

United Orthopedic Family of Knee Replacement Systems

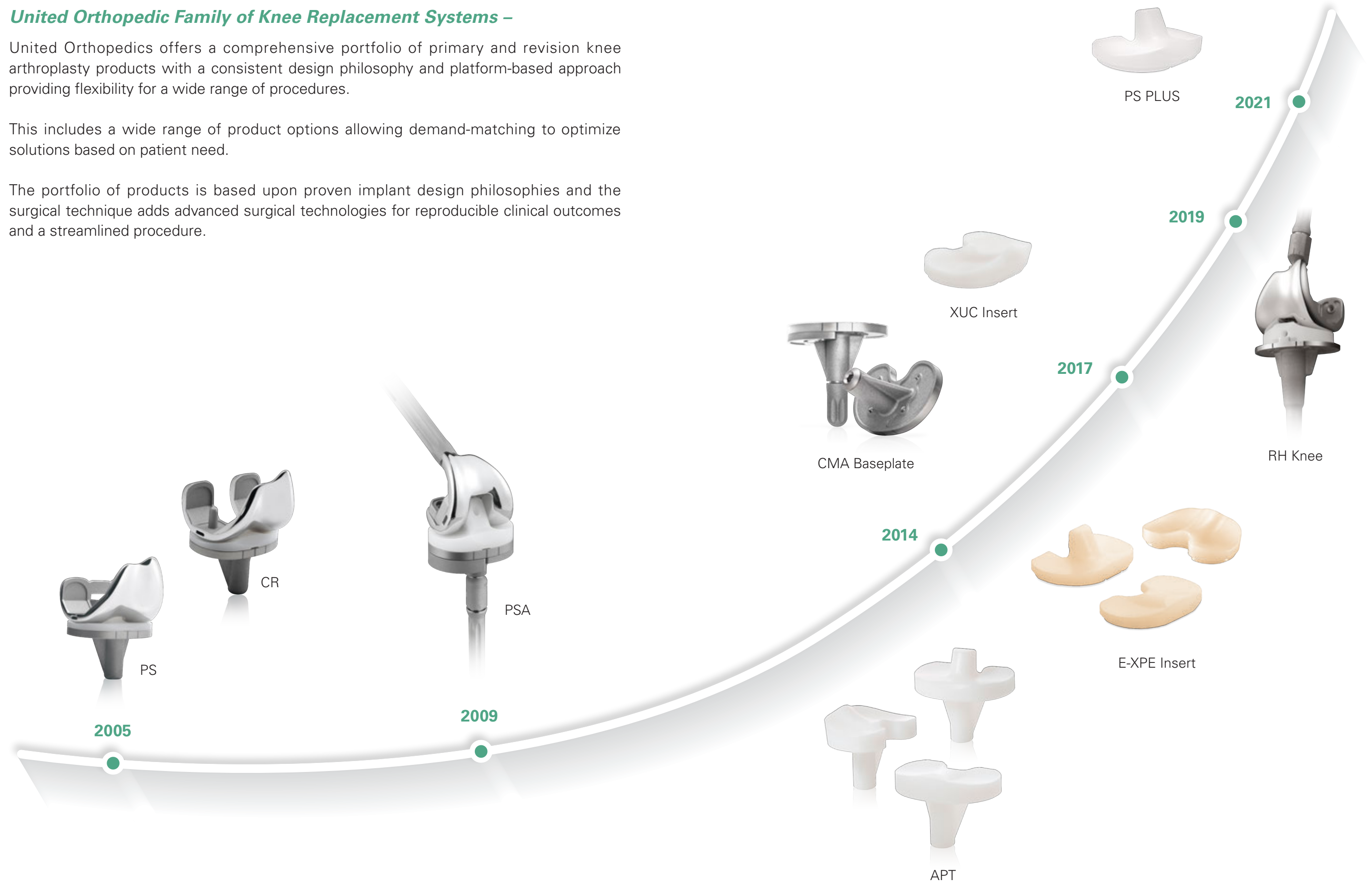


United Orthopedic Family of Knee Replacement Systems –

United Orthopedics offers a comprehensive portfolio of primary and revision knee arthroplasty products with a consistent design philosophy and platform-based approach providing flexibility for a wide range of procedures.

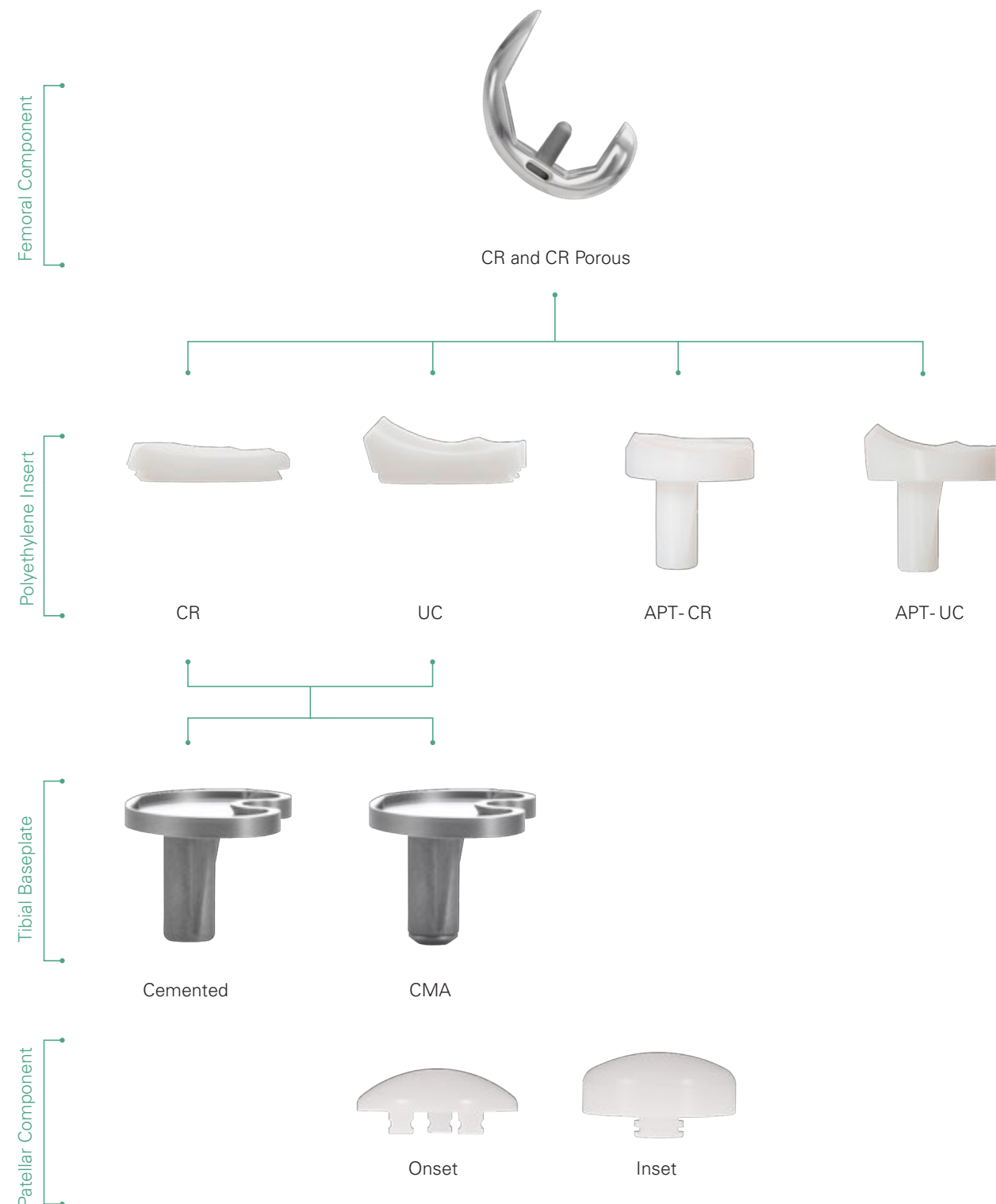
This includes a wide range of product options allowing demand-matching to optimize solutions based on patient need.

The portfolio of products is based upon proven implant design philosophies and the surgical technique adds advanced surgical technologies for reproducible clinical outcomes and a streamlined procedure.

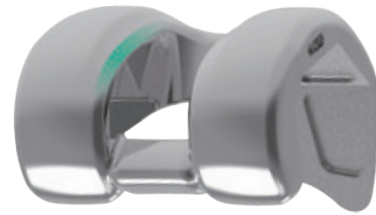


U2 Knee System Portfolio

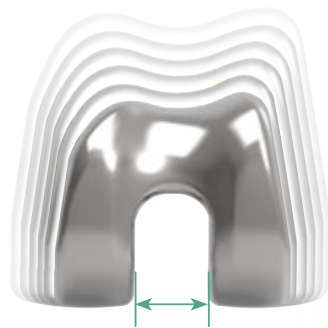
The U2 Knee System includes a wide range of product options for demand-matching to optimize solutions based on patient need.



U2 Knee System Key Design Features



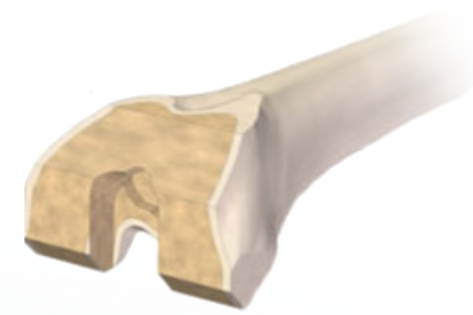
The extended patella groove is designed for increased contact area between the patella and femoral implants to allow for optimal patella tracking.



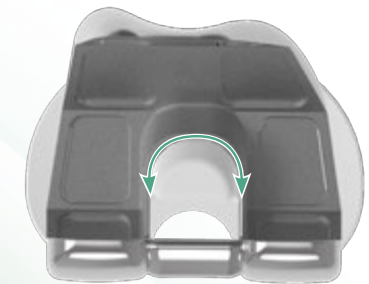
Consistent condylar curvature and standard intercondylar box width (in PS knee) allows full interchangeability between femoral and tibial components.



PS and CR femoral components are offered in 2 mm A/P and M/L increments to provide a comprehensive femoral sizing solution.



Smaller intercondylar bone removal together with rounded corners help avoid the risk of intercondylar fracture for PS box preparation.

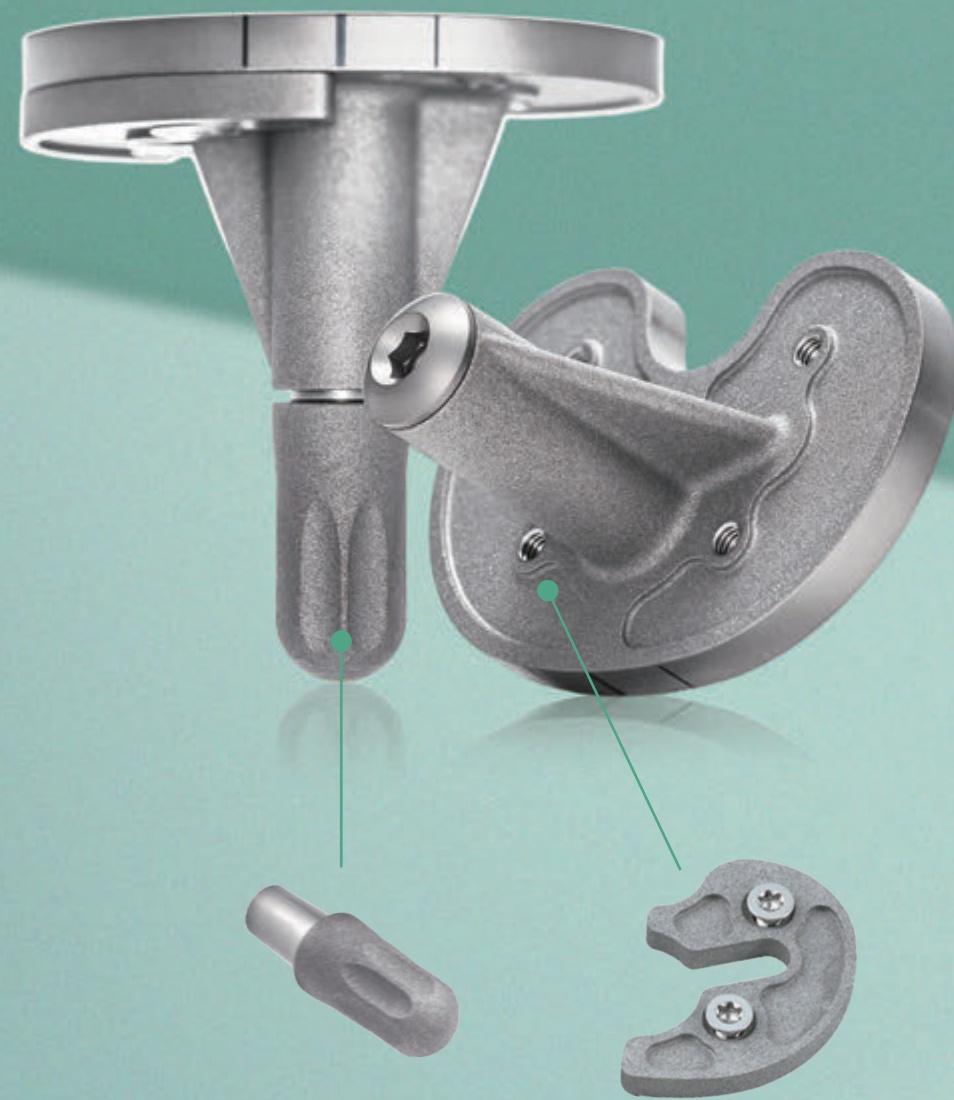


The curved anterior insert post and PS femoral cam is designed to reduce potential for impingement, component failure and poly wear.



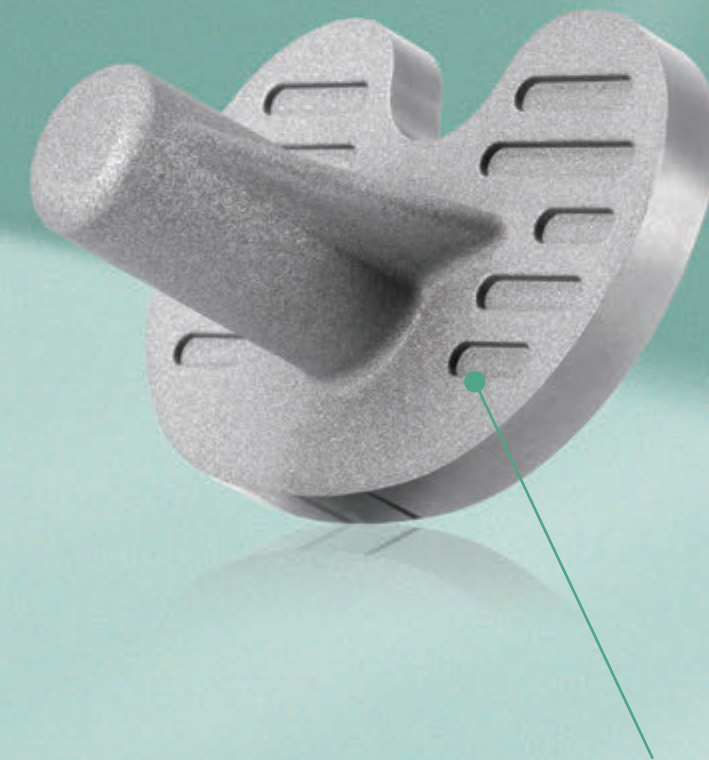
U2 Knee System Fixed Bearing Tibial Baseplate Options

Cemented **M**odular **A**ugmentable (CMA)



CMA tibial baseplate allows the optional addition of 5 & 10 mm augments and 30 mm extension stem to address moderate tibial bone defects

Standard Cemented

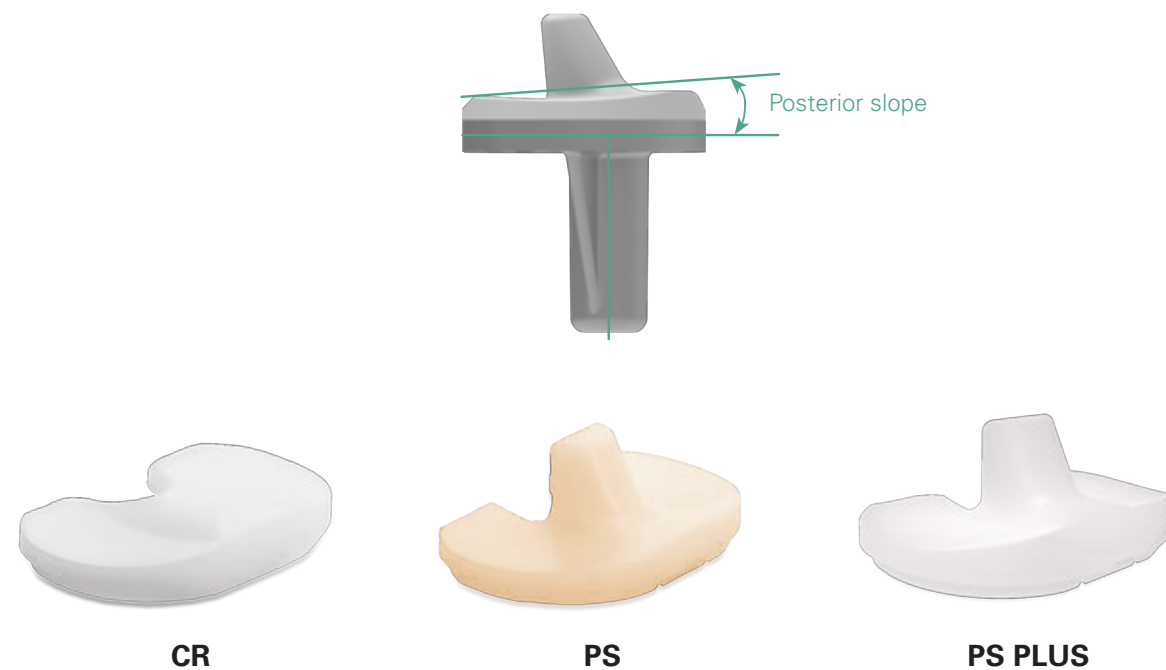


Cemented tibial baseplate with rough surface and cement recess to promote optimal cement fixation

PS and CR Inserts

CR and PS inserts are designed with 5 degrees of sagittal tibial slope built into the articulating surface to allow for a zero degree, i.e. 'flat' tibial resection slope.

All CR, PS, UC inserts are available in UHMWPE (Ultra High Molecular Weight Polyethylene), XPE (Highly Crosslinked Polyethylene), and E-XPE (Vitamin E Highly Crosslinked Polyethylene).



UC Inserts

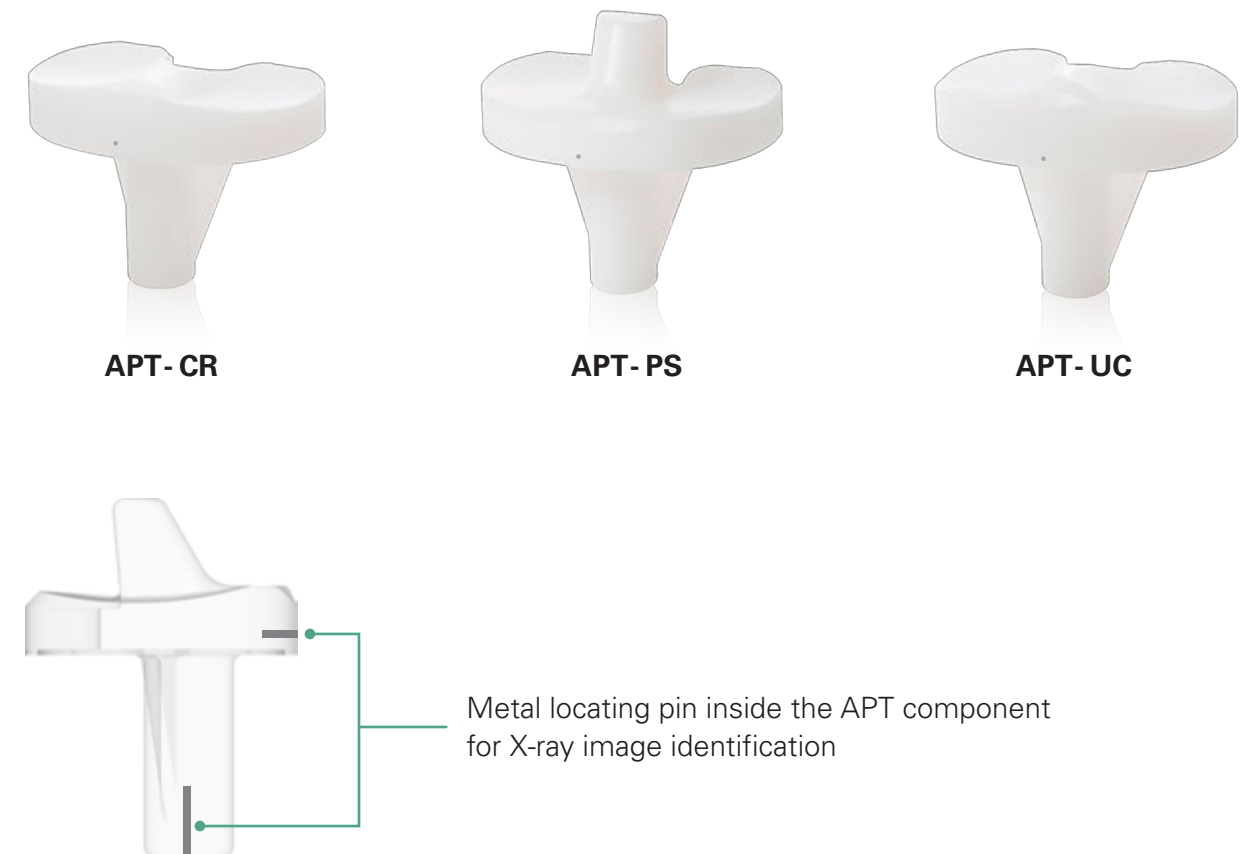
Ultra-Congruent (UC) inserts are compatible with the standard CR femoral components and are designed to facilitate a PCL sacrificing surgical technique for bone preservation vs. a standard PS technique and potential for a more streamlined surgical procedure.

The articulating surface has an increased anterior lip surface vs. standard CR systems up to 14.5 mm thick and a more conforming articulating surface to provide enhanced joint stability.

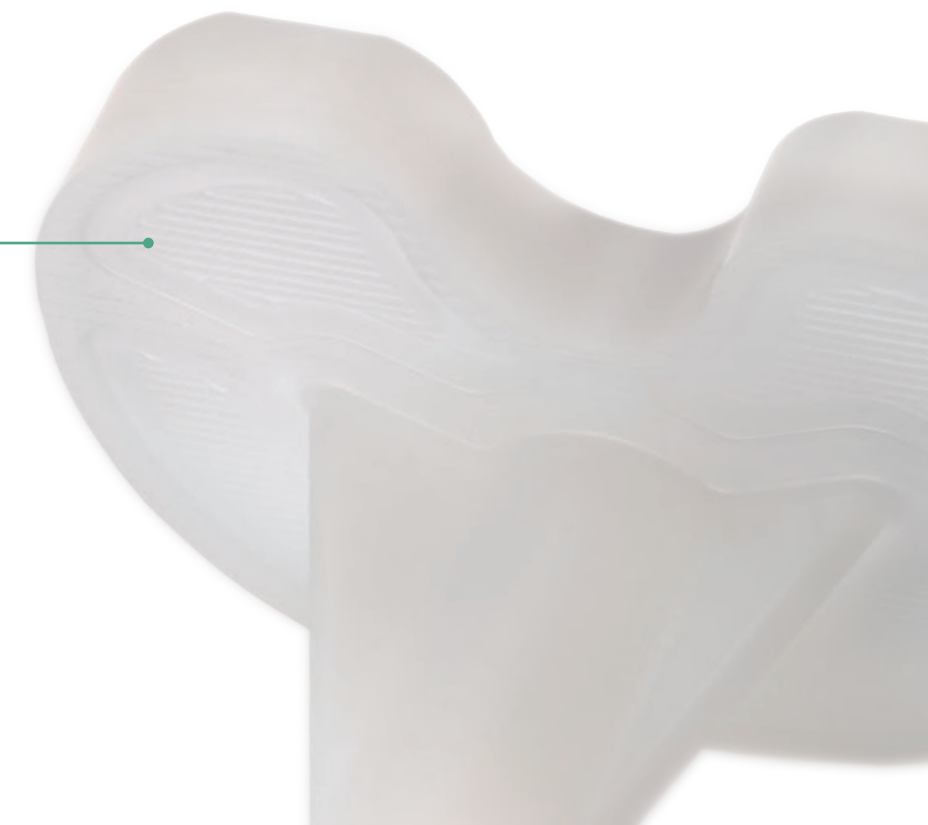


APT Inserts

All Poly Tibial (APT) inserts are designed to provide optimal durability, eliminate backside wear and allow ease of removal (if necessary) at a lower cost vs. standard tibial constructs. Available in multiple articulating surface options; CR, PS and UC.



Deeper cement recess with rougher surface finishing to enhance cement fixation and anti-rotation



U2 PSA™ Knee

Revision Knee System

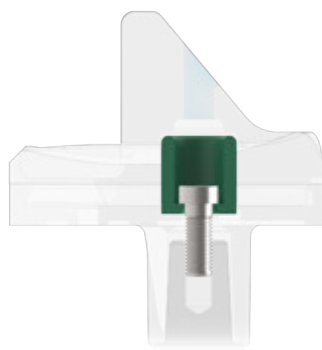
The U2 PSA (Posterior Stabilized Augmentable) Revision Knee system can be used with various augments and extension stems to restore joint stability and address bone loss, allowing surgeons the possibility for an optimal solution for each individual patient.

Improved Design for Optimal Function

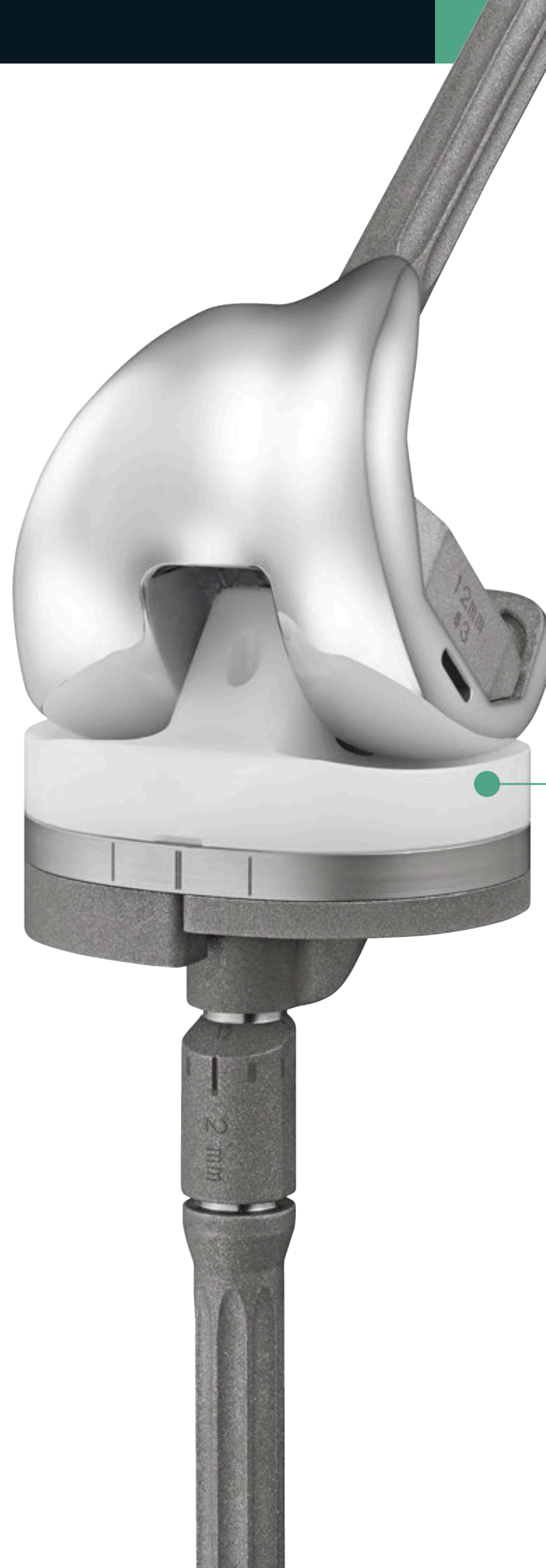
- Constrained design with safety screw locking mechanism provides more secured stability



C Ring



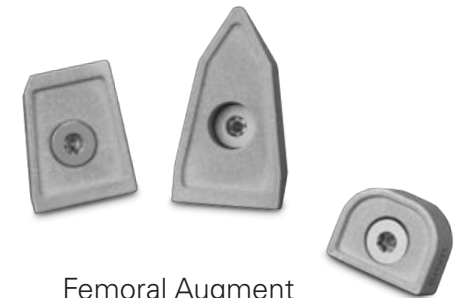
Reinforcement Bushing
Patent No. US 9044327



PSA Insert
Material: UHMWPE / XPE / E-XPE



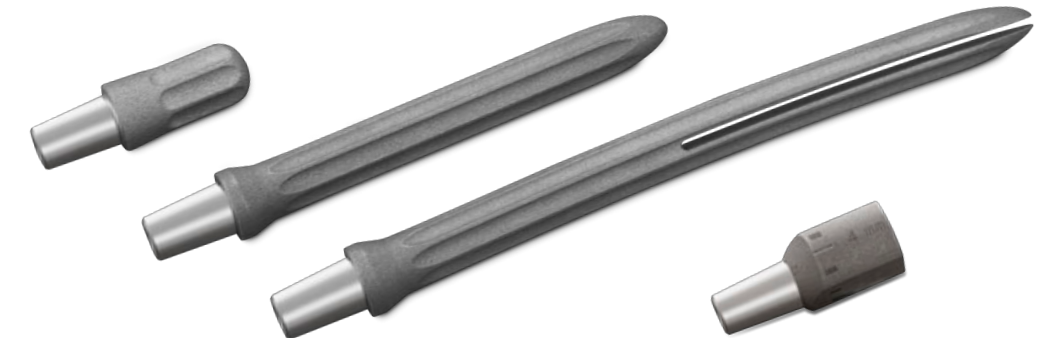
Tibial Augment



Femoral Augment

Multiple Extensions Choices

- Straight or curved extension stem length: 30 – 200 mm
- Distal femoral augment thicknesses: 4, 8, 12, 16 mm
- Posterior augment thicknesses: 4, 8 mm
- Tibial augment thicknesses: 5, 10, 15 mm
- 3 offset adapter selections with full range orientation: 2, 4, 6 mm



Extension Stem

Offset Adapter

USTAR II Primary & Revision Hinge Knee System

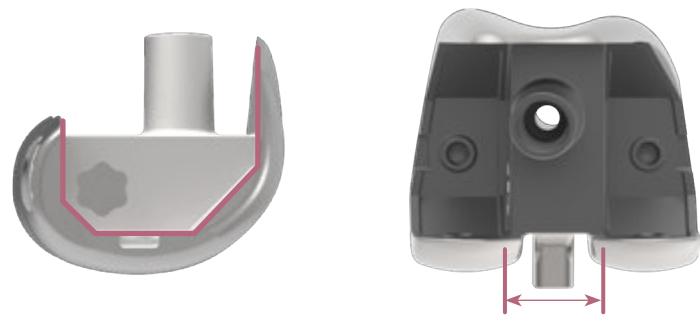
A next-generation, rotating-platform, hinge knee system.

Designed to have an optimal condylar loading design.

Features a small profile, pre-assembled hinge mechanism centered on the femur and tibia.

Connected intra-operatively by a single screw.

The system has a reduced femoral profile to preserve bone.



Small Profile Allows a Smaller Resection

- Designed with the same AP, ML and chamfer resections as the U2 PS Primary and PSA Revision Knee Systems to preserve bone. It also has the same box width (the box height is varied).

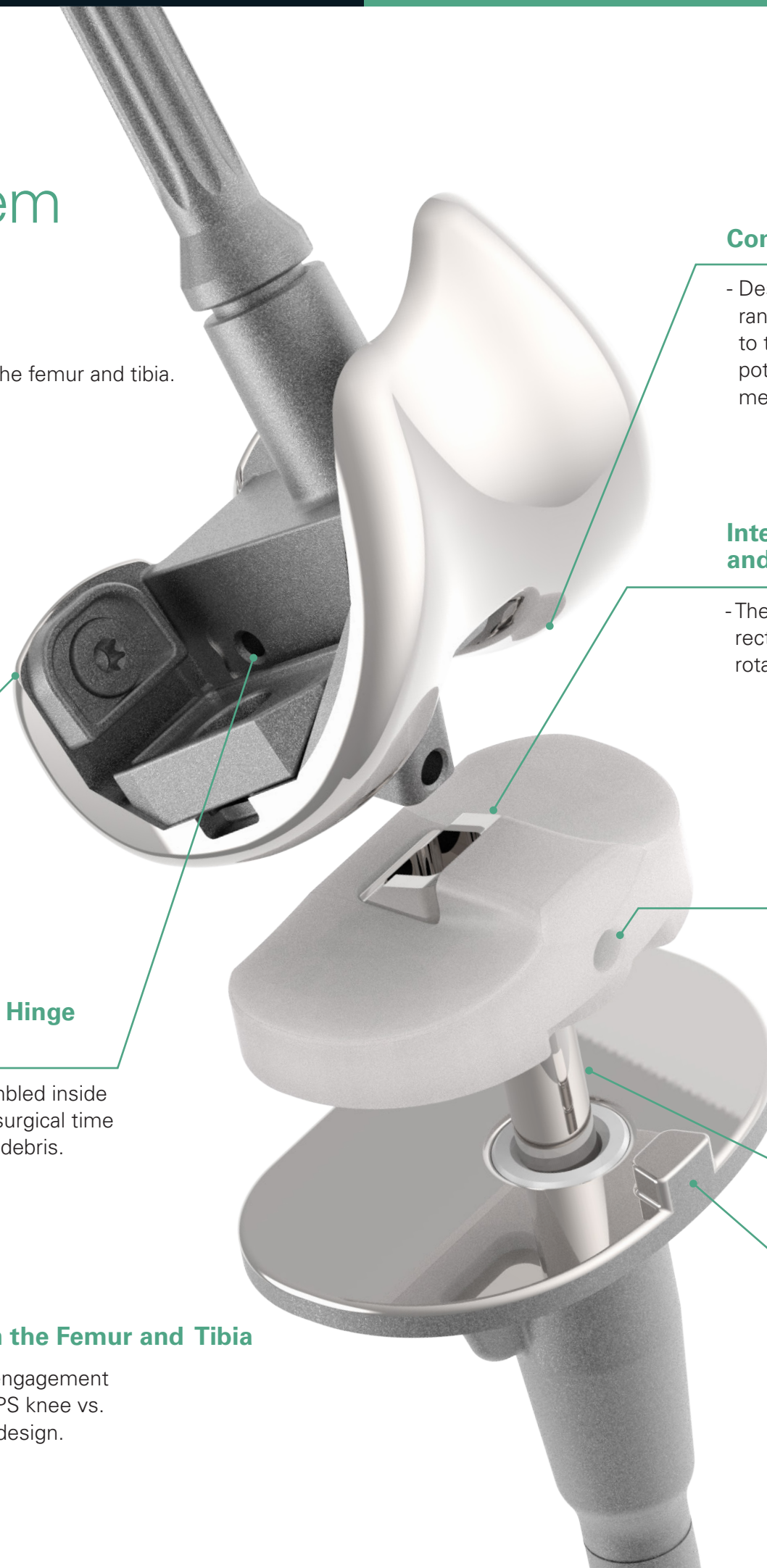


Small Profile, Pre-assembled Hinge Mechanism

- The hinge mechanism is pre-assembled inside the femoral component to reduce surgical time and potential for wear and cement debris.

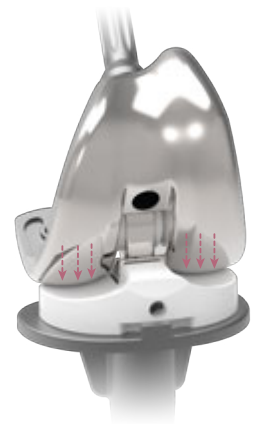
Hinge Mechanism Centered on the Femur and Tibia

- Designed to provide a femoral-tibial engagement point more comparable to a primary PS knee vs. a traditional 'book-end' engagement design.



Condylar Loading Design

- Designed to transfer $\geq 95\%$ of the load during range of motion through the femoral condyles to the central portion of the tibia to reduce the potential for component loosening and hinge mechanism failure^[1].



Interlocking Femoral Component and Tibial Insert

- The hinge assembly is connected with a rectangular inter-locking design to control the rotational movement of the tibial insert.



Connected Intra-operatively by a Single Screw

- The Spiralock® set screw is pre-positioned in the tibial insert to reduce surgical time and is designed to prevent back-out.



Forged Tibial Post

- The forged Cobalt Chromium (CoCr) post has a minimum jump-height of > 40 mm.



Rotating Platform

- Designed with a built-in tibial rotation stopper to allow $\pm 25^\circ$ of tibial insert rotation for improved movement.

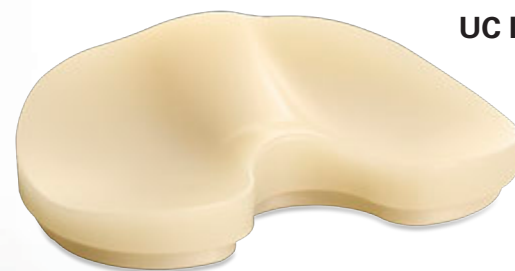
^[1] Data held on file. United Orthopedic Corporation.

E-XPE

Vitamin E Highly Crosslinked Polyethylene



CR Insert



UC Insert



PS Insert



PSA Insert



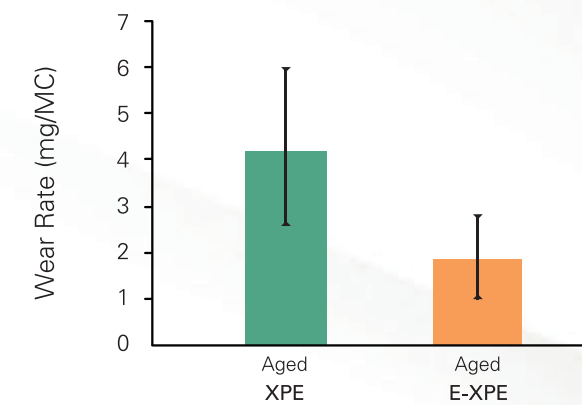
Inset Patella



Onset Patella

Advanced Bearing Technology

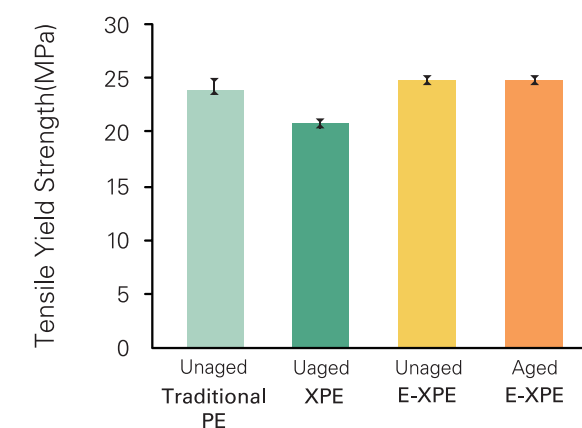
Wear Performance



Extraordinary Wear Performance

E-XPE insert shows 60% reduction in gravimetric wear compared to XPE after accelerated aging^[2].

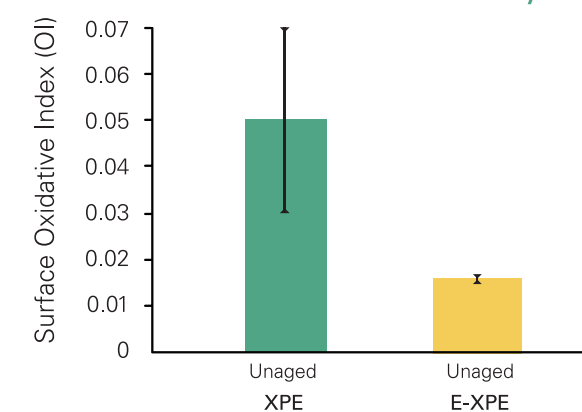
Mechanical Strength



Enhanced Mechanical Strength

Heat treatment is not required after cross-linking process. Therefore, E-XPE shows a 20% tensile strength improvement as compared to highly cross-linked polyethylene^[2].

Oxidative Stability



Superior Oxidative Stability

Surface oxidative index of E-XPE shows significant low oxidation after in vitro accelerated aging test^[2].

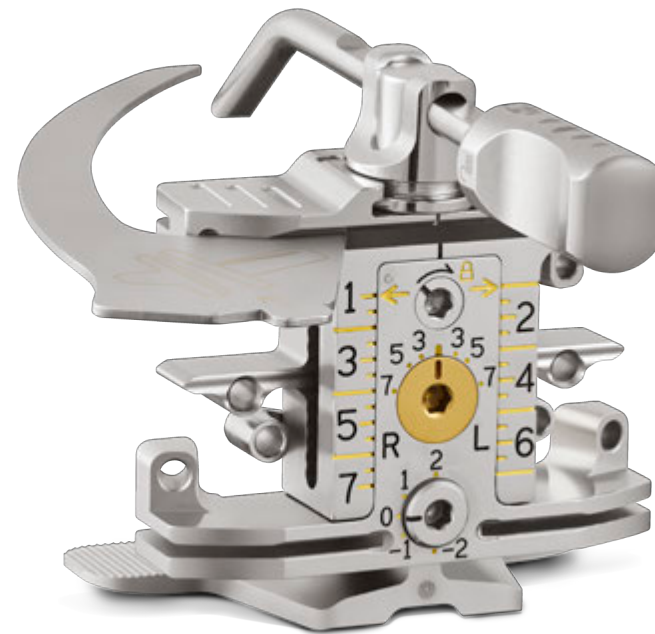
^[2] Data held on file. United Orthopedic Corporation.

U2 Knee AiO™

All-in-One Sizing & Resection Block

Supports anterior and posterior referencing technique options.

Accommodates all 13 sizes of anterior and posterior femoral cuts in one block.



Patent No. US 9974547

U2 Knee MDT™

Single-Use Modular Disposable Trial

The U2 Knee System's MDT (Modular Disposable Trial) enables surgeons to complete all trial evaluation surgical technique steps with pre-sterilized, single-use components. This allows for reduced potential of compromised instruments, reduced instrument cleaning/sterilization costs, and faster room turnover.



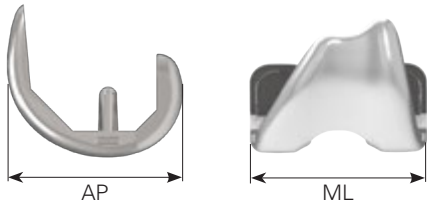
20  19
BRONZE WINNER
MEDICAL DESIGN
EXCELLENCE AWARDS



When using the U2 Knee System's AiO Block and MDT Implant Trials together, the number of required instrument trays can be reduced from 6 to 1.5.

Knee Replacement System Implant Options

Femoral Component Options



	#1	#1.5	#2	#2.5	#3	#3.5	#4	#4.5	#5	#5.5	#6	#6.5	#7
AP	52	54	56	58	60	62	64	66	68	70	72	74	76
ML	56	58	60	62	64	66	68	70	72	74	76	78	80

Unit : mm

U2 Knee Fixed Bearing System



Cemented CR & Porous CR



Cemented PS

Sizes : #1 ~ #7

U2 PSA Revision Knee System



Sizes : #1 ~ #6

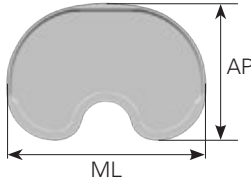
USTAR II Hinge Knee System



Sizes : XS, #1 ~ #6

Knee Replacement System Implant Options


Tibial Baseplate Options



	#0	#1	#2	#3	#4	#5	#6	#7
AP	39.5	42	44.5	47	49.5	52.5	55.5	58.5
ML	60	63	66	69	72	76	80	84

Unit : mm

U2 Knee Fixed Bearing System



Standard Cemented



CMA

Sizes : #0 ~ #7

U2 PSA Revision Knee System



Sizes : #1 ~ #6

USTAR II Hinge Knee System



Sizes : XS, #1 ~ #6

Knee Replacement System

Tibial Insert Options

U2 Knee Fixed Bearing System



CR Cruciate Retaining

● UHMWPE ● XPE ● E-XPE



UC Ultracongruent

● UHMWPE ● XPE ● E-XPE

Thickness : 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 mm



PS Posterior Stabilized

● UHMWPE ● XPE ● E-XPE



PS PLUS Posterior Stabilized

● XPE

Thickness : 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 mm

U2 PSA Revision Knee System



PSA
Posterior Stabilized Augmentable

● UHMWPE ● XPE ● E-XPE

Thickness : 9 / 11 / 13 / 15 / 18 / 21 / 25 / 30 mm

USTAR II Hinge Knee System



● XPE

Thickness : 12 / 14 / 17 / 20 / 23 / 26 / 30 mm

Knee Replacement System

Patellar Implant Options

U2 Fixed Bearing All Poly Tibia (APT) System



CR Cruciate Retaining

● UHMWPE



PS Posterior Stabilized

● UHMWPE

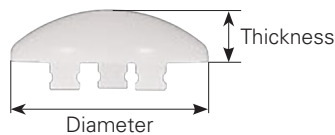


UC Ultracongruent

● UHMWPE

Thickness : 9 / 11 / 13 / 15 / 18 mm

Onset Patellar Component

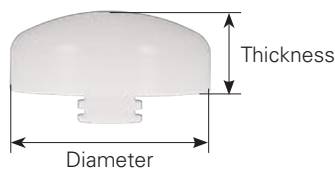


● UHMWPE ● XPE ● E-XPE

	XS	S	M	L	XL	XXL	EL
Thickness	7	8	8.5	9	9.5	10	10.5
Diameter	26	29	32	35	38	41	44

Unit : mm

Inset Patellar Component



● UHMWPE ● XPE ● E-XPE

	S	M	L	XL
Thickness	8	10	10	10
Diameter	22	25	28	32

Unit : mm

Knee Replacement System Accessories

U2 Knee Fixed Bearing System



Tibial Augment

Thickness : 5 / 10 mm

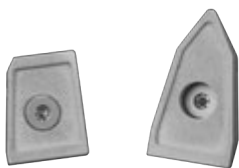


Straight Stem

Length : 30 mm

Diameter : Ø14 mm

U2 PSA Revision Knee System



Distal Femoral Augment

Thickness : 4 / 8 mm 12 / 16 mm



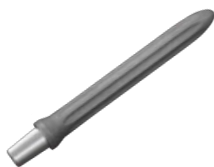
Posterior Femoral Augment

4 / 8 mm



Tibial Augment

5 / 10 / 15 mm



Straight Stem

Length : 30 / 75 / 100 / 150 / 200 mm

Diameter : Ø10 / 12 / 14 / 16 / 18 / 20 / 22 / 24 mm



Curved Stem

150 / 200 mm

Ø10 / 12 / 14 / 16 / 18 / 20 / 22 / 24 mm



Offset Adapter

Offset : 2 / 4 / 6 mm

Knee Replacement System Accessories

USTAR II Hinge Knee System

Femoral Part



Distal Femoral Augment

Thickness : 4 / 8 mm



12 / 16 mm



Posterior Femoral Augment

4 / 8 mm



Straight Stem

Length : 30 / 75 / 100 / 150 / 200 mm

Diameter : Ø10 / 12 / 14 / 16 / 18 / 20 / 22 / 24 mm



Curved Stem

150 / 200 mm

Ø10 / 12 / 14 / 16 / 18 / 20 / 22 / 24 mm



Offset Adapter

2 / 4 / 6 mm

Tibial Part



Tibial Augment

Thickness : 5 / 10 / 15 mm



Straight Stem

Length : 20 / 45 / 70 / 95 / 120 / 145 mm

Diameter : Ø9 mm



Press-fit Stem

45 / 70 / 95 / 120 mm

Ø12.5 / 14 mm

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