PARTIAL KNEE ARTHROPLASTY (PKA)
Surgical Technique Overview
1. Perform a medial incision and parapatellar arthrotomy to expose the joint. Place the femoral and tibial arrays, and the femoral and tibial checkpoints.

2. Collect patient landmarks. Register and verify the femoral and tibial checkpoints. Perform bone registration and verification of both the femoral and tibial surfaces. **Do not remove osteophytes before bone registration is completed.**
3. Remove overhanging medial osteophytes and then capture a minimum of 4 poses while applying a valgus stress to passively correct the coronal deformity. The magnitude of the valgus stress must be such that it opens up the collapsed medial compartment and tensions the medial collateral ligament (MCL) to achieve the desired degree of correction and joint stability.

**Caution must be exercised to not overcorrect the deformity.**

In the case of a lateral UKA, capture poses while applying a varus stress.

The poses captured are in extension, mid-flexion, flexion, and full-flexion (or approximately 10°, 45°, 90°, and 120°).

4. Fine-tune the femoral and tibial implant placement to ensure:
   - Joint gaps are 0–1.5 mm of looseness throughout the range of motion
   - Good central loading between the femoral and tibial components

5. Position the RIO® in the operative field and perform registration and verification of the robotic arm.
6. Resect the femoral and tibial surfaces, then create peg holes and keels.

7. Remove any meniscus and other soft tissues. Clean up the joint and install trial components. Take the limb through range of motion to assess joint stability.

8. Wash the joint with pulse lavage and dry before cementing the final implants. Ensure that there is good pressurization of the cement to achieve good interdigitation. Remove all extraneous cement and then keep the joint stable until cement cures.

Once cement cures, reassess joint stability, tibiofemoral central tracking, and range of motion.

Remove checkpoints, bone pins, and arrays. Close the surgical wound in the normal fashion.

Pulse lavage on pin sites may help reduce risk of pain and infection.

For detailed instructions, please refer to RESTORIS® MCK Planning and Surgical Technique Guide #206591.
MAKOplasty®—It’s PKA Redefined

MAKOplasty Makes the Complex Consistent for Enhanced Surgical Results

- Increased accuracy and lower post-operative pain levels from Day 1 up to 8 weeks vs. manual unicompartmental knee arthroplasty (UKA) using Oxford® implants¹

- Increased range of motion, quadriceps strength, and post-operative functionality vs. manual total knee arthroplasty (TKA) and navigated manual TKA²

- Very low revision rate of 0.4%,³ which is at least 9 times lower than that reported in the Swedish and UK registries for manual UKA

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MAKOplasty® PKA
Comprehensive Solutions

Indications
RIO® for Partial Knee Replacement (K112507 – March 2012):
The RESTORIS® Partial Knee Application, for use with the Robotic Arm Interactive Orthopedic System (RIO), is intended to assist the surgeon in providing software-defined spatial boundaries for orientation and reference information to anatomical structures during orthopedic procedures.
The RESTORIS Partial Knee Application, for use with the Robotic Arm Interactive Orthopedic System (RIO), is indicated for use in surgical knee procedures, in which the use of stereotactic surgery may be appropriate, and where reference to rigid anatomical bony structures can be identified relative to a CT-based model of the anatomy. These procedures include unicondylar knee replacement and/or patellofemoral knee replacement.

RESTORIS® MCK Implant System (K903763 – June 2009):
RESTORIS MCK is indicated for single or multicompartmental knee replacement used in conjunction with RIO, the Robotic Arm Interactive Orthopedic System, in individuals with osteoarthritis or post-traumatic arthritis of the tibiofemoral and/or patellofemoral articular surfaces. The specific knee replacement configurations include:
1. Medial unicompartmental
2. Lateral unicompartmental
3. Patellofemoral
4. Medial bicompartmental (medial unicompartmental and patellofemoral)

A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery.
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References