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


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

**Bearing Removal Wedge**
Allows removal of the molded bearing surface without disrupting the implant fixation interface.

**Optimized Tibiofemoral Articulation**
Provides for ROM up to 145 degrees
**Design Advantages**

- Clinically proven Direct Compression Molded ArCom® Polyethylene\(^2-6\)
- Proven long-term clinical history of a one-piece design\(^2,5,7\)
- One-piece design provides resistance against micromotion\(^8\)
- 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

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**Standard Modular Tibial Base Plate**

Allows any Vanguard Modular Tibial Bearing to be inserted and locked into place with Zimmer Biomet’s proven locking mechanism\(^9\)

**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.\textsuperscript{10–12}

**One-piece Direct Compression Molded Design**
Clinically shown to reduce micromotion and the potential for wear particle generation\textsuperscript{2,7,13}

**Direct Compression Molding Process**
Promotes a mechanical bond between the polyethylene and the cobalt chrome baseplate\textsuperscript{14}

**Mono-Lock Bearing Options:**
- Cruciate Retaining
- Cruciate Retaining Lipped
- Posterior Stabilized

*Not applicable to custom products.*