

Natural-Knee® Unicompartmental Knee System

Minimally Invasive Product Information



Implanting trust.

The Minimally Invasive Surgery (MIS) instrumentation for the Natural-Knee[®] Unicompartmental System enables an MIS approach with exacting resections and predictable, reproducible results.

Unicompartmental - A Proven Concept

Because of the high level of patient satisfaction and the lower incidence of morbidity compared to TKA, UKA has become an attractive alternative for patients with unicompartmental, noninflammatory arthritis. Recent reports have shown comparable durability and clinical results between UKA and TKA.¹

Surgeon-friendly MIS Instrumentation

The MIS instrumentation for the Natural-Knee Unicompartmental System provides a step-by-step surgical technique with measured and captured resections that avoids the obstacles of some unicompartmental knee instrumentation systems.

MIS Advantages

The MIS instruments enable the implantation of Natural-Knee Unicompartmental implants through a 3-inch incision. The MIS technique avoids patella eversion and reduces disruption of soft tissues and quadriceps.

The potential patient benefits from an MIS technique may include:

- Earlier mobilization
- Less pain
- Faster rehabilitation



These minimally invasive instruments have been designed in collaboration with Aaron A. Hofmann, MD, Professor of Orthopedic Surgery, University of Utah School of Medicine. Special thanks to Dr. Ray Randle for his work on the tibial alignment guide concept.

¹ Engh, Gerard. Can We Justify Unicompartmental Arthroplasty as a Temporizing Procedure? In the Affirmative. *The Journal of Arthroplasty*, Vol.17 No. 4 Suppl 1; 2002.

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Implant

The Natural-Knee Unicompartamental System was designed to achieve optimal fixation and even load distribution. Its philosophy is consistent with the rest of the Natural-Knee Family, designed to be bone conserving, provide excellent anatomic realignment and reproducible results, all achieved with state-of-the-art instrumentation.

The Natural-Knee Unicompartamental implants are universally designed, allowing interchangeability medial to lateral and left to right. The slightly rounded femur and tibial insert geometries create a moderately congruent design to help reduce stress and polyethylene wear. Both porous (CSTi™) and nonporous (grit-blasted) coatings are available.



Femur

- A cruciate stem spares bone while providing excellent fixation and antirotational stability.
- The small posterior runner helps prevent malrotation during implantation.
- The tapered anterior flange helps avoid impingement with the patella.



Tibial Insert

- Three thicknesses help achieve proper ligament tension and balance.
- Snap-lock mechanism offers three points of fixation.



Tibial Baseplate

- Three peripherally placed cortical pegs are designed to be bone sparing, ensure equalized load distribution and resist rotation.
- Optional screw fixation provides excellent compression and aids fixation; screw is located to engage the best bone.

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MIS Instrumentation

With these instruments, the surgeon has the choice of an MIS or traditional approach.



MIS Distal Femoral Alignment/ Saw Guide and Intramedullary Rod

Combines the capabilities of the rotational alignment guide and the femoral cutting guide into one simple instrument. The jackscrew is dialed down to adjust for the amount of eburnated bone present. The short intramedullary rod stabilizes the distal femoral alignment/saw guide.



MIS Tibial Stylus

The tibial stylus measures a 7-mm cut from the top of the stylus to the tibial cutting block.



MIS Tibial Saw Guide

This versatile saw block is used for both the transverse cut and as a guide for the sagittal cut.



MIS Proximal Tibial Alignment Guide

This guide has an offset head to avoid patellar tendon impingement.



MIS Ankle Alignment Guide

This guide provides the ability to adjust the varus/valgus angle and the posterior slope to match the patient's anatomy.

Tibial Alignment Guide Assembly

Fully assembled tibial alignment guide.



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Patient Selection Criteria



Preoperative



Postoperative



Incision 3-months Post-Op

- Unicompartmental disease
- Opposite compartment is preserved
- Mild-to-moderate (up to Grade II) chondromalacia in the patellofemoral joint
- Competent ACL and PCL
- Passively correctable varus-valgus deformity and moderate flexion contracture

Education First

Centerpulse realizes that education is key to the successful implementation of any MIS technology. We strongly encourage surgeons to attend hands-on training sessions in our in-house Bioskills Learning Lab to become thoroughly familiar with new procedures. If you are interested in attending one of our education events, please contact your local Centerpulse representative. To locate the representative nearest you, call (800) 944-7936.



Dr. Stefan Kreuzer perfects an MIS technique in the Bioskills Learning Lab.

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Knees

- Apollo® Knee System
Classic condylar knee replacement system
- Durasul® Tribological System
Highly crosslinked polyethylene that resists wear and aging
- Natural-Knee® System
Anatomic design for superior clinical results
- UniSpacer™ Knee System
No bone cuts. No compromises.

Severe Revision/Limb Salvage

- MOST Options™ System
Modular knee and hip options for severe bone loss, trauma and revision

Hips

- Alloclassic® (Zweymüller™) Hip
Classic proven design with superior clinical results
- Allofit™ Acetabular Cup System
Unique ridelock surface designed for easy implantation and stability
- Apollo® Hip System
Designed for optimal results with low-demand patients
- APR® Anatomical Hip System
Anatomically designed hip replacement system
- CLS™ (Spotorno™) Hip System
The standard of proximal press-fit design
- Converge® CSTI™ Porous Acetabular Cup System
Where technology and experience meet
- Durasul® Tribological System
Highly crosslinked polyethylene that resists wear and aging
- FracSure™ Hip System
A classic design for hip fractures
- Metasul® Metal-on-Metal Acetabular System
Over 14 years of clinical results & 150,000 implantations worldwide
- MS-30™ Hip
A highly polished cemented stem
- Natural-Hip™ System
A complete, state-of-the-art hip system
- Precedent™ Revision Hip System
A better solution for revision hips
- SL Revision™ Hip System
A stable revision design with extensive sizes

Upper Extremities

- Anatomical™ Shoulder System
Infinite adjustments of inclination & retroversion for precisely restored anatomy
- GSB® Elbow System
A nonconstrained design with 21 years of clinical results
- Select® Shoulder System
TSA and fracture management with offset head options