



CONFORMIS



iTotal<sup>®</sup> PS

Customized POSTERIOR-STABILIZED knee replacement system

# OUR VISION

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

## FOR THE SURGEON

### A REPRODUCIBLE PROCEDURE

Customized components.

Simple, flexible surgical technique.

No compromises.

*A predictable outcome every time.*

## FOR THE PATIENT

### A NORMAL KNEE

Address sources of pain.

Stable through ROM.

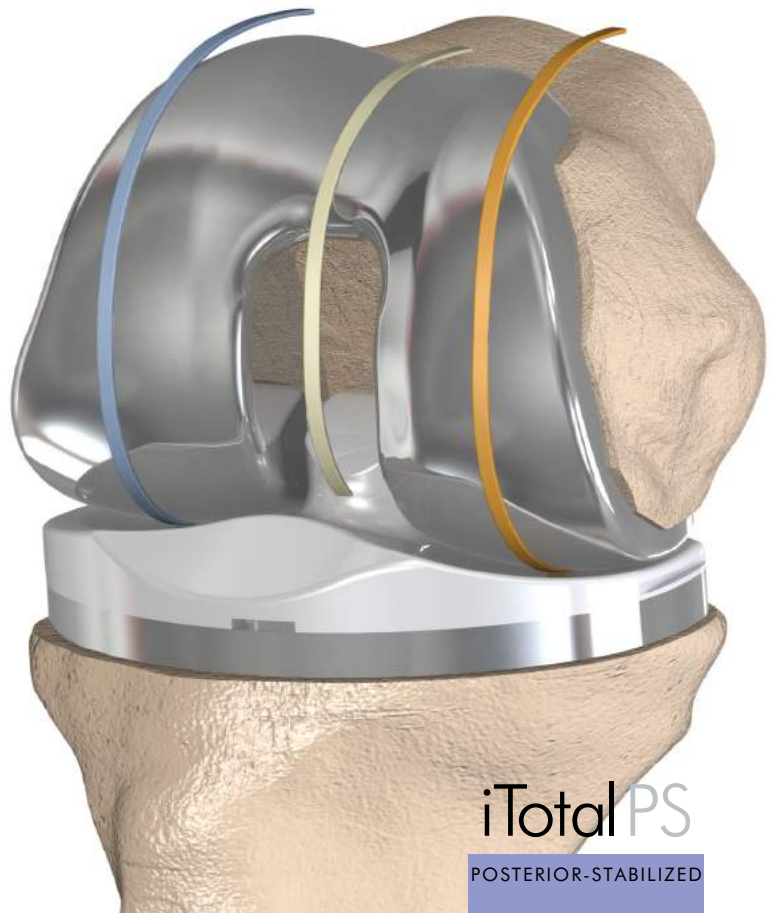
Restored daily function.

*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**



iTotalPS  
POSTERIOR-STABILIZED

## 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.

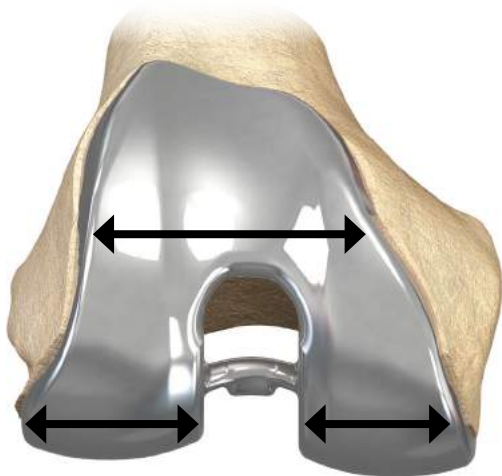
- Virtually eliminates fit and mal-rotation issues that can lead to pain<sup>1,2</sup>
- Avoid sizing compromises that can lead to increased revision rates<sup>3</sup>

Femoral component

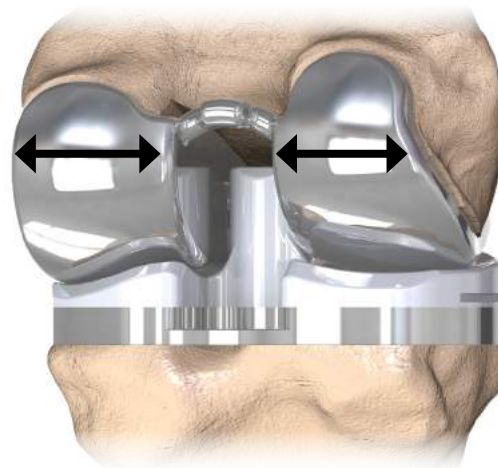


Tibial component

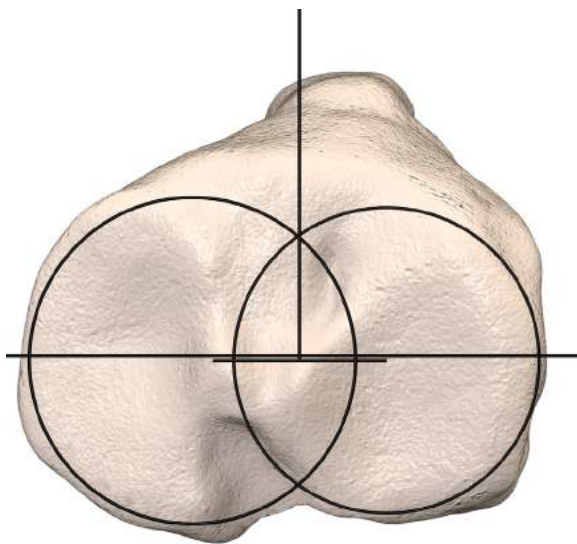




*Precise fit in all 3 femoral compartments*



*Customized posterior fit to avoid overhang*



*Anatomic tibial axis alignment*



*Patient-specific tibial profile*

<sup>1</sup> Mahoney, et al; Overhang of the Femoral Component in Total Knee Arthroplasty: Risk Factors and Clinical Consequences. The Journal of Bone and Joint Surgery; 2010, 92: 1115-1121

<sup>2</sup> Nicoll, et al; Internal Rotational Error of the Tibial Component is a Major Cause of Pain after Total Knee Replacement. The Journal of Bone and Joint Surgery; 2010, 92: 1238-1244

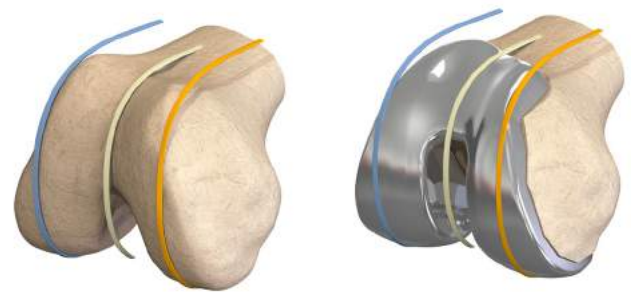
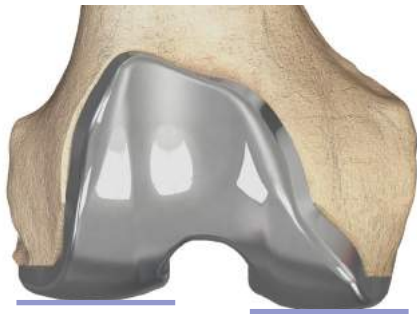
<sup>3</sup> Young, et al; Higher Rate of Revision in PFC Sigma Primary Total Knee Arthroplasty With Mismatch Femoro-Tibial Component Sizes. Journal of Arthroplasty; 2015, 30: 813-817

# CUSTOMIZED SHAPE

It starts by recreating each patient's **unique femoral articulating surfaces**. With iTTotal, 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

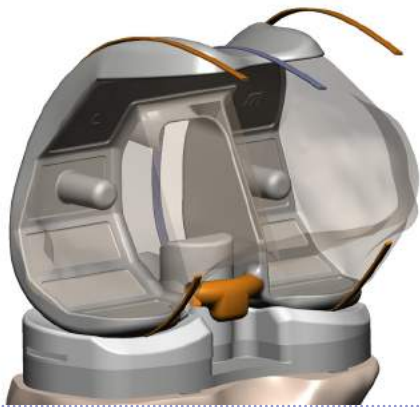


## Anatomically based:

- 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

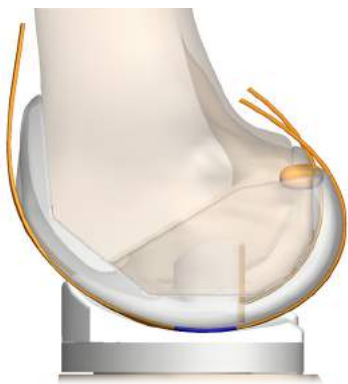
CUSTOMIZED

# CAM & SPINE



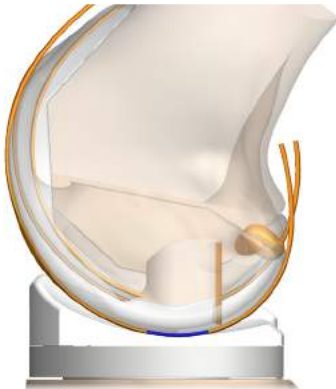
The design of the cam-spine shape, location, and size is customized to respect each patient's unique J-curves through the range of motion to:

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



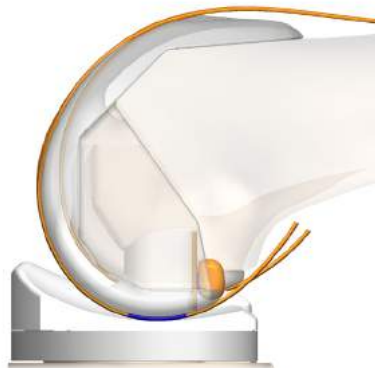
**Full extension**

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



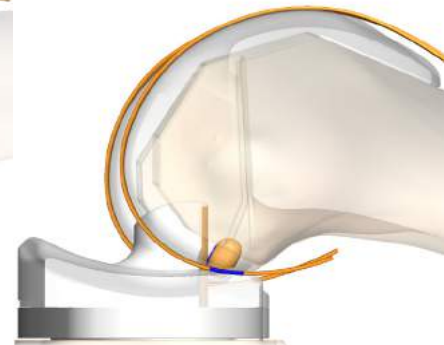
**Mid-flexion**

*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**

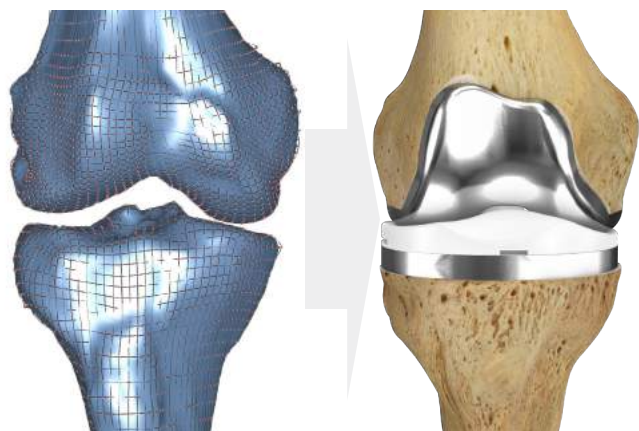
*...continuing into deep flexion*

PREDICTABLE,  
**REPRODUCIBLE**  
SURGICAL PROCEDURE

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:**

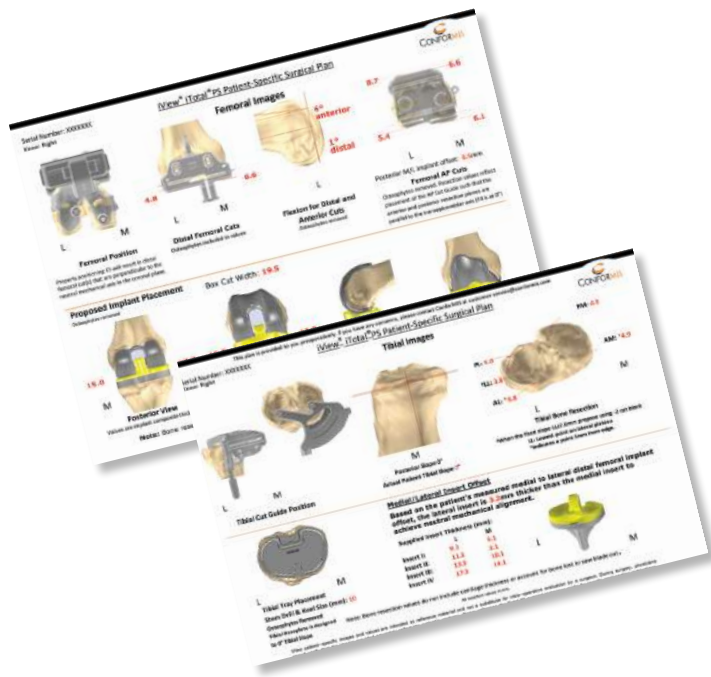
- Full set of single-use, customized iJig® instrumentation for every step of the procedure, designed using patient CT scan data





## 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



# iTotal<sup>®</sup> PS

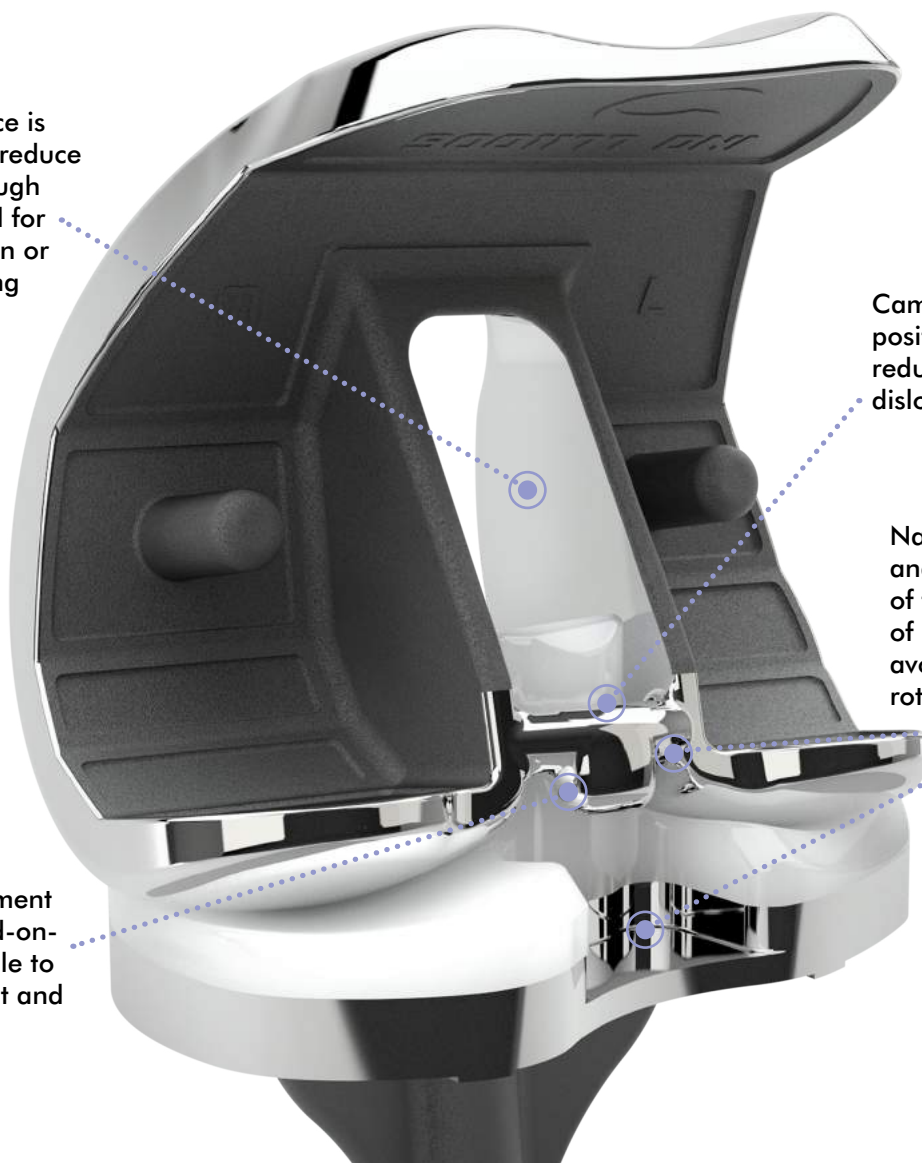
Designed with all the customized elements of the iTotal CR, and with patient-specific cam and spine features to **reduce mechanical issues** that can cause component wear and impingement.

Box-spine clearance is patient-specific to reduce impingement through ROM without need for additional resection or component upsizing

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

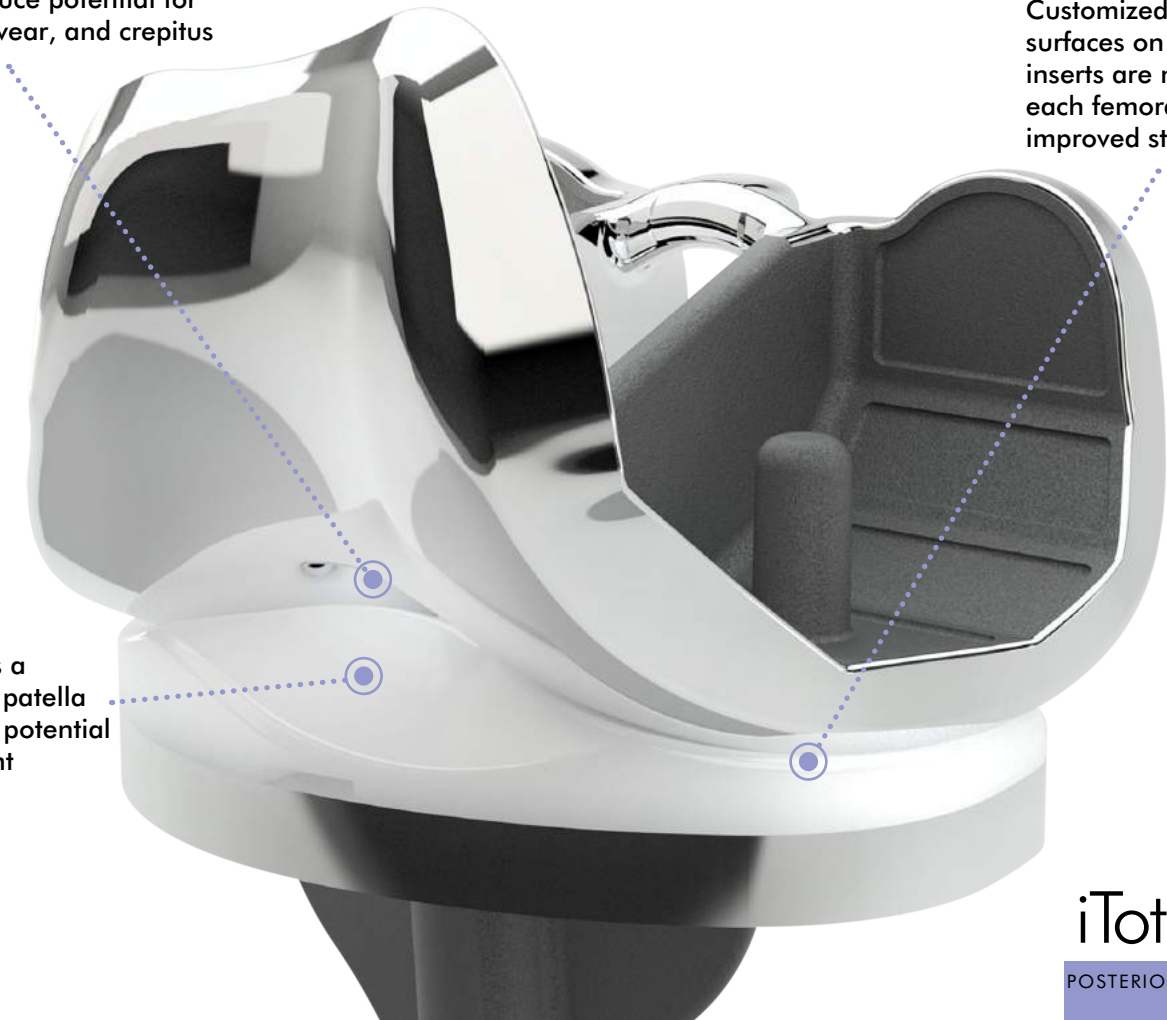
Cam-spine engagement has matched "round-on-round" contact profile to reduce impingement and wear in flexion



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.*



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**CAUTION:** USA federal law restricts this device to sale by or on the order of a physician. The ConforMIS Posterior Stabilized Total Knee Replacement System (iTotal PS) is intended for use only by fully trained physicians. Prior to use of a ConforMIS device, please review the instructions for use and surgical technique for a complete listing of indications, contraindications, warnings, precautions, and directions for use.

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