

U2 PF+™ Knee

Total Knee System



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Device Description

U2 PF+™ Knee System

The U2 PF+ Knee System is a comprehensive, advanced cementless Total Knee Replacement (TKR) system designed to meet the needs of patients, surgeons, hospitals and surgery centers globally.

The system offers a three-dimensional coating designed for optimal pore size and porosity, a conforming femoral shape in 13 sizes with 2 mm AP and ML sizing increments, a novel box design and standardized intercondylar box width (in PS knee), a full range of tibial articulating surface and material options, and a modern tibial baseplate design for initial fixation and stability.

Based on proven implant design philosophies, the surgical technique adds advanced surgical technologies for reproducible clinical outcomes and a streamlined procedure.

Since the launch of the U2 Cemented Knee System in 2005, hundreds of thousands have been implanted in 40 countries worldwide. The U2 Knee has demonstrated excellent long-term clinical outcomes. The survival rate is 97.7% at 10 years follow up^[1].

United strives to create a more efficient and precise experience for utilization with orthopedic implants and instruments that are designed to relieve pain and improve knee function in patients.

INDICATIONS

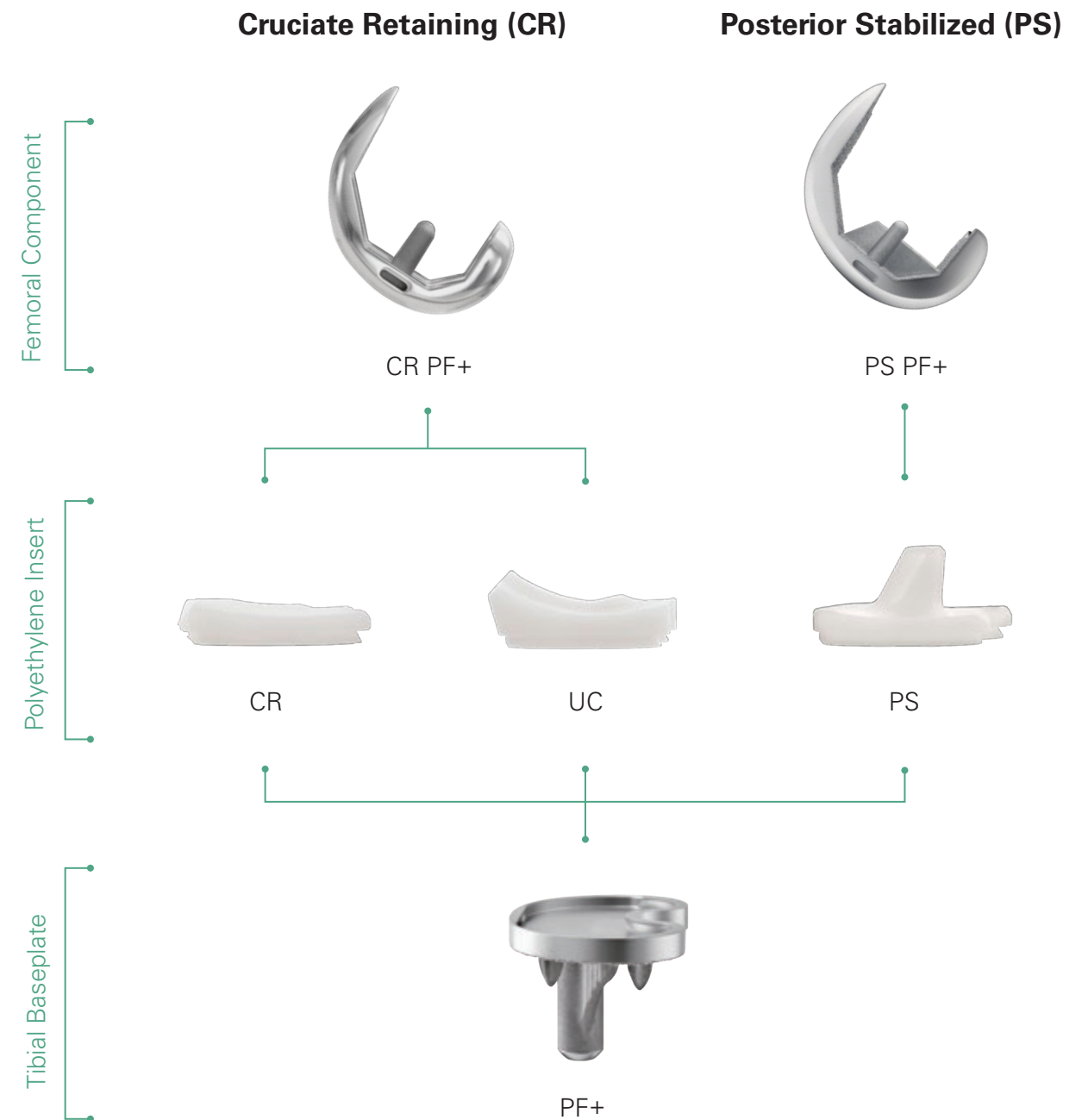
U2 Total Knee System- Cementless Type is indicated in knee arthroplasty for reduction or relief of pain and/or improved knee function in skeletally mature patients with severe knee pain and disability due to rheumatoid arthritis, osteoarthritis, primary and secondary traumatic arthritis, polyarthritis, collagen disorders, avascular necrosis of the femoral condyle or pseudogout, posttraumatic loss of joint configuration, particularly when there is patellofemoral joint surface erosion, dysfunction or prior patellectomy, moderate valgus, varus, or flexion deformities. This device may also be indicated in the salvage or previously failed surgical attempts or for knee in which satisfactory stability in flexion cannot be obtained at the time of surgery. Femoral Component, PF+, Tibial Baseplate, PF+ and Tibial Extension Stem are indicated for both cemented and cementless use.

If removal or revision of this system becomes necessary, please contact your United Orthopedic representative for detailed instructions and assistance.

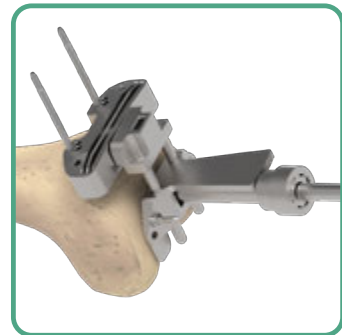
^[1]Chen IH, Yu TC, Liao JJ. An exploration of U2 total knee system at minimum ten-year follow-up. 21st EFORT Annual Congress. 2020.

U2 PF+™ Knee System

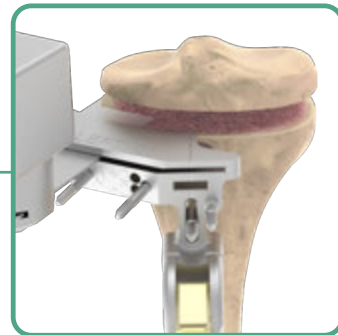
The U2 PF+ Knee System includes a wide range of product options for demand-matching to optimize solutions based on patient need.



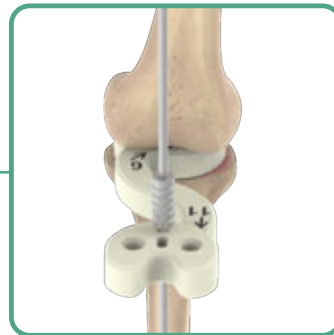
Surgical Overview



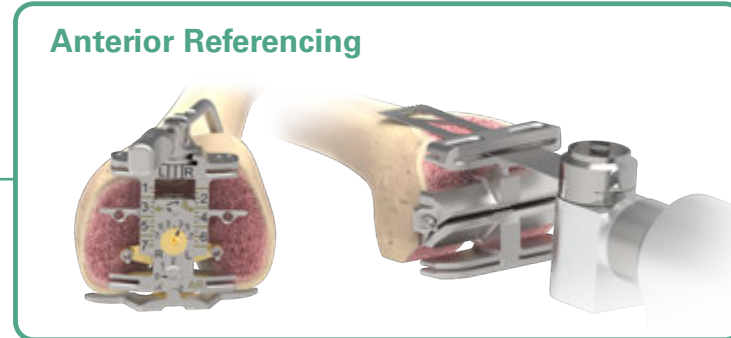
A. Distal Femoral Resection



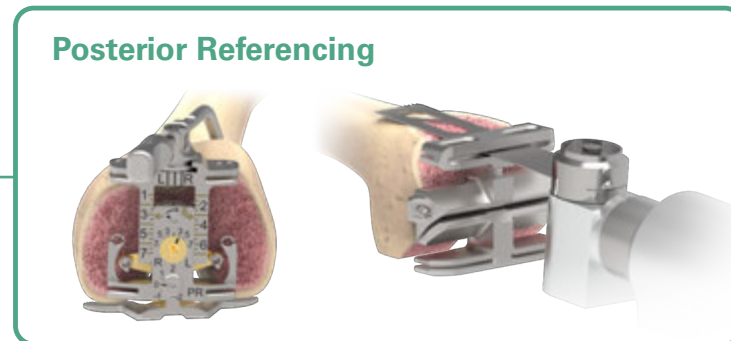
B. Proximal Tibial Resection



C. Extension Gap Assessment



Anterior Referencing



Posterior Referencing

D. Femoral Sizing and Chamfer Resection



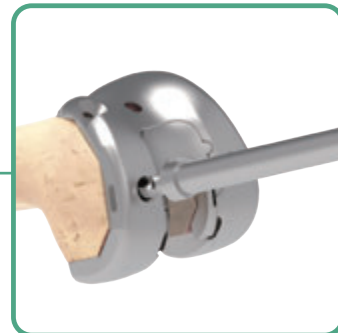
E. Extension and Flexion Gaps Confirmation



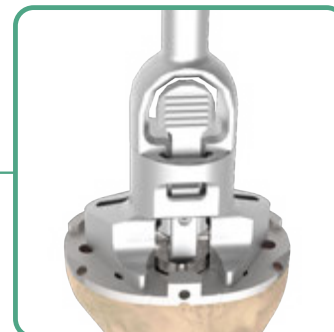
F. Trial Reduction



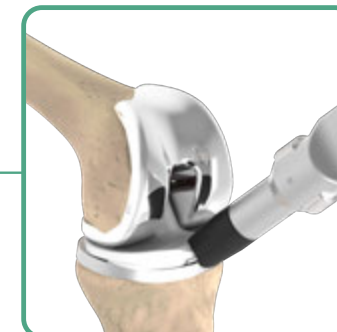
G. PS Box Preparation



H. Peg Preparation



I. Proximal Tibial Preparation



J. Implantation

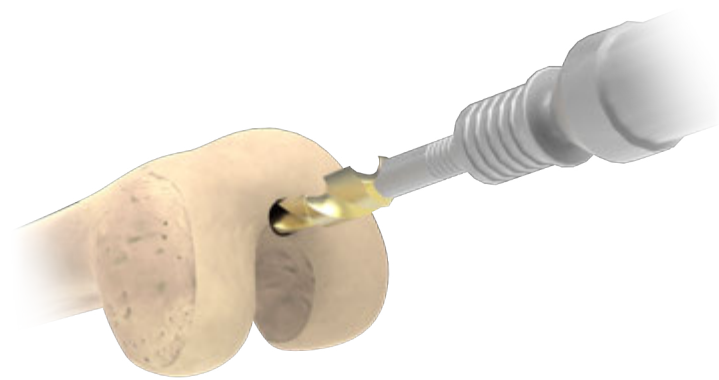
For the Patellar Component Preparation, please refer to the U2 Knee Surgical Technique Guide.

A. Distal Femoral Resection

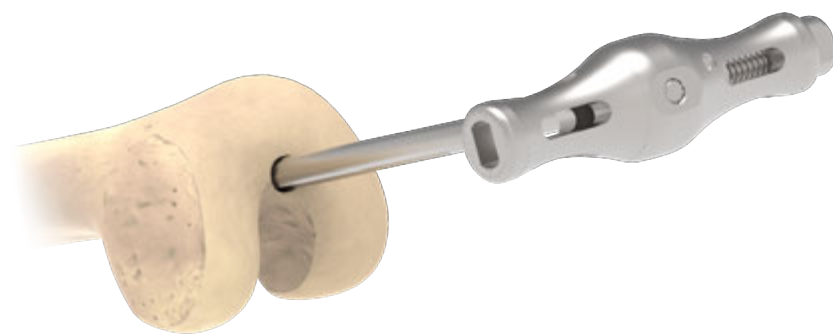
Access Canal

After ACL removal, the location of the typical femoral entry hole is deemed to be slightly medial to the center of the intercondylar notch, and approximately 5 to 7 mm anterior to the insertion of the PCL.

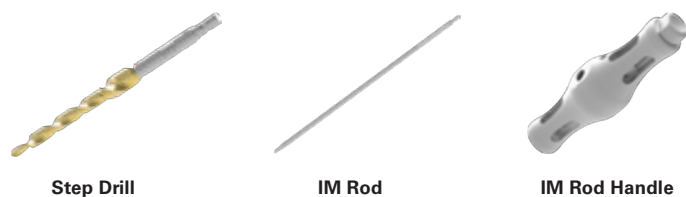
Use the **Step Drill** to create an opening into the femoral canal. This allows for depressurization of the canal when the **Femoral IM Rod** is inserted.



Assemble the **Femoral IM Rod** and **IM Rod Handle**, and manually insert past the isthmus of the femoral canal.



Instruments

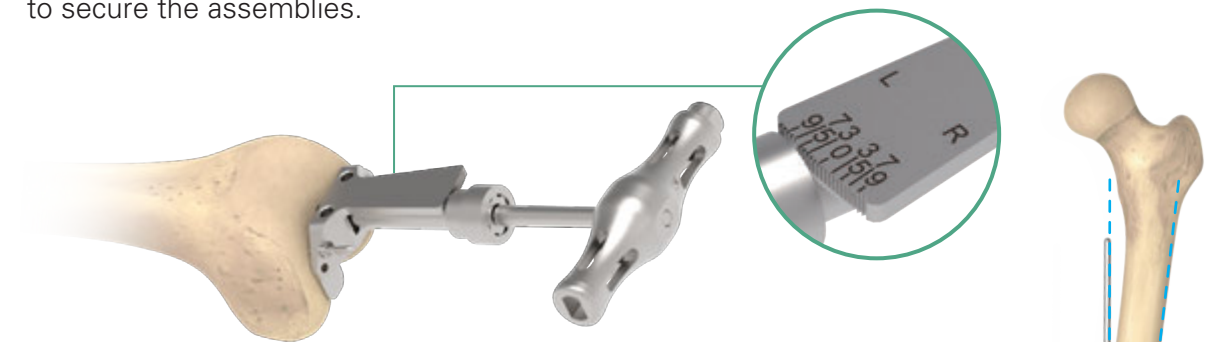


A. Distal Femoral Resection

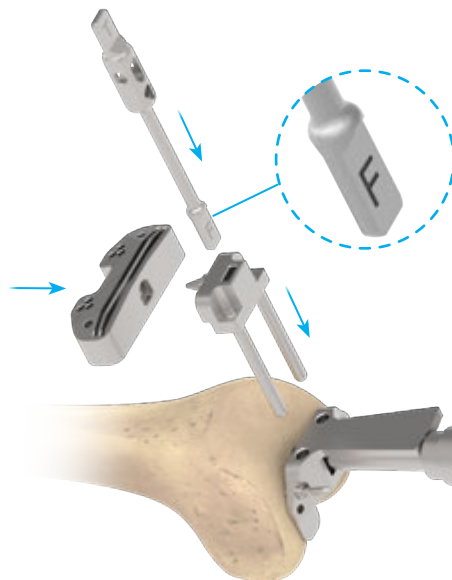
Set Femoral Valgus Angle

Remove the **IM Rod Handle** and slide the **Femoral IM Alignment Guide** through the **Femoral IM Rod**. Use the **Femoral IM Alignment Guide** to set the angle of the distal femoral resection for either a left or right Knee. The guide allows up to 11° of valgus angle adjustment. The ideal angle should be determined according to pre-operative planning.

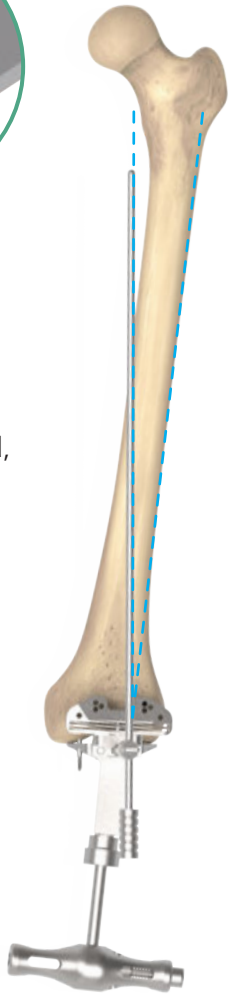
When the alignment guide is properly engaged with the distal femur, use a **Threaded Pin** to secure the assemblies.



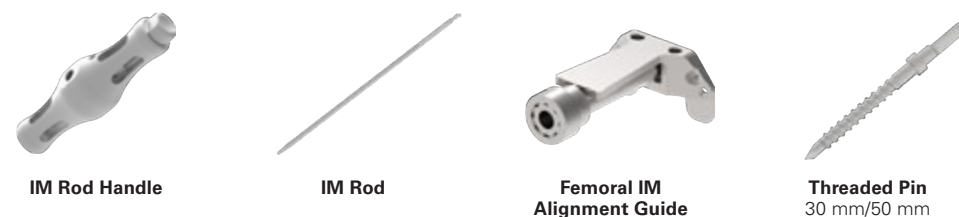
Assemble the **Distal Femoral Alignment Guide** and the **Distal Femoral Resection Guide** to the **Femoral IM Alignment Guide**.



If a EM alignment check is desired, Insert the "F" end (Femur) of the **EM Alignment Tower** into the **Distal Femoral Alignment Guide** as shown. The **Alignment Rod** can now be used to confirm the proper mechanical axis.



Instruments

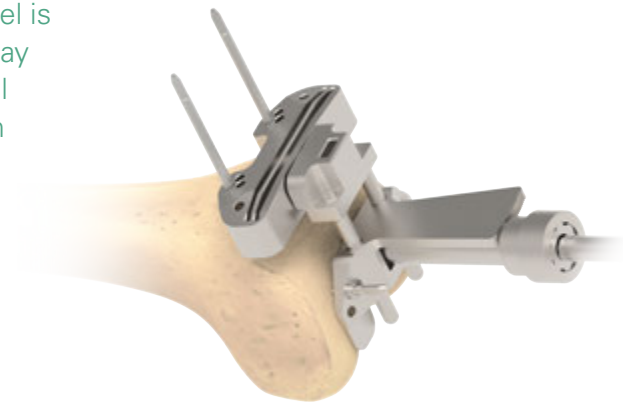


A. Distal Femoral Resection

Drill pilot holes through the "0" pin holes on the anterior surface of the **Distal Femoral Resection Guide**, and insert a pair of **Round Pins** to secure the resection guide.

Note:

The U2 PF+ Knee technique is designed for a standard 9 mm distal femoral resection when the **Distal Femoral Cutting Guide** is set to the "0" pin hole position. The femoral component has a 9 mm distal femoral implant thickness. If a different distal femoral resection level is required, the +2 mm or -2 mm holes may be utilized by shifting the Distal Femoral Cutting Guide. Alternatively, the +3 mm cutting slot may be used for resection level adjustment as well.

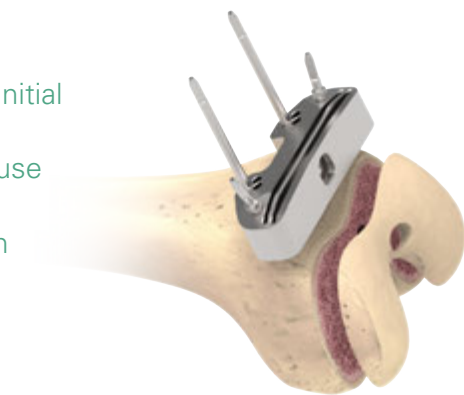


Before performing the distal femur resection, additional **Threaded Pins** may be placed to further secure the resection guide. Then, use a standard .050" (1.27 mm) saw blade through the cutting slot to resect the distal femur.

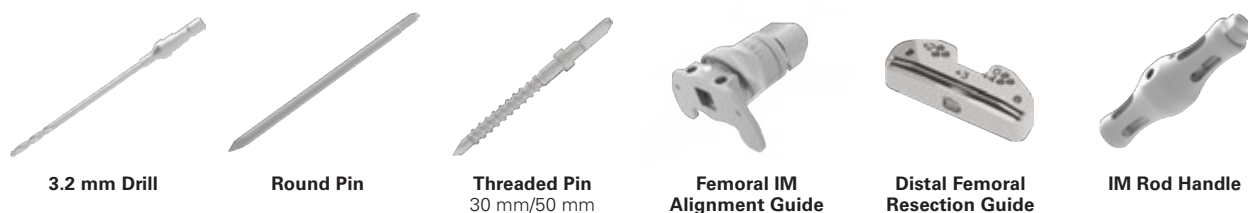
Note:

Optional tip for +1/-1 mm bone resection: The +3 mm cutting slot may be utilized by combining and shifting the **Distal Femoral Cutting Guide** to the adjacent +2 mm or -2 mm holes to create +1- or -1 mm bone resection.

For example: use the +2 mm holes for initial fixation, then shift the **Distal Femoral Cutting Guide** to the 0 mm holes and use +3 mm cutting slot to allow an +1 mm bone cut (bone cut from standard 9 mm to become 10 mm).



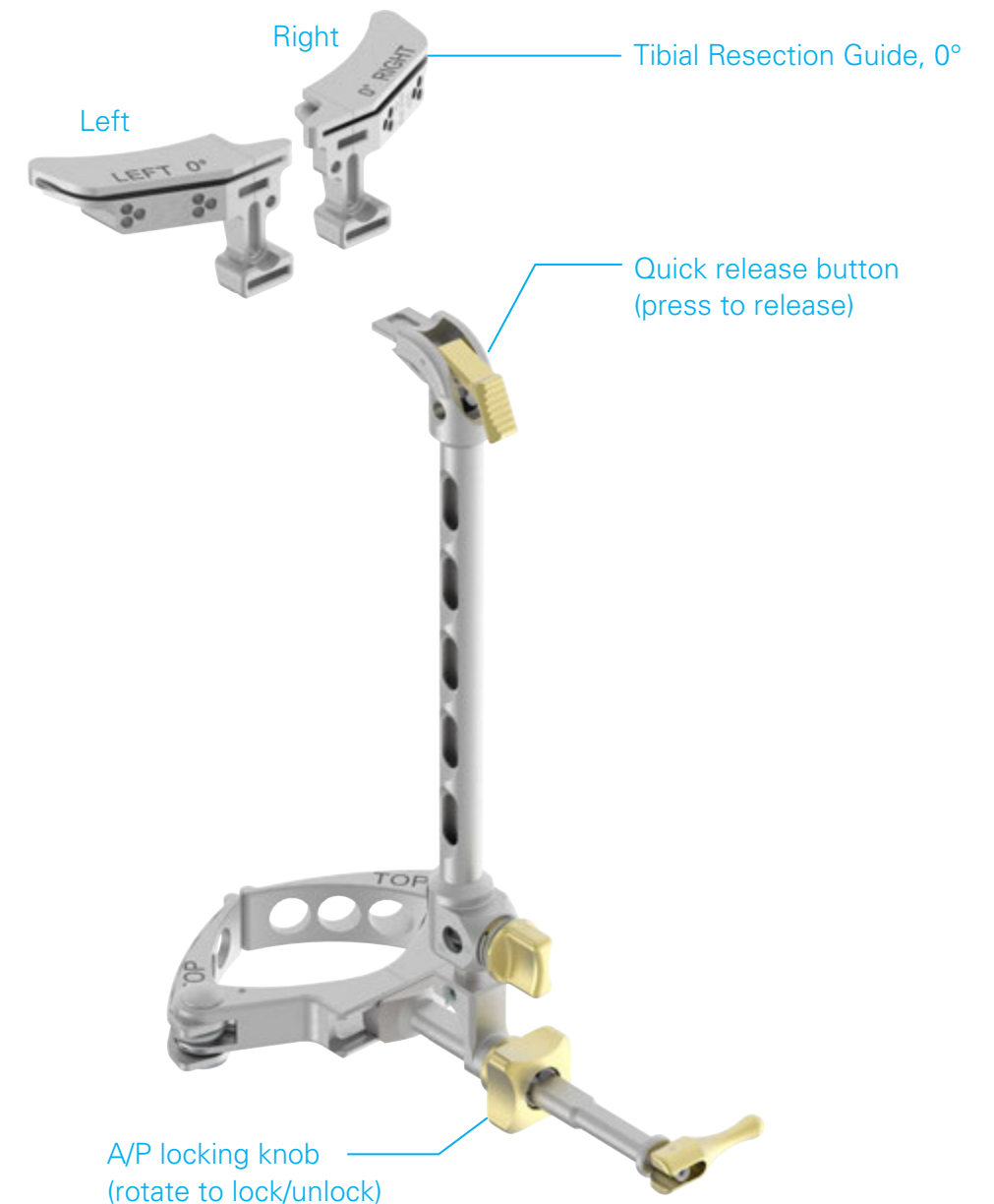
Instruments



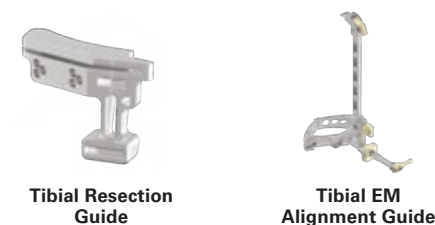
B. Proximal Tibial Resection

Tibial Extramedullary Alignment Method

Attach the selected **Tibial Resection Guide** to the **Tibial EM Alignment Guide**.



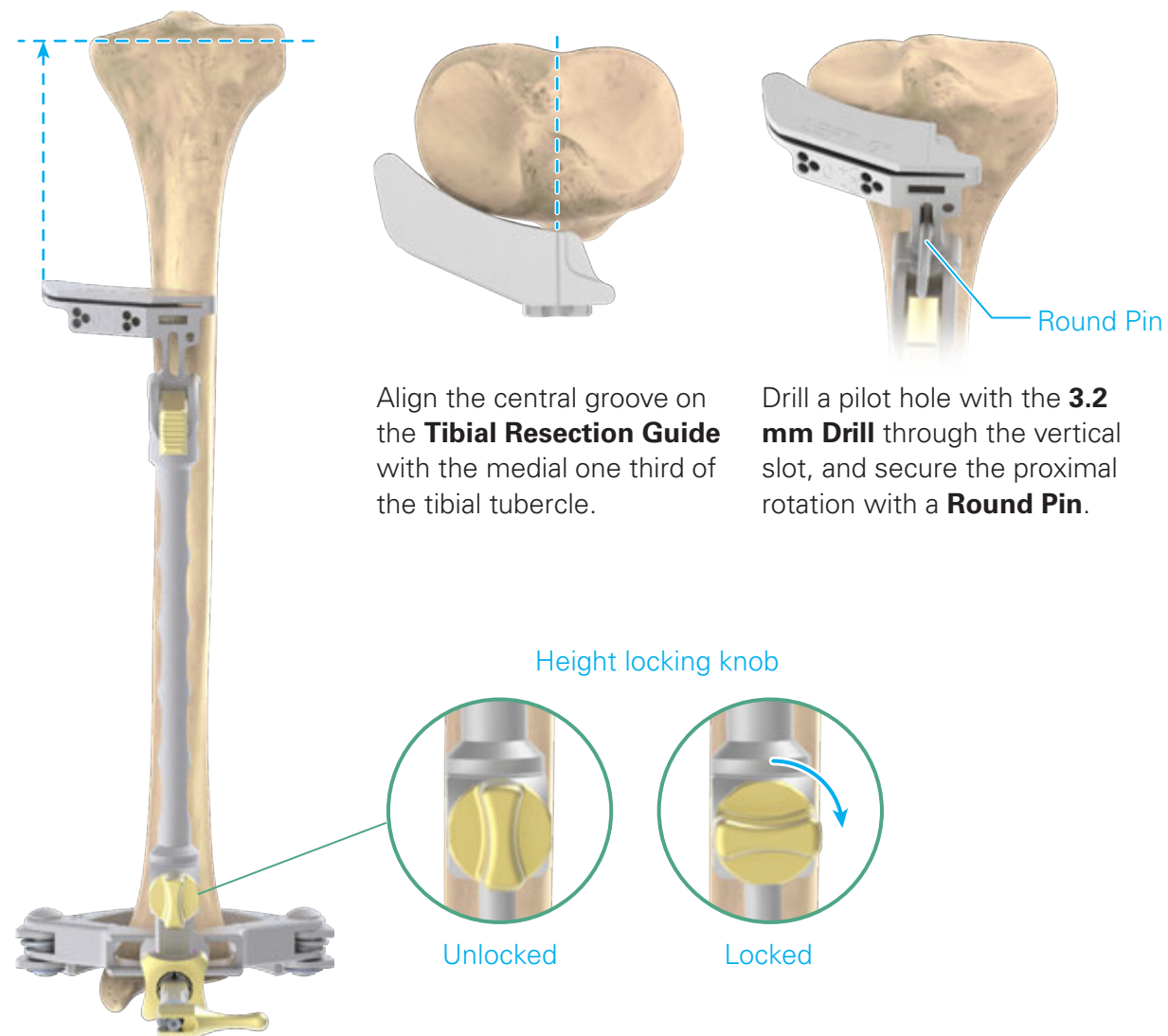
Instruments



B. Proximal Tibial Resection

Place the knee in 90° flexion. Secure the clamps on the distal portion of the **Tibial EM Alignment Guide** around the ankle joint, proximal to the malleoli.

Rotate the height locking knob to the unlock position, and adjust the **Tibial EM Alignment Guide** to the approximate length of the tibia.



Align the central groove on the **Tibial Resection Guide** with the medial one third of the tibial tubercle.

Drill a pilot hole with the **3.2 mm Drill** through the vertical slot, and secure the proximal rotation with a **Round Pin**.

Height locking knob

Unlocked

Locked

Instruments



Tibial Resection Guide



Tibial EM Alignment Guide



Round Pin

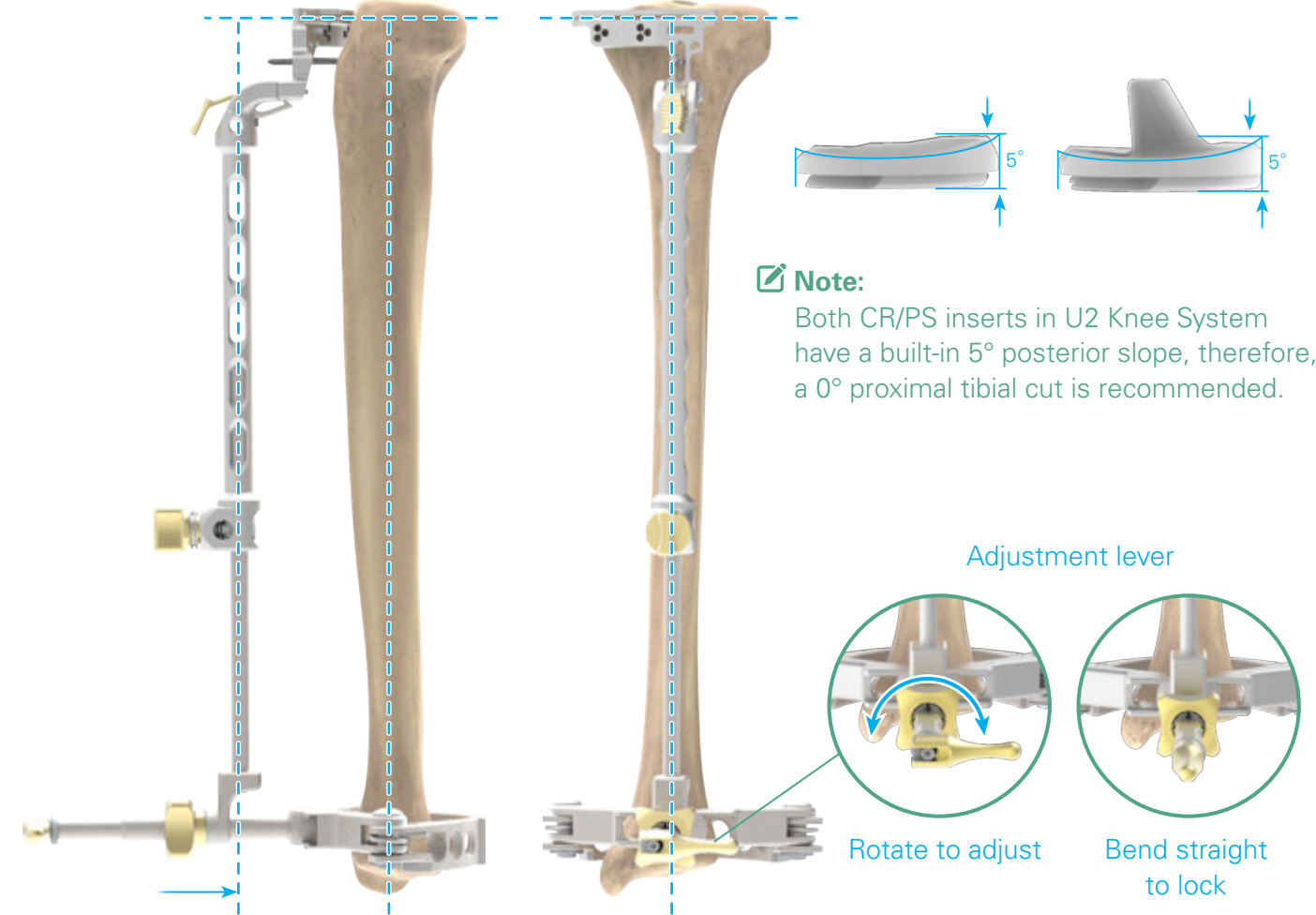


3.2 mm Drill

B. Proximal Tibial Resection

Slide the A/P locking knob and adjust the **Tibial EM Alignment Guide** by moving it towards or away from the tibia until the shaft of the Tibial EM Alignment Guide is parallel to the tibial axis in sagittal view.

Rotate the adjustment lever clockwise or counterclockwise to adjust the varus/valgus orientation until the shaft of the Tibial EM Alignment Guide is parallel to the tibial axis in coronal view. Then rotate the knob of the adjustment lever to the lock position (straight) to secure the **Tibial EM Alignment Guide** in the correct position.



Note: Both CR/PS inserts in U2 Knee System have a built-in 5° posterior slope, therefore, a 0° proximal tibial cut is recommended.

Adjustment lever

Rotate to adjust

Bend straight to lock

Instruments



Tibial Resection Guide



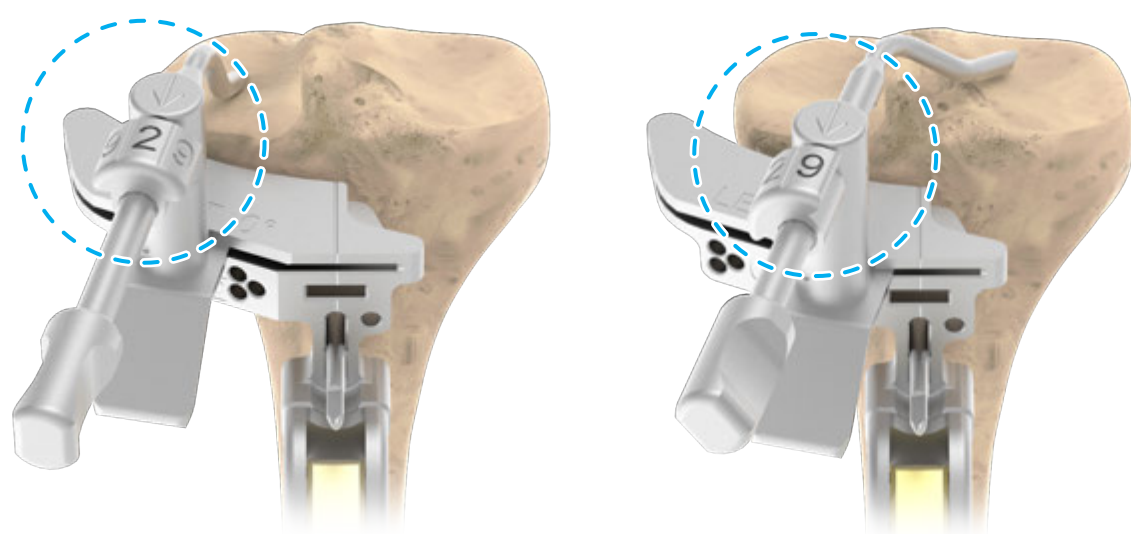
Tibial EM Alignment Guide

B. Proximal Tibial Resection

To determine the desired tibial resection level, insert the **Tibial Stylus** into the cutting slot and position the tip of the stylus onto the appropriate location of the tibial plateau.

The handle of the **Tibial Stylus** may be rotated in order to determine whether a 2 mm or 9 mm resection below the stylus tip is appropriate.

Once the desired resection level has been determined, prior to removing the stylus, rotate the height locking knob to secure the desired height.



The 2 mm stylus tip is used for minimal resection from the most affected tibial condyle.

The 9 mm stylus tip is used for a 9 mm tibial bone cut from the least affected condyle.

Instruments



Tibial Stylus

Tibial Resection Guide

Tibial EM Alignment Guide

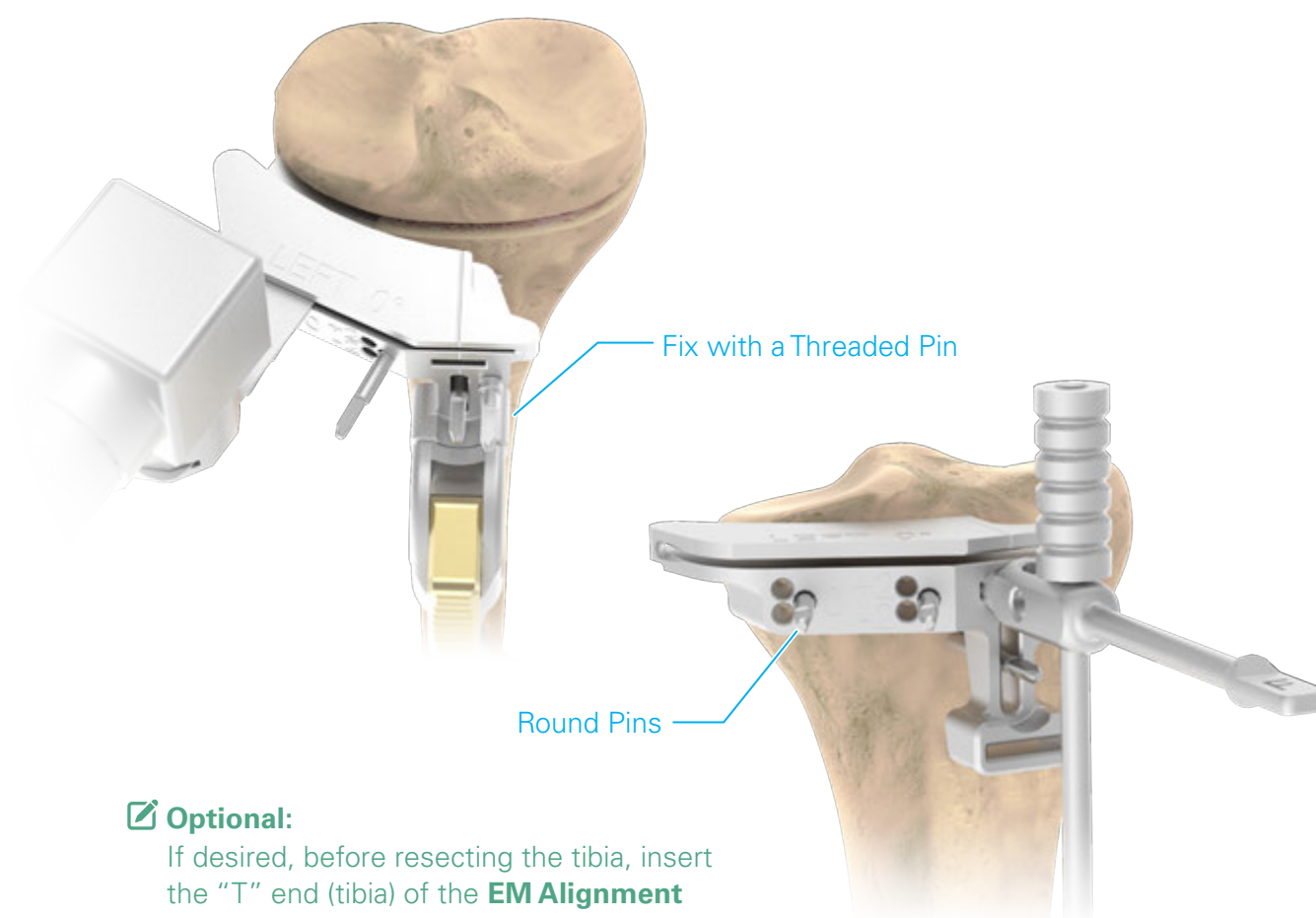
B. Proximal Tibial Resection

Remove the stylus.

Drill pilot holes with the **3.2 mm Drill** into the pin holes marked "0" on the anterior surface of the resection guide, and place two **Round Pins** to secure the **Tibial Resection Guide**.

Additional **Threaded Pins** may be placed through the angled hole for better fixation.

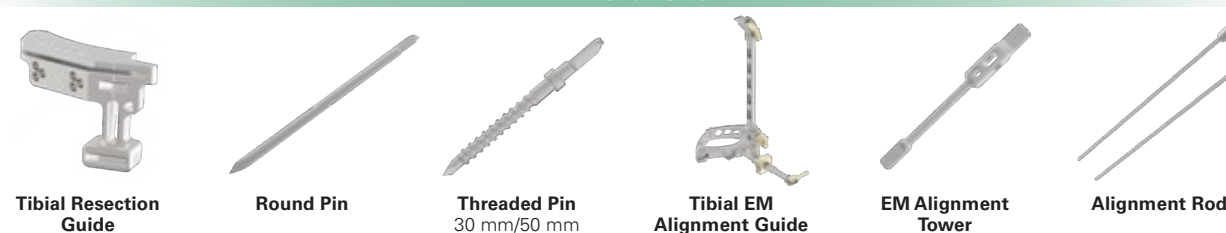
The proximal tibia may then be resected with the **Tibial EM Alignment Guide** in place.



Optional:

If desired, before resecting the tibia, insert the "T" end (tibia) of the **EM Alignment Tower** into the resection guide and use the **Alignment Rod** to re-check the alignment.

Instruments



Tibial Resection Guide

Round Pin

Threaded Pin
30 mm/50 mm

Tibial EM Alignment Guide

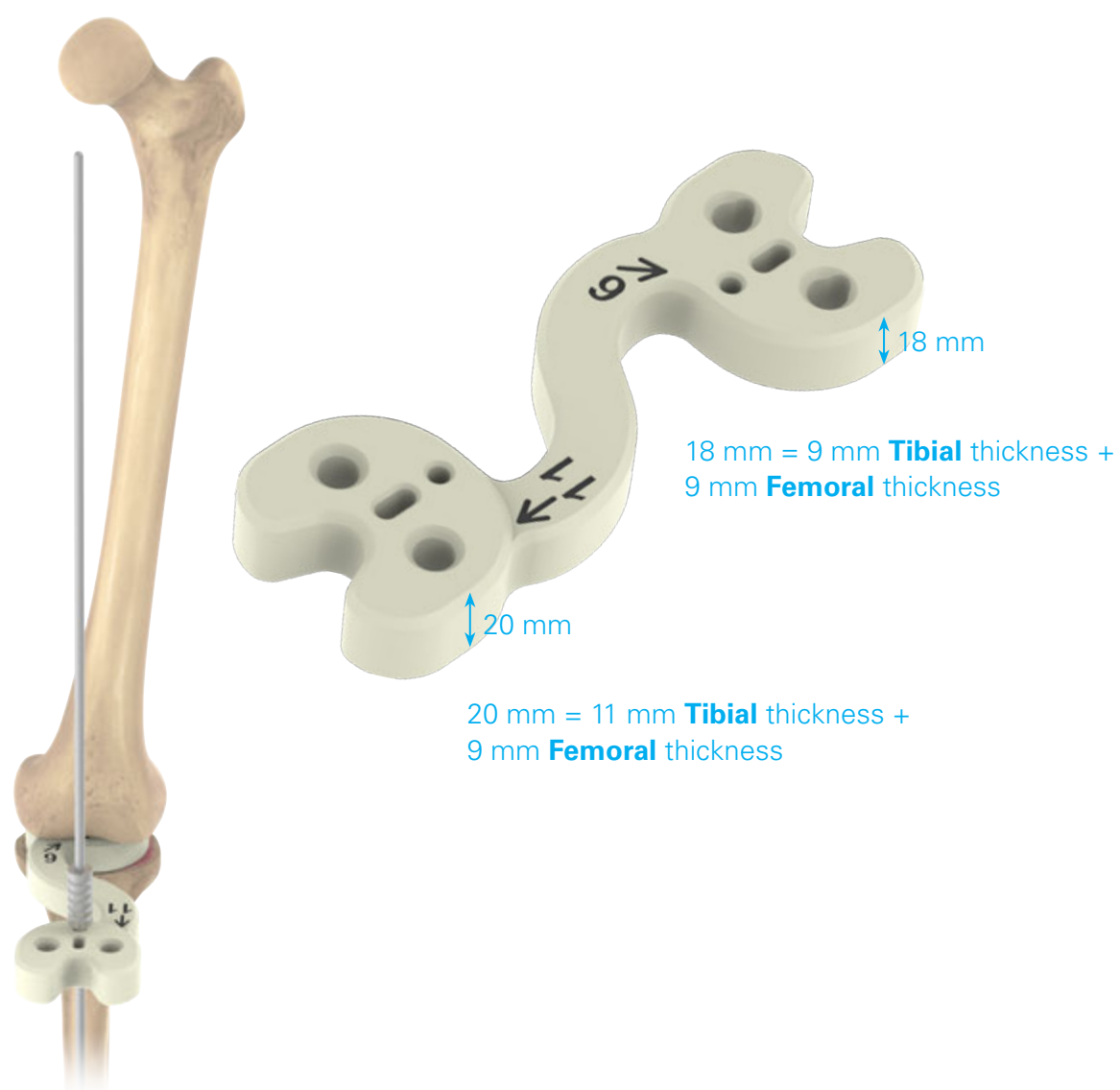
EM Alignment Tower

Alignment Rod

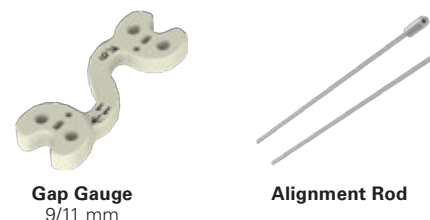
C. Extension Gap Assessment

Remove any osteophytes, meniscus or other soft tissue as needed to properly complete assessment.

Extend the knee and insert the appropriate end of the **Gap Gauge** to verify the extension gap of the knee. The **Alignment Rod** may be utilized to evaluate the lower limb alignment based on the current bone resection status.

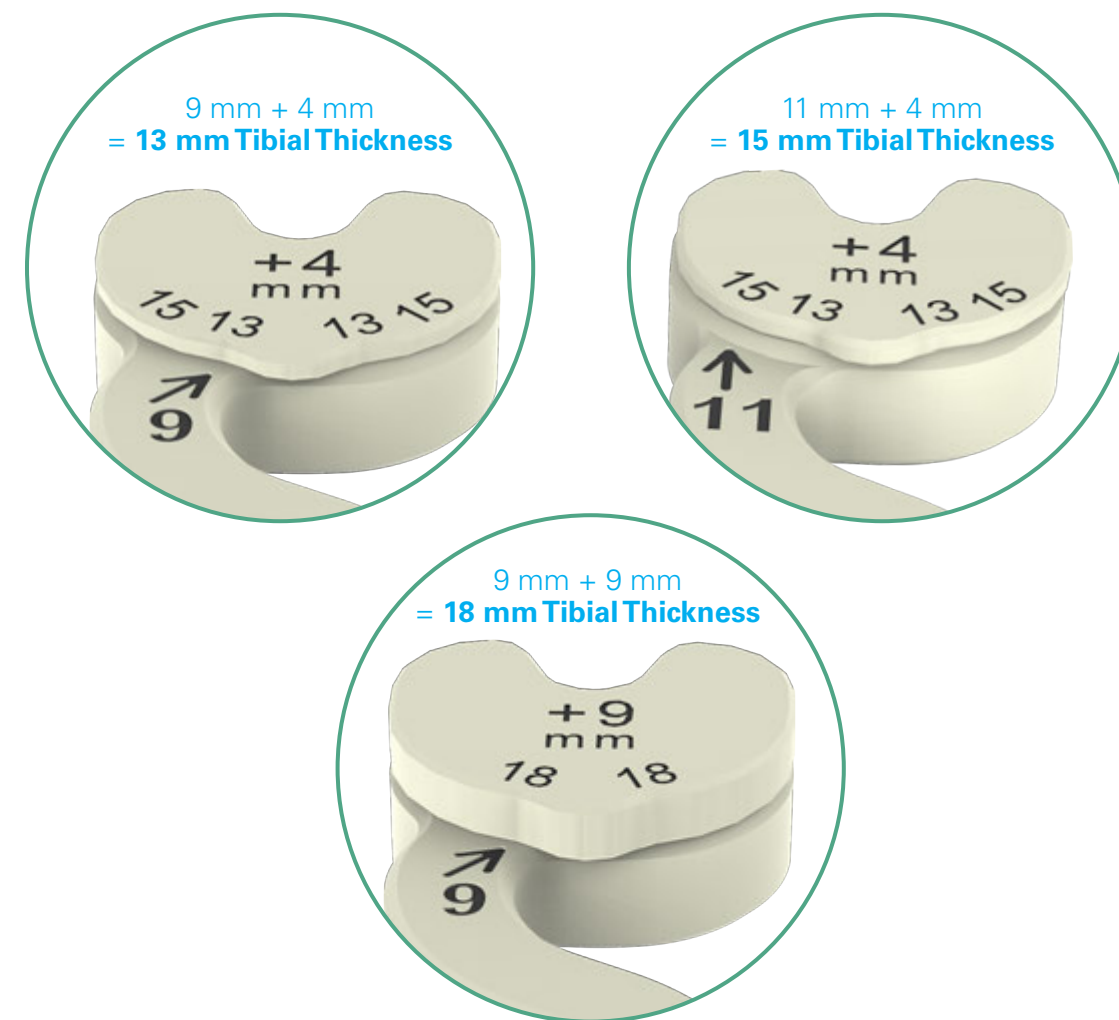


Instruments



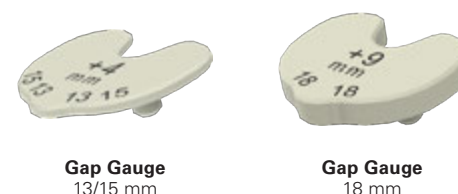
C. Extension Gap Assessment

Additional +4 mm or +9 mm augment may be combined with the **Gap Gauge** to evaluate the extension gap for achieving appropriate joint tension.



The same **Gap Gauge** can also be used to evaluate the flexion gap after femoral A/P resection.

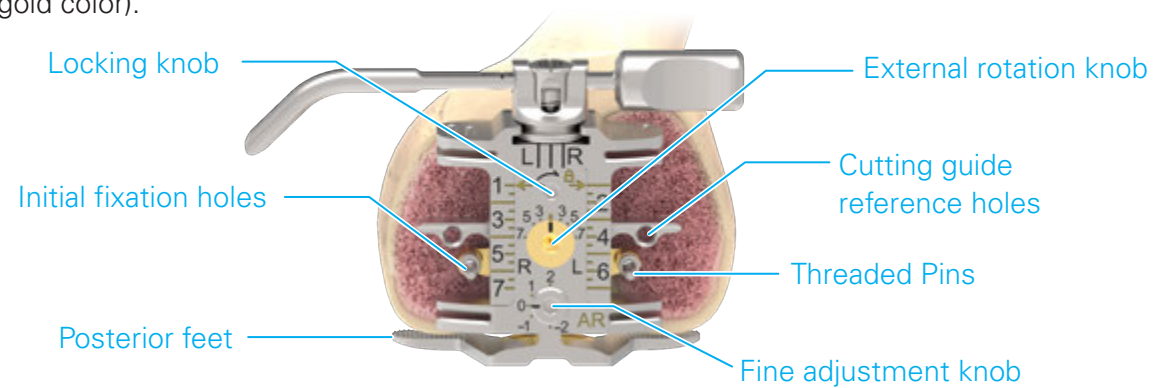
Instruments



D. Femoral Sizing and Chamfer Resections

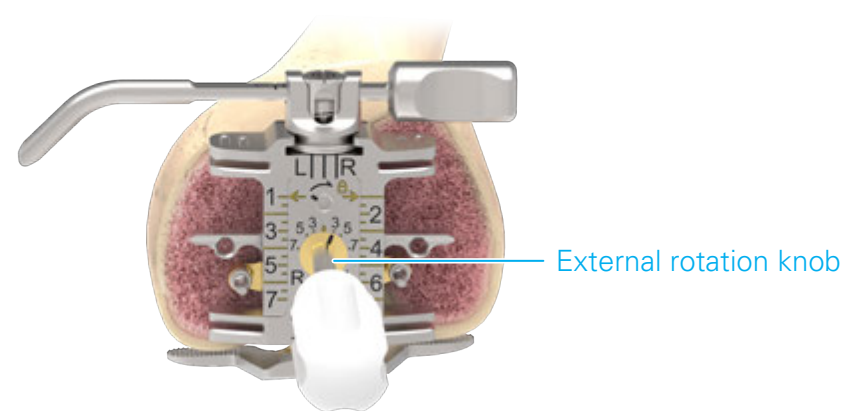
Placement of the Anterior Referencing Sizer

Confirm that the fine adjustment knob on the **Anterior Referencing Sizer** is set to the 0 position. Place the **Anterior Referencing Sizer** against the resected distal surface of the femur with the posterior feet of the sizer seated on the posterior condyles. Then secure the **Anterior Referencing Sizer** with two 30 mm **Threaded Pins** through the initial fixation holes (gold color).



Correct External Rotation

Use the **Screwdriver** to adjust the external rotation knob to set the desired femoral component rotation angle referencing the transepicondylar axis and Whiteside's line. The markings on the the external rotation knob indicate the degrees of rotation vs. the posterior condylar axis and can be adjusted by 3° to 7° in 1° increments for internal/external rotation.



Instruments



Femoral Sizer, AR



Threaded Pin
30 mm/50 mm

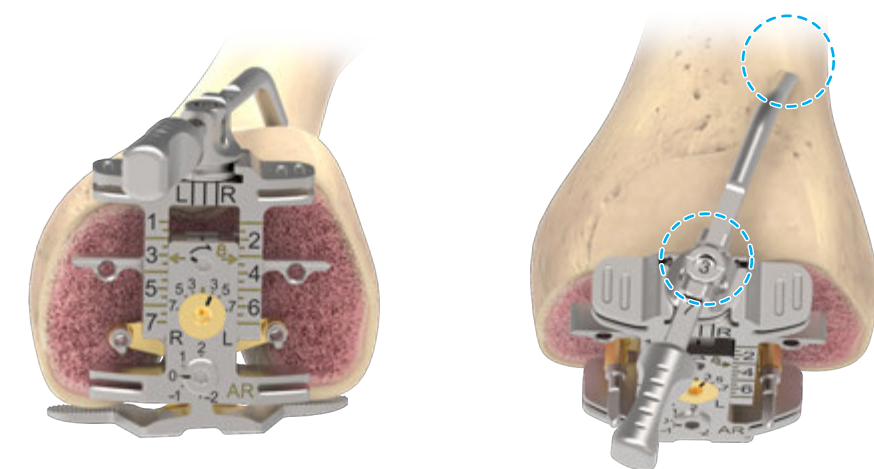


Screwdriver

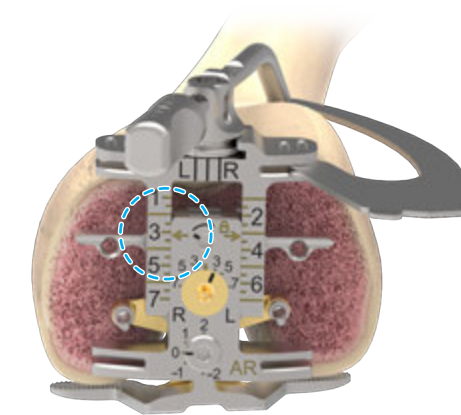
D. Femoral Sizing and Chamfer Resections

Sizing the Femur

Align the handle of the femoral stylus to the left (L) or right (R) orientation. Position the femoral stylus tip so it is touching the anterior cortex on the medial aspect of the lateral ridge of the femur. The femoral stylus can be set to the size indicated on the **Anterior Referencing Sizer** to reference the location of anterior bone resection.



Take note of the of the size indicated on the **Anterior Referencing Sizer** and use the **Resection Check Blade** to confirm the resection level through the anterior and posterior slots.



Note:
If the indicated size is between two sizes, it is generally preferred to choose the smaller one when using the **Anterior Referencing Sizer**.

Instruments



Femoral Sizer, AR



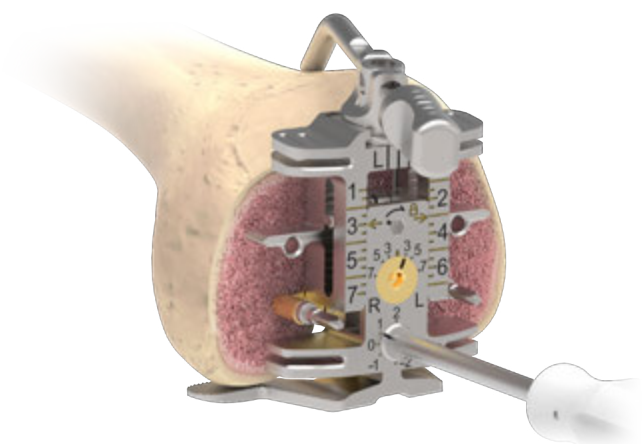
Resection Check Blade

D. Femoral Sizing and Chamfer Resections

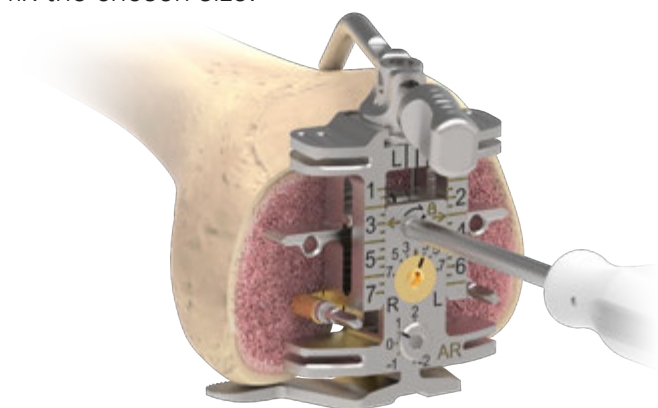
Fine Tune

Occasionally, even when the proper size is determined the desired resection level may be unsatisfactory. If this occurs, a slightly redistributed anterior and posterior bone resection may be considered.

Use the **Screwdriver** to elevate the posterior slot to an appropriate position by adjusting the fine adjustment knob to match a chosen size. Note the figures on the fine adjustment knob indicate the adjustment of the posterior condylar resection level relative to the standard 9 mm resection.



Once the appropriate size is determined, rotate the locking knob to the lock position with the **Screwdriver** to fix the chosen size.



Instruments



Femoral Sizer, AR



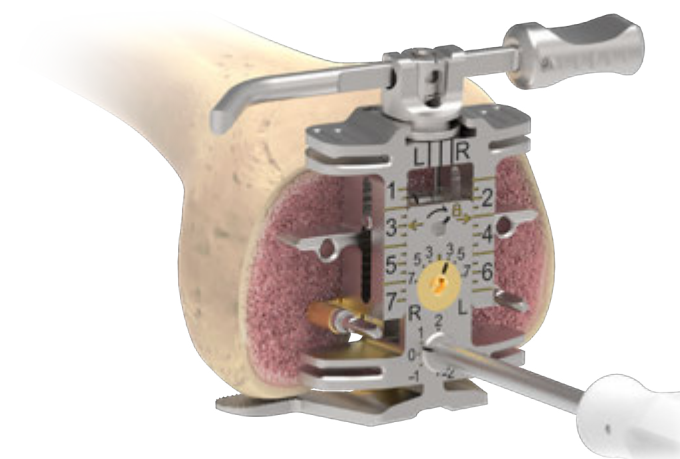
Screwdriver

D. Femoral Sizing and Chamfer Resections

Fine Tune

With the locking knob in the locked position, move away the stylus tip and use the **Screwdriver** to rotate the fine adjustment knob clockwise to allow for less anterior, and more posterior cut; conversely, rotate the fine adjustment knob counterclockwise to make more anterior and a lesser posterior cut.

The range of adjustment is between +2 mm and -2 mm to the standard 9 mm posterior cut. Always check the resection level with the **Resection Check Blade**.



Instruments



Femoral Sizer, AR



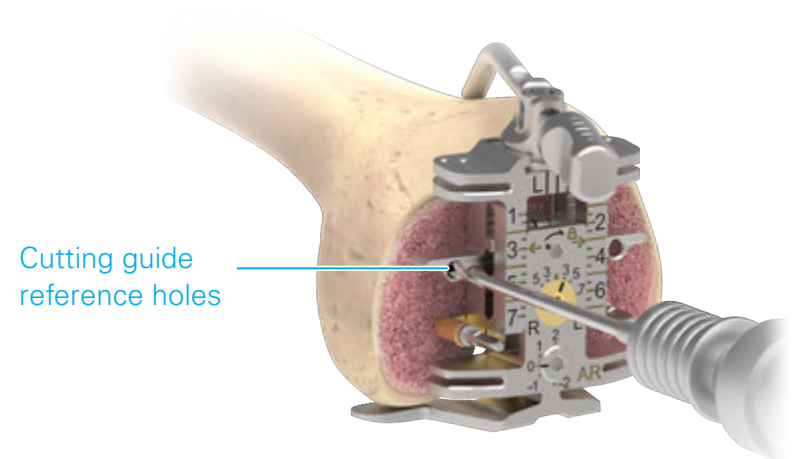
Threaded Pin
30 mm/50 mm



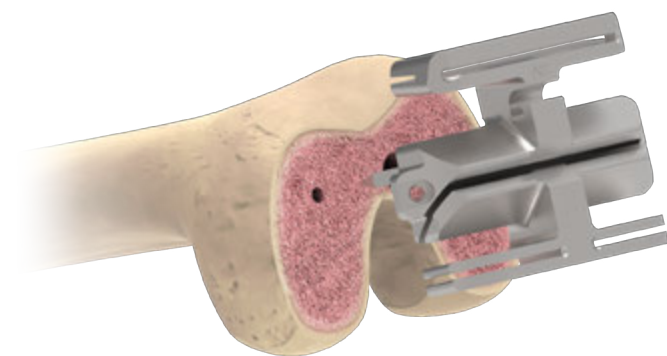
Screwdriver

D. Femoral Sizing and Chamfer Resections

Once the appropriate size is determined, use the **3.2 mm Drill** to drill two reference holes for the **Femoral A/P Chamfer Cutting Guide** before removing the **Anterior Referencing Sizer**.



Select the **Femoral A/P Chamfer Cutting Guide** that corresponds to the selected size and secure to the resected distal femoral surface using the predrilled fixation pin holes.



Instruments



Femoral A/P chamfer resection guide, AR



3.2 mm Drill



Threaded Pin
30 mm/50 mm

D. Femoral Sizing and Chamfer Resections

Femoral A/P & Chamfer Resections

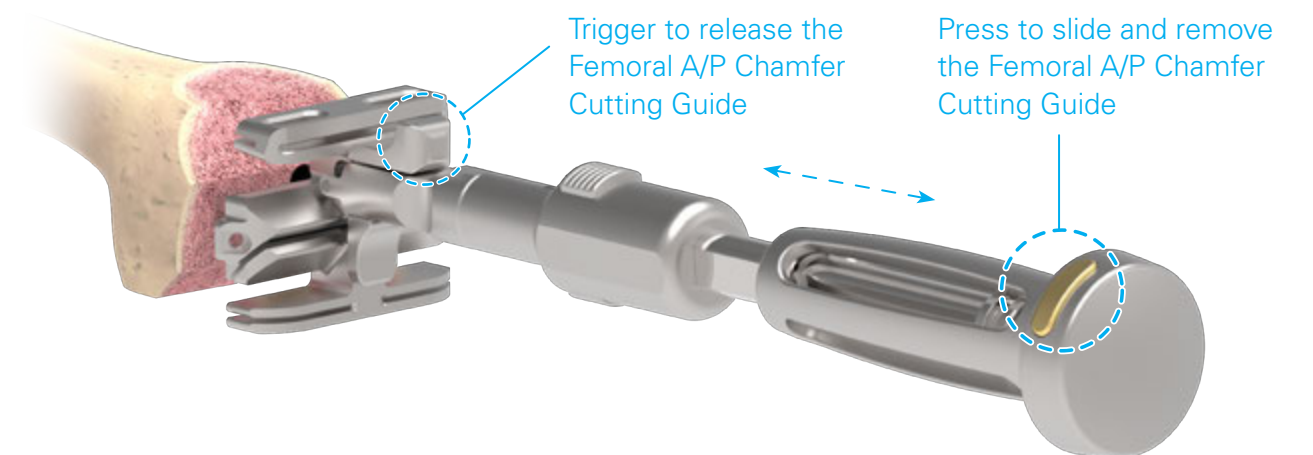
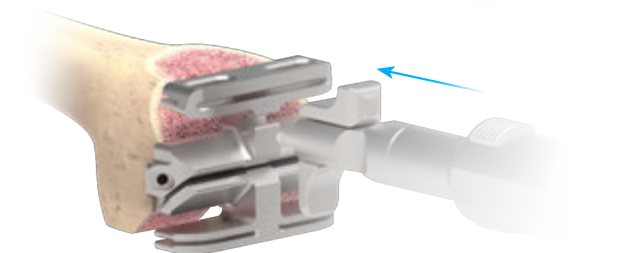
Secure the cutting guide with **Threaded Pins** and then complete the cuts with a 1.27 mm saw blade.

Note:

After the anterior cut is made, the surgeon has the option to downsize the femoral component by removing the **Femoral A/P Chamfer Cutting Guide** and placing a smaller one into the same holes. This **MUST** be done prior to making the posterior or chamfer cuts.



Remove the **Threaded Pins** before removing the **Femoral A/P Chamfer Cutting Guide**. The **Femoral A/P Chamfer Cutting Guide** can be removed via the assembly of the **Femoral A/P Chamfer Cutting Guide Extractor** and the **Universal Sliding Handle**.



Instruments



Femoral A/P chamfer resection guide, AR



Femoral A/P Chamfer Resection Guide Extractor

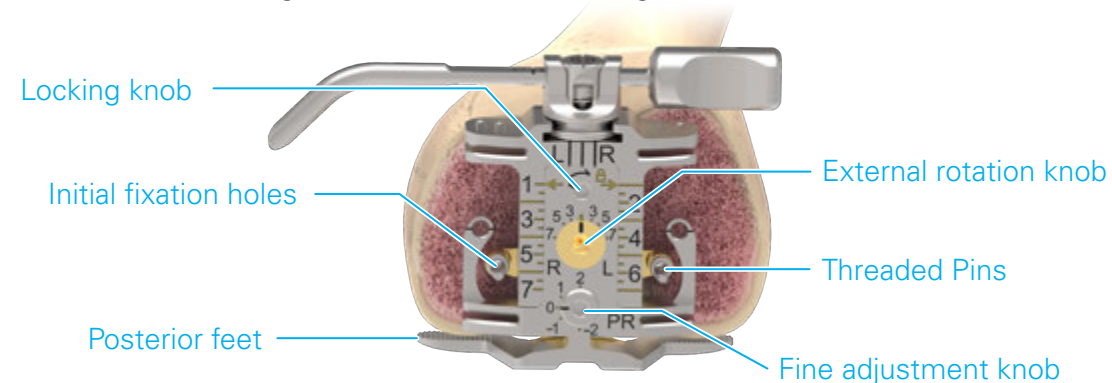


Universal Sliding Handle

D. Femoral Sizing and Chamfer Resections

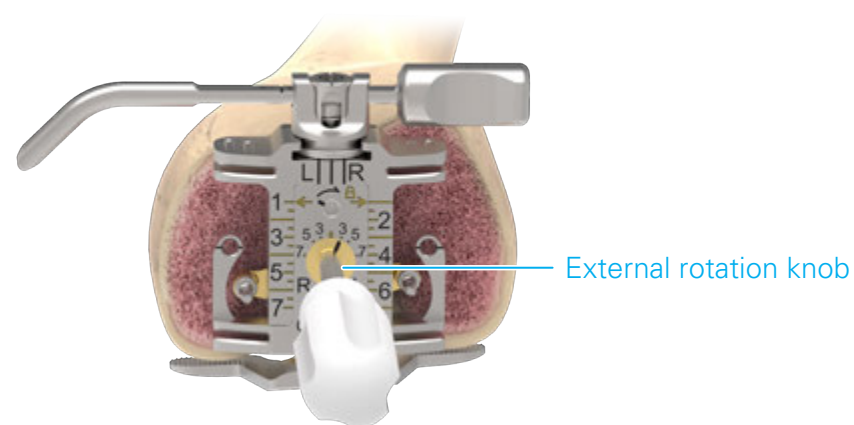
Placement of the Posterior Referencing Sizer

Confirm the fine adjustment knob of the **Posterior Referencing Sizer** is set to the zero position. Place the sizer against the resected distal surface of the femur with the posterior feet of the sizer seated on the posterior condyles. Then secure the sizer with two 30 mm **Threaded Pins** through the initial fixation holes (gold color).



Correct External Rotation

Use the **Screwdriver** to adjust the external rotation knob to set the desired femoral component rotation angle referencing the transepicondylar axis and Whiteside's Line. The markings on the the external rotation knob indicate the degrees of rotation vs. the posterior condylar axis and can be adjusted by 3° to 7° in 1° increments for internal / external rotation.



Instruments



Femoral Sizer, PR



Threaded Pin
30 mm/50 mm

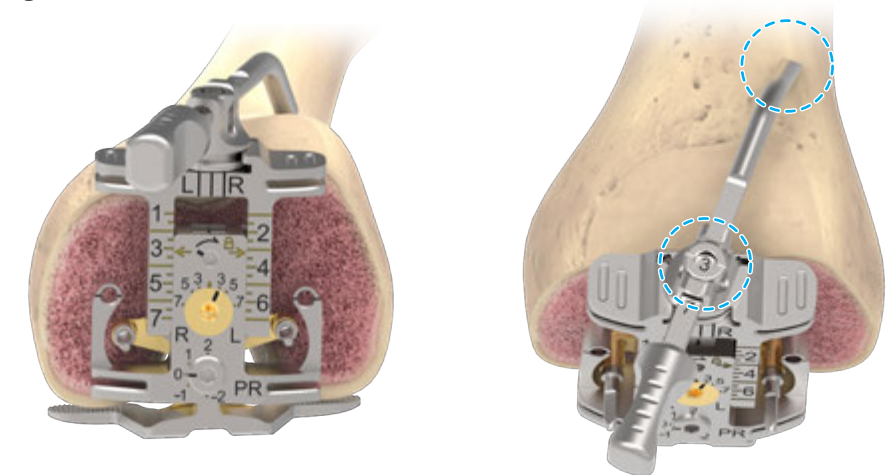


Screwdriver

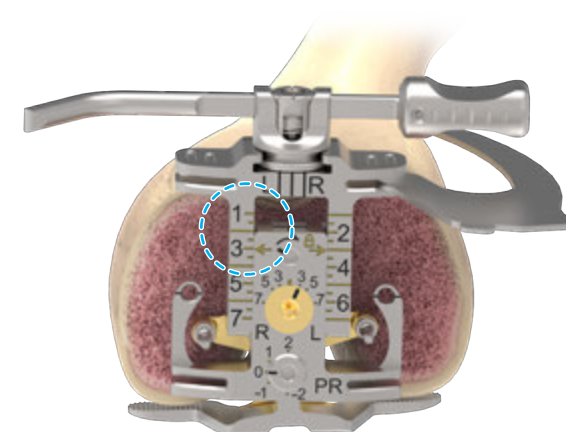
D. Femoral Sizing and Chamfer Resections

Sizing the Femur

Align the handle of the femoral stylus to the left (L) or right (R) orientation. Position the femoral stylus tip so it is touching the anterior cortex on the medial aspect of the lateral ridge of the femur. The femoral stylus can be set to the size indicated on the **Posterior Referencing Sizer** to reference the location of anterior bone resection.



Take note of the of the size indicated on the **Posterior Referencing Sizer** and use the **Resection Check Blade** to confirm the resection level through the anterior and posterior slots if desired.



Note:
If the indicated size is between two sizes, it is generally preferred to choose the larger one when using the **Posterior Referencing Sizer**.

Instruments



Femoral Sizer, PR



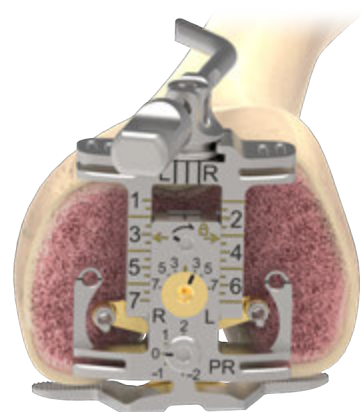
Resection Check Blade

D. Femoral Sizing and Chamfer Resections

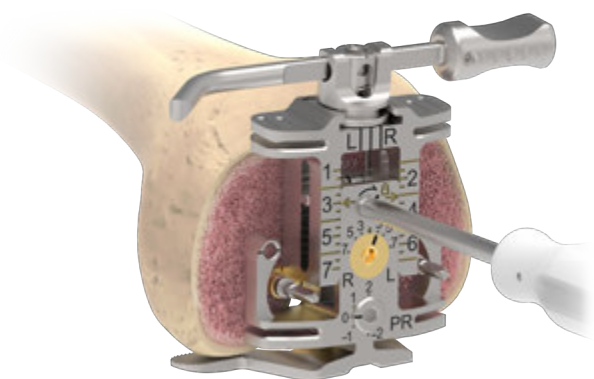
Fine Tune

Occasionally, even when the proper size is determined the desired resection level may be unsatisfactory. If this occurs, a slightly redistributed anterior and posterior bone resection may be considered.

Rotate the handle of the stylus and move away the stylus tip. Slide the anterior slot to match a proper size on the size panel. Always check the resection level with the **Resection Check Blade**. The anterior and posterior slot indicate the A/P resection level on the **A/P and Chamfer Cutting Guide**.



Once the appropriate size is determined, rotate the locking knob to the lock position with the **Screwdriver** to fix the chosen size.



Instruments



Femoral Sizer, PR



Screwdriver



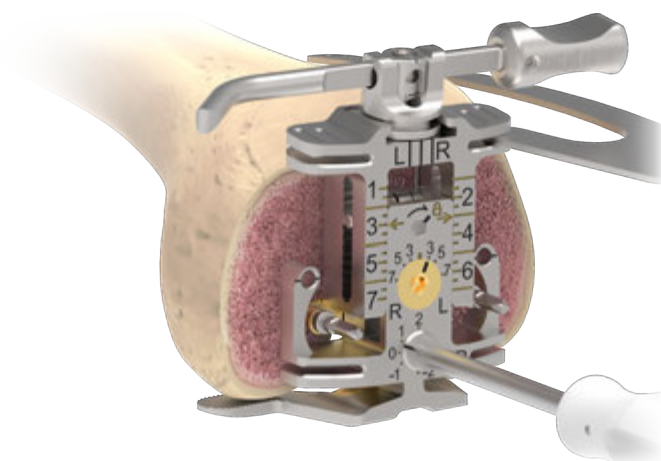
Resection Check Blade

D. Femoral Sizing and Chamfer Resections

Fine Tune

Use the **Screwdriver** to rotate the fine adjustment knob clockwise to allow for less anterior, and more posterior cut; conversely, rotate the fine adjustment knob counterclockwise to make more anterior and a lesser posterior cut.

The range of adjustment is between +2 mm and -2 mm to the standard 9 mm posterior cut. Always check the resection level with the **Resection Check Blade**.



Instruments



Femoral Sizer, PR



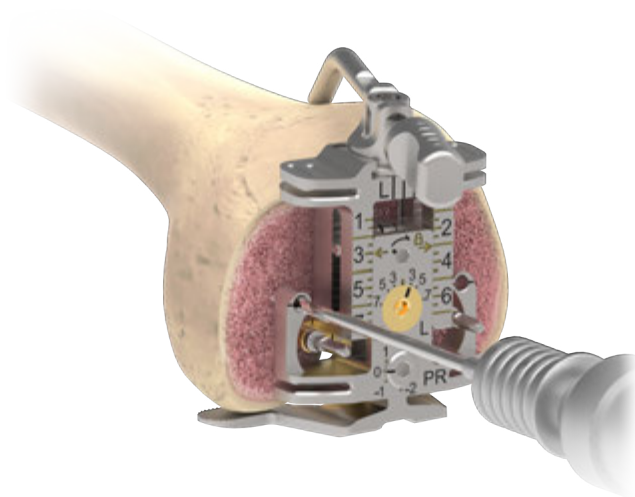
Threaded Pin
30 mm/50 mm



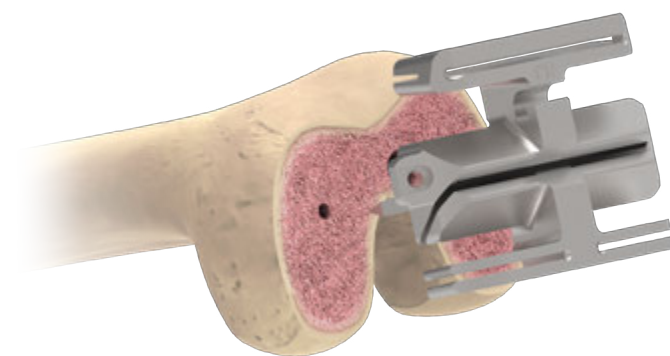
Screwdriver

D. Femoral Sizing and Chamfer Resections

Once the appropriate size is determined, use the **3.2 mm Drill** to drill two reference holes for the **Femoral A/P Chamfer Cutting Guide** before removing the **Posterior Referencing Sizer**.



Select the **Femoral A/P Chamfer Cutting Guide** that corresponds to the selected size and secure to the resected distal femoral surface using the predrilled fixation pin holes.



Instruments



Femoral A/P Chamfer Resection Guide, PR



3.2 mm Drill



Threaded Pin
30 mm/50 mm

D. Femoral Sizing and Chamfer Resections

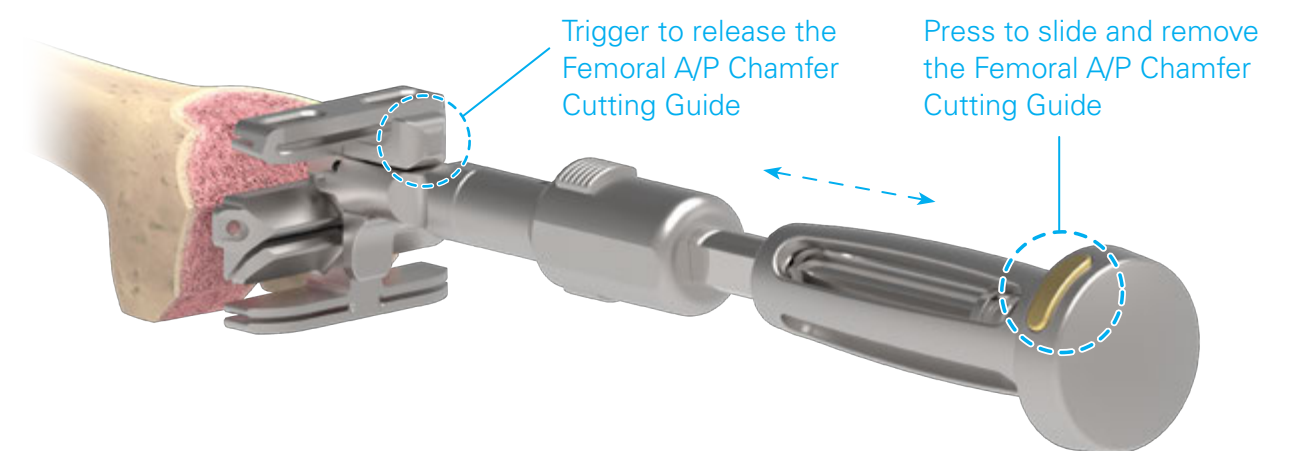
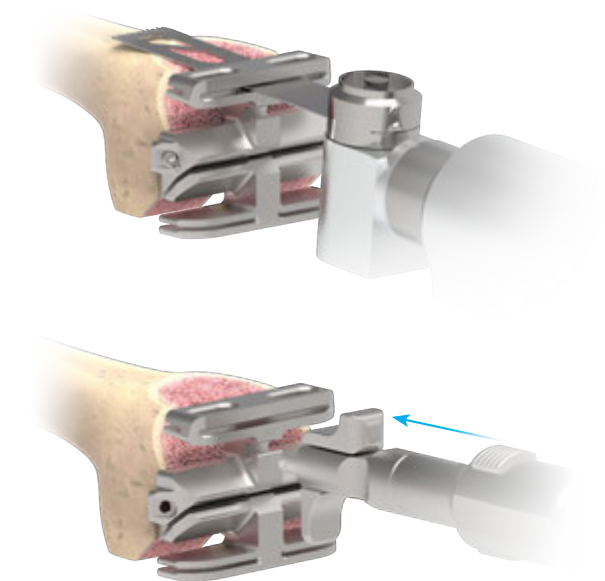
Femoral A/P & Chamfer Resections

Secure the cutting guide with **Threaded Pins** and then complete the cuts with a 1.27 mm saw blade.

Note:

After the posterior cut is made, the surgeon has the option to downsize the femoral component by removing the **Femoral A/P Chamfer Cutting Guide** and placing a smaller one into the same holes. This **MUST** be done prior to making the posterior or chamfer cuts.

Remove the **Threaded Pins** before removing the **Femoral A/P Chamfer Cutting Guide**. The **Femoral A/P Chamfer Cutting Guide** can be removed via the assembly of the **Femoral A/P Chamfer Cutting Guide Extractor** and the **Universal Sliding Handle**.



Trigger to release the Femoral A/P Chamfer Cutting Guide

Press to slide and remove the Femoral A/P Chamfer Cutting Guide

Instruments



Femoral A/P Chamfer Resection Guide, PR



Femoral A/P Chamfer Resection Guide Extractor



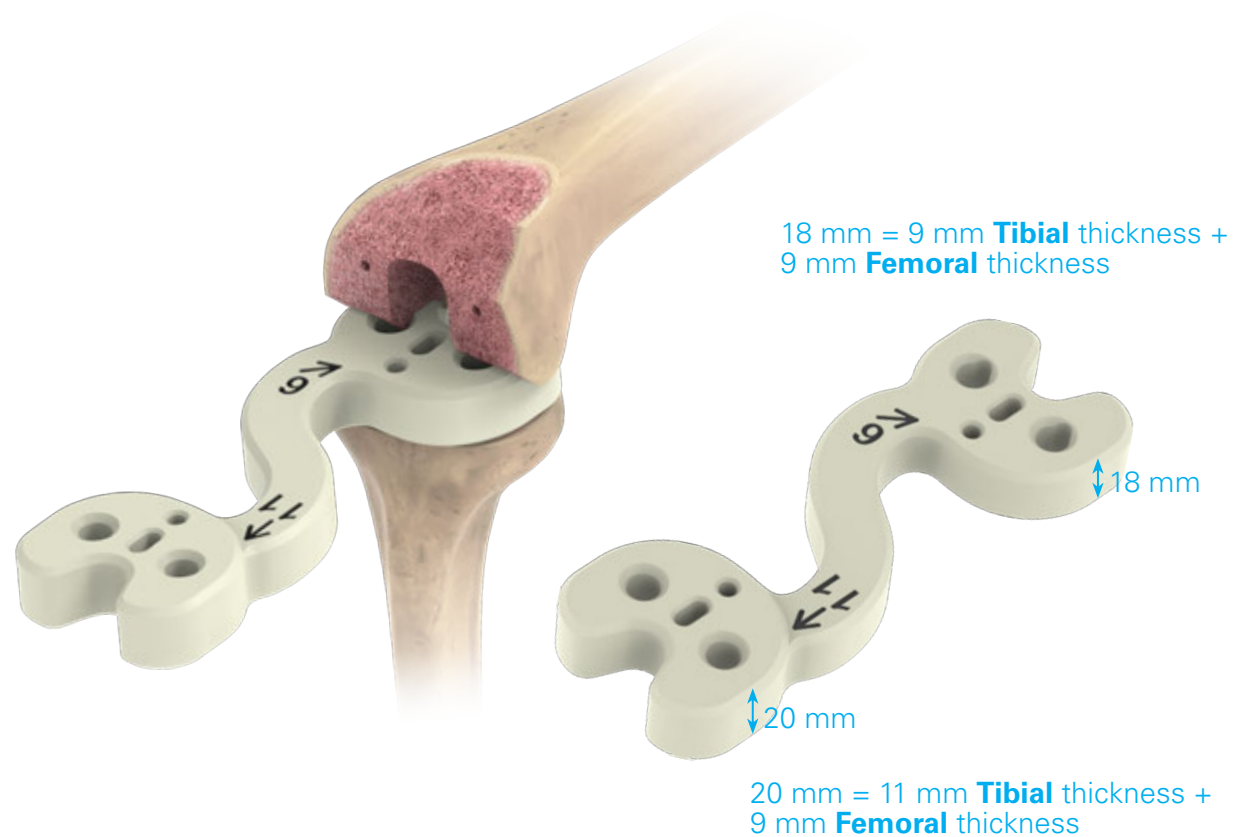
Universal Sliding Handle

E. Extension and Flexion Gaps Confirmation

The extension and flexion joint gaps may be evaluated with the **Gap Gauge**. Select the 9 mm **Gap Gauge** initially to assess both the extension and flexion joint gaps. For matching the gap size, combine additional **Gap Gauge** augments with different thicknesses and test again. The range of thickness is from 9 mm to 18 mm. If the assessed flexion and extension gaps are optimal, insert the femoral and tibial trials to test overall knee mobility and their relative implant position.

Note:

The **Alignment Rod** may be inserted through the **Gap Gauge** handle to assess the extramedullary alignment in both extension and flexion.



Instruments



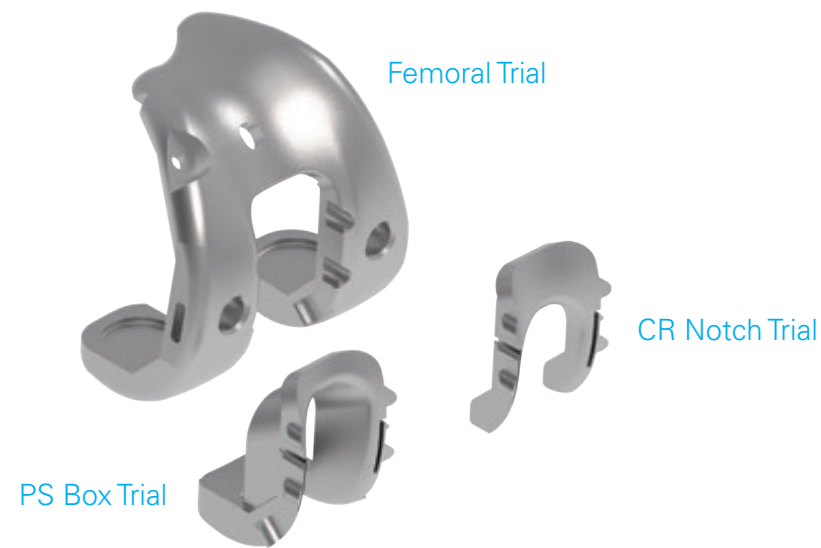
Gap Gauge



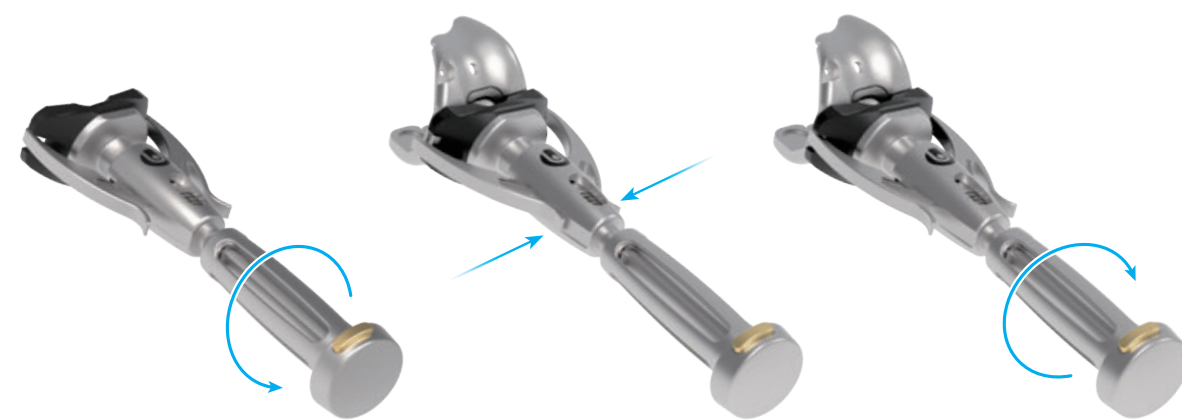
Alignment Rod

F. Trial Reduction

If using a CR system, connect the **CR Notch Trial** to the **Femoral Trial**.
 If using a PS system, use the **Femoral Trial** without the **PS Box Trial** at the initial trial reduction. (The **PS Box Trial** will be used after PS Box Preparation)



Rotate the handle of the **Femoral Driver** counterclockwise to loosen the jaws. Attach the femoral trial to the driver and have the handle clockwise rotate to fasten the connection.



Instruments

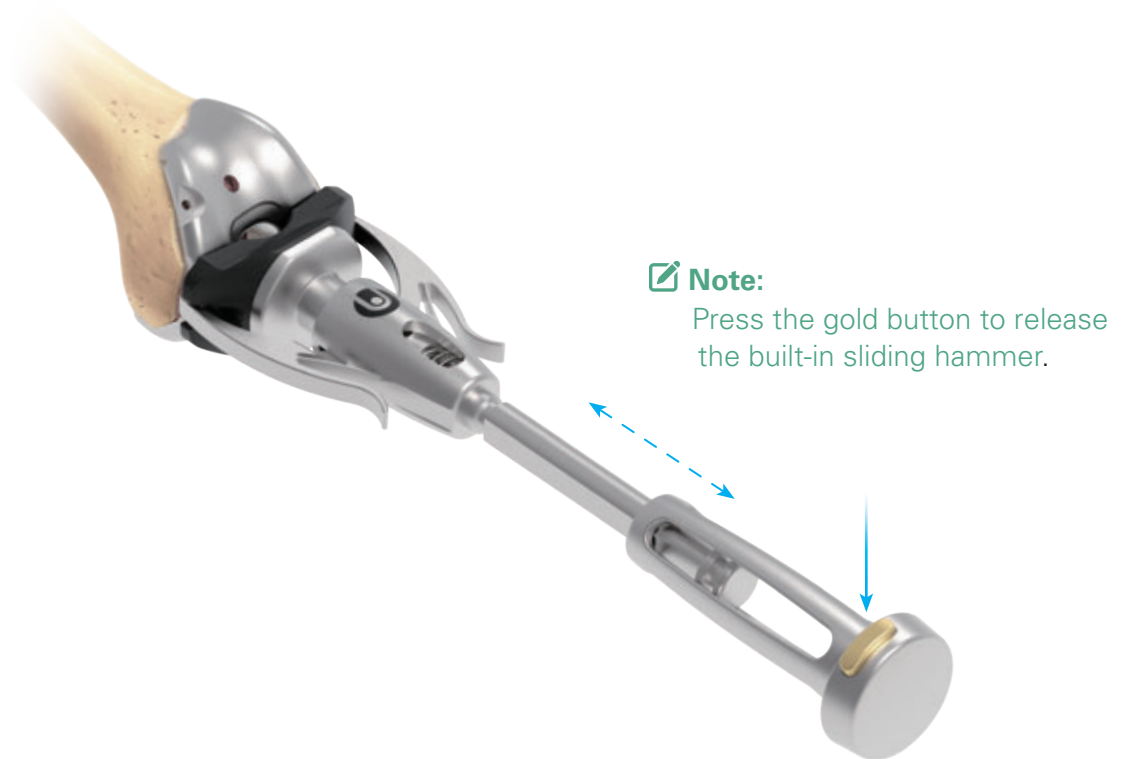


F. Trial Reduction

Introduce the femoral trial onto the prepared femur.



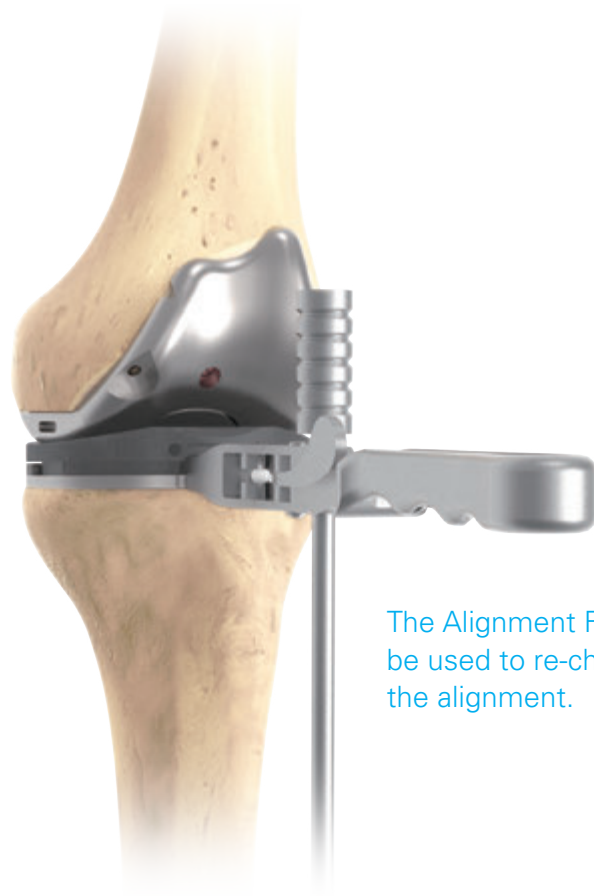
Press and hold the gold button on the handle of the femoral driver to remove the **Femoral Trial** with the built-in sliding hammer once the trial reduction has completed.



F. Trial Reduction

Utilize the **Tibial Baseplate Trial Handle** to position the 9 mm **Insert Trial** and **Tibial Baseplate Trial** onto the resected tibial surface.

A trial reduction can be conducted with all the trial components in situ to determine proper alignment or reference to bony landmarks to set optimal tibial component rotation.



The Alignment Rod can be used to re-check the alignment.



Evaluate the flexion and extension gaps by using the **Tibial Insert Trial Handle** to switch different **Insert Trial** thicknesses as needed.



Instruments



Femoral Trial



Tibial Baseplate Trial



Tibial Insert Trial

Instruments



Alignment Rod



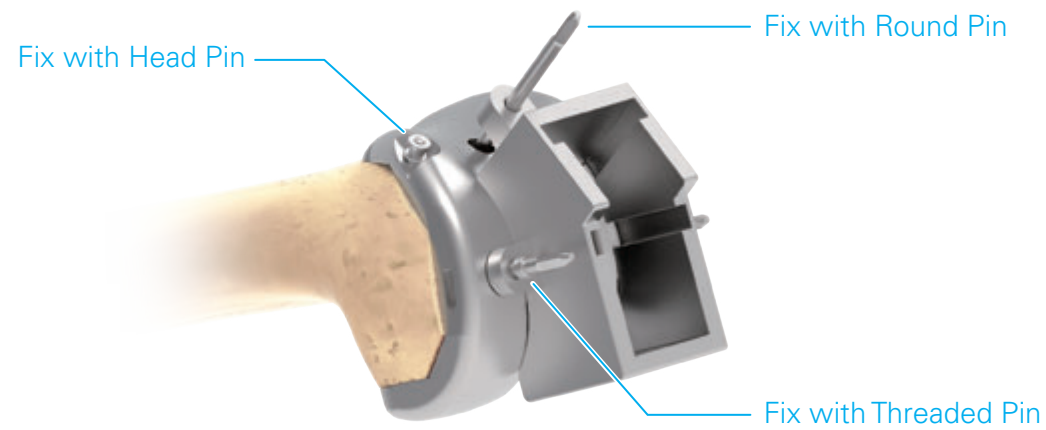
Tibial Baseplate Trial Handle



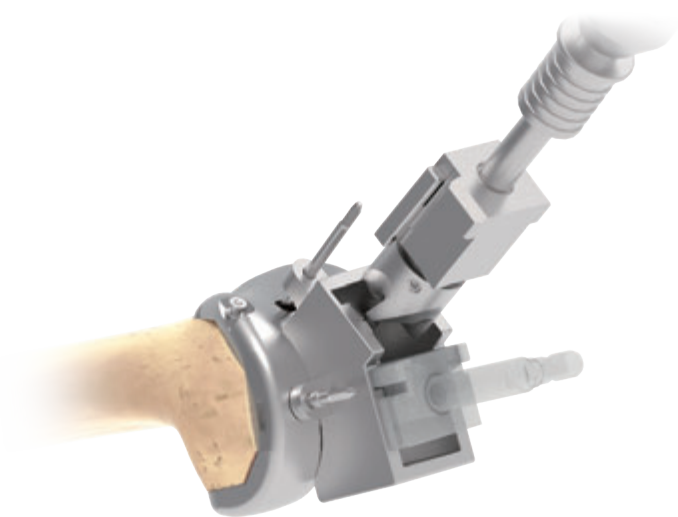
Tibial Insert Trial Handle

G.PS Box Preparation

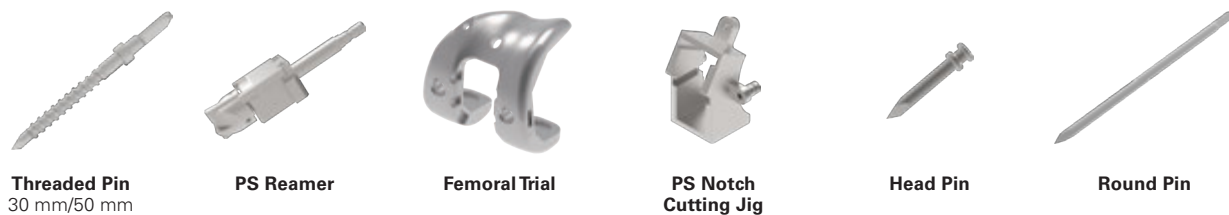
Attach the **PS Notch Cutting Jig** to the **Femoral Trial**. Secure with **Pins** as needed to confirm fixation.



Attach the **PS Reamer** to a drill and insert into the posterior guide slot on the **PS Notch Cutting Jig**. Ream until fully engaged with the stopping point. Repeat for the anterior guide slot.

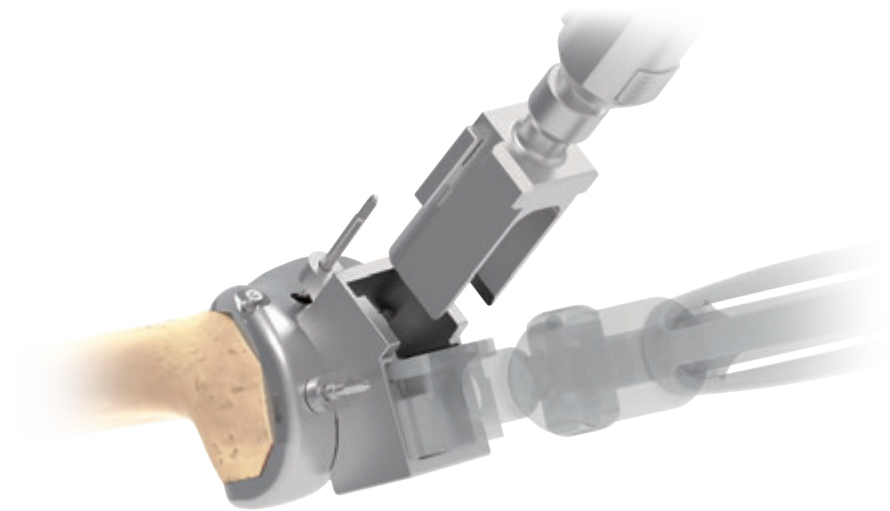


Instruments

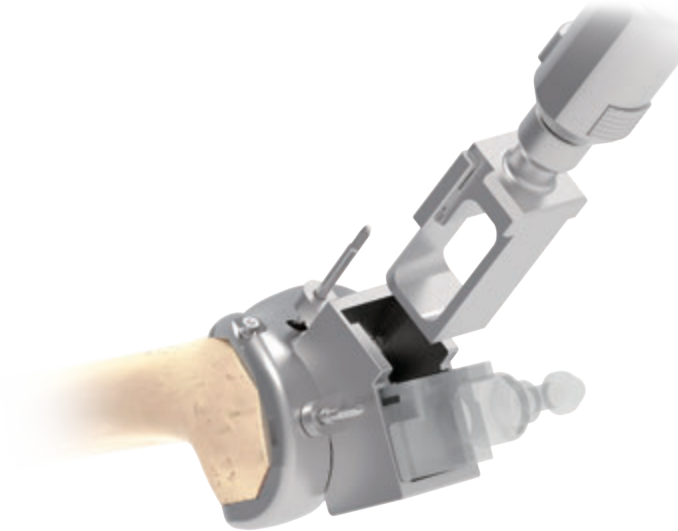


G.PS Box Preparation

Attach the **PS Housing Punch** to the **Universal Sliding Handle**. Advance the punch into the posterior guide slot to remove any remaining bone or tissue. Repeat for the anterior guide slot.



Attach the **PS Housing Impactor** to the **Universal Sliding Handle**. Advance the impactor into the posterior guide slot until fully engaged with the stopping mechanism to verify all bone and tissue is removed. Repeat for the anterior guide slot.



Instruments



G. PS Box Preparation

Remove the **PS Notch Cutting Jigs** and pins, then attached the **PS Box Trial** to the **Femoral Trial**.

Attach the **PS Post Trial** to the **CR Tibial Insert Trial**. Utilize the **Tibial Baseplate Trial Handle** to position both the **Insert Trial** and **Tibial Baseplate Trial**. Perform trial reduction to evaluate joint stability and range of motion.



Instruments



Femoral Trial

Tibial Baseplate Trial

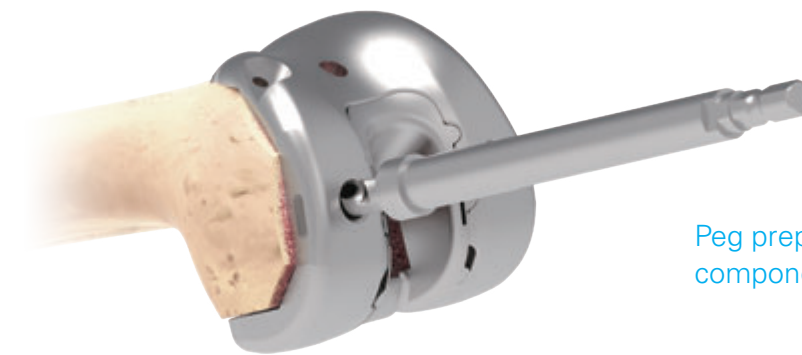
PS Post trial

Tibial Insert Trial

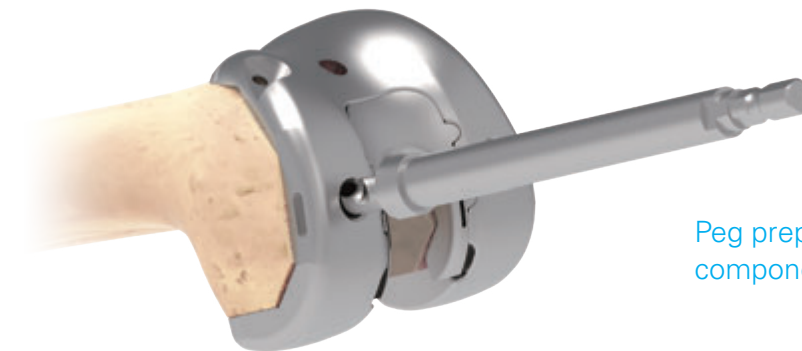
PS Box Trial

H. Pegs Preparation

Drill the fixation peg holes on the **Femoral Trial** with the **Femoral Condyle Drill** after completing the trial reduction.



Peg preparation for PS femoral component.



Peg preparation for CR femoral component.

Instruments



Femoral Condyle Drill

Femoral Trial

PS Box Trial

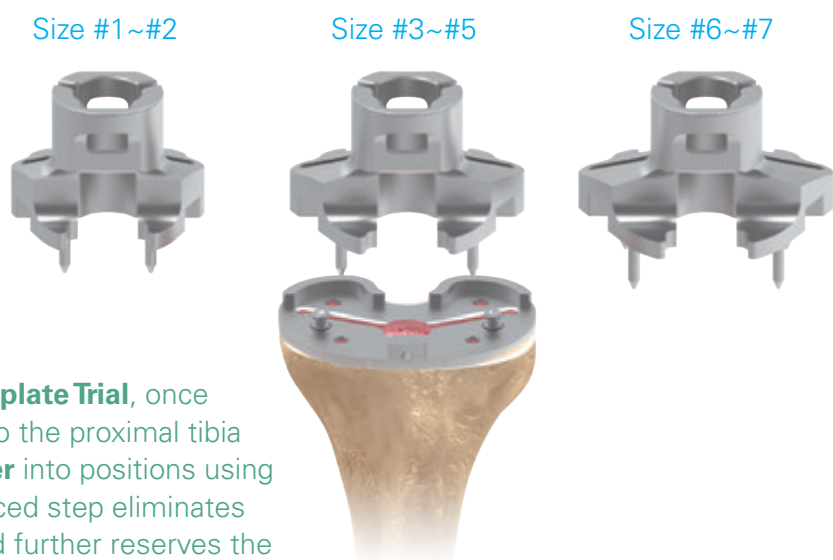
CR Notch Trial

I. Proximal Tibial Preparation

Align the **Tibial Baseplate Trial** to the previous size and position determined during trialing and secure it with two **Head Pins**.

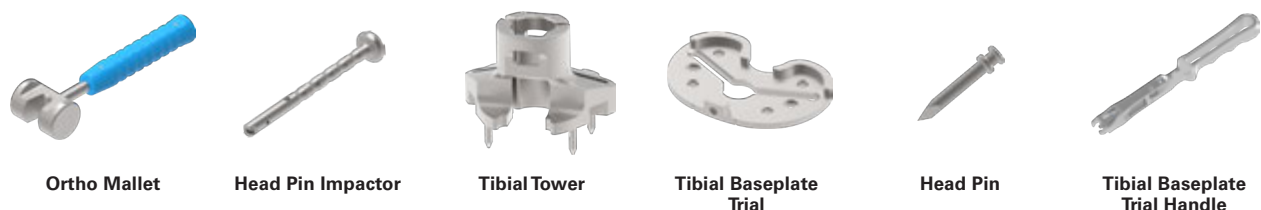


Select the **Tibial Tower** that corresponds to the **Tibial Baseplate Trial** size.



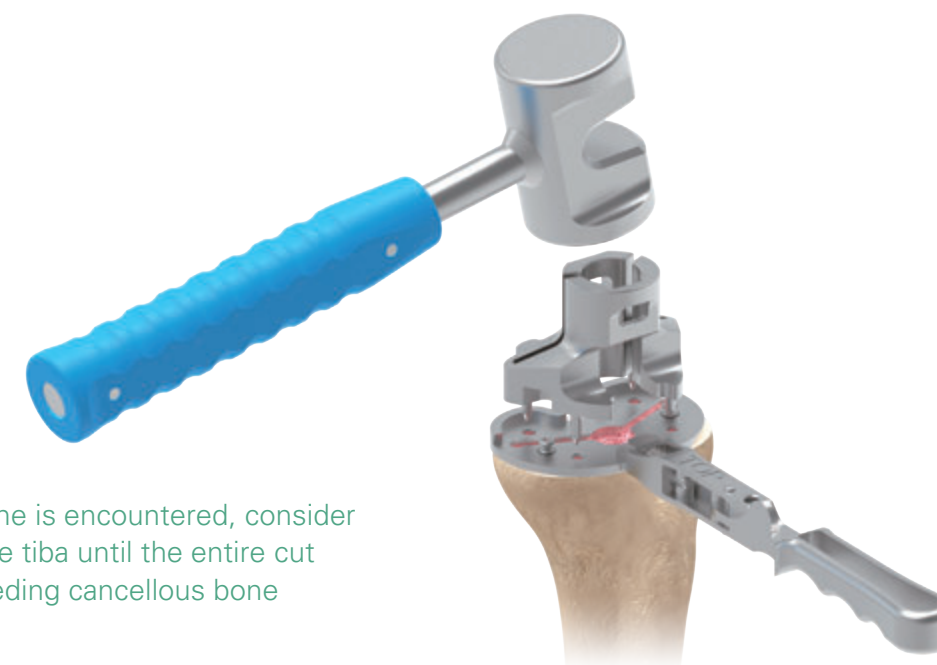
Note: If desired, the **Tibial Baseplate Trial**, once aligned, may be secured to the proximal tibia by tapping the **Tibial Tower** into positions using a **Ortho Mallet**. This reduced step eliminates the need for **Head Pin** and further reserves the proximal bone.

Instruments



I. Proximal Tibial Preparation

Tap the **Tibial Tower** into position using a Mallet.

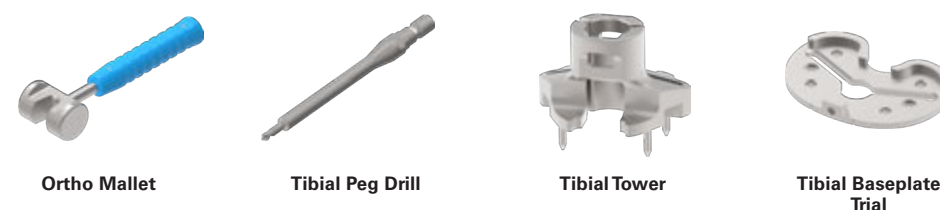


Note: If sclerotic bone is encountered, consider resecting more tibia until the entire cut surface is bleeding cancellous bone



Note: If dense bone is encountered, use the **Tibial Peg Drill** and drill through the four pilot holes of the **Tibial Baseplate Trial** before positioning the tibial tower onto the **Tibial Baseplate Trial**.

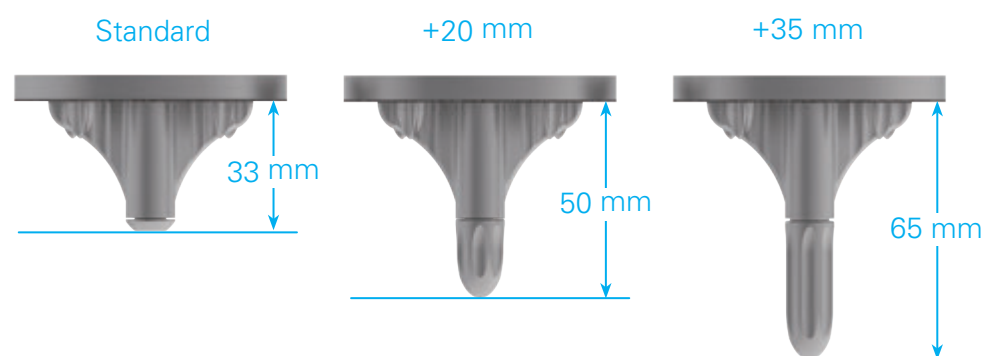
Instruments



I. Proximal Tibial Preparation

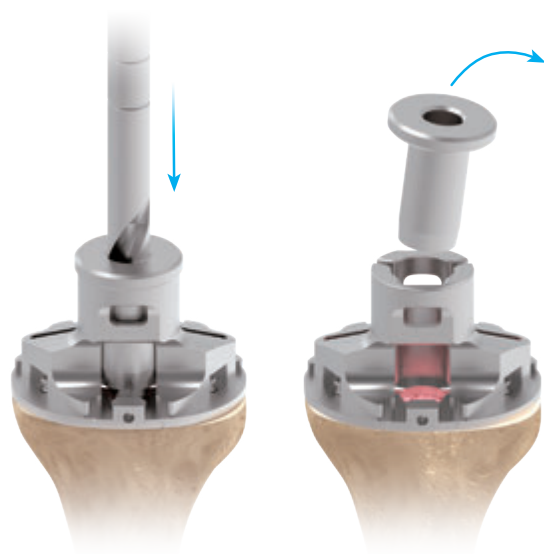
Remove the **Tibial Baseplate Trial Handle** and slide the **Tibial Drill Guide** into the **Tibial Tower**. Advance the **Tibial Drill** through the **Tibial Drill Guide** until the depth reaches the laser mark labeled "Standard."

If desired, an +20 mm or +35 mm stem is available. When preparing for this option, advance the **Tibial Drill** through the **Tibial Drill Guide** until the depth reaches the laser mark labeled "+20 mm" or "+35 mm."



Note:

The default depth equals the depth of the baseplate and plug.
 The depth mark labeled "+20" equals the depth of the baseplate, and the +20 mm stem extension.
 While the depth mark labeled "+35" equals the depth of the baseplate and the +35 mm stem extension.



Instruments



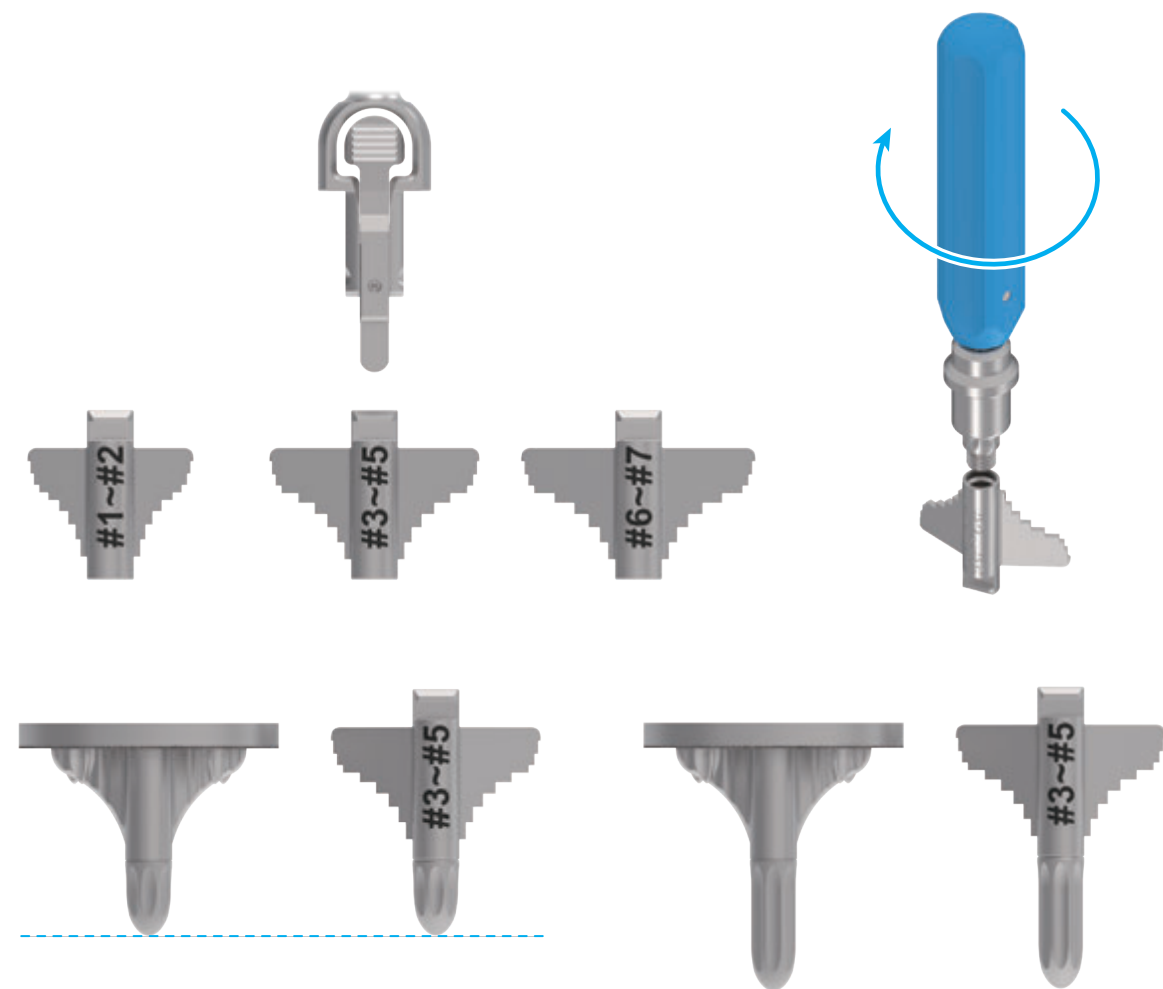
Tibial Drill Guide, 12.5mm



Tibial Drill, 12.5mm

I. Proximal Tibial Preparation

Select the **Tibial Punch** that corresponds to the **Tibial Baseplate Trial** size. If the extension stem is needed, choose the appropriate **Punch Extension "+20 mm"** or **" +35 mm"** based on previous canal preparation and desired press-fit of the tibial component. Connect the **Punch Extension** to the **Tibial Punch** using the **Stem Assembly Handle**.



Note:

The punch depth is equal to the implant when assembled with the Punch Extension "+20 mm" or "+35 mm".

Instruments



Tibial Punch



Stem Assembly Handle



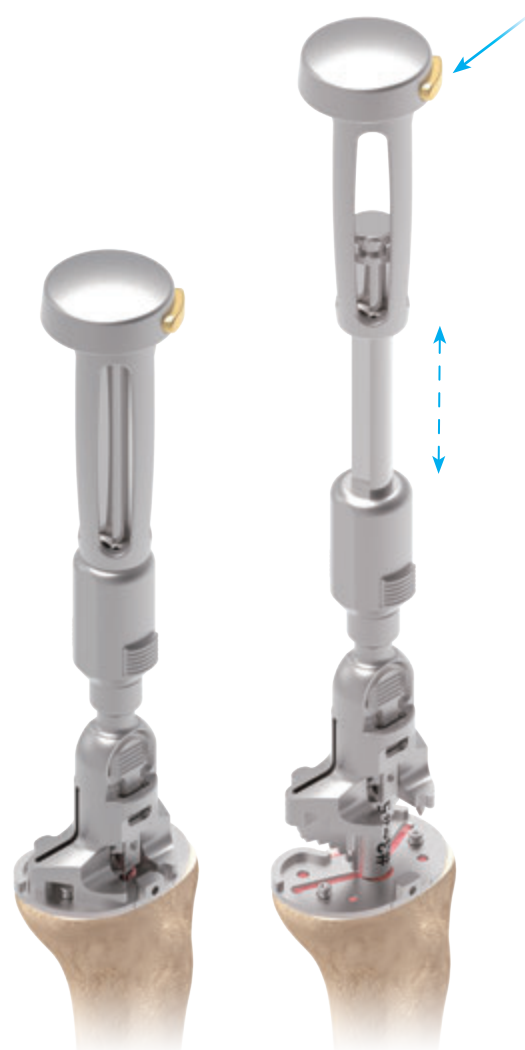
Punch Extension

I. Proximal Tibial Preparation

Assemble the Tibial Punch construct to the **Tibial Punch Adaptor** and the **Universal Sliding Handle**.



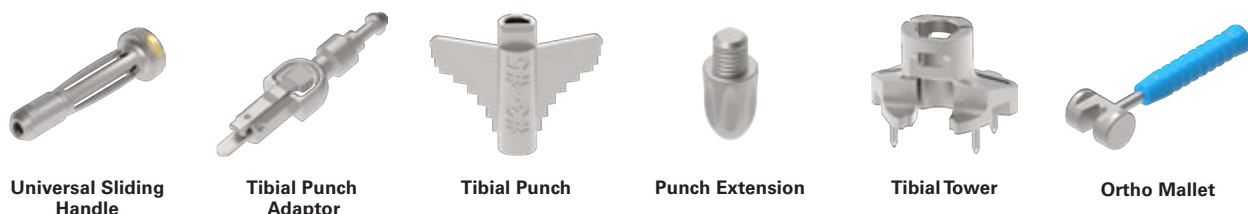
Note:
Press the gold button to release the built-in sliding hammer



Insert the **Tibial Punch** construct into the **Tibial Tower** and tap with the **Ortho Mallet** until the punch is fully engaged.

Use the **Universal Sliding Handle** as a back slap to remove the **Tibial Punch** construct and then remove the **Head Pins** and **Tibial Baseplate Trial**.

Instruments



Universal Sliding Handle

Tibial Punch Adaptor

Tibial Punch

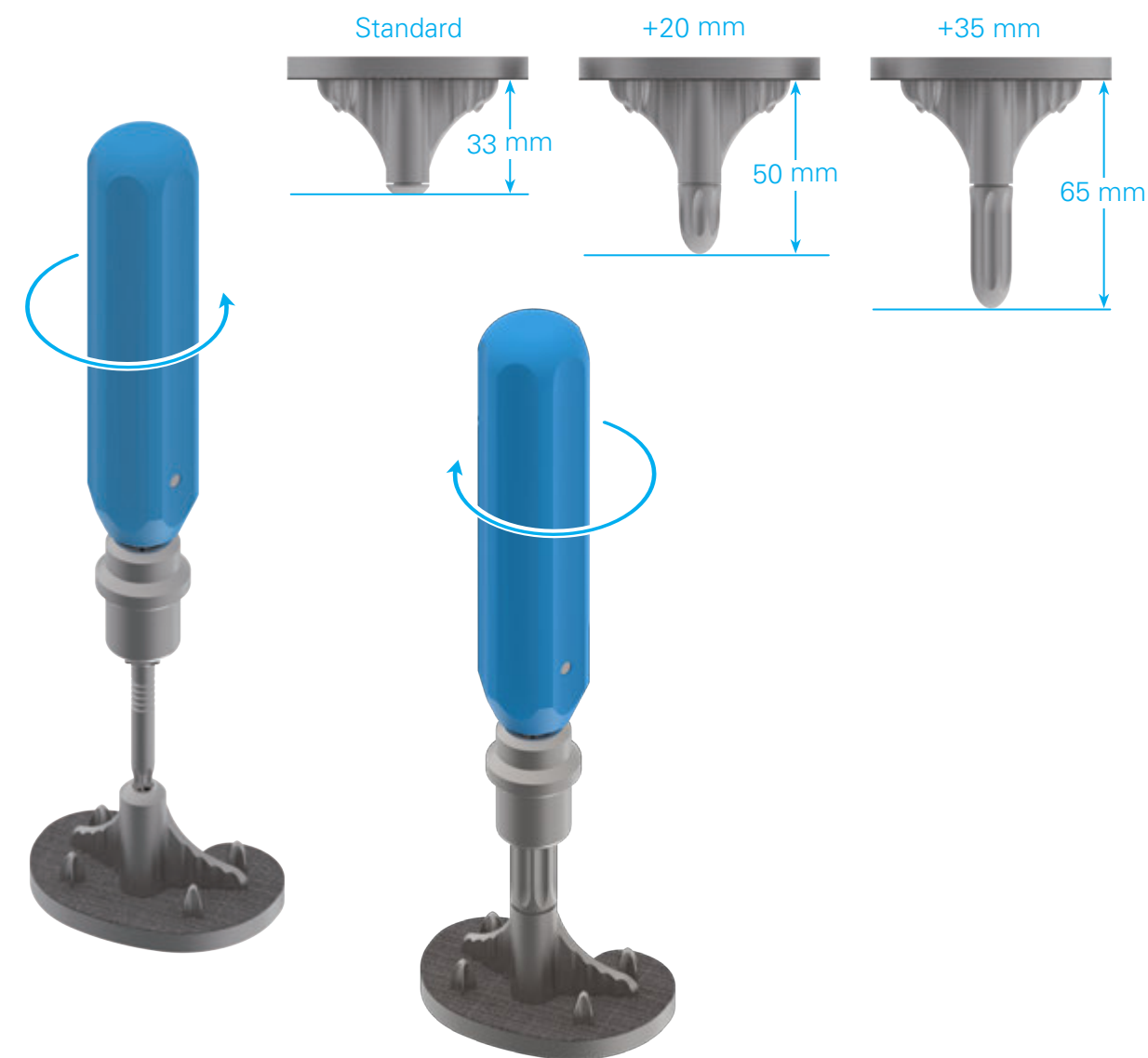
Punch Extension

Tibial Tower

Ortho Mallet

J. Implantation

If a "+20 mm" or "+35 mm" tibial stem extension was prepared for during the procedure, take the previously determined sized tibial baseplate, remove the plug from the tibial baseplate with **Screw Driver Bit** and **Stem Assembly Handle**, and reassemble it with the +20 mm or +35 mm stem extension using the **Stem Assembly Handle**.



Instruments



Screw Driver Bit

Stem Assembly Handle

J. Implantation

Attach the femoral component to the **Femoral Driver** and press against the prepared femoral bone surface until the component is flush with the bone.
 Attach the **Femoral Impactor** to the **Universal Sliding Handle** and strike the femoral component to firmly seat it in place against the femoral bone surface.

If removal of the femoral component is necessary during surgery, reattach the **Femoral Driver** assembly to the femoral component implant. Release the built-in sliding hammer to pull the femoral component implant out from the bone. Replace the femoral component with the appropriate size implant. Also, consult the United representative at the case for guidance.



Instruments



Femoral Driver



Femoral Impactor

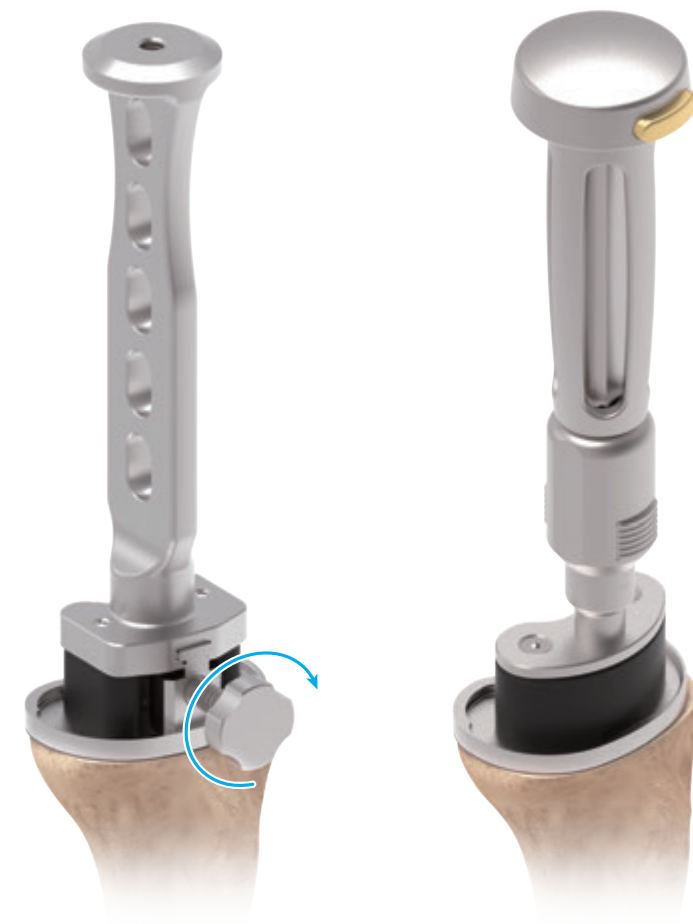


Universal Sliding Handle

J. Implantation

Attach the tibial baseplate to the **Tibial Baseplate Driver** and press against the prepared tibial surface until the component is flush with the bone.

Attach the **Tibial Impactor** to the **Universal Sliding Handle** and strike the tibial baseplate to firmly seat it in place against the prepared tibial surface.



Instruments



Tibial Driver



Universal Sliding Handle



Tibial Impactor

J. Implantation

If hard bone is encountered during tibial implantation, and the tibial component cannot sit flush against the prepared tibial surface, an optional **Peg Drill Dilator** may be used to enlarge the peg holes and allow the implant to be fully seated.



Note: If removal of the tibial baseplate is necessary during surgery, reattach the **Tibial Baseplate Driver** to the tibial component and then thread the **M8 Adaptor** into the **Tibial Baseplate Driver**.

The **Universal Sliding Handle** can then be attached to the **M8 Adaptor** on the **Tibial Baseplate Driver** and used as a back slap hammer to remove the tibial baseplate.

Instruments



Peg Drill Dilator



M8 Adaptor



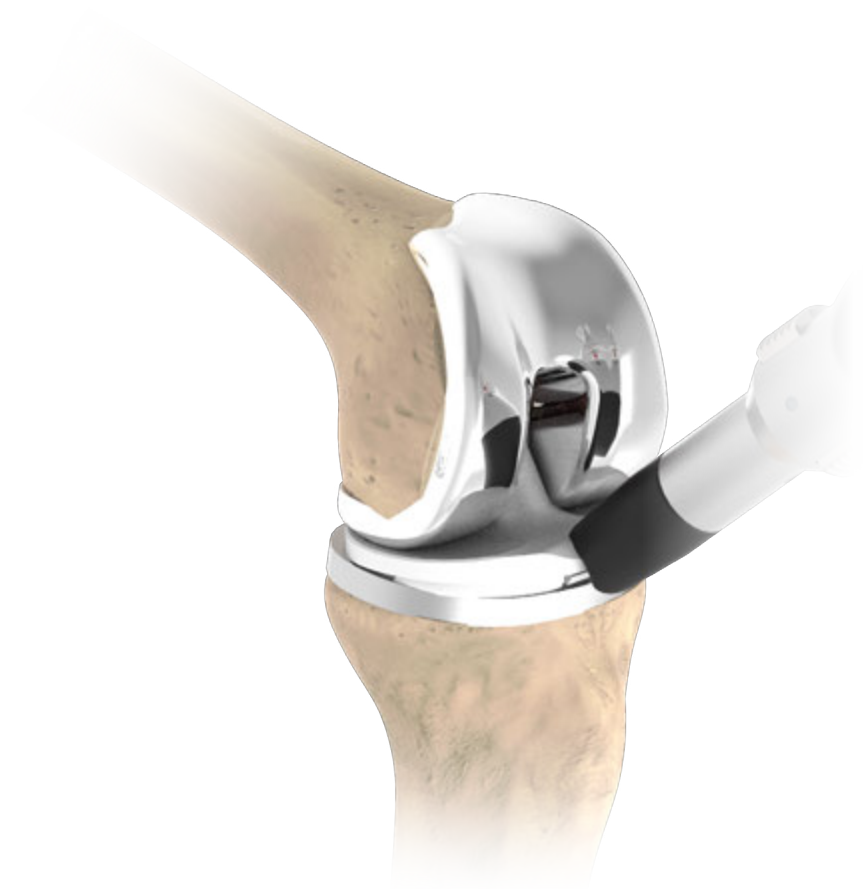
Universal Sliding Handle

J. Implantation

Tibial Insert Implantation

Prior to the insertion of the final **Tibial Insert**, place the appropriate insert trial onto the baseplate to verify proper insert thickness and joint stability.

It is recommended to initially introduce the final tibial insert by hand onto the **Tibial Baseplate**. Once the initial engagement of the locking mechanism is verified, use the **Universal Impactor** to fully seat the Insert. All areas of the assembly are then visually assessed for complete seating.



Instruments



Universal Impactor



Universal Sliding Handle

Order Information

Femoral Component Options

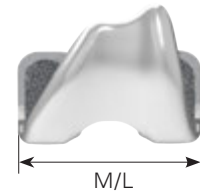
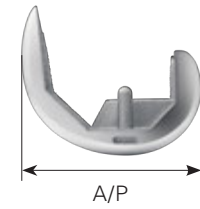
Special Order Items



CR



PS



	PF+	
	Left	Right
#1	2103-1510	2103-1610
#1.5	2103-1515	2103-1615
#2	2103-1520	2103-1620
#2.5	2103-1525	2103-1625
#3	2103-1530	2103-1630
#3.5	2103-1535	2103-1635
#4	2103-1540	2103-1640
#4.5	2103-1545	2103-1645
#5	2103-1550	2103-1650
#5.5	2103-1555	2103-1555
#6	2103-1560	2103-1660
#6.5	2103-1565	2103-1665
#7	2103-1570	2103-1670

	PF+	
	Left	Right
#1	2103-3510	2103-3610
#1.5	2103-3515	2103-3615
#2	2103-3520	2103-3620
#2.5	2103-3525	2103-3625
#3	2103-3530	2103-3630
#3.5	2103-3535	2103-3635
#4	2103-3540	2103-3640
#4.5	2103-3545	2103-3645
#5	2103-3550	2103-3650
#5.5	2103-3555	2103-3655
#6	2103-3560	2103-3660
#6.5	2103-3565	2103-3665
#7	2103-3570	2103-3670

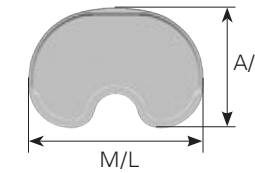
	A/P	M/L
#1	52	56
#1.5	54	58
#2	56	60
#2.5	58	62
#3	60	64
#3.5	62	66
#4	64	68
#4.5	66	70
#5	68	72
#5.5	70	74
#6	72	76
#6.5	74	78
#7	76	80

Unit: mm

Order Information

Tibial Baseplate Options

Special Order Items



	PF+
#1	2203-3610
#2	2203-3620
#3	2203-3630
#4	2203-3640
#5	2203-3650
#6	2203-3660
#7	2203-3670

	A/P	M/L
#1	42	63
#2	44.5	66
#3	47	69
#4	49.5	72
#5	52.5	76
#6	55.5	80
#7	58.5	84

Unit: mm

Order Information

CR Tibial Insert Options



CR		#1	#2	#3	#4	#5	#6	#7
UHMWPE	9 mm	2303-1211	2303-1221	2303-1231	2303-1241	2303-1251	2303-1261	2303-1271
	10 mm	2303-1216	2303-1226	2303-1236	2303-1246	2303-1256	2303-1266	2303-1276
	11 mm	2303-1212	2303-1222	2303-1232	2303-1242	2303-1252	2303-1262	2303-1272
	12 mm	2303-1217	2303-1227	2303-1237	2303-1247	2303-1257	2303-1267	2303-1277
	13 mm	2303-1213	2303-1223	2303-1233	2303-1243	2303-1253	2303-1263	2303-1273
	14 mm	2303-1218	2303-1228	2303-1238	2303-1248	2303-1258	2303-1268	2303-1278
	15 mm	2303-1214	2303-1224	2303-1234	2303-1244	2303-1254	2303-1264	2303-1274
	16 mm	2303-1219	2303-1229	2303-1239	2303-1249	2303-1259	2303-1269	2303-1279
	17 mm	2303-1210	2303-1220	2303-1230	2303-1240	2303-1250	2303-1260	2303-1270
18 mm	2303-1215	2303-1225	2303-1235	2303-1245	2303-1255	2303-1265	2303-1275	

XCR		#1	#2	#3	#4	#5	#6	#7
XPE	9 mm	2303-1611	2303-1621	2303-1631	2303-1641	2303-1651	2303-1661	2303-1671
	10 mm	2303-1616	2303-1626	2303-1636	2303-1646	2303-1656	2303-1666	2303-1676
	11 mm	2303-1612	2303-1622	2303-1632	2303-1642	2303-1652	2303-1662	2303-1672
	12 mm	2303-1617	2303-1627	2303-1637	2303-1647	2303-1657	2303-1667	2303-1677
	13 mm	2303-1613	2303-1623	2303-1633	2303-1643	2303-1653	2303-1663	2303-1673
	14 mm	2303-1618	2303-1628	2303-1638	2303-1648	2303-1658	2303-1668	2303-1678
	15 mm	2303-1614	2303-1624	2303-1634	2303-1644	2303-1654	2303-1664	2303-1674
	16 mm	2303-1619	2303-1629	2303-1639	2303-1649	2303-1659	2303-1669	2303-1679
	17 mm	2303-1610	2303-1620	2303-1630	2303-1640	2303-1650	2303-1660	2303-1670
18 mm	2303-1615	2303-1625	2303-1635	2303-1645	2303-1655	2303-1665	2303-1675	



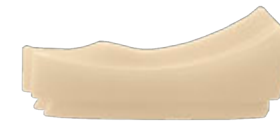
E-XCR		#1	#2	#3	#4	#5	#6	#7
E-XPE	9 mm	2303-1811	2303-1821	2303-1831	2303-1841	2303-1851	2303-1861	2303-1871
	10 mm	2303-1816	2303-1826	2303-1836	2303-1846	2303-1856	2303-1866	2303-1876
	11 mm	2303-1812	2303-1822	2303-1832	2303-1842	2303-1852	2303-1862	2303-1872
	12 mm	2303-1817	2303-1827	2303-1837	2303-1847	2303-1857	2303-1867	2303-1877
	13 mm	2303-1813	2303-1823	2303-1833	2303-1843	2303-1853	2303-1863	2303-1873
	14 mm	2303-1818	2303-1828	2303-1838	2303-1848	2303-1858	2303-1868	2303-1878
	15 mm	2303-1814	2303-1824	2303-1834	2303-1844	2303-1854	2303-1864	2303-1874
	16 mm	2303-1819	2303-1829	2303-1839	2303-1849	2303-1859	2303-1869	2303-1879
	17 mm	2303-1810	2303-1820	2303-1830	2303-1840	2303-1850	2303-1860	2303-1870
18 mm	2303-1815	2303-1825	2303-1835	2303-1845	2303-1855	2303-1865	2303-1875	

Order Information

UC Tibial Insert Options



XUC		#1	#2	#3	#4	#5	#6	#7
XPE	9 mm	2303-1411	2303-1421	2303-1431	2303-1441	2303-1451	2303-1461	2303-1471
	10 mm	2303-1416	2303-1426	2303-1436	2303-1446	2303-1456	2303-1466	2303-1476
	11 mm	2303-1412	2303-1422	2303-1432	2303-1442	2303-1452	2303-1462	2303-1472
	12 mm	2303-1417	2303-1427	2303-1437	2303-1447	2303-1457	2303-1467	2303-1477
	13 mm	2303-1413	2303-1423	2303-1433	2303-1443	2303-1453	2303-1463	2303-1473
	14 mm	2303-1418	2303-1428	2303-1438	2303-1448	2303-1458	2303-1468	2303-1478
	15 mm	2303-1414	2303-1424	2303-1434	2303-1444	2303-1454	2303-1464	2303-1474
	16 mm	2303-1419	2303-1429	2303-1439	2303-1449	2303-1459	2303-1469	2303-1479
	17 mm	2303-1410	2303-1420	2303-1430	2303-1440	2303-1450	2303-1460	2303-1470
18 mm	2303-1415	2303-1425	2303-1435	2303-1445	2303-1455	2303-1465	2303-1475	



E-XUC		#1	#2	#3	#4	#5	#6	#7
E-XPE	9 mm	2303-1711	2303-1721	2303-1731	2303-1741	2303-1751	2303-1761	2303-1771
	10 mm	2303-1716	2303-1726	2303-1736	2303-1746	2303-1756	2303-1766	2303-1776
	11 mm	2303-1712	2303-1722	2303-1732	2303-1742	2303-1752	2303-1762	2303-1772
	12 mm	2303-1717	2303-1727	2303-1737	2303-1747	2303-1757	2303-1767	2303-1777
	13 mm	2303-1713	2303-1723	2303-1733	2303-1743	2303-1753	2303-1763	2303-1773
	14 mm	2303-1718	2303-1728	2303-1738	2303-1748	2303-1758	2303-1768	2303-1778
	15 mm	2303-1714	2303-1724	2303-1734	2303-1744	2303-1754	2303-1764	2303-1774
	16 mm	2303-1719	2303-1729	2303-1739	2303-1749	2303-1759	2303-1769	2303-1779
	17 mm	2303-1710	2303-1720	2303-1730	2303-1740	2303-1750	2303-1760	2303-1770
18 mm	2303-1715	2303-1725	2303-1735	2303-1745	2303-1755	2303-1765	2303-1775	

Order Information

Special Order Items

PS Tibial Insert Options



PS		#1	#2	#3	#4	#5	#6	#7
UHMWPE	9 mm	2303-3011	2303-3021	2303-3031	2303-3041	2303-3051	2303-3061	2303-3071
	10 mm	2303-3016	2303-3026	2303-3036	2303-3046	2303-3056	2303-3066	2303-3076
	11 mm	2303-3012	2303-3022	2303-3032	2303-3042	2303-3052	2303-3062	2303-3072
	12 mm	2303-3017	2303-3027	2303-3037	2303-3047	2303-3057	2303-3067	2303-3077
	13 mm	2303-3013	2303-3023	2303-3033	2303-3043	2303-3053	2303-3063	2303-3073
	14 mm	2303-3018	2303-3028	2303-3038	2303-3048	2303-3058	2303-3068	2303-3078
	15 mm	2303-3014	2303-3024	2303-3034	2303-3044	2303-3054	2303-3064	2303-3074
	16 mm	2303-3019	2303-3029	2303-3039	2303-3049	2303-3059	2303-3069	2303-3079
	17 mm	2303-3010	2303-3020	2303-3030	2303-3040	2303-3050	2303-3060	2303-3070
18 mm	2303-3015	2303-3025	2303-3035	2303-3045	2303-3055	2303-3065	2303-3075	

XPS		#1	#2	#3	#4	#5	#6	#7
XPE	9 mm	2303-3611	2303-3621	2303-3631	2303-3641	2303-3651	2303-3661	2303-3671
	10 mm	2303-3616	2303-3626	2303-3636	2303-3646	2303-3656	2303-3666	2303-3676
	11 mm	2303-3612	2303-3622	2303-3632	2303-3642	2303-3652	2303-3662	2303-3672
	12 mm	2303-3617	2303-3627	2303-3637	2303-3647	2303-3657	2303-3667	2303-3677
	13 mm	2303-3613	2303-3623	2303-3633	2303-3643	2303-3653	2303-3663	2303-3673
	14 mm	2303-3618	2303-3628	2303-3638	2303-3648	2303-3658	2303-3668	2303-3678
	15 mm	2303-3614	2303-3624	2303-3634	2303-3644	2303-3654	2303-3664	2303-3674
	16 mm	2303-3619	2303-3629	2303-3639	2303-3649	2303-3659	2303-3669	2303-3679
	17 mm	2303-3610	2303-3620	2303-3630	2303-3640	2303-3650	2303-3660	2303-3670
18 mm	2303-3615	2303-3625	2303-3635	2303-3645	2303-3655	2303-3665	2303-3675	



E-XPS		#1	#2	#3	#4	#5	#6	#7
E-XPE	9 mm	2303-3811	2303-3821	2303-3831	2303-3841	2303-3851	2303-3861	2303-3871
	10 mm	2303-3816	2303-3826	2303-3836	2303-3846	2303-3856	2303-3866	2303-3876
	11 mm	2303-3812	2303-3822	2303-3832	2303-3842	2303-3852	2303-3862	2303-3872
	12 mm	2303-3817	2303-3827	2303-3837	2303-3847	2303-3857	2303-3867	2303-3877
	13 mm	2303-3813	2303-3823	2303-3833	2303-3843	2303-3853	2303-3863	2303-3873
	14 mm	2303-3818	2303-3828	2303-3838	2303-3848	2303-3858	2303-3868	2303-3878
	15 mm	2303-3814	2303-3824	2303-3834	2303-3844	2303-3854	2303-3864	2303-3874
	16 mm	2303-3819	2303-3829	2303-3839	2303-3849	2303-3859	2303-3869	2303-3879
	17 mm	2303-3810	2303-3820	2303-3830	2303-3840	2303-3850	2303-3860	2303-3870
18 mm	2303-3815	2303-3825	2303-3835	2303-3845	2303-3855	2303-3865	2303-3875	

Order Information

Special Order Items

Tibial Baseplate Stem Extension Options

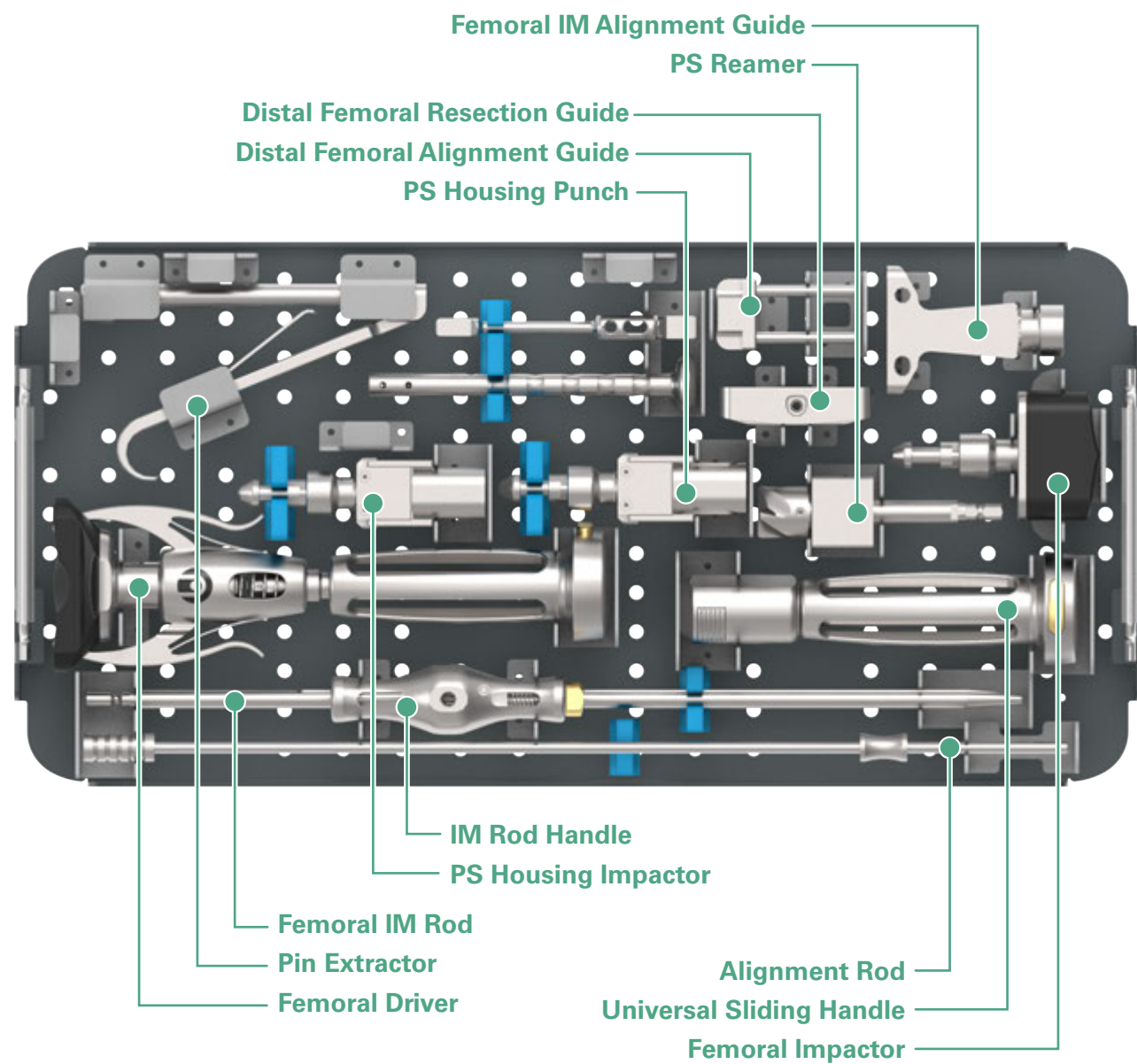
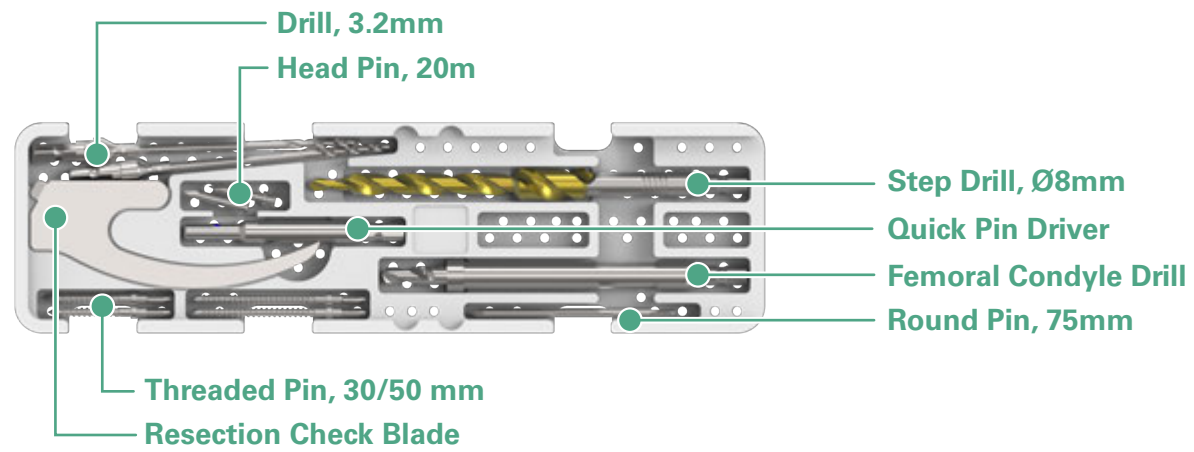


Straight Stem

Ø12.5 x 20 mm	Ø12.5 x 35 mm
2703-7112	2703-7212

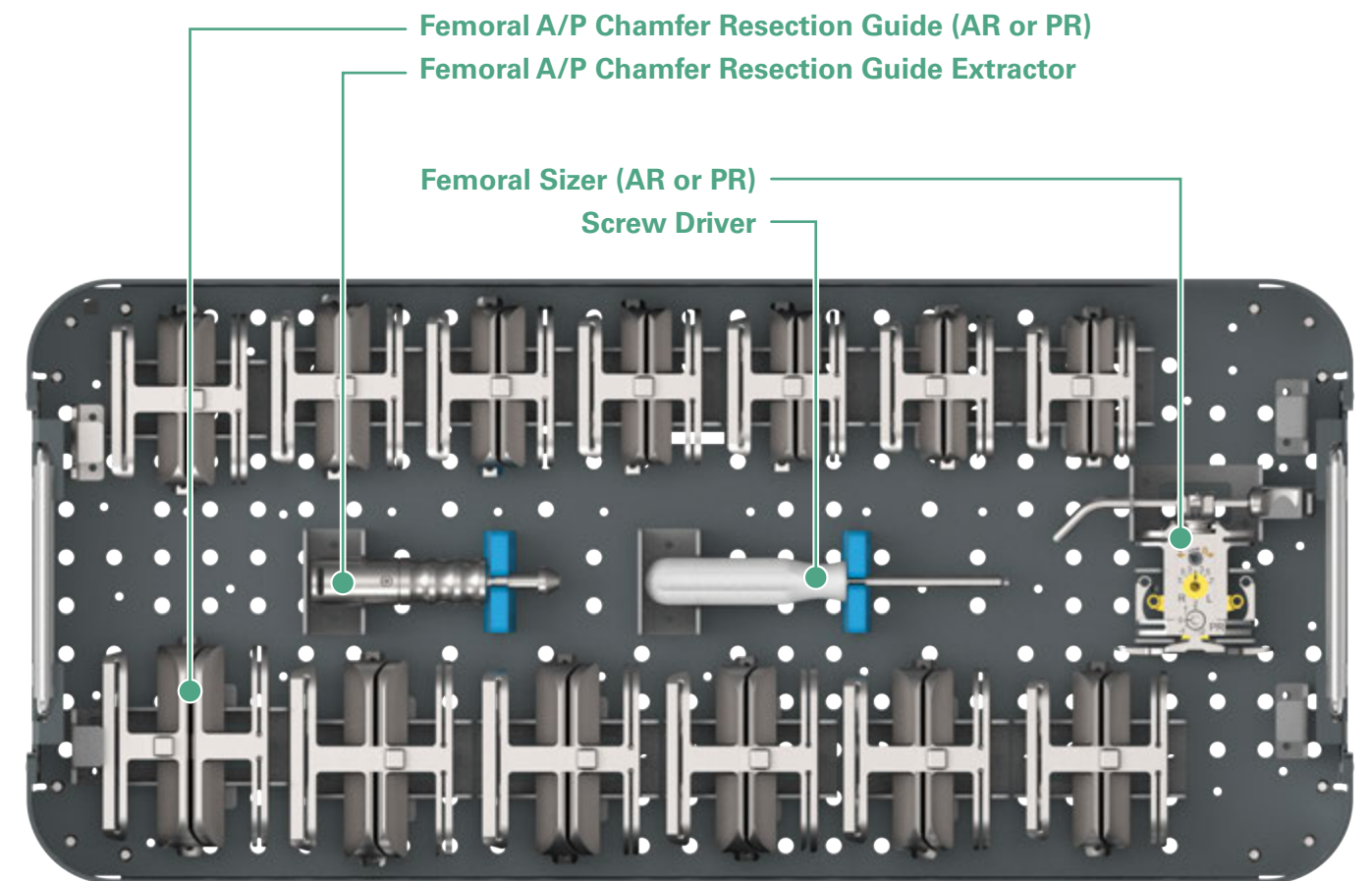
Instrument Tray Guide

U2 Knee Anterior or Posterior Reference Preparation Tray



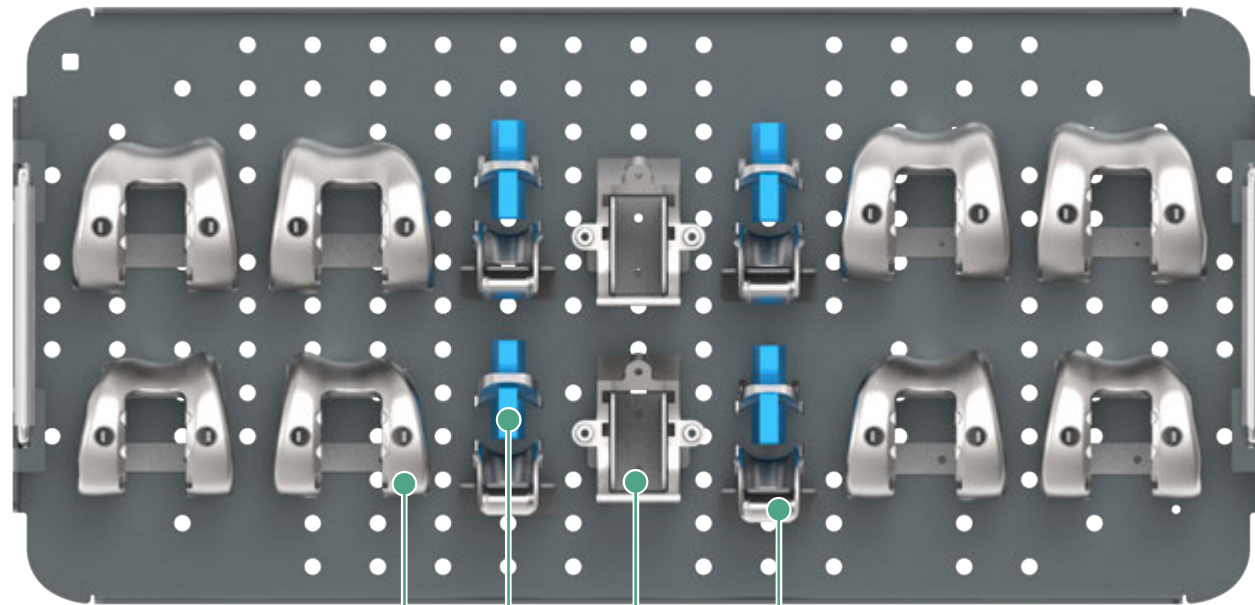
Instrument Tray Guide

U2 Knee Anterior or Posterior Reference Preparation Tray

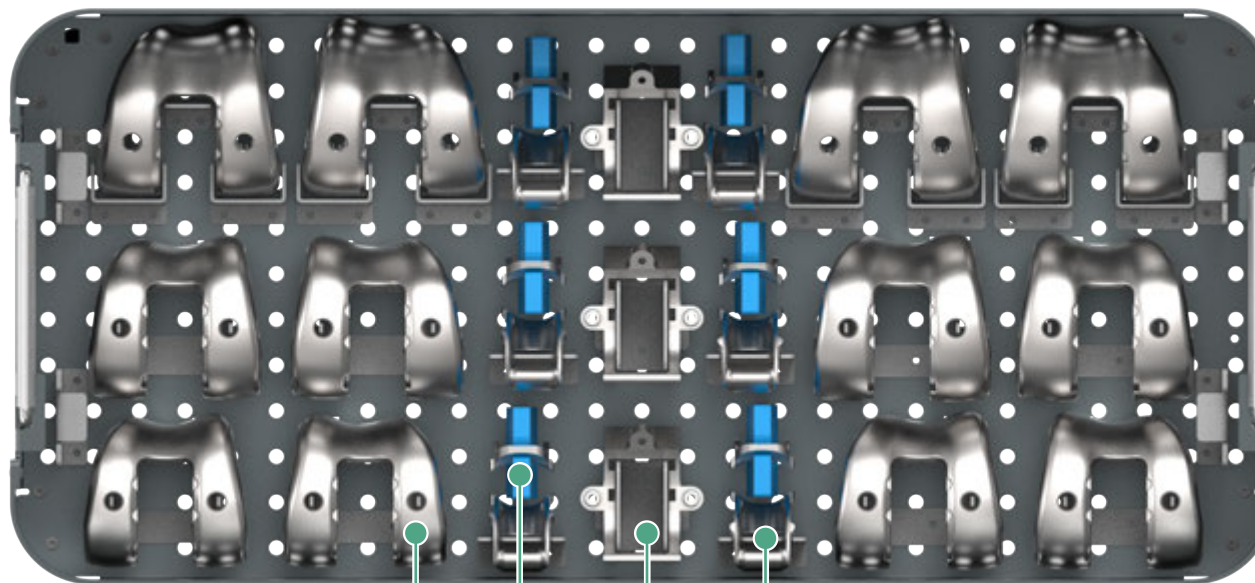


Instrument Tray Guide

U2 Knee Femoral Trial #2~#6.5 Tray



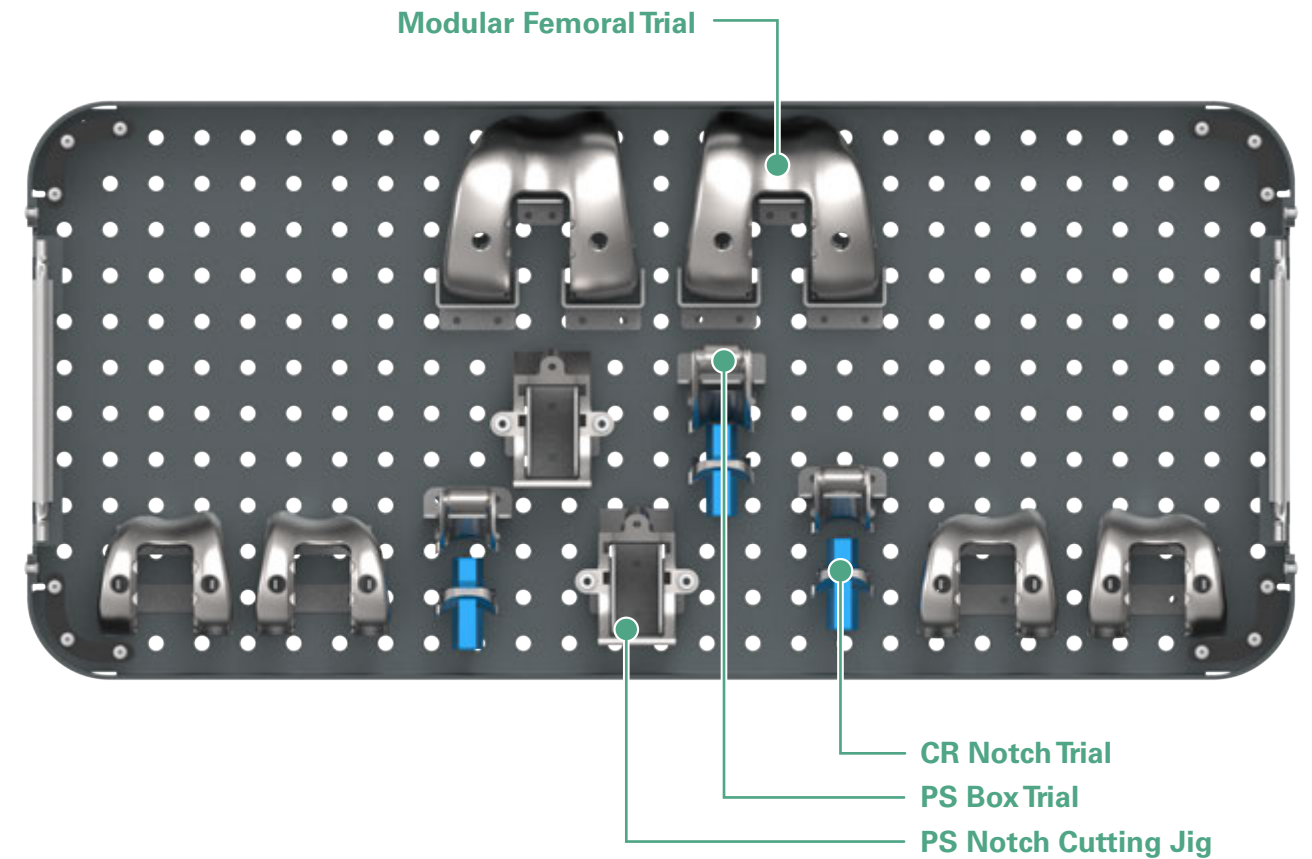
Modular Femoral Trial
 CR Notch Trial
 PS Box Trial
 PS Notch Cutting Jig



Modular Femoral Trial
 CR Notch Trial
 PS Box Trial
 PS Notch Cutting Jig

Instrument Tray Guide

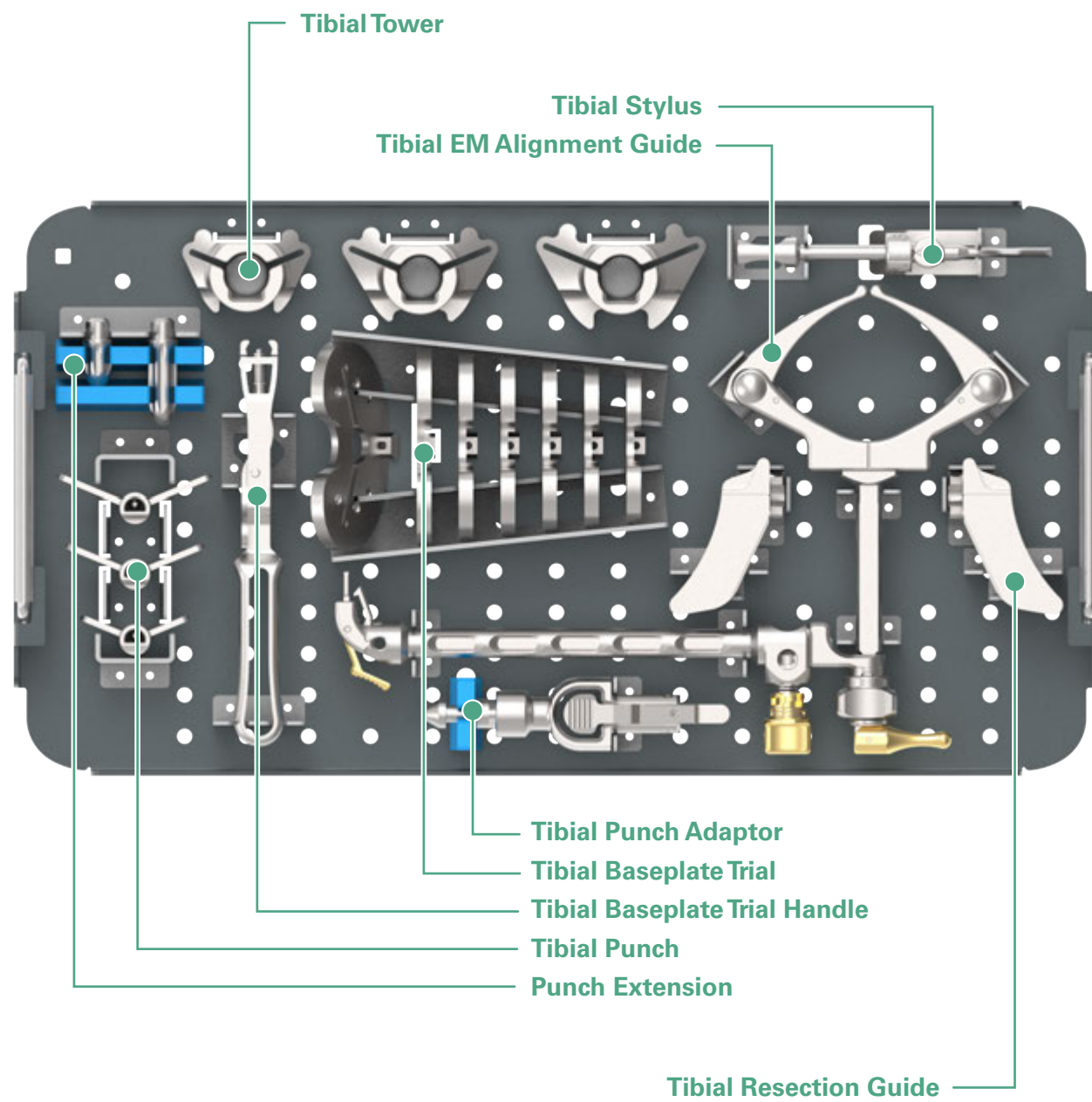
U2 Knee Femoral Trial #1, #1.5 , #7 Tray



Modular Femoral Trial
 CR Notch Trial
 PS Box Trial
 PS Notch Cutting Jig

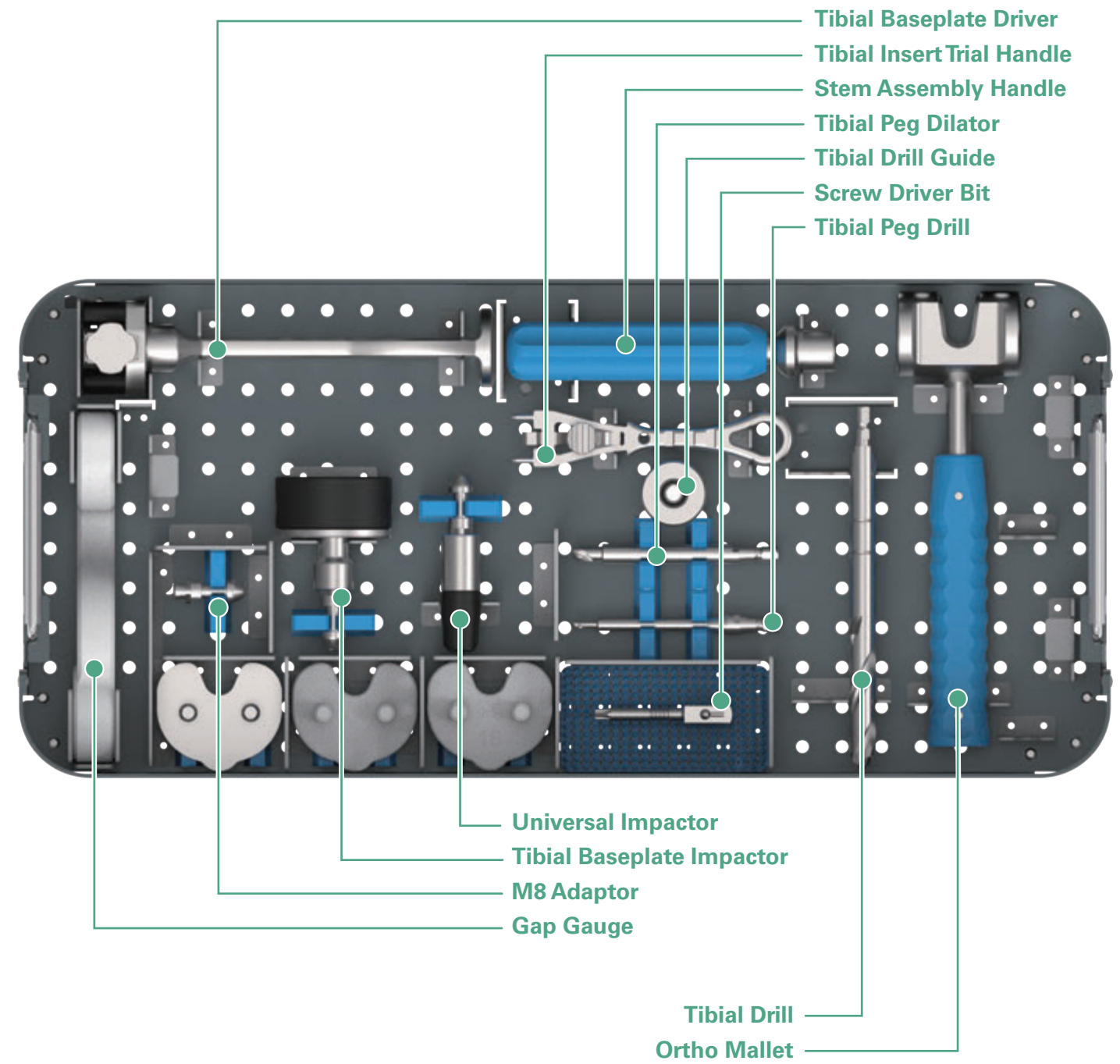
Instrument Tray Guide

U2 Knee NON-CEM Tray



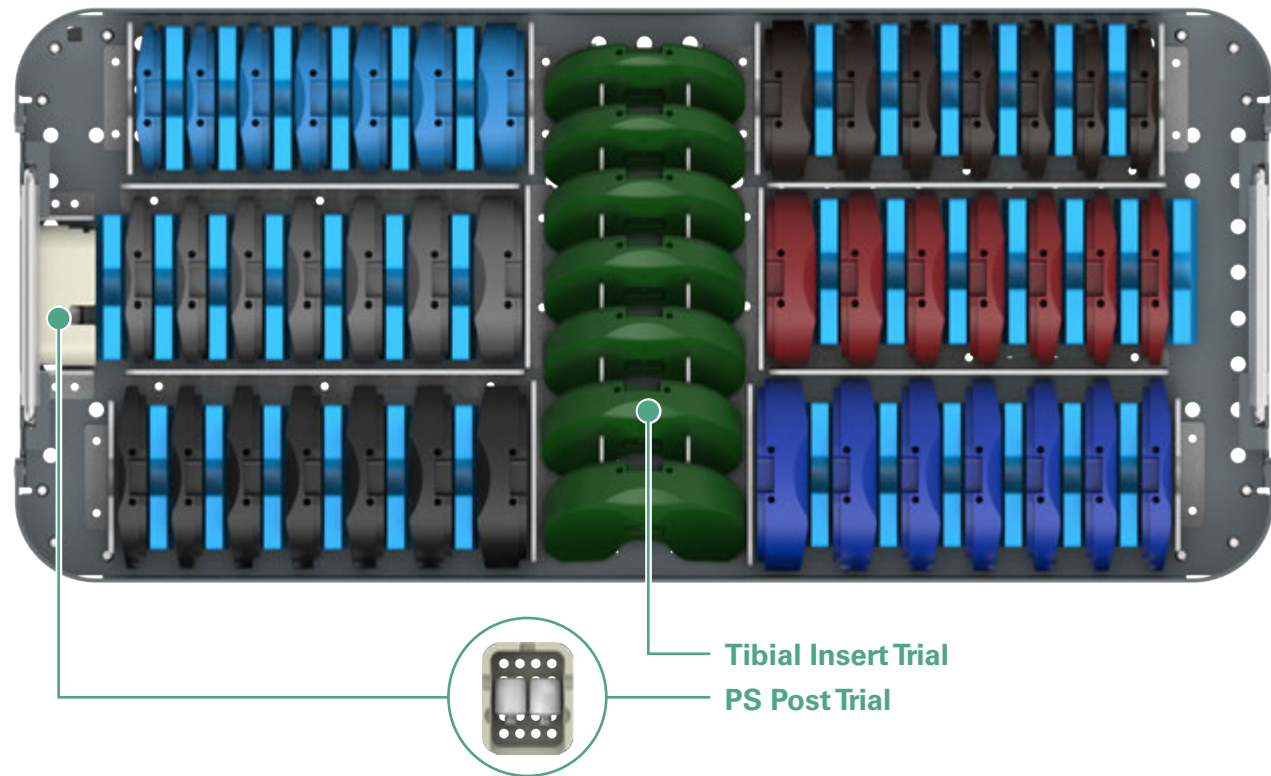
Instrument Tray Guide

U2 Knee NON-CEM Tray

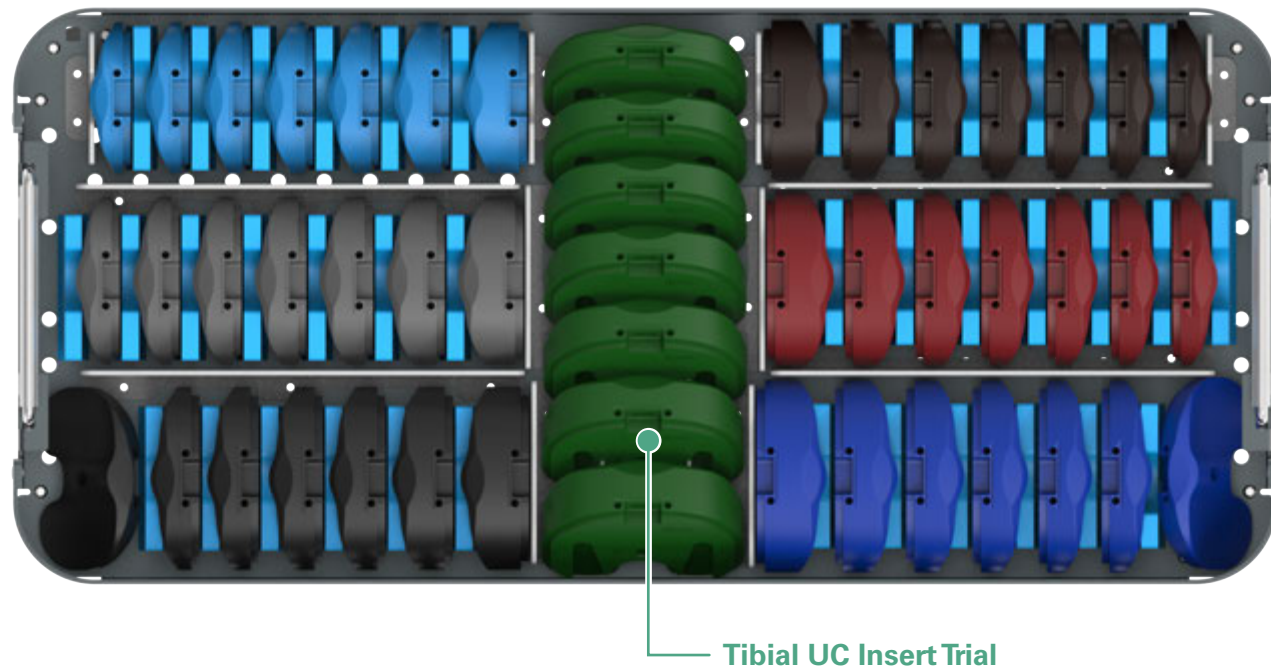


Instrument Tray Guide

U2 Knee Insert Trial Tray

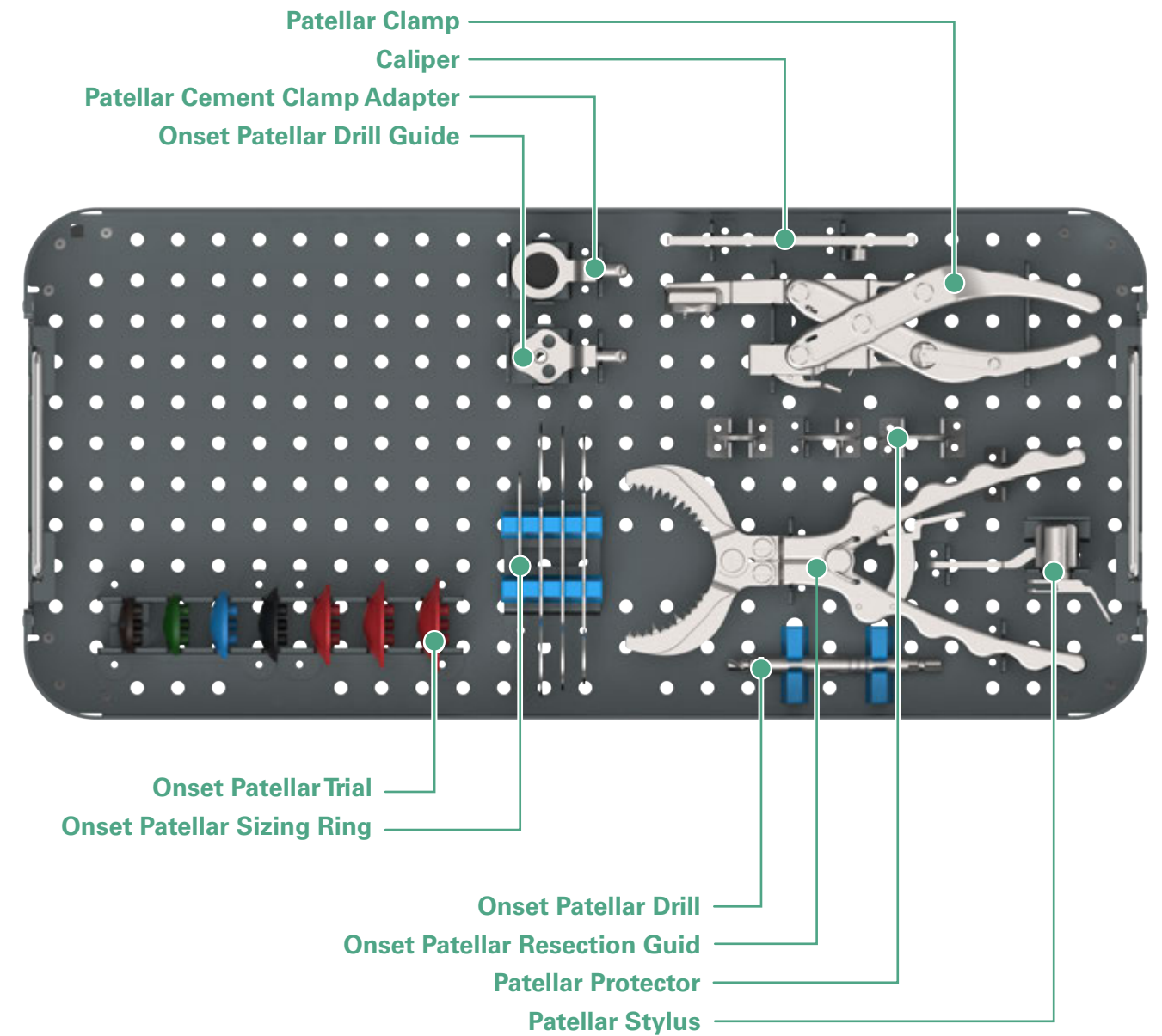


U2 Knee UC Insert Trial Tray



Instrument Tray Guide

Cemented Onset Patella Tray



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