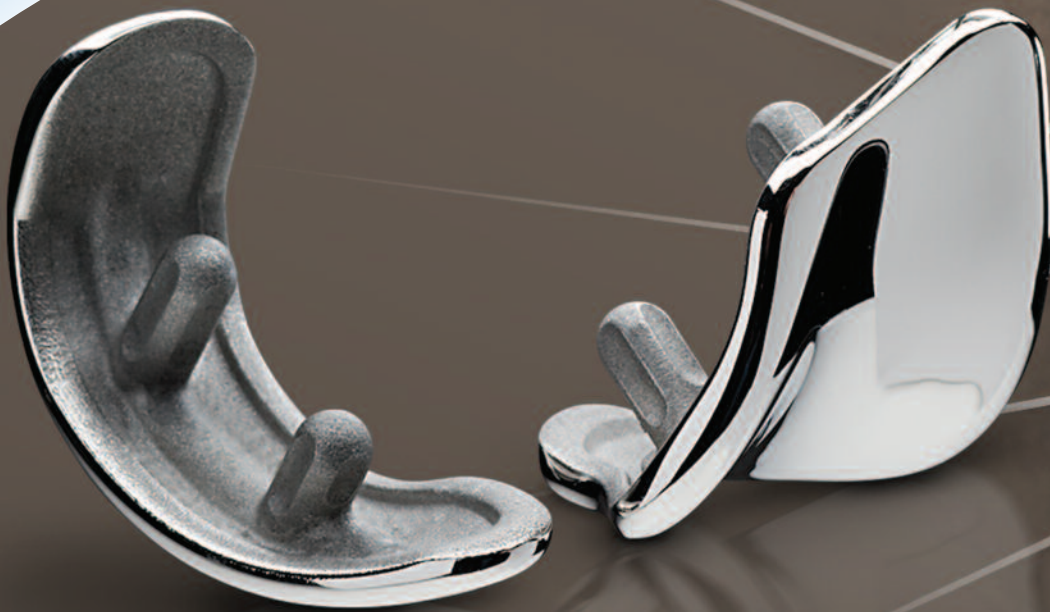


**RESTORIS® MCK**

MultiCompartmental Knee System



Innovative & Enabling

Creating new capabilities and  
more treatment options

For Domestic Use Only.



Clinical research at  
MAKO Surgical Corp.  
is multi-faceted.

Whether it is improving surgical accuracy, operating room efficiency, or patient outcomes, MAKO Surgical Corp. is committed to improving orthopedic surgery. MAKO has developed a joint registry with a goal of tracking the outcomes of MAKO prosthesis implanted.

In addition, we have focused studies aimed at quantifying the improvement in accuracy of implant placement, return to functional activities, preservation of bone stock and in vivo knee kinematics measured fluoroscopically. All studies compare their results to the alternative treatment options that are currently available.

Our comprehensive research program provides evidence of the clinical and functional value of our robotic arm system and corresponding implant systems as well as laying a scientific foundation for the support and development of future products and applications.

Until now, the common choice for patients suffering from bicompartamental osteoarthritis was a total knee replacement.

Patients treated with a total knee implant never forget they had a joint replacement and are forced to modify their lifestyle to suit their new knee.<sup>1</sup> To avoid this liability, retention of the ACL and PCL is considered the key to maintaining the natural kinematics of the knee.<sup>2,3,4</sup>

**RESTORIS® MCK** offers a revolutionary solution for the complexity of osteoarthritis in one or more compartments of the knee – medial, patello-femoral, lateral, or bicompartamental (medial and patellofemoral).

You now have the opportunity to treat the pain and the disease while preserving healthy cruciates and healthy bone. A less invasive solution designed to restore the feeling of a natural knee.



1 Noble, P. C.; Gordon, M. J.; Weiss, J. M.; Reddix, R. N.; Conditt, M. A.; and Mathis, K. B.: Does total knee replacement restore normal knee function? Clin Orthop Relat Res, (431): 157-65, 2005.

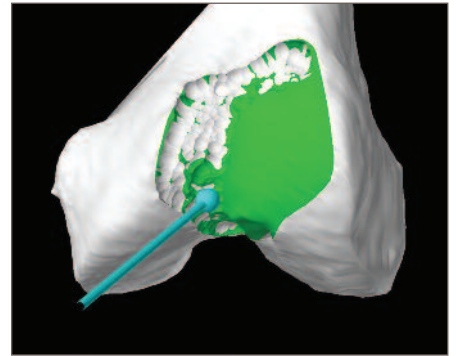
2 Andriacchi, T. P.; Galante, J. O.; and Fermier, R. W.: The influence of total knee-replacement design on walking and stair-climbing. J Bone Joint Surg Am, 64(9): 1328-35., 1982.

3 Komistek, R. D.; Allain, J.; Anderson, D. T.; Dennis, D. A.; and Goutallier, D.: In vivo kinematics for subjects with and without an anterior cruciate ligament. Clin Orthop Relat Res, (404): 315-25, 2002.

4 Stiehl, J. B.; Komistek, R. D.; Cloutier, J. M.; and Dennis, D. A.: The cruciate ligaments in total knee arthroplasty: a kinematic analysis of 2 total knee arthroplasties. J Arthroplasty, 15(5): 545-50, 2000.

## MAKOplasty® Partial Knee Resurfacing

MAKOplasty® provides the amazing precision of the RIO® Robotic Arm Interactive Orthopedic System and the innovative and enabling designs of the RESTORIS® MCK MultiCompartmental Knee System. Together focused purely on restoring the feeling of the natural knee, RESTORIS® MCK now offers significant benefits to address bicompartamental and unicompartmental osteoarthritis.



### ACL and PCL Preservation

Bicompartamental solution preserves both the ACL and PCL to retain function and the natural feel of the knee

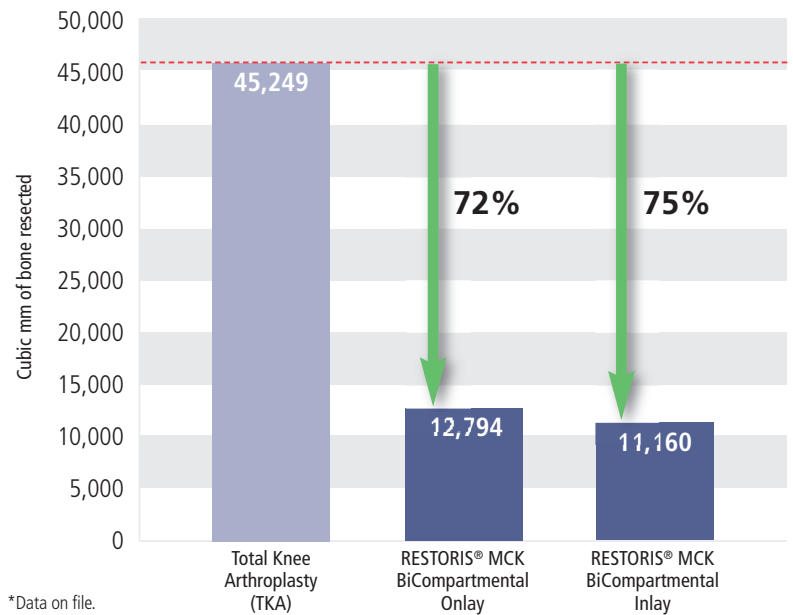
### Bone Conservation

Resurfacing technique provides stable implant fixation while preserving the ability to revise to a primary TKA if the disease progresses

### Anatomic Fit

Family of implants designed to customize the fit and align precisely to each patient's unique anatomy

Preserving Bone with RESTORIS® MCK BiCompartmental\*



**RESTORIS® MCK**  
MultiCompartmental  
Knee System



Radiographic studies have shown that most osteoarthritis of the knee affects only one or two compartments.<sup>5,6,7</sup> When treating multiple compartments of the knee, smooth patella tracking is a key success factor in maximizing implant longevity and patient function.<sup>8</sup>

The trochlear and femoral components were designed to provide a smooth transition of the patella from one compartment to another. Using the advanced pre-operative and intra-operative planning capabilities of the RIO®, the RESTORIS® MCK components can be precisely placed to target the disease without damaging critical soft tissue, while freed from the confines of conventional instrumentation.



**RIO® Robotic Arm  
Interactive Orthopedic  
System**

## Pre-operative



## Post-operative - RESTORIS® MCK



5 Duncan R, Hay E, Saklatvala J, Croft P. Prevalence of radiographic osteoarthritis: It all depends on your point of view. *Rheumatology* 2006;45:757-60.

6 Ledingham J, Regan M, Jones A, Doherty M. Radiographic patterns and associations of osteoarthritis of the knee in patients referred to hospital. *Annals of the Rheumatic Diseases* 1993;52:520-526.

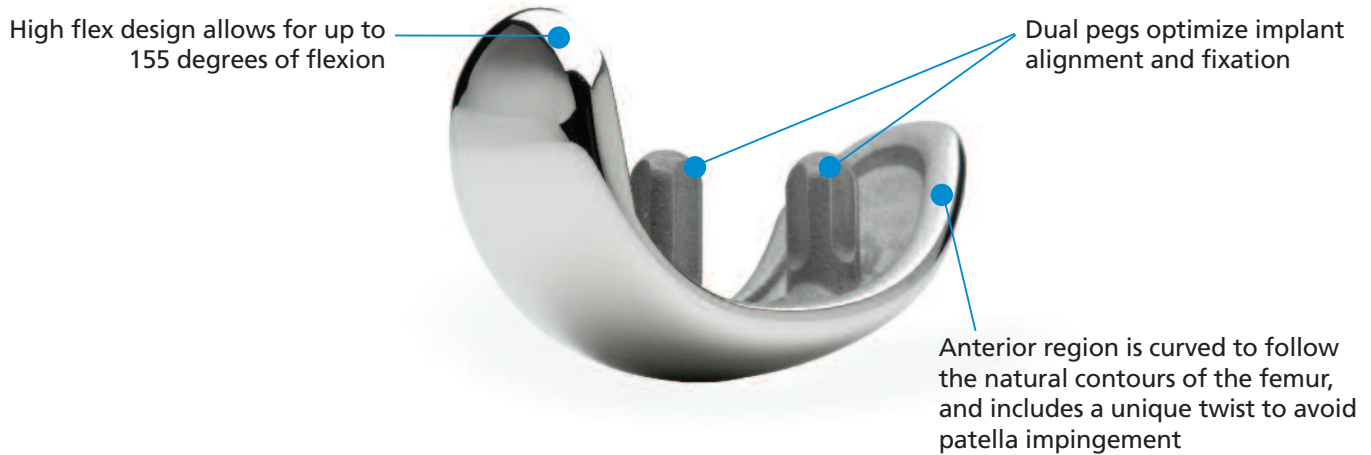
7 Rolston L, Sprague J, Tsai S, Salehi A. A novel bone/ligament sparing prosthesis for the treatment of patellofemoral and medial compartment osteoarthritis. AAOS 2006 Annual Meeting, Poster #P181.

8 Banks, SA. Haptic robotics enable a systems approach to design of a minimally invasive modular knee arthroplasty. *Am J Orthopedics*. 2009;38(2 suppl):23-27.

# Femoral and Patellofemoral Components

## Femoral

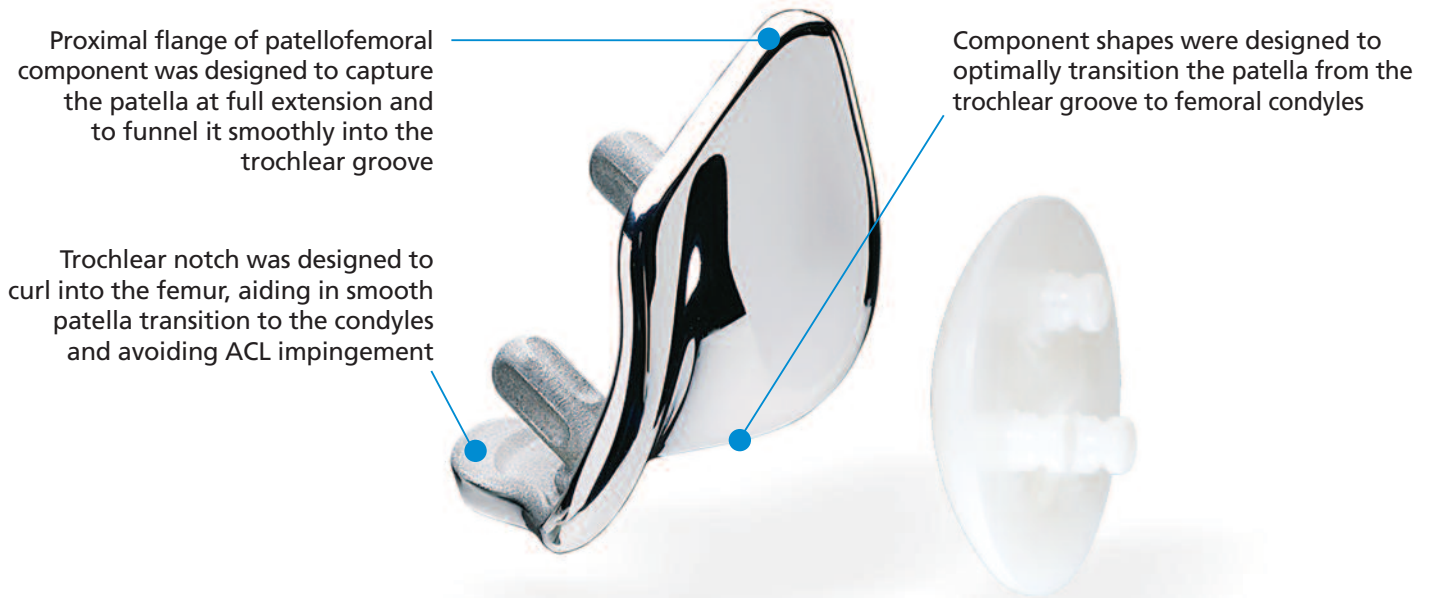
Designed to duplicate the articular surface of a patient's femur, the RESTORIS® MCK femoral component was modeled from a CT database of over 100 knees ranging in size, gender and cultural origin.



## Patellofemoral

### Trochlear & Patellar

To maximize patient mobility and implant longevity, the RESTORIS® MCK components for the patellofemoral joint were designed for exceptionally smooth tracking.



## Tibial

RESTORIS® MCK features two solutions for the tibia designed to result in quicker recoveries and shorter hospital stays. Faster return to function and shorter stays represent lower hospital costs.

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### The Anatomically-shaped Tibial Onlay

- Tibial baseplate features a larger ratio of anteroposterior to mediolateral dimensions relative to other commercially available devices providing better coverage of the tibia
- Minimal thickness of the baseplate (2mm) permits a periosteum-friendlier resection designed to reduce post-operative pain and permit quick return to function
- Baseplate designed to self-align polyethylene for ease of insertion



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### The Periosteum-sparing Tibial Inlay

- Requires significantly less bone removal than onlay designs
- Protection of the periosteum permits patients to feel less post-operative pain and return to their lifestyles quicker than alternative knee replacement designs\*
- Cement retaining features provide the all-polyethylene component with the same pull-out strength as contemporary tibial onlay design\*



\*Data on file.

MAKO Surgical Corp. is dedicated to advancing orthopedics through the discovery and development of quality innovative robotic and implantable surgical solutions that consistently, reproducibly, and precisely restore patient quality of life.



*Restoring Quality of Life Through Innovation®*

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