. Colizza, W.A. *et al.* The Posterior Stabilized Total Knee Prosthesis. *Journal of Bone and Joint Surgery*. 77(11): 1713–20, 1995.
8. Wasielewski, R.C. *et al.* Tibial Insert Undersurface as a Contributing Source of Polyethylene Wear Debris. *Clinical Orthopaedics and Related Research*. 345: 53–59, 1997.
9. Parks, N. *et al.* Modular Tibial Insert Micromotion: A Concern with Contemporary Knee Implants. *Clinical Orthopaedics and Related Research*. 356: 10–15, 1998.
10. Furman, B.D. *et al.* Effect of Resin Type and Manufacturing Method on UHMWPE Oxidation and Quality at Long Aging and Implant Times. 43rd Annual Meeting. Orthopaedic Research Society. San Francisco, CA. Feb. 9–13, 2001.
11. Beading, L. Direct Molded Components Shown to Resist Oxidation. *Orthopedics Today*. 17(4): 1997.
12. Beading, L. Polyethylene-Related Failure: A Challenge to TKA. *Orthopedics Today*. 16–21: 1996.
13. Engh, G.A. What is the Clinical Scope of Implant Wear in the Knee? How Has the Scope Changed Since 1995? In Wright, T.M. and Goodman, S.B. (eds). *Implant Wear in Total Joint Replacement: Clinical and Biologic Issues, Material and Design Considerations*. 2001.
14. Data on file at Zimmer Biomet. Document Number: INST 4.1.6.1.


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A detailed close-up photograph of the Vanguard Mono-Lock Tibial Knee. The image shows the white polyethylene tibial insert, the metal femoral condyle, and the locking mechanism. The femoral condyle is on the left, and the tibial insert is on the right. A black locking bar is visible, connecting the two components. The background is a soft, out-of-focus white.

Vanguard[®] Mono-Lock[™] Tibial Knee

Brochure

Vanguard Mono-Lock Tibial Knee | Brochure

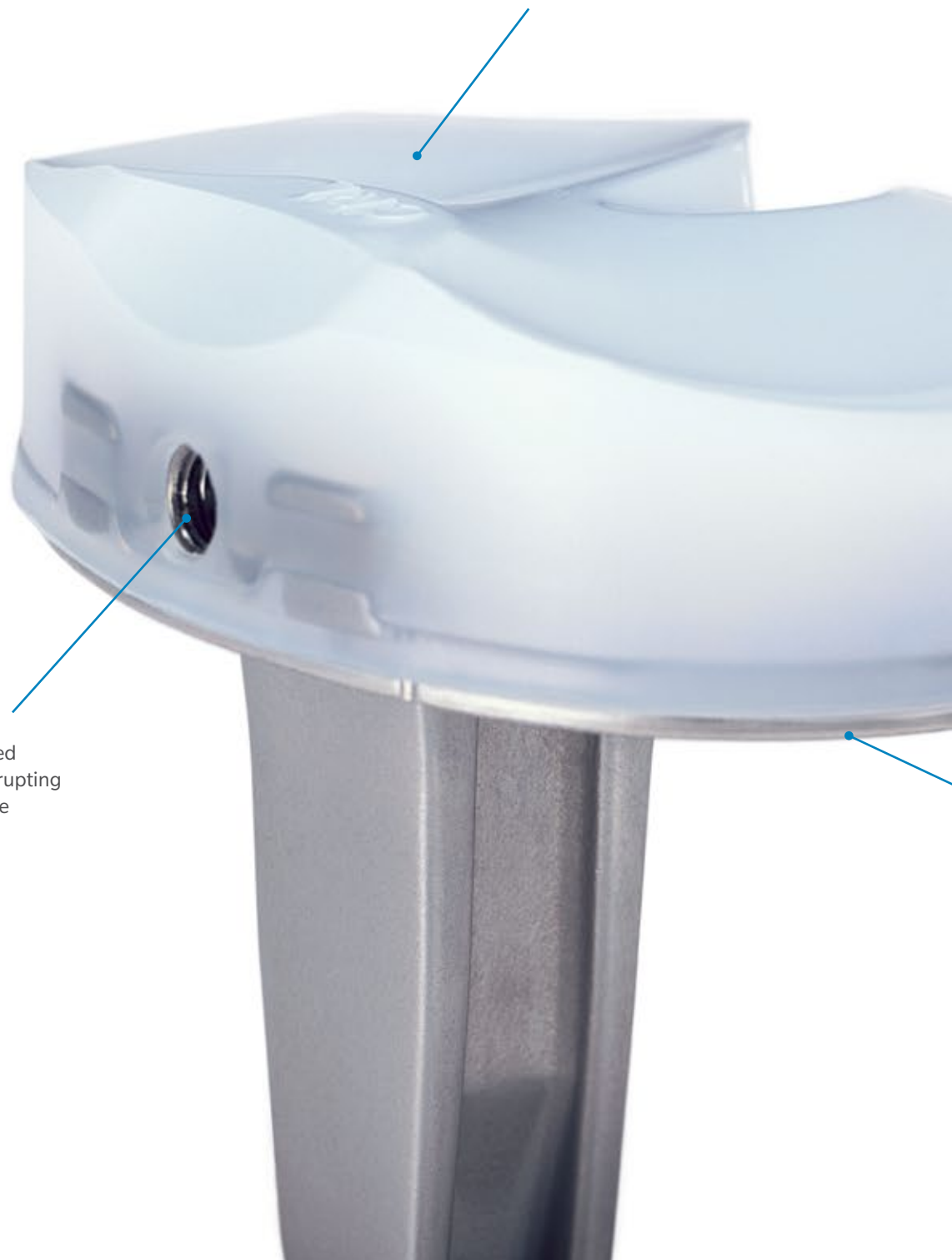
The Vanguard Mono-Lock Tibia combines the clinical advantages of a one-piece design with the flexibility of a modular bearing system.

Optimized Tibiofemoral Articulation

Provides for ROM up to 145 degrees¹

Bearing Removal Wedge

Allows removal of the molded bearing surface without disrupting the implant fixation interface



Design Advantages

- Clinically proven Direct Compression Molded ArCom® Polyethylene²⁻⁶
- Proven long-term clinical history of a one-piece design^{2-5,7}
- One-piece design provides resistance against micromotion⁸
- Easily revised to a modular design through a simple and effective bearing removal system
- Available in cruciate retaining, cruciate retaining lipped, and posterior stabilized designs

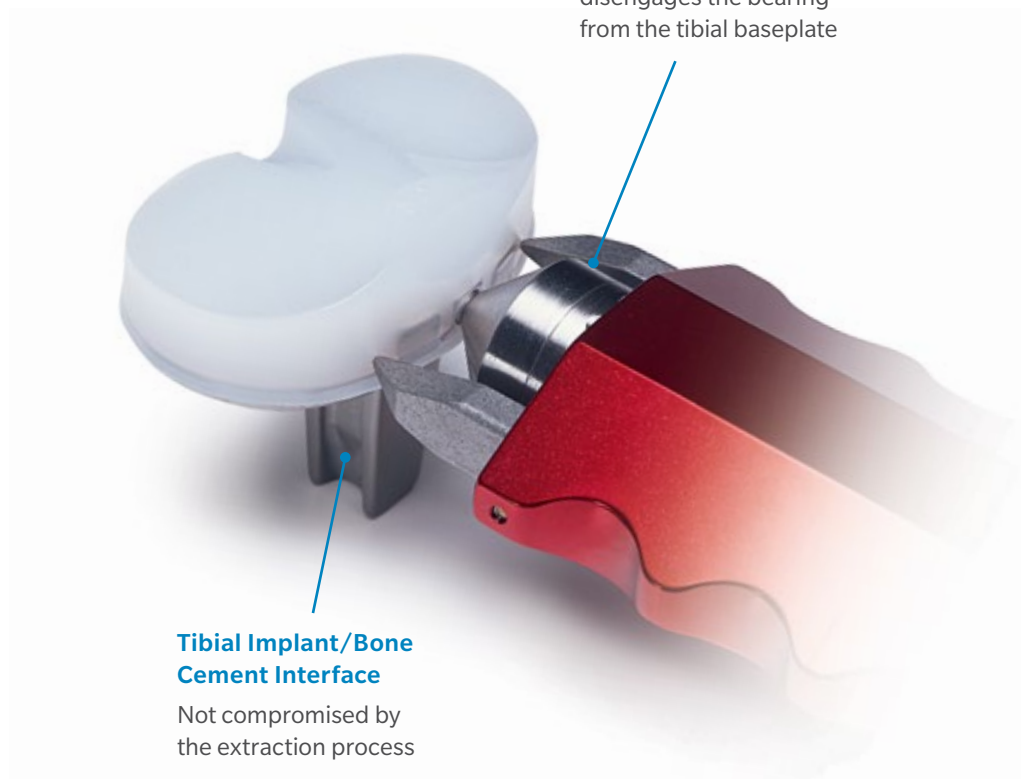


Standard Modular Tibial Base Plate

Allows any Vanguard Modular Tibial Bearing to be inserted and locked into place with Zimmer Biomet's proven locking mechanism⁹

Bearing Removal System

Threads into the anterior screw hole on the bearing removal wedge and disengages the bearing from the tibial baseplate

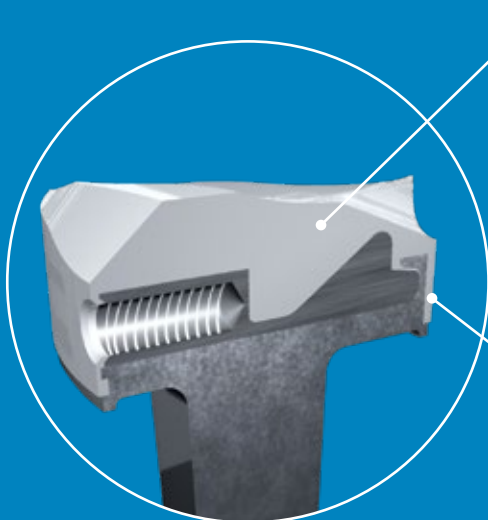


Tibial Implant/Bone Cement Interface

Not compromised by the extraction process

Tibial Bearings

Vanguard Tibial Bearings* are Direct Compression Molded to minimize the potential for wear, oxidative breakdown, and delamination. Tibial bearings are gamma irradiated in an inert environment, which has been clinically shown to decrease wear, delamination, and oxidation.¹⁰⁻¹²



One-piece Direct Compression Molded Design

Clinically shown to reduce micromotion and the potential for wear particle generation^{2,7,13}

Direct Compression Molding Process

Promotes a mechanical bond between the polyethylene and the cobalt chrome baseplate¹⁴

Mono-Lock Bearing Options:



Cruciate Retaining



Cruciate Retaining Lipped



Posterior Stabilized Lipped

*Not applicable to custom products.