MAKOplasty®

Partial Knee Resurfacing Application

Powered by RIO® for Consistently Reproducible Precision

The MAKOplasty® Advantage

Consistently Reproducible Precision

A bone/ligament sparing solution designed to restore the feeling of the natural knee

- Pre-operative and intra-operative soft-tissue planning provides a naturally balanced and aligned knee throughout full range of motion
- ACL and PCL preservation to retain function and proprioception
- Resurfacing technique provides accurate implant fit while preserving the ability to revise to a primary TKA if disease progresses
- Family of implants align accurately to each patient's unique anatomy
- RIO® robotic arm technology enables optimal results with a level of precision unattainable with conventional instrumentation

MAKOplasty® Partial Knee Resurfacing

Powered by the RIO® Robotic Arm Interactive Orthopedic System—enabled by RESTORIS® MCK Implants

- CT-derived patient-specific 3-D modeling to accurately plan implant size, orientation, and alignment pre-operatively
- Real-time intra-operative adjustments for correct knee kinematics and soft-tissue balance prior to resection
- Surgeon-interactive technology with 3-D visualization for controlled resurfacing within pre-defined planned resection volume
- Contoured, multicompartmental resurfacing implants that mimic normal anatomy

A bone/ligament sparing approach to restore normal knee function in those with unicompartmental and bicompartmental osteoarthritis

Compared with conventional TKA:

- Replaces only diseased joint surfaces
- Compatible with smaller incisions[1]
- Preserves ACL and PCL[2-4]
- Conserves bone[5,6]
- Eliminates manual bone resection

Potential patient benefits:

- Greater range of motion[4,7]
- Less blood loss, less need for post-op transfusions[3]
- Reduced hospital stay[8]
- Less need for pain medications/narcotics[3]
- More rapid recovery and easier physical therapy[3,4]
- Less scarring[1]
- A more natural feeling knee

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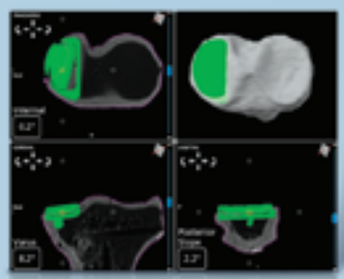
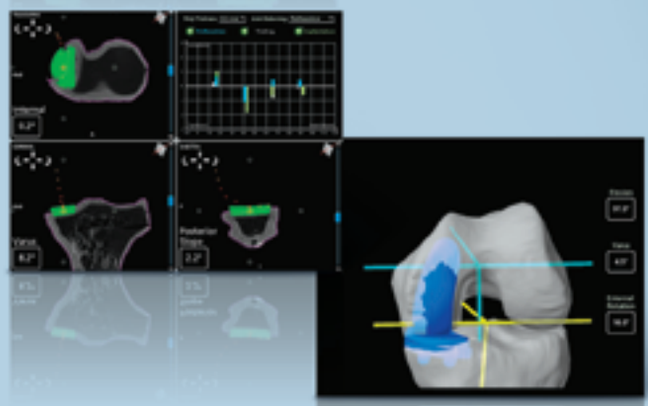
Patient-specific pre-operative planning

- 3-D model of patient anatomy from CT scan
- Virtual view of the entire joint from all angles
- Pre-operative implant planning for size, orientation, and alignment



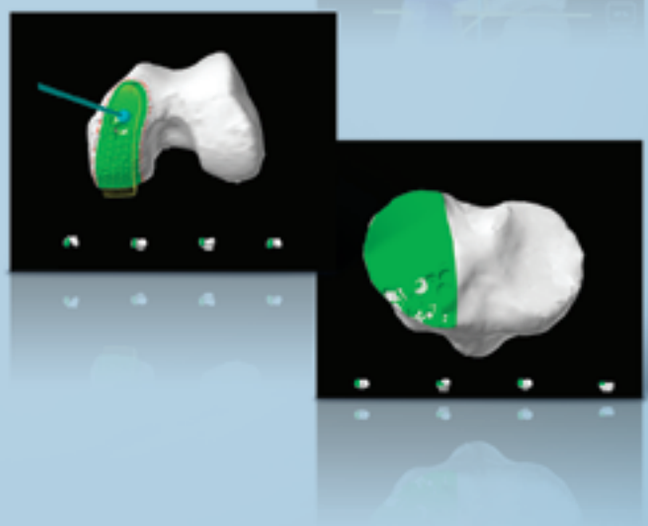
Intra-operative soft-tissue balancing

- Assessment of ligament tension throughout range of motion, with graphic presentation during the case
- Visualization of implant articulation on each other through entire range of motion
- Intra-operative fine-tuning of implant position prior to bone resection for more accurate soft-tissue balance



Surgeon-controlled robotic arm assisted resection

- Tactile feedback, 3-D visualization and auditory guidance facilitate planned cuts for accurate implant fit, while conserving bone
- Minimal soft-tissue retraction required
- Real-time virtual visualization during bone resection to confirm proper implant alignment and positioning



Anatomic implant fit

- Family of implants to customize fit and align accurately to each patient's unique anatomy
- Implant geometry enables better surface coverage while sparing healthy tissue and bone
- Treats single or multiple compartments of the knee

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4. Sinha RK. Outcomes of robotic arm–assisted unicompartmental knee arthroplasty. *Am J Orthop.* 2009;38(2 suppl):20-22.
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