



# KNEE

PRODUCT CATALOG OF KNEE JOINT PROSTHESIS

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KNEE REPLACEMENT SOLUTIONS

## COMPANY INTRODUCTION

Just Medical Devices (Tianjin) Co., Ltd., established in 1958, is a leading Chinese manufacturer of hip and knee joint implants and instruments dedicated to providing high-quality solutions for joint diseases to patients worldwide. We are integrating R&D, manufacturing, sales, training, and service to provide customers with safe, effective, and exquisite medical products and services to the fullest extent possible.

Just Medical offers six product lines: Hip Reconstruction, Knee Reconstruction, Partial Reconstruction, New Interface Prosthesis, Regenerative Repair, and AI Digitalization.

Our products have a wide range of specifications, are easy to operate, and meet the needs of various clinical procedures, including minimally invasive, primary, complex primary, primary revision, and complex revision surgeries. We provide end-to-end process, digital, stepwise product solutions for treating joint diseases.

Our products are certified by GMP, ISO, CE, and NMPA. We have obtained 33 global Class III medical device registrations and applied for 245 patents, including over 100 invention patents. With a sales network spanning 49 countries and regions globally and over 550,000 implants worldwide, we have gained the trust of doctors and patients worldwide, leading to an increasing reputation in the international market.

We possess multiple advanced product core technologies and have introduced groundbreaking innovations to the market, including the world's first clinically validated 3D-printed trabecular modular femoral stem and the world's first 3D-printed zonal trabecular knee prosthesis system, addressing market gaps. In the future, Just Medical will continue to invest in innovative platforms such as AI, 3D printing, new material applications, and regenerative medicine. Adheres to the principles of "Full product line, On-time supply, Value for money," focusing on joint step therapy to elevate the quality of human life.

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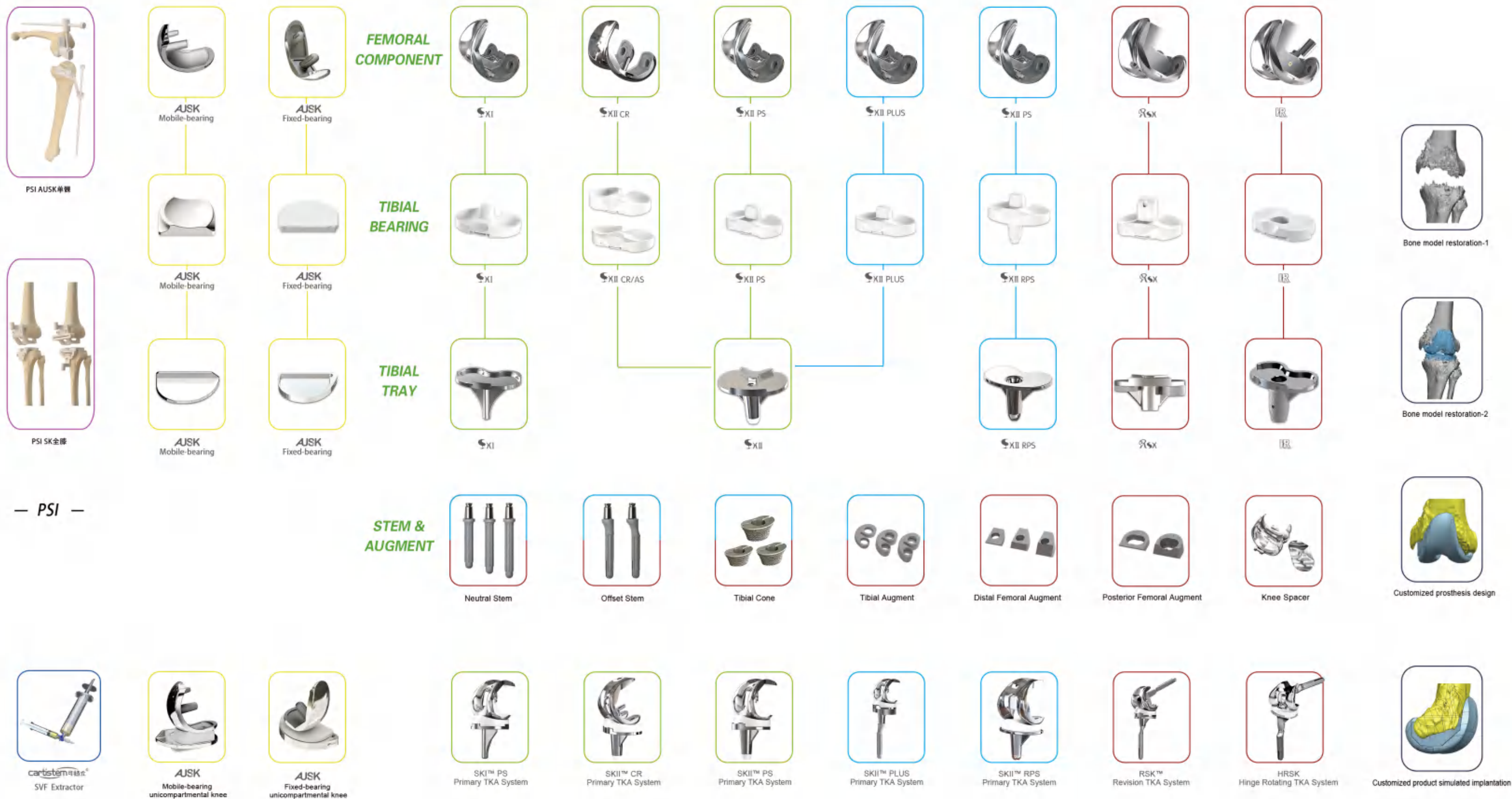




# KNEE STEPWISE SURGICAL SOLUTIONS

Dynamic fatigue tests after 10 million cycles in the international CNAS laboratory shows excellent results and no risk of fracture.

Dynamic wear tests after 5 million cycles in the international Endolab® laboratory in Germany shows excellent wear resistance.



— REPAIR —

— KNEE PRESERVATION —

— PRIMARY —

— COMPLEX PRIMARY —

— REVISION —

— CUSTOMIZED —

## RAW MATERIAL

All raw material of UHMWPE inserts were manufactured in Germany, meeting the technical requirements in ISO 5834 part 2 and ASTM F648.

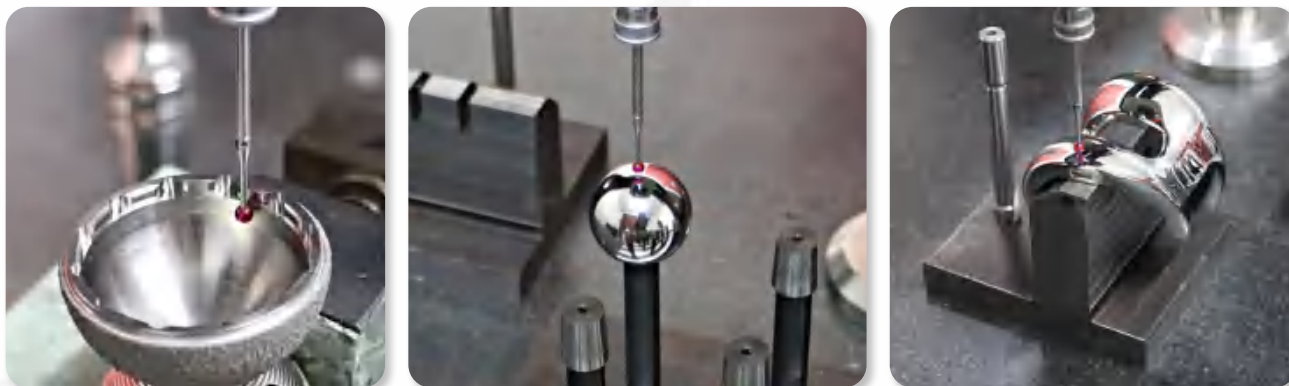


## PRECISE PROCESSING



## STRICT INSPECTION

JUST MEDICAL Inspection Center

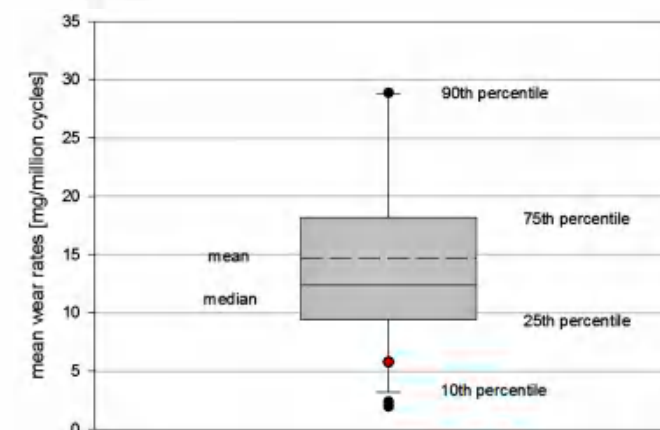
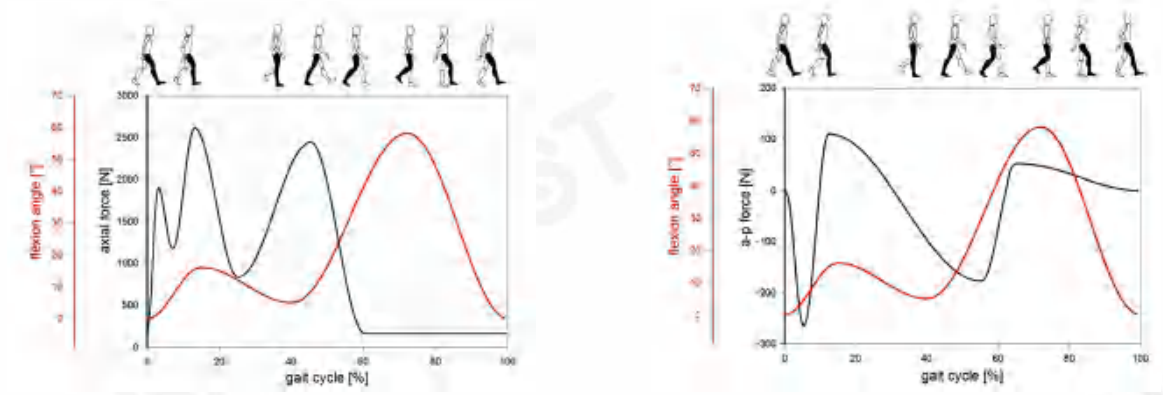


## Wear Test in EndoLab®

EndoLab® GmbH offers a variety of technological implant testing services to develop and certify medical products.

EndoLab® is an accredited (DAkkS O-PL-18838-02-00) and certified (ZLG-P-944.98.07) test laboratory according to DIN EN ISO/IEC 17025 and 93/42/EWG.

The company is a spin-off from the Technical University of Munich and is closely connected to several national and international research departments.



5 million dynamic wear tests of the knee joint  
 - AWR in Endolab® database 12.37 mg/million times  
 - AWR of JUST knee 5.79 mg/million times

A mean conventional UHMWPE tibial insert wear rate of 5.79 mg per million cycles was determined after 5.0 million cycles.

To date, EndoLab® has tested n=24 fixed bearing posterior stabilized TKR systems with a CoCrMo femoral component articulating against a conventional UHMWPE tibial insert (non-aged). A mean wear rate of 14.73 mg per million cycles

was established. The lowest wear rate measured was 1.96 mg per million cycles, the highest wear rate was 39.79 mg per million cycles and the median was 12.37 mg per million cycles.

Comparing the mean wear rate of the Just Medical conventional UHMWPE fixed bearing tibial insert components with the EndoLab® database, it was found to be below to the mean value determined at EndoLab® so far.



## Features

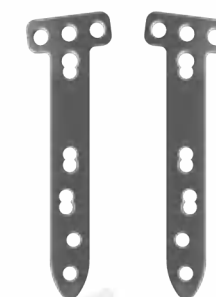
- 7° posterior slope with left/right design conforms to the anatomy of tibial plateau;
- Screw orientation meets osteotomy requirements and ensures optimum support of articular surfaces
- The plate's high strength, in combination with the axially and angularly stable LHS, ensures absolute stability of the osteotomy fixation
- Long shaft portion evenly transmits the occurring forces into the tibial shaft
- Pretensioning and toughness of the plate allows compression of the lateral hinge
- Tapered, rounded tip facilitates plate insertion



Distal Medial femur



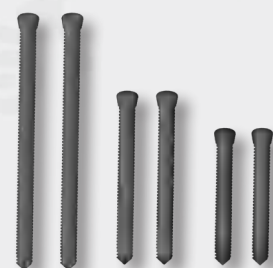
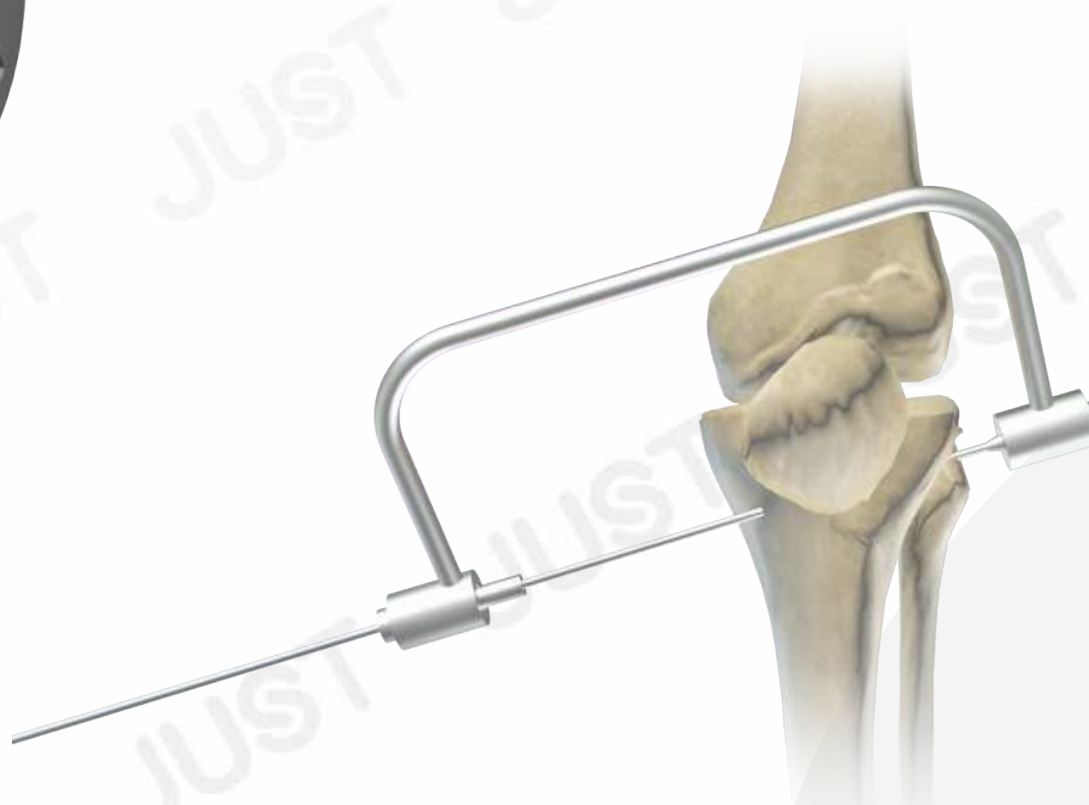
Distal lateral femur



Proximal medial tibia



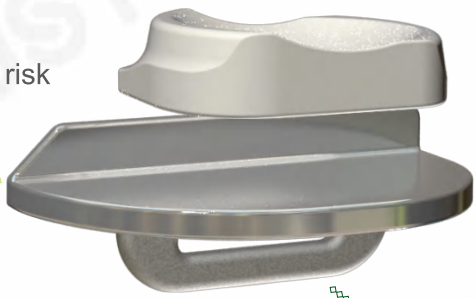
Proximal lateral tibia



Mobile-bearing Unicompartmental Knee

Mobile Bearing

Lower linear wear for lower loosening risk and better survivorship



Anatomical Tray Design

Anatomical shape for optimal bone coverage



HPE Bearing

Proven better wear resistance with highly crosslinked Polyethylene

Optimal Bearing Shape

Raised anterior lip & square lateral side to prevent dislocation



Curved Inner Geometry

For minimal bone removal and better fixation



Dule Peg

For better rotating stability

Straight Keel

Acts as a guide for the convenient, minimally invasive operation



Mirror Polishing

For femoral component and tray resulting in lower wear

## Fixed-bearing Unicompartmental Knee

### Optimally positioned femoral pegs

Femoral Peg location changes by size for optimal fixation



### Angled femoral pegs

Are designed to enhance femoral fixation by providing resistance to loosening forces during flexion up to 118°



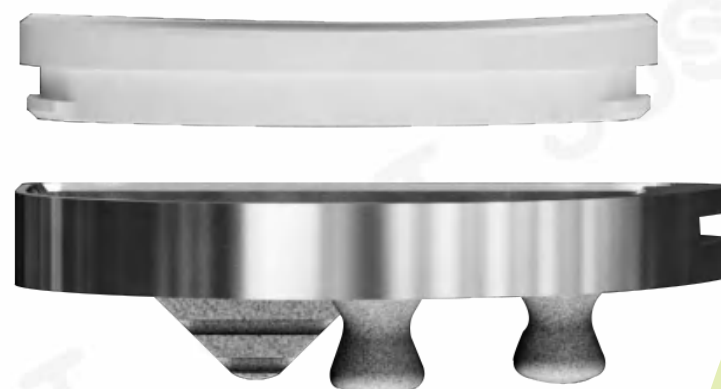
### Extended posterior condyle

Is designed to accommodate high flexion up to 155°



### Round-on-flat articulation

Unconstrained design intended to allow soft tissues to dictate motion of the knee; Round-on-flat articulation design intended to allow +/- 8° varus/valgus tilt without edge loading



### 3 points of tibial fixation

2 hour-glass pegs and the rotational fin are intended to guard against shear and rotational forces



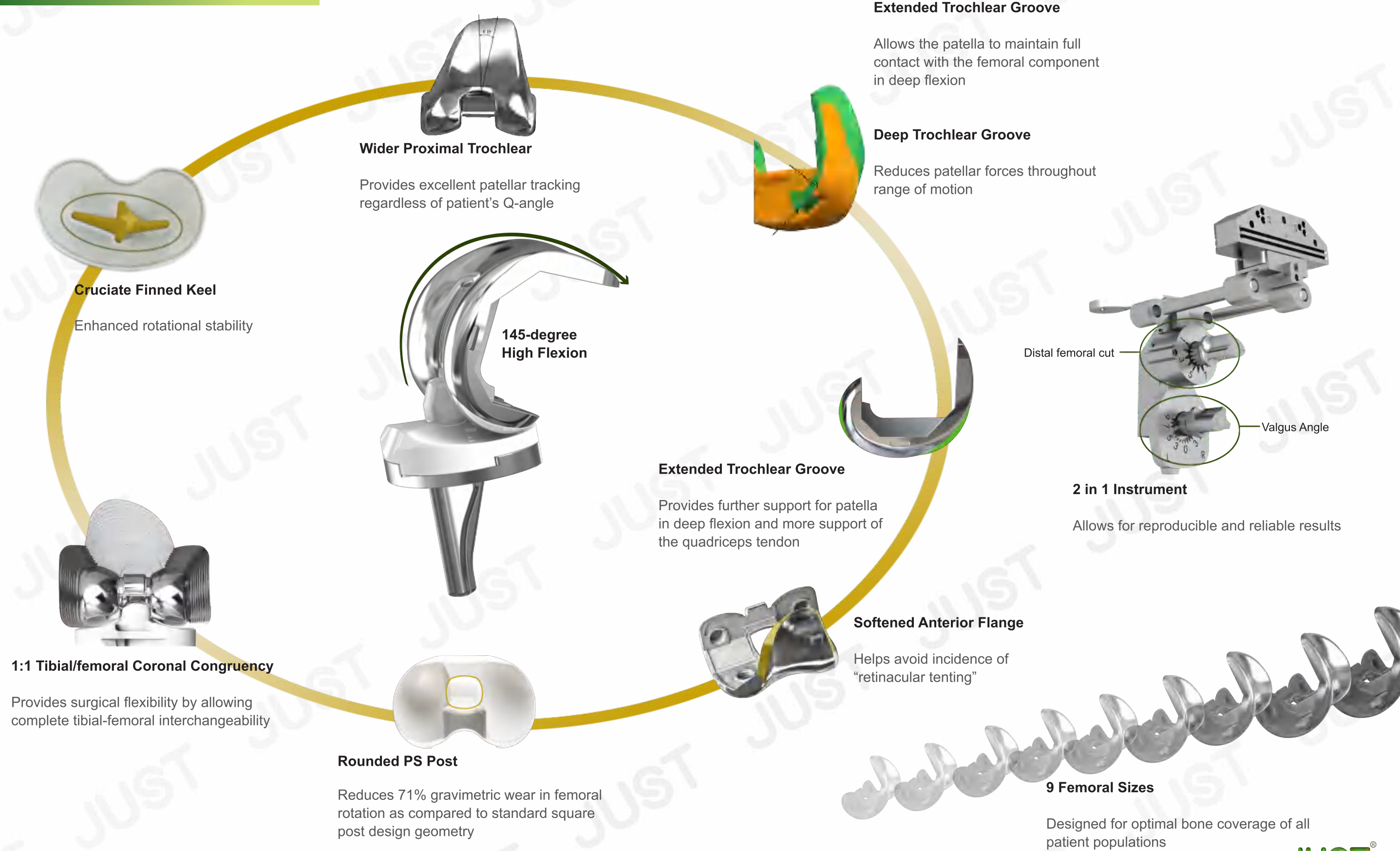
### Anatomically shaped tibial and femoral components

Are designed to provide maximum bone coverage





# PS High Flexion Total Knee System





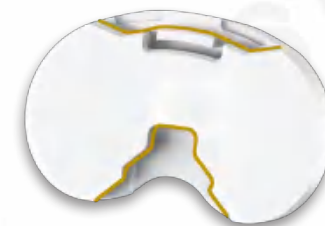
## Smaller Tibial Fins

Preserves more proximal bone



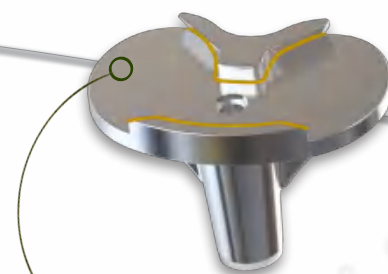
## Advanced Locking Mechanism

Reduces backside micromotion to the lowest level



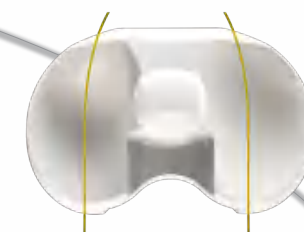
## Highly Polished Tibial Tray

Provides smooth surface to minimize polyethylene wear



## Rotated Articulation Bearing Surface

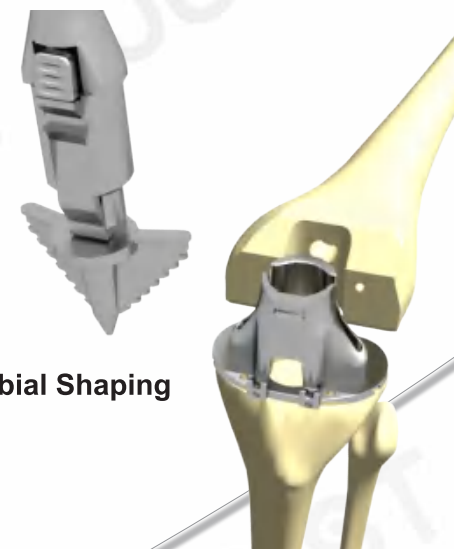
Increases the contact area by 13% , allowing 15 degrees internal/external rotation



## Adjustable A/P Sizer



## Tibial Shaping





## CR High Flexion Total Knee System

- Designed for high flexion activity
- 2 options of tibial bearings:CR and AS
- Mirror-polished surface finish to reduce bearing wear during motion



### Size Options

SKII CR System has 9 femoral sizes, 28 bearing specifications and 7 tibial sizes





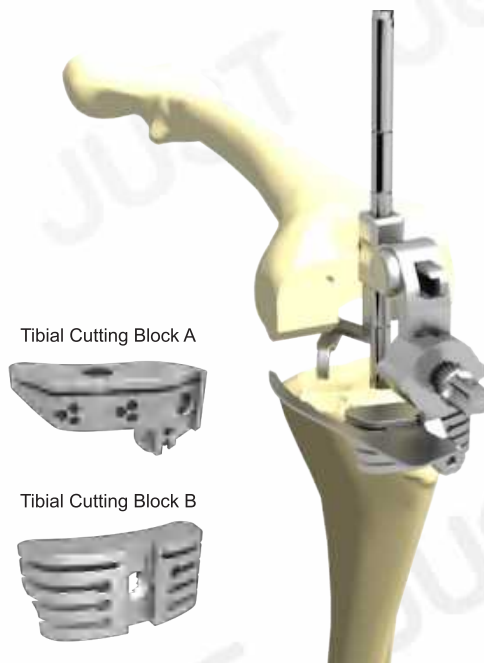
# PS+ High Flexion Total Knee System

## Same Platform Design

Meets requirements of both primary and complex primary TKA



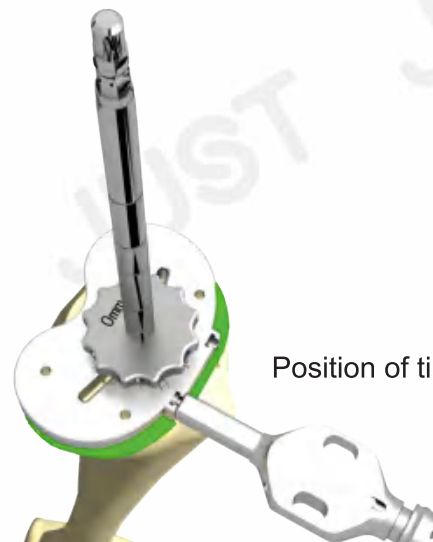
## 2 Options of Tibial Bearings: Standard and PLUS



Intermedullary tibial cutting

## Stem Extensions

For optimal stress distribution



Position of tibial tray

# RPS High Flexion Rotating Bearing Total Knee System

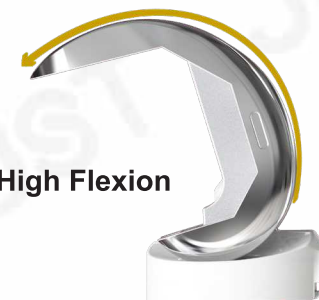


- Designed for high flexion activity
- Complete tibial-femoral interchangeability
- Patellar tendon relief facilitates increased range of motion
- 1:1 tibial-femoral coronal congruency increases contact area



- Highly polished surface significantly reduces backside wear and debris

## 145-degree High Flexion



## Extended Trochlear Groove

Allows the patella to maintain full contact with the femoral component in deep flexion



## Extended Trochlear Groove

Allows the patella to maintain full contact with the femoral component in deep flexion



## Deep Trochlear Groove

Reduces patellar forces throughout range of motion

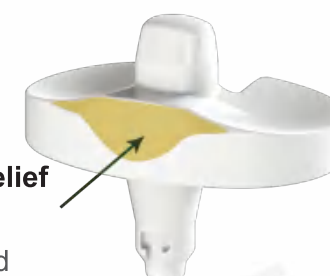
## 9 Femoral Sizes

Designed for optimal bone coverage of all patient populations

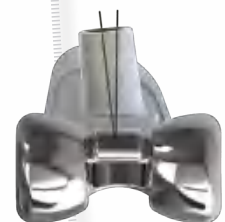


## Patellar Tendon Relief

Facilitates increased range of motion







5 Degrees Stem Valgus Angle



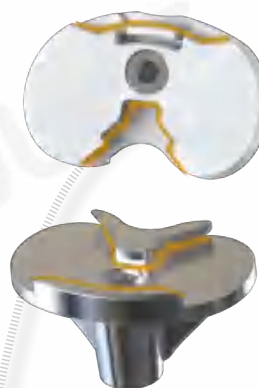
Constant Intercondylar Resection



Stable Constrain Design



### Double Locking Mechanism



NO.1 Advanced locking mechanism reduces backside micromotion to the lowest level

NO.2 Locking Screw



### Multi-functional Instruments: 4 in 1 Femoral Cutting



### Multi-functional Instruments: Femoral Trail



## HRSK Hinged Rotating Total Knee System



### Tibial/femoral Coronal Congruency

By maximizing contact area, the stresses in the polyethylene are distributed across a larger surface area

### Modular Hinge Mechanism

The modularity of HRSK allows the components to be assembled with minimal distraction. Hinge post extension can be inserted into the tibial baseplate and tightened easily

### Symmetry Hinge Mechanism

The HRSK femoral component and articular surface are designed to maintain centralized contact throughout ROM (-3° to 120°), resulting in 95% of the load being carried by the tibial condyles; The central location of the HRSK Knee hinge mechanism is placed closer to the axis of the tibial component, resulting in more natural and consistent tibiofemoral kinematics when compared to posterior hinge knee designs

### Rotating Design

The rotation of the HRSK platform is designed to displace torsional loads from the cement interfaces to the soft tissues, since it allows up to 20° of movement in internal and external rotation

### Hyperextension Stop

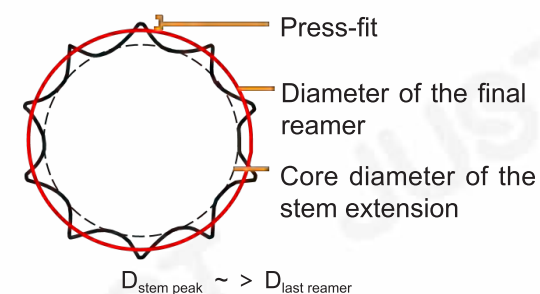
Contact occurs on the frontal radius of the HRSK Femoral Component with the articulating surface just as the implant moves to hyperextension. This will cause the knee to distract slightly, dampening the extension impact



## Stem Extensions

### Length options

40/80/120/160mm for the appropriate level of fixation



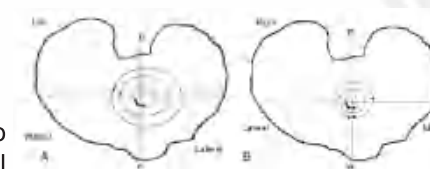
### Diameter options

Diameters 10-20mm are available for press-fit



### Offset options

Are available in neutral, 2.5, 5.0mm magnitudes to accommodate the varying metaphyseal/diaphyseal mismatch with the proximal tibia/distal femur



### Integrated Design

Avoids the risk of postoperative loosening between adaptor and stem

The existence of the slot at the end of stem could reduce substantially the stem-end pain



Modular Trabecular Metal Tibial Sleeve



Modular sleeves provide Intra-operative flexibility by accommodating bone defects of the Engh Type II and Type III



Highly polished upper surface reduces postoperative wear

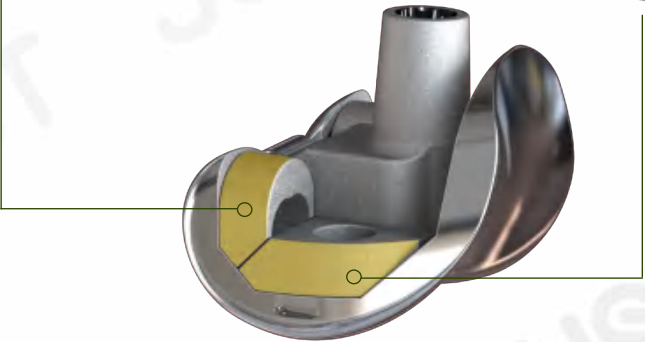
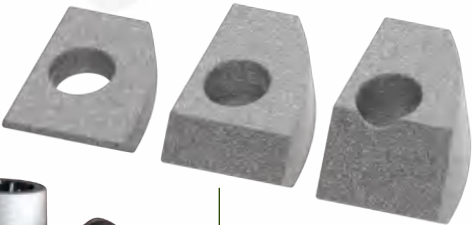
Augments with 187 Specifications

Are available for patients with inadequate bone stock

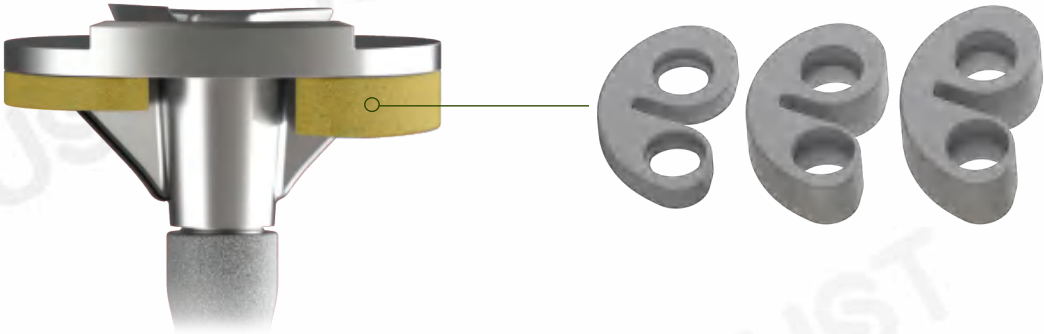
Posterior femoral augment



Distal femoral augment



Tibial Augment



## Customization process

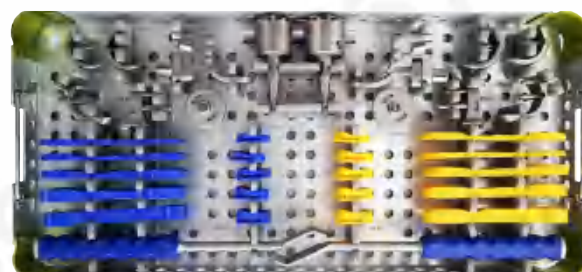
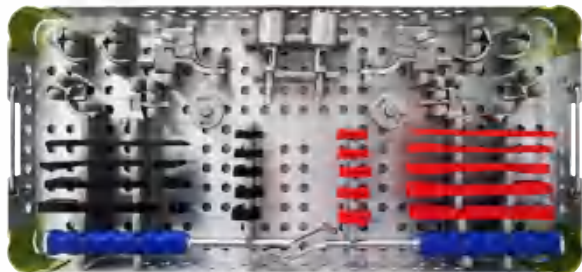
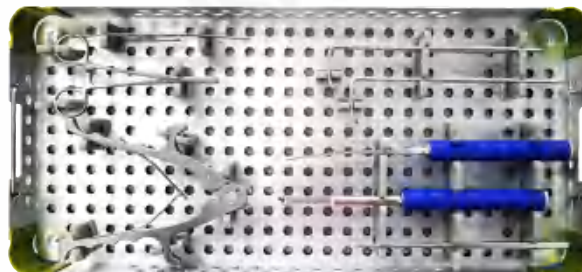
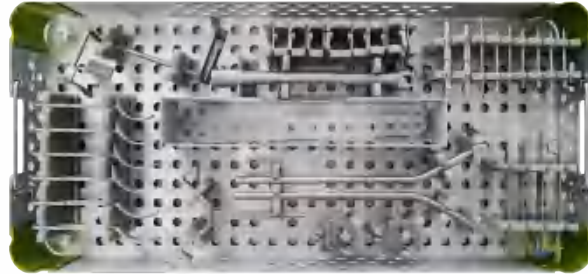
► Consultancy ► design ► simulation ► customization

## Cases show

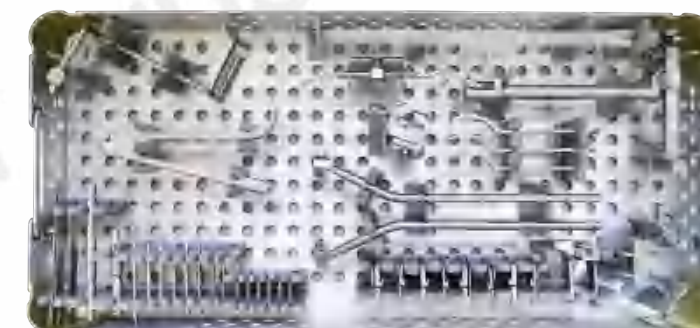
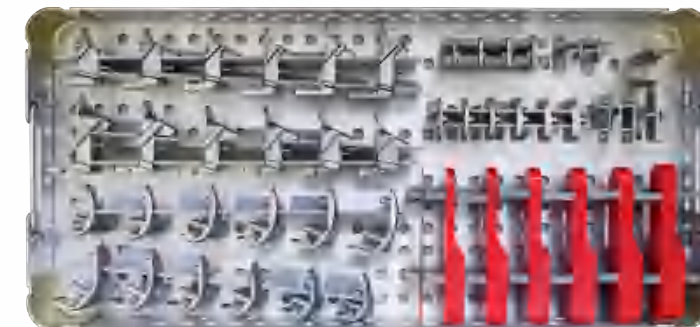
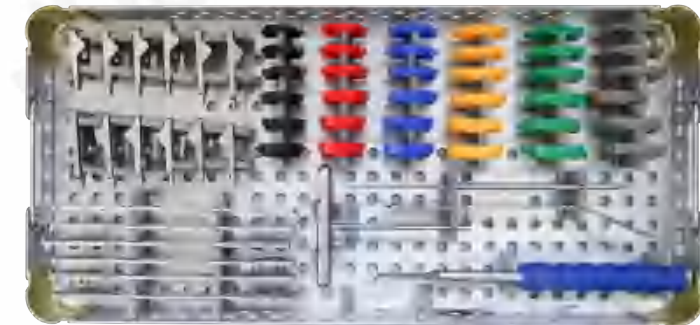




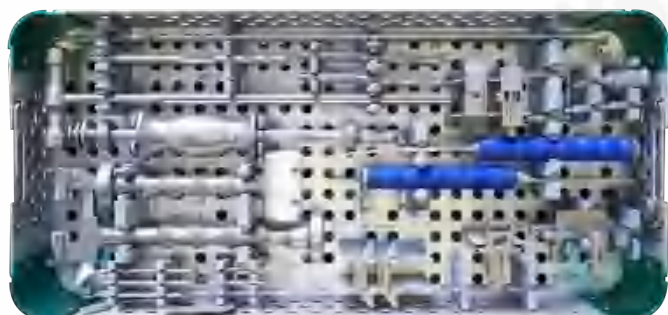
## Mobile-bearing Instrumentation



## Fixed-bearing Instrumentation







## Excellent case sharing

Case 1: Preoperative X-ray



Postoperative X-ray



Case 2: Preoperative X-ray



Preoperative planning



Postoperative X-ray



Excellent case sharing

Case 1: Preoperative X-ray



Postoperative X-ray



Case 2: Preoperative X-ray



Postoperative X-ray



Case 3: Preoperative X-ray



Postoperative X-ray



Case 4: Preoperative X-ray



Simulated pre-installation



CT 3D restoration



Postoperative X-ray



3D printed metal spacer





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