Customized POSTERIOR-STABILIZED knee replacement system
OUR VISION

This is what we envision as the ideal total knee replacement (TKR) system:

<table>
<thead>
<tr>
<th>FOR THE SURGEON</th>
<th>FOR THE PATIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A REPRODUCIBLE PROCEDURE</td>
<td>A NORMAL KNEE</td>
</tr>
<tr>
<td>Customized components.</td>
<td>Address sources of pain.</td>
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<tr>
<td>Simple, flexible surgical technique.</td>
<td>Stable through ROM.</td>
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<tr>
<td>No compromises.</td>
<td>Restored daily function.</td>
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</tbody>
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*A predictable outcome every time.*

*A happy patient every time.*
OUR CORE PHILOSOPHY

The only truly customized TKR.

1. CUSTOMIZED FIT
2. CUSTOMIZED SHAPE
3. CUSTOMIZED CAM-SPINE
4. REPRODUCIBLE TECHNIQUE
CUSTOMIZED FEMORAL AND TIBIAL FIT

It’s all about fit.
iTotal PS femoral and tibial components are customized for each patient to avoid overhang, under-coverage, and sizing compromises.

• Virtually eliminates fit and mal-rotation issues that can lead to pain\(^1,2\)
• Avoid sizing compromises that can lead to increased revision rates\(^3\)
Precise fit in all 3 femoral compartments

Anatomic tibial axis alignment

Customized posterior fit to avoid overhang

Patient-specific tibial profile

It starts by recreating each patient’s unique femoral articulating surfaces. With iTotal, the patient’s anatomic J-curves provide the basis for the implant design.

Respecting each patient’s condylar shape:

- Retains each patient’s medial and lateral joint line and condylar offset
- Provides stability through range of motion

Anatomically based:

- Patients’ natural articulating geometry is extracted from 3D femoral anatomy
- J-curves are corrected for deformity and is the basis for femoral implant design
- Designed to restore kinematics by allowing femoral rollback and axial rotation to occur
The design of the cam-spine shape, location, and size is customized to respect each patient’s unique J-curves through the range of motion to:

- Provide optimal stability
- Restore kinematics by working in concert with J-curves
- Reduce potential for “mechanical” feel

**Full extension**

J-curves are matched to the articulating surface of the tibial inserts

**Mid-flexion**

J-curves facilitate motion allowing femoral rollback & axial rotation

**Flexion**

J-curves continue to facilitate motion, with the customized cam beginning to engage as needed...

**Deep flexion**

...continuing into deep flexion
Patient data enables a **reproducible surgical procedure** by enabling four key areas:

**Pre-navigated components:**
- Customized femoral and tibial components designed to match patient anatomy based on CT scan data

**Customized instrumentation:**
- Full set of single-use, customized iJig® instrumentation for every step of the procedure, designed using patient CT scan data
Pre-operative plan:
- The iView® is a virtual roadmap, including positioning images, femoral and tibial resection values, and patient’s anatomic slope

Simplified delivery model:
- Single, pre-sterilized kit
- No implant inventory
- A single reusable instrument tray
- Easy set up and tear down
Designed with all the customized elements of the iTotal CR, and with patient-specific cam and spine features to reduce mechanical issues that can cause component wear and impingement.

- Cam-spine engagement position is lowered to reduce potential for dislocation in deep flexion.
- Narrowed posterior cam shape and posterior cutout on tibial insert of tray allow a minimum +/- 15° of internal/external rotation to avoid impingement during axial rotation in deep flexion.
- Box-spine clearance is patient-specific to reduce impingement through ROM without need for additional resection or component upsizing.
- Cam-spine engagement has matched “round-on-round” contact profile to reduce impingement and wear in flexion.
Engagement of the femoral component and spine in extension is designed based on each patient’s anatomy to reduce potential for impingement, wear, and crepitus.

Customized articulating surfaces on the tibial inserts are matched to each femoral surface for improved stability.

Tibial insert has a patient-specific patella relief to reduce potential for impingement.
Some images show implant features that are pending FDA clearance.