DRAFT

Version 1

stryker®

Orthopaedics

Triathlon TS Knee System

Surgical Protocol

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Surgical Protocol

Acknowledgments

Stryker Orthopaedics wishes to thank the global Triathlon TS Knee System Surgeon Panel for their dedication to the development and refinement of the Triathlon Knee System and instrumentation.

Surgical Procedure

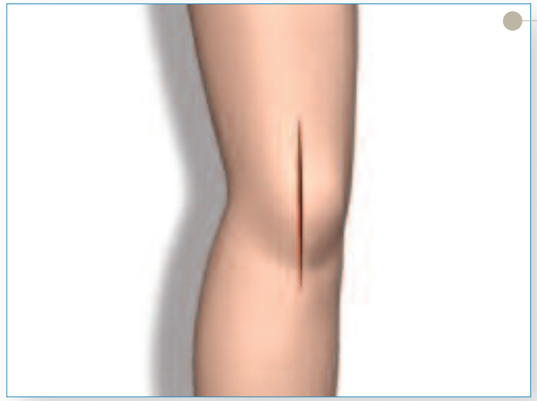


Figure 1

Exposure

- A standard anterior midline incision is utilized. Any previous incision can be used or incorporated to decrease the risk of skin slough.
- The capsule is entered through a medial parapatellar approach.

Component Removal

When removing the components to be revised, great care must be taken to preserve as much of the remaining bone stock as possible and to avoid the risk of fracture of the residual bone. Through the use of small flexible osteotomes, saws, and high-speed burring instruments, bone preservation can usually be achieved.

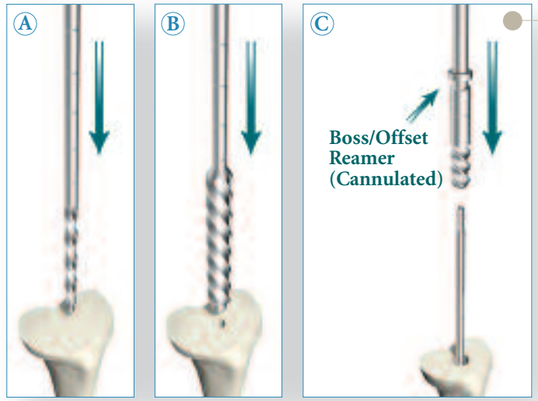


Figure 2

Figure 2D

Tibial Preparation

Tibial Canal Preparation

- Assemble the 8mm Starter Awl to either the T-handle or power unit using the Universal Driver.
- Ream the tibial intramedullary canal. (Figure 2A)
- Ream to the desired depth of stem or to a length of fixation preferred for tibial alignment. Grooves along the shank of the reamer indicate the depth of the reamer in the canal. (Figure 2C)
- Progressively ream, increasing diameter in 1mm increments until cortical chatter is achieved, and leave the final reamer in the tibial intramedullary canal. (Figure 2B)

Technical Points

1) A minimum depth of 125mm, corresponding to the tibial boss and a 100mm Stem, is recommended to achieve tibial intramedullary alignment.
2) Tap the final reamer gently with a mallet to assure that it is firmly seated.
3) A tibial offset can be planned for by reaming an additional 25mm, for a total of 50mm greater than the desired stem length (stem + 25mm boss + 25mm offset).
4) If the reamer diameter is less than 16mm, prepare for the boss or offset of the tibial component by reaming over the top of the IM Reamer shaft with the Boss/Offset Reamer. Ream until the end of the cutting teeth of the Boss/Offset Reamer lines up with the planned resected bone depth.
Figure 2C)

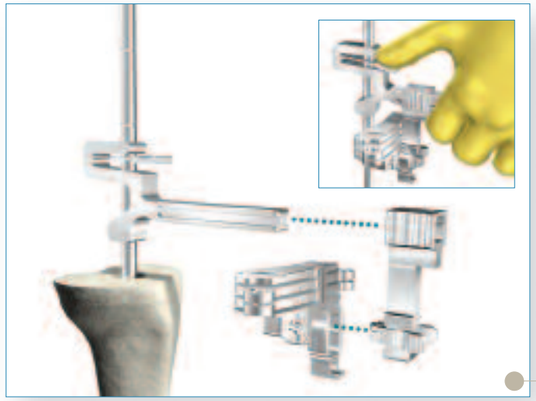


Figure 3

Proximal Tibial Resection Without Offset

- Slide the Resection Guide Tower over top of the IM Reamer by depressing the finger tab as shown (Figure 3 Inset). Assemble the Revision Tibial Resection Guide to the Support Arm. Slide the assembly on to the Resection Guide Tower. Set distal/proximal resection level and rotation by depressing the finger tab on the Resection Guide Tower. Use the Stop Plate or place the blade runner through the cutting slot to determine the resection level. When appropriate resection level and rotational alignment has been determined, pin the Revision Tibial Resection Guide to the proximal tibia. An alignment rod can be used to aid in setting the final component position.

Technical Points

Stop plate is calibrated to give 2mm resection (Figure 2C). Resect the proximal tibia. A 2mm cleanup resection is recommended.

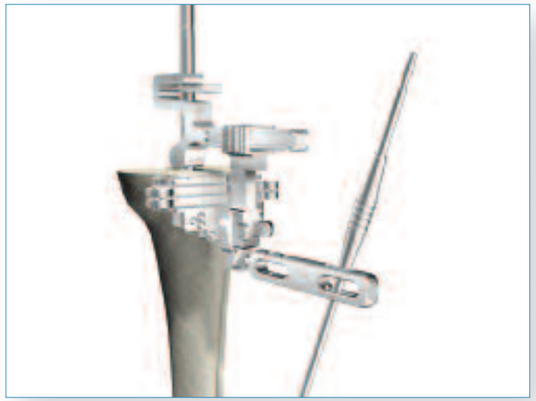


Figure 4

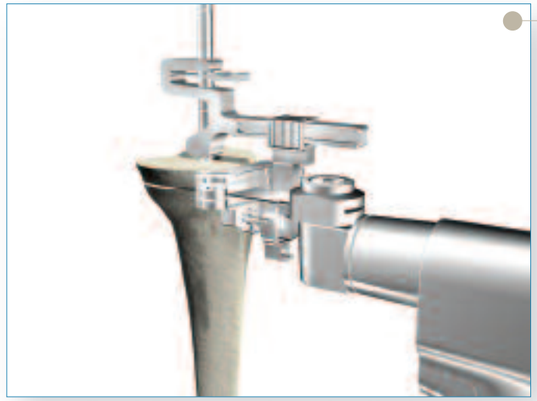


Figure 5

Tibial Augment Preparation Option 1

- 5mm and 10mm tibial augment resections can be made at this point with the Revision Tibial Resection Guide. They can also be made after tibial component position and rotation have been determined using the Universal Tibial Template (see Option 2).
- Using a 15mm oscillating saw blade make a 5mm or 10mm augment resection as appropriate.

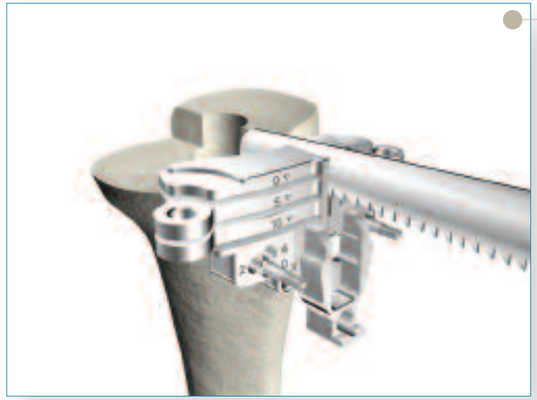


Figure 6

- Using a reciprocating through the Revision Tibial Resection Guide, complete the sagittal augment resection.

Technical Points

- Surgeons who prefer a noncaptured cleanup cut can use the top of the resection guide. The cleanup cut slot and 5mm slot can then be used for 5 and 10mm augment resections, respectively.

Note: The 10mm slot should not be used in this case.

- If desired, the Support Arm, Resection Guide Tower and IM Reamer can be removed before completing the tibial resections. To do so, Depress the tabs on the Support Arm to disengage it from the Revision Tibial Resection Guide. Slide the Support Arm anterior. Depress the tab on the Resection Guide Tower and slide it off the IM Reamer. Use a T-handle to remove the IM Reamer.

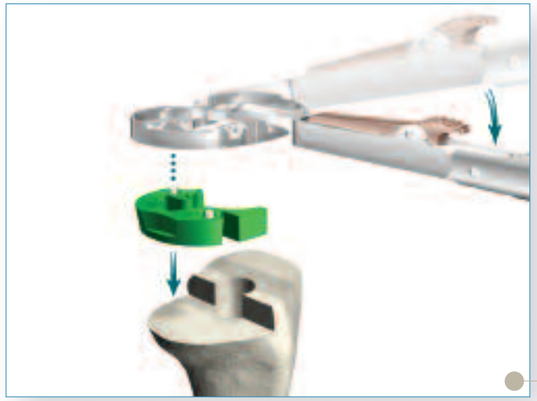


Figure 7

Tibial Component Sizing

Note: If a tibial augmentation cut was made off the initial tibial resection assembly, the appropriate Tibial Augment Trials should then be assembled to the distal surface of the appropriate size Universal Tibial Template prior to determining final tibial component position and rotation.

- Assemble the Tibial Alignment Handle to the Universal Tibial Template and determine the final component position and rotation. An alignment rod can be used to aid in setting the final component position. Using Headed Nails/Headless Pins, pin the tibial template to the proximal tibia.

Headless Pins Shown

Figure 8

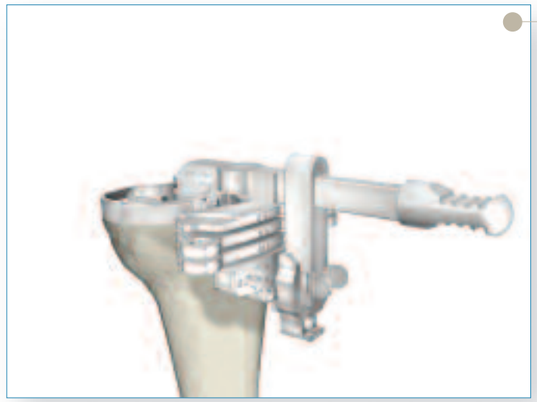


Figure 9

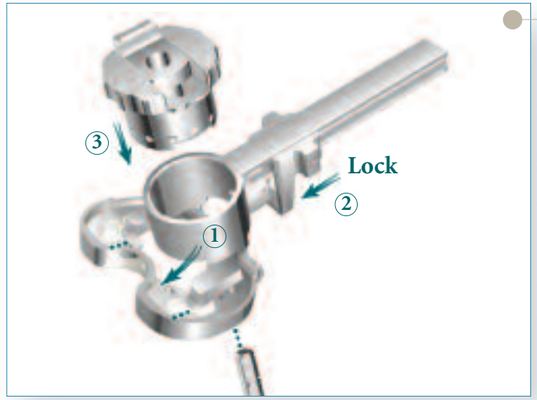


Figure 10

Tibial Augment Prep Option 2

- If tibial augmentation cuts were not made off the initial Tibial Resection Assembly, assemble the Tibial Resection Guide Link to the Universal Tibial Template. Place the assembly on the resected tibial plateau and set the final tibial component position and rotation. An alignment rod can be used to aid in setting the final component position. Using Headed Nails/Headless Pins, pin the Tibial Template to the proximal tibia.
- Assemble the Revision Tibial Resection Guide to the Tibial Resection Guide Link.
- Pin the Revision Tibial Resection Guide to the proximal tibia.
- Remove the Resection Guide Link and Universal Tibial Template.
- Make the appropriate of 5mm or 10mm tibial augment resections. The cleanup cut slot and 5mm slot can then be used for 5 and 10mm augment resections, respectively.

Note: The 10mm slot should not be used in this case.

- Remove the Revision Tibial Resection Guide, Universal Template and Tibial Resection Guide Link from the Tibia.
- Assemble the appropriate Tibial Augment Trials to the distal surface of the Universal Tibial Template.
- Place the assembly on the resected tibial plateau and using the Headed Nails, re-pin the Universal Tibial Template to the proximal tibia.

Proximal Tibial Resection With Offset

- Size the proximal tibia with a Universal Tibial Template. Attach the Tibial Offset Bushing Guide to the appropriate size Universal Tibial Template. Assemble the Tibial Offset Bushing to the Tibial Offset Bushing Guide.
- Slide the entire assembly over the shaft of the IM Reamer.

Note: The Universal Tibial Template will act as a Stop Plate and is calibrated with the Revision Tibial Resection to set a 2mm clean up cut.

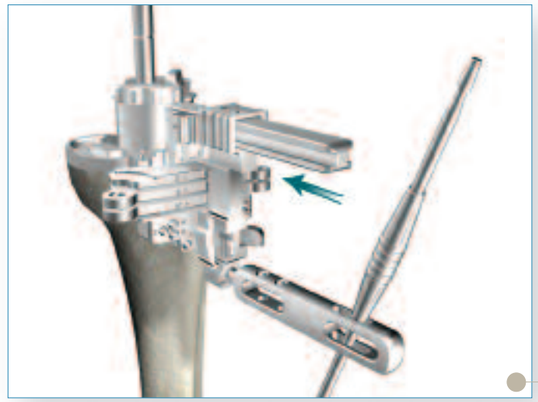
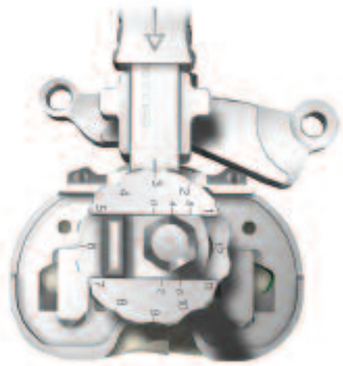


Figure 11

- Assemble the Revision Tibial Resection Guide to the Support Arm. Slide the assembly on to the Tibial Offset Bushing Guide.
- Rotate the knob and translate the slider on the Tibial Offset Bushing until optimal coverage of the proximal tibia is achieved with the Universal Tibial Template.
- Rotational alignment of the Universal Tibial Template should also be determined. An alignment rod can be used to aid in setting the final component position
- Pin the Tibial Resection Guide to the proximal tibia.
- Record the magnitude and position of the tibial Offset from the Tibial Offset Bushing (e.g. 4mm Offset at 3 o'clock).
- The Support Arm, Tibial Offset Bushing Guide, Universal Tibial Template and IM Reamer are removed to complete the Tibial Resection. Depress the tabs on the Support Arm to disengage it from the Revision Tibial Resection Guide. Slide the Support Arm anterior. Slide the Tibial Offset Bushing Guide and Universal Tibial Template off the IM Reamer. Use a T-handle to remove the IM Reamer.



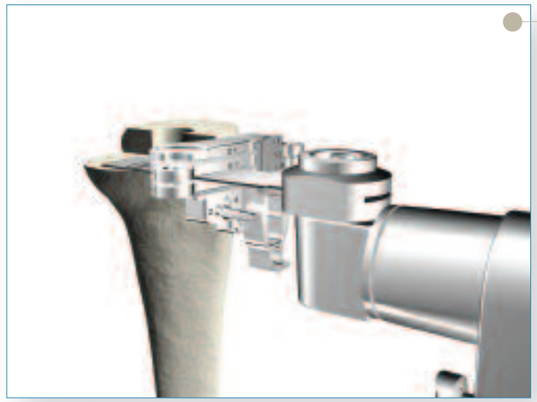


Figure 12

- Resect the proximal tibia. A 2mm cleanup resection is recommended.
- 5mm or 10mm tibial augment resections can also be made at this point.
- Remove the Revision Tibial Resection Guide from the Tibia.
- If prepared for, attach the appropriate Tibial Augment Trials to the distal surface of the Universal Tibial Template.
- Place the assembly on the resected tibia plateau and set the final position of the tibial component. An alignment rod can be used to aid in setting the final component position.
- Using the Headed Nails/Headless Pins, pin the Universal Tibial Template to the proximal tibia.

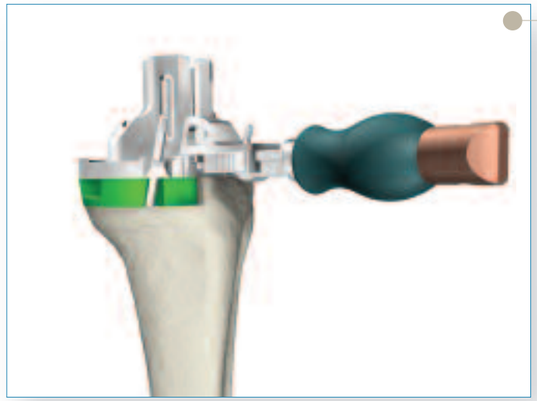


Figure 13

Keel Preparation

- Assemble the Keel Punch Guide to the Universal Tibial Template by inserting, at a slight angle to the top of the Universal Tibial Template, the two locating slots toward the posterior portion of the Universal Tibial Template. Allow the Keel Punch Guide to sit flat on the Universal Tibial Template and push forward on the handle to lock the Keel Punch Guide to the Universal Tibial Template.

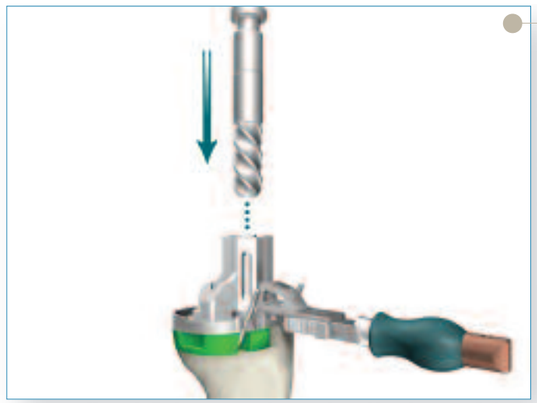


Figure 14

Offset Boss Reaming

If offset preparation is required, an additional reaming step is needed to prepare for the offset tibial boss.

- Attach the Boss Reamer to the Universal Driver. Place the Boss Reamer into the Keel Punch Guide. Ream to the appropriate depth marker indicated by the step on the Reamer shank (Up to the step for Size 1-3 Keel Punch Guide and all the way to the stop for Size 4-8 Keel Punch guide).

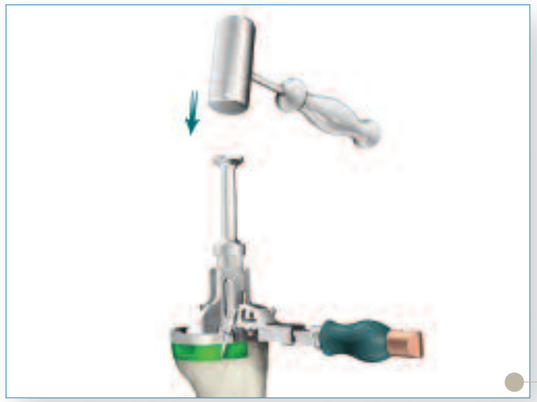


Figure 15

- Place the appropriate Keel Punch into the Keel Punch Guide. Use a mallet to impact the punch. Advance the Keel Punch until it seats fully in the Keel Punch Guide.

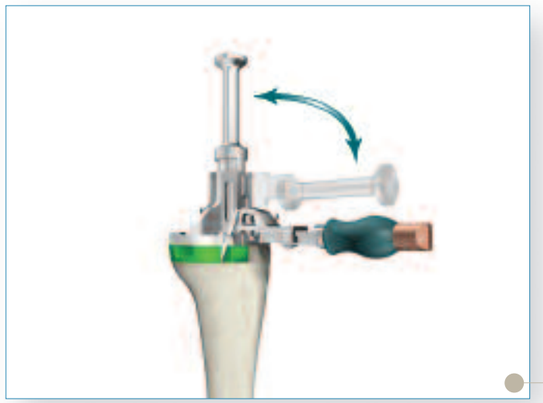


Figure 16

- To extract the Keel Punch, lift up on the Keel Punch Guide handle and pull the handle to cantilever the Keel Punch out of the tibia.

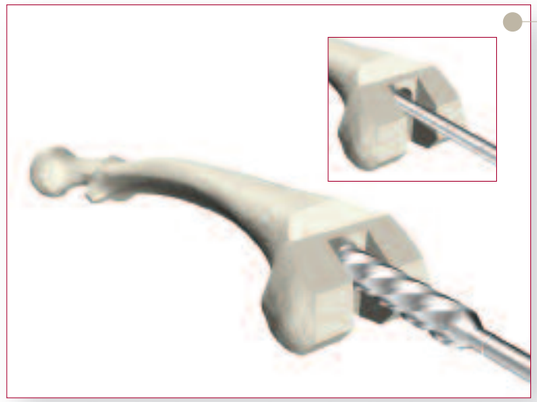


Figure 17

Figure 18

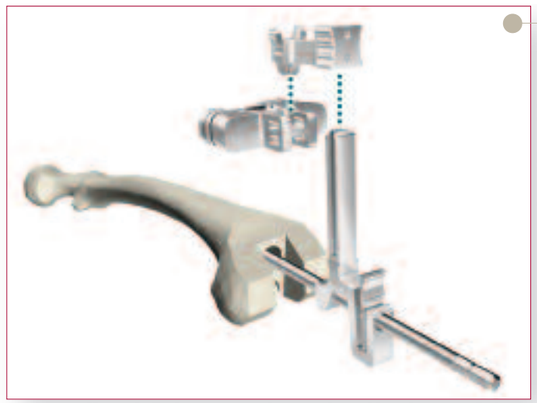


Figure 19

Femoral Preparation

Femoral Canal Preparation

- Assemble the 8mm Starter Awl to either the T-handle or power unit using the Universal Driver.
- Ream the femoral intramedullary canal.
- Ream to the desired depth of stem or length of fixation preferred for femoral alignment. Grooves along the shank of the reamer indicate the depth of the reamer in the canal.
- Progressively ream, increasing diameter in 1mm increments until cortical chatter is achieved, and leave the final reamer in the femoral intramedullary canal.

Technical Points

1) A minimum depth of 150mm, corresponding to the femoral boss and a 100mm Stem, is recommended to achieve femoral intramedullary alignment.

2) Tap the final reamer gently with a mallet to assure that it is firmly seated.

3) A femoral offset can be planned for by reaming an additional 25mm, for a total of 75mm greater than the desired stem length.

4) If the reamer diameter is less than 16mm, prepare for the boss or offset of the femoral component by reaming over the top of the IM Reamer shank with the Boss/Offset Reamer. Ream until the groove on the Boss/Offset Reamer lines up with the planned resected bone depth (Stem + 50mm Boss + 25mm Offset).

Distal Femoral Resection

- Slide the Resection Guide Tower over the top of the IM Reamer by depressing the finger tab. Assemble the Revision Distal Resection Guide to the Support Arm. Slide the assembly on to the Resection Guide Tower. Verify that the Revision Distal Resection Guide reads “Left” for left leg or “Right” for right leg on the side facing away from the femur.

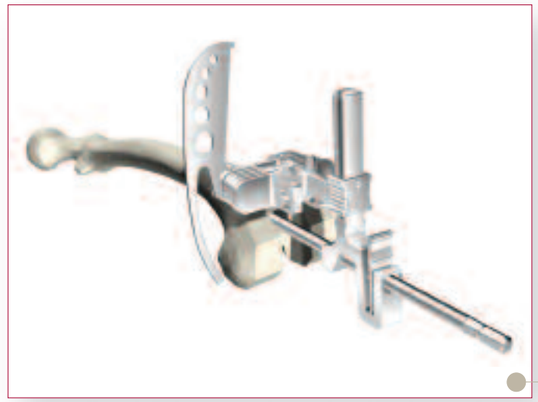


Figure 20A

- Set distal/proximal resection level and orientation by depressing the finger tab on the Resection Guide Tower.

Note: A groove on the Revision Distal Resection Guide marked “ME” can be used in conjunction with the bladerunner to align the Revision Distal Resection Guide with the medial epicondyle in order to recreate the anatomical joint line.

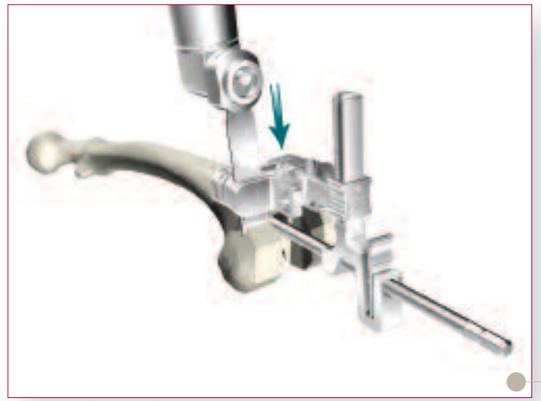


Figure 20B

- Pin the Revision Distal Resection Guide to the distal femur.

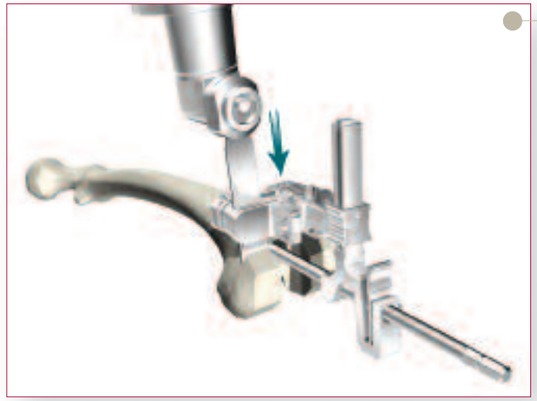
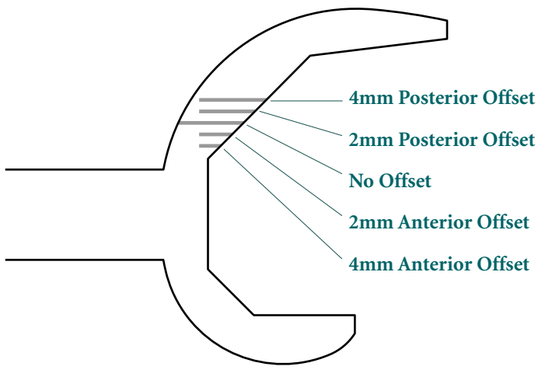


Figure 21

Figure 22



Distal Femoral Deficiency Evaluation and Augment Preparation

- 5mm, 10mm and 15mm distal augment resections can be made at this point with the Revision Distal Resection Guide. Resect the distal femur.

Technical Points

Surgeons who prefer a noncaptured cleanup cut can use the top of the Revision Distal Resection Guide. The cleanup cut slot, 5mm and 10mm slot can then be used for a 5, 10 and 15mm augment resections respectively.

Note: In this scenario do not use the 15mm cutting slot.

- If desired, the Support Arm, Resection Guide Tower and IM Reamer can be removed before completing the femoral resections. To do so, Depress the tabs on the Support Arm to disengage it from the Revision Distal Femoral Resection Guide. Slide the Support Arm anterior. Depress the tab on the Resection Guide Tower and slide it off the IM Reamer. Use a T-handle to remove the IM Reamer.

Femoral Sizing with Templates

- To determine femoral size, match the appropriate Femoral Sizing Templates up to the femur.

Note: Pay careful attention to match the femoral size to the planned restored joint line as opposed to flush with the surfaces of the femur. A long engraved line on the sagittal profile of the femoral sizing templates indicate the boss position of the femoral component, while the shorter engraved lines above and below represent the boss position of the femoral component with 2mm and 4mm anterior and posterior offsets, respectively. In addition, along the handle of each femoral sizing template are two additional tick marks, which represent the M/L width of the corresponding size femoral component.

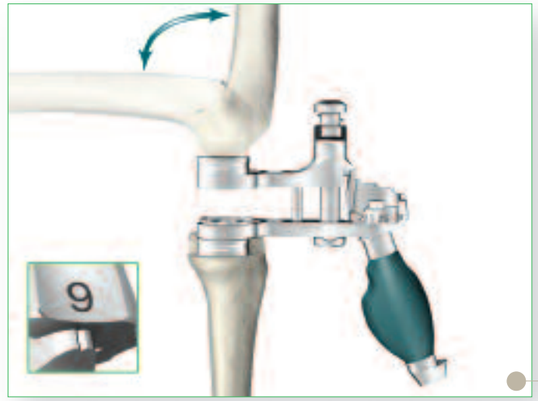


Figure 23

Gap Balancing

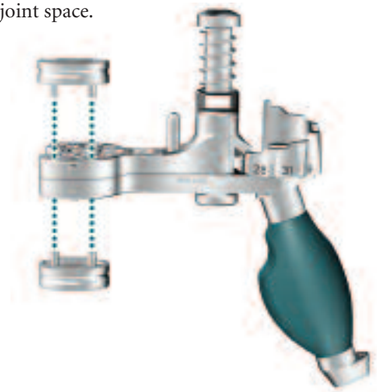
Flexion and Extension Gap Balancing

- Remove the intramedullary reamer from the femoral canal.

Extension Gap

- Put the knee into Extension (0 degree). If distal femoral and/or tibial augmentation has been prepared for, assemble the appropriate thickness of Spacer Block Augments to the appropriate sides of the upper and/or lower paddle of the Adjustable Spacer Block.

- The numbers on the thumbwheel correspond to the implant insert thickness. Lift the Upper Paddle Grip to free the adjustment wheel. Align the notch with the appropriate thickness (See Inset) and assess the gap space until the appropriate insert thickness is established. Read the measurement off of the knob to determine the tibial insert thickness. Remove the adjustable spacer block from the joint space.



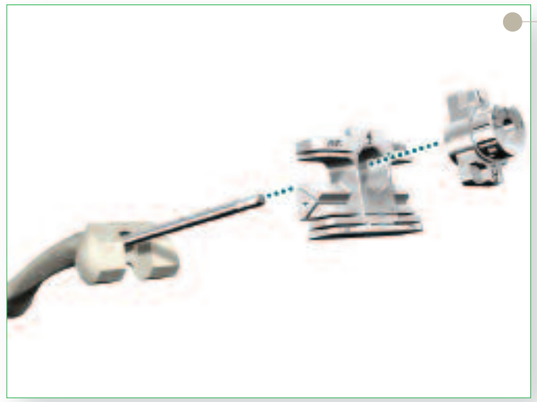


Figure 24

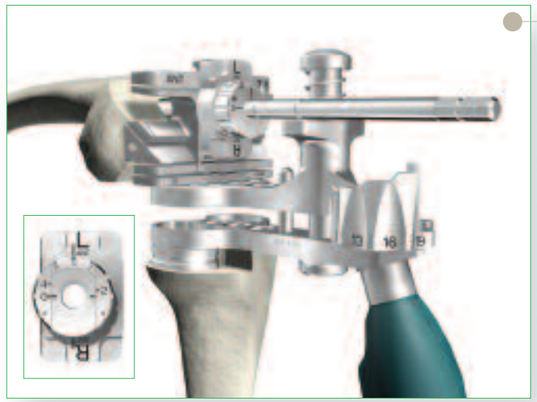


Figure 25

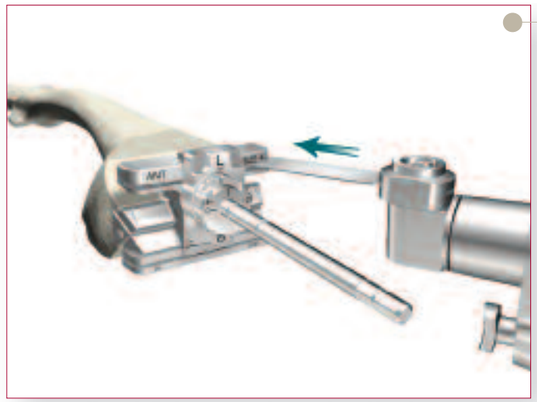


Figure 26

Femoral Resections/Offsetting/Flexion Gap Balancing

- If distal augments are required, assemble Distal Spacers to the distal surface of the appropriate size All-in-One Resection Guide corresponding to distal augmentation resections (5, 10, 15mm).
- Assemble the Femoral Offset Bushing to the appropriate size All-in-One Resection Guide, paying careful attention to clock in such that it reads either "Left" or "Right" depending on which is appropriate.
- Slide the All-in-One cutting Guide and Femoral Offset Bushing over the shank of the IM Reamer.
- Put the knee into Flexion (90 degrees). If tibial augmentation has been prepared for, assemble the appropriate thickness Spacer Block Augment to lower paddle of the Adjustable Spacer Block. Set the Adjustable Spacer Block to match the measured extension gap. Place the Adjustable Spacer Block between the resected proximal tibia and the posterior surface of the All-in-One Resection Guide.
- Use the upper paddle of the Adjustable Spacer Block as reference for the restored flexion joint line. Rotate the knob and slide the slider or adjust the Femoral Offset Bushing and the internal/external rotation of the All-in-One cutting block until the posterior surface of the All-in-One cutting block is flush with the upper paddle of the Adjustable Spacer Block.

Note: Markings on the All-in-One Resection Guides correspond to the M/L width of the femoral components.

- Once the position of the All-in-One Resection Guide is optimized, pin it to the distal femur.
- Record the magnitude and position of the femoral offset from the Femoral Offset Bushing (e.g. 2mm Offset at 12 o'clock).
- Remove the Adjustable Spacer Block from the joint space.
- Complete the four femoral resections as well as posterior augment resections using a 15mm oscillation saw blade.

Note: Posterior clean up cut is made using the outer most posterior surface of the All-in-One Resection Guide. 5mm and 10mm posterior femoral augment resection can be made at this point using a 15mm oscillating sawblade.

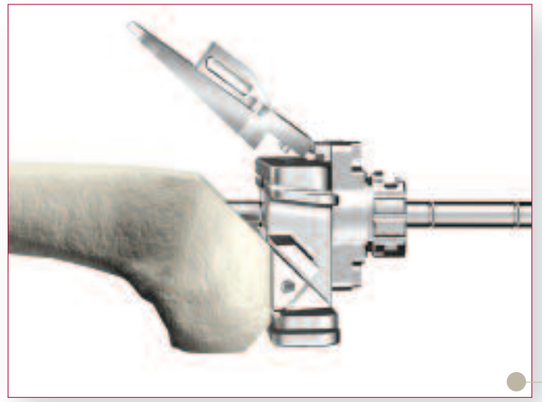


Figure 27A

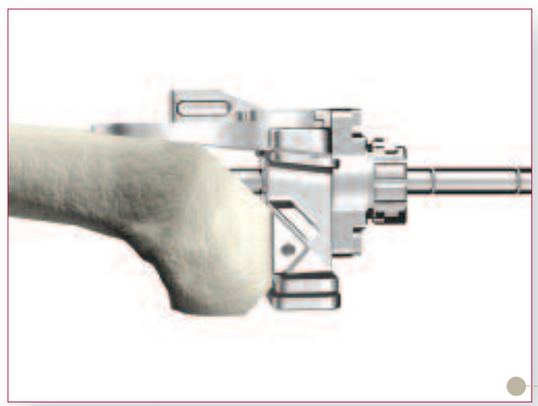


Figure 27B

- Assemble the Revision Box Preparation Guide to the anterior of the All-in-One Resection Guide.

Tip: For added stability make the anterior resection first. Then assemble the Revision Box Preparation Guide to the All-in-One Resection Guide. Pin the Revision Box Preparation Guide to the bone and complete the femoral resections.

- Dr. Hitt

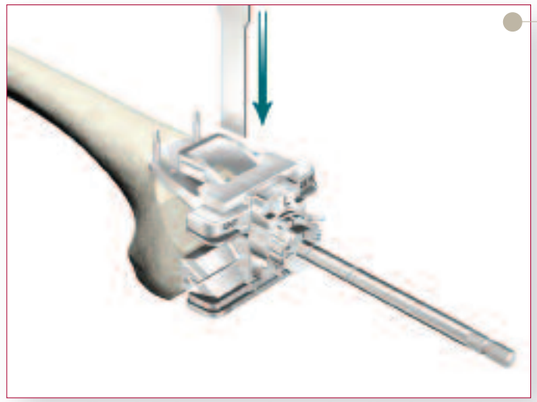


Figure 28

- Pin the Revision Box Preparation Guide to the bone.
- Using a 15mm oscillating saw blade, resect for the M/L walls and score the distal wall of the femoral box through the Revision Box Preparation Guide (Anterior/ Posterior).
- Remove the Femoral Offset Bushing from the All in One Resection Guide and slide it off the shaft of the IM Reamer.

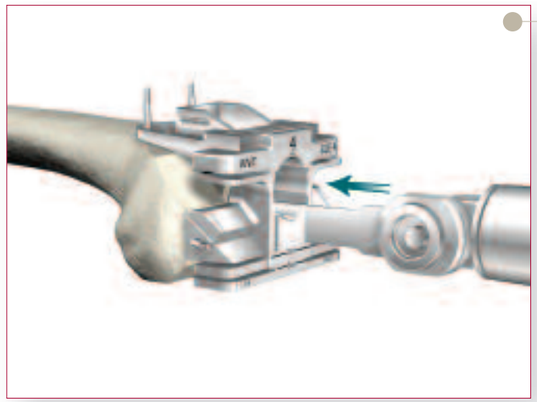


Figure 29

- Using a 15mm oscillating saw, score the M/L walls of the femoral box preparation thru the distal face of the All-in-One Resection Guide.
- Using a T-handle remove the IM Reamer by pulling it thru the All-in-One Resection Guide.

Note: If the IM Reamer does not fit through the All-in-One Resection Guide, disassemble the All-in-One Resection Guide first. With the Revision Box Preparation Guide still pinned in place, remove the fixation pins from the All-in-One Resection Guide. Next remove the All-in-One Resection Guide by pulling/tilting the posterior end away from the distal femur.

- Once the All-in-One Resection Guide is out of the way, remove the IM Reamer and finish the box preparation using an oscillating saw.
- Finish the femoral box preparation.

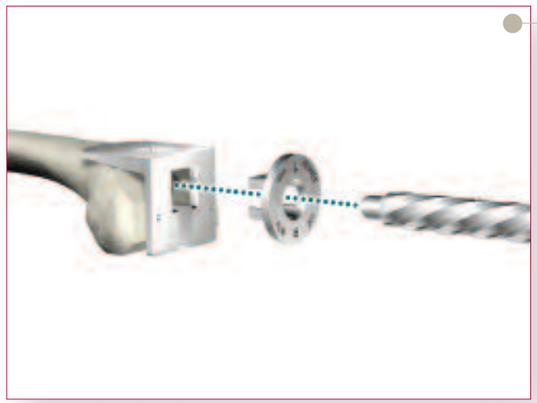


Figure 30

Offset Femoral Boss Preparation

- Remove the All-in-One Resection Guide assembly from the femur.
- Insert the Femoral Boss Reamer Bushing into Femoral Boss Preparation Guide, paying careful attention to clock it such that it reads either “Left” or “Right” depending on which is appropriate.
- Place the assembly on to the distal femur and pin the anterior flange to the femur.

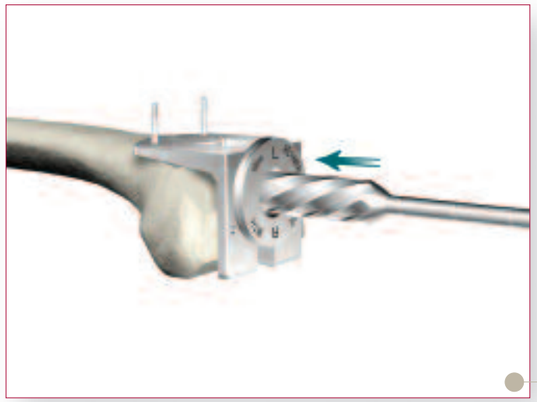


Figure 31

- Attach the 19mm IM Reamer to the Universal Driver.
- Place the 19mm IM Reamer into the Femoral Boss Reamer Bushing. Ream until the groove in the cutting teeth of the 19mm IM Reamer lines up with the face of the Femoral Boss Reamer Bushing.
- Remove the fixation pins and disassemble the Femoral Boss Preparation Guide from the femur.

Figure 32

Tibial Trial Assembly

- **Without offset:** Assemble all Tibial Augment Trials to the appropriate size Tibial Baseplate Trial. Thread the appropriate size Stem Trial into the Tibial Baseplate Trial.
- **With offset:** Thread the appropriate size Stem Trial into the appropriate Offset Adapter Trial.

Figure 33

- Time the rotation of the Offset Adapter Trial to the position recorded from the Tibial Offset Bushing. Align the scribe line on the Offset Adapter Trial to the scribe line on the Tibial Baseplate boss and snap the Offset Adapter Trial into the Tibial Baseplate Trial.
- To disassemble the offset adapter trial insert the key on the Universal Counter Wrench into the slot in the Tibial Baseplate Trial Boss.
- Assemble the tibial trial construct to the Baseplate Impactor/Extractor and impact onto the Tibia.
- Assemble the appropriate size Tibial Insert Trial into the Tibial Baseplate Trial.

Figure 34

Femoral Trial Assembly

- Assemble all Distal Femoral Augment Trials prepared for to the appropriate size femoral trial. Thread the appropriate size Stem Trial into the Femoral Trial.

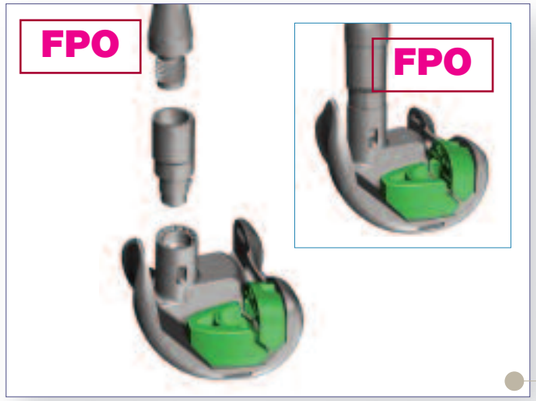


Figure 35

- If an offset was prepared for, Thread the appropriate size Stem Trial into the appropriate size Offset Adapter Trial.
- Time the rotation of the Offset Trial to the position recorded from the Femoral Offset Bushing. Align the tick mark on the Offset Adapter Trial to the tick mark on the femoral boss and snap the Offset Adapter Trial into the Femoral Trial.
- To disassemble the offset adapter trial insert the key on the Universal Counter Wrench into the slot in the Tibial Baseplate Trial Boss.

Figure 36

- Assemble the femoral trial construct to the Femoral Impactor/Extractor and impact onto the femur.
- Perform the trial reduction.

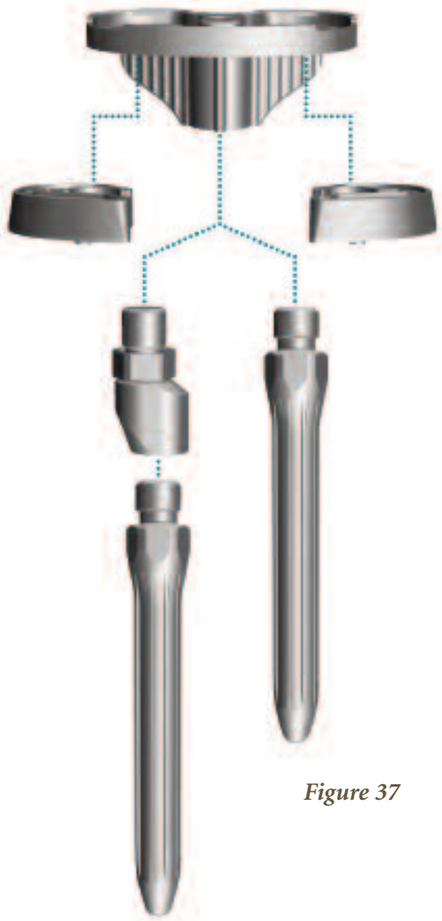


Figure 37

Tibial Implant Assembly

Figure 38

Tibia with Offset and Stem

- Ensure jam nut is up against the Offset Adapter.
- Thread Offset Adapter into Baseplate until the jam nut bottoms out on the Tibial Baseplate Boss.
- Time the rotation of the Offset Adapter to the position recorded from the Tibial Offset Bushing by backing off the Offset Adapter and aligning the scribe line on the Offset Adapter to the scribe line corresponding clockface mark on the Tibial Baseplate boss.
- Holding Offset Adapter in place, turn the jam nut COUNTER CLOCKWISE and tighten it against the Tibial Baseplate boss.

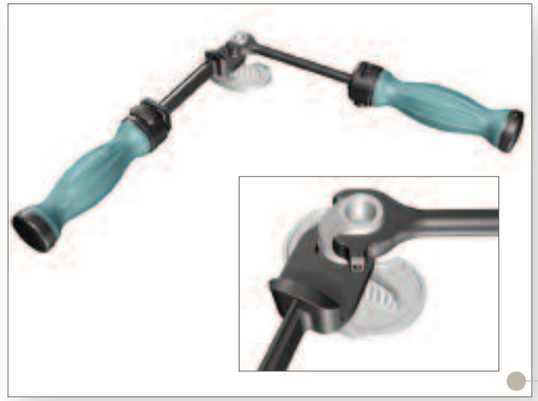


Figure 39

- Holding Torque Wrench in LEFT HAND, place open face end of wrench on the flats of the jam nut.
- Next, holding the Counter Wrench in your RIGHT HAND, place the open face end of the wrench on the flats on the Offset Adapter.
- Tighten by pulling the wrenches TOGETHER. Torque to 120 in-lbs as indicated on the Torque Wrench.

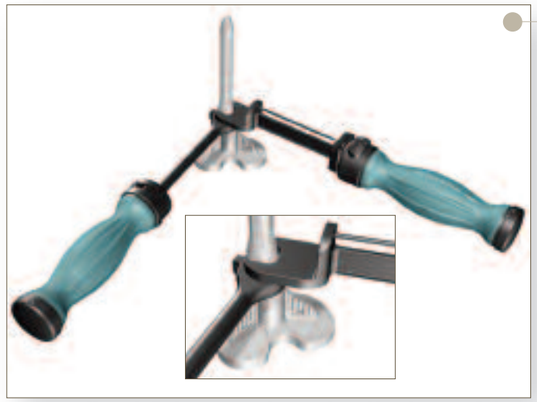


Figure 40

- Thread the appropriate size stem into Offset Adapter.
- Now, holding Torque Wrench in your RIGHT HAND, place the open face end of the wrench on the flats of the stem.
- Hold the Counter Wrench in your LEFT HAND and place the open face end of the wrench on the flats of the Offset Adapter.
- Tighten by pulling the wrenches TOGETHER. Torque Stem to 120 in-lbs as indicated on the Torque Wrench.

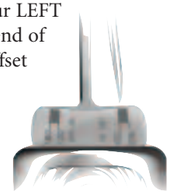


Figure 41

Tibial Baseplate with Stem No Offset

- Using the Universal Counter Wrench with the BASEPLATE side up, hold the Baseplate in place.
- Thread the appropriate size stem into the Tibial Baseplate Boss.
- Place the open face end of the Torque Wrench on the flats of the stem.
- Tighten by pulling the wrenches TOGETHER. Torque Stem to 120 in-lbs as indicated on the Torque Wrench.

Figure 42

Tibial Augmentation

- Snap the 1/8" U Joint Hex Drive into the Slip Torque Handle.
- Place the Tibial Augment on the distal side of the Universal Baseplate. Verify both pins of the Tibial Augment are engaged into the slots on the underside of the Universal Baseplate and that the Tibial Augment is seated flush. Using the 1/8" UJoint Hex Drive, torque the helical bolt captured within the tibial augment until the torque driver slips, at which time you will hear an audible click. Verify that the helical bolt is engaged with the slot cut into the keel the Universal Baseplate. Repeat on a second augment if required on the other side.

Femoral Implant Assembly

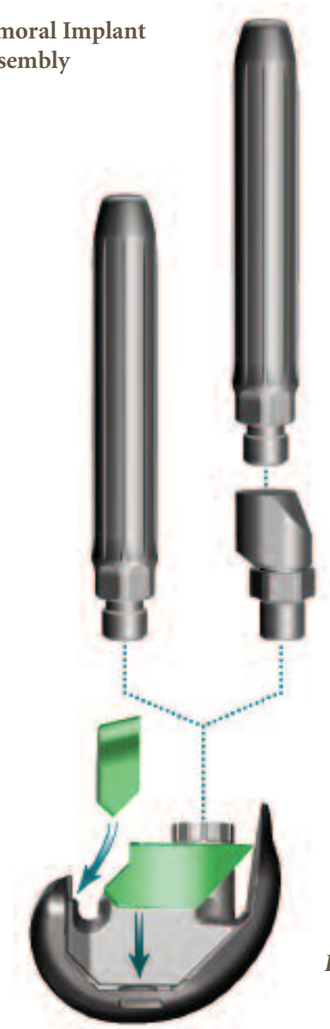


Figure 43

Figure 44

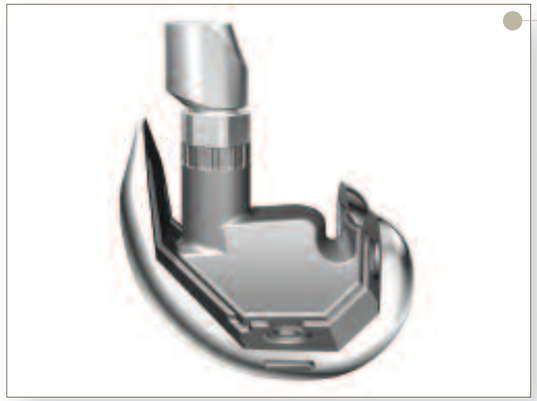


Figure 45

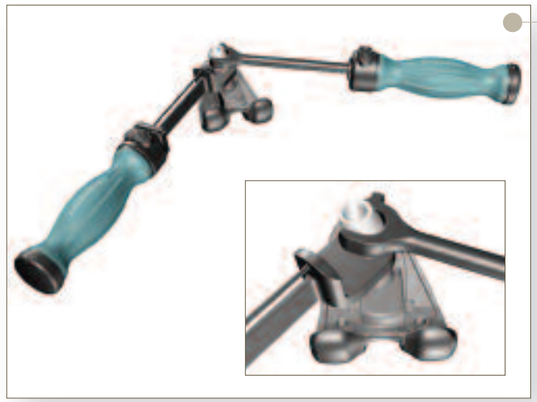


Figure 46

Femoral Implant Assembly

Femoral Augments

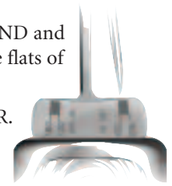
- Snap the 1/8" Universal Hex Driver into the Slip Torque Handle.
- Place the Femoral Augment on the appropriate (distal or posterior) surface of the Femoral Component.
- Assemble the Augment Screw through the Femoral Augment into the threaded hole in the Femoral Component.
- Torque the Augment Screw until the torque driver slips at which time you will hear an audible click. Repeat this sequence on all required femoral augments.

Femur with Offset Adapter

- Ensure jam nut is up against the offset Adapter.
- Thread Offset Adapter into Femoral Component until the jam nut bottoms out on the femoral boss.
- Time the rotation of the Offset Adapter to the position recorded from the Femoral Offset Bushing by backing off Offset Adapter and aligning the tick mark on Offset Adapter to the tick mark on the femoral boss.
- Holding Offset Adapter in place, turn the jam nut COUNTER CLOCKWISE and tighten it against the femoral boss.
- Holding Torque Wrench in LEFT HAND, place open face end of wrench onto the flats of the jam nut.
- Next, holding the Counter Wrench in your RIGHT HAND, place the open face end of the wrench on the flats on the Offset Adapter.
- Tighten by pulling the wrenches TOGETHER. Torque to 120 in-lbs as indicated on the Torque Wrench.

Figure 47

- Thread the appropriate size stem into Offset Adapter.
- Now, holding the Torque Wrench in your RIGHT HAND, place the open face end of the wrench onto the flats of the stem.
- Hold the Counter Wrench in your LEFT HAND and place the open face end of the wrench on the flats of the Offset Adapter.
- Tighten by pulling the wrenches TOGETHER. Torque Stem to 120 in-lbs as indicated on the Torque Wrench.



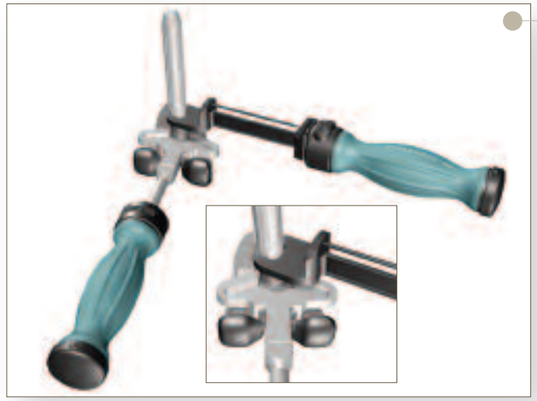
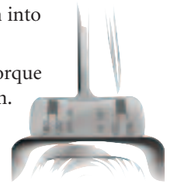


Figure 48

Femur with Stem: NO Offset

- Using the Universal Counter Wrench with the FEMUR side up, hold the Femoral component in place.
- Thread the appropriate size stem into the femoral component.
- Place the open face end of the Torque Wrench onto the flats of the stem.
- Tighten by pulling the wrenches TOGETHER. Torque Stem to 120 in-lbs as indicated on the Torque Wrench.



Component Implantation

If needed, further prepare resected bone surfaces using an osteotome, oscillating saw, or bone file.

Tibial Implant Implantation

- Attach the Tibial Impactor/Extractor to the Impaction Handle. Assemble the Tibial Implant Assembly to the Tibial Impactor/Extractor. Apply cement to the appropriate sections of the Tibial Implant Assembly and the proximal tibia. Impact the Tibial Implant Assembly onto the tibia until fully seated and remove all excess cement.

Femoral Implant Implantation

- Attach the Femoral Impactor/Extractor to the Impaction Handle. Assemble the Femoral Implant Assembly to the Femoral Impactor/Extractor. Apply cement to the appropriate sections of the Femoral Implant Assembly and the cut surfaces of the femur. Impact the Femoral Implant Assembly onto the femur until fully seated and remove all excess cement.

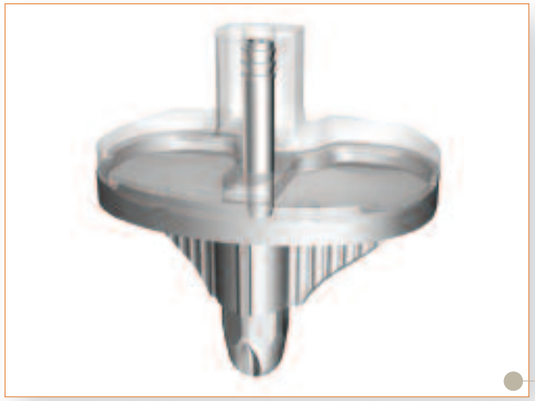


Figure 49

Tibial Insert

Prior to applying the TS Tibial Insert, the Tibial Insert Trial may be placed on the Universal Baseplate to once more assess joint stability and range of motion.

- Attach the Tibial Insert Impactor to the Impaction Handle. Ensure that the Universal Baseplate is completely free of debris. Angle the TS Tibial Insert posteriorly into the Universal Baseplate. Impact the insert to snap it into place anteriorly.

Stabilizer Pin

- Place the Insert Stabilizer Pin into Tibial Insert post "barbed" end up. Using the Stabilizer Post Impactor tap the Insert Stabilizer Pin down until it is below the proximal surface of the Tibial Insert post.

Note: The Insert Stabilizer Pin is packaged with the Tibial Insert.

Closure

- After cement polymerization and removal of all residual cement, thoroughly irrigate the joint. Hemostasis is achieved after deflation of the tourniquet. Close soft tissues in the normal, layered fashion.

Catalog #	Description	Quantity in Kit
Miscellaneous Upper Tray Kit Contents		
6541-4-810	Impaction Handle	2
6541-4-825	Slip Torque Handle	1
6543-7-601	Resection Guide Tower	1
6541-4-807	Femoral Impactor Extractor	1
6541-4-811	Femoral Impactor	1
6541-4-812	Tibial Baseplate Impactor	1
6541-4-813	Tibial Insert Impactor	1
6541-4-805	Tibial Baseplate Impactor Extractor	1
6543-4-516	Stem Extender Shaft	1
6541-4-806	Universal Alignment Handle	1
6543-7-600	Support Arm Assembly	1
6541-4-516	5/16" IM Rod	1
6541-4-602	Universal Alignment Rod	1
6543-4-802	1/8" Universal Hex Driver	1
6543-8-004	Miscellaneous Upper Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**17**

Catalog #	Description	Quantity in Kit
Miscellaneous Lower Tray Kit Contents		
6543-4-803	Offset Counter Wrench	1
6543-4-801	Universal Counter Wrench	1
6541-4-400	Bladerunner	1
6543-7-602	Stop Plate	1
6543-4-605	Adjustable Spacer Block Augment - 5mm	4
6543-4-610	Adjustable Spacer Block Augment - 10mm	4
6543-4-615	Adjustable Spacer Block Augment - 15mm	2
6541-4-610	Adjustable Spacer Block	1
6541-4-804	Headless Pin Extractor	1
6541-4-300	Headed Nail Impactor Extractor	1
6541-4-803	Slap Hammer	1
6541-4-515	Headed Nails - 1 1/2"	2
6541-4-575	Headed Nails - 3/4"	2
6543-8-104	Miscellaneous Lower Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**24**

Catalog #	Description	Quantity in Kit
3 - 6 Tibial Prep Upper Tray Kit Contents		
6543-2-600	Tibial Offset Bushing	1
6543-2-601	Tibial Offset Bushing Guide	1
6543-6-700	Revision Tibial Resection Guide L - Slotted	1
6543-6-701	Revision Tibial Resection Guide R - Slotted	1
6541-2-013	Size 1-3 Keel Punch	1
6541-2-046	Size 4-6 Keel Punch	1
6541-2-603	#3 Universal Tibial Template	1
6541-2-604	#4 Universal Tibial Template	1
6541-2-605	#5 Universal Tibial Template	1
6541-2-606	#6 Universal Tibial Template	1
6541-2-713	Size 1-3 Keel Punch Guide	1
6541-2-748	Size 4-8 Keel Punch Guide	1
6541-2-807	Tibial Alignment Handle	1
6543-2-703	Tibial Resection Guide Link	1
6543-8-002	3 - 6 Tibial Prep Upper Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**16**

Catalog #	Description	Quantity in Kit
3 - 6 Tibial Prep Lower Tray Kit Contents		
5521-T-300	TS Baseplate Trials #3	1
5521-T-400	TS Baseplate Trials #4	1
5521-T-500	TS Baseplate Trials #5	1
5521-T-600	TS Baseplate Trials #6	1
5545-T-301	Tibial Augment Trial #3 LM/RL - 5mm	1
5545-T-302	Tibial Augment Trial #3 RM/LL - 5mm	1
5545-T-401	Tibial Augment Trial #4 LM/RL - 5mm	1
5545-T-402	Tibial Augment Trial #4 RM/LL - 5mm	1
5545-T-501	Tibial Augment Trial #5 LM/RL - 5mm	1
5545-T-502	Tibial Augment Trial #5 RM/LL - 5mm	1
5545-T-601	Tibial Augment Trial #6 LM/RL - 5mm	1
5545-T-602	Tibial Augment Trial #6 RM/LL - 5mm	1
5546-T-301	Tibial Augment Trial #3 LM/RL - 10mm	1
5546-T-302	Tibial Augment Trial #3 RM/LL - 10mm	1
5546-T-401	Tibial Augment Trial #4 LM/RL - 10mm	1
5546-T-402	Tibial Augment Trial #4 RM/LL - 10mm	1
5546-T-501	Tibial Augment Trial #5 LM/RL - 10mm	1
5546-T-502	Tibial Augment Trial #5 RM/LL - 10mm	1
5546-T-601	Tibial Augment Trial #6 LM/RL - 10mm	1
5546-T-602	Tibial Augment Trial #6 RM/LL - 10mm	1
5570-T-020	Triathlon Offset Adaptor Trial - 2mm	1
5570-T-040	Triathlon Offset Adaptor Trial - 4mm	1
5570-T-060	Triathlon Offset Adaptor Trial - 6mm	1
5570-T-080	Triathlon Offset Adaptor Trial - 8mm	1
6543-8-102	3 - 6 Tibial Prep Lower Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**26**

Catalog #	Description	Quantity in Kit
5560-T-112	12mm x 50mm Stem Trial	2
6543-8-001	9 - 21mm Reamer Upper Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**18**

9 - 21mm Reamer Lower Tray Kit Contents

6543-7-516	IM Reamer - 16mm	1
6543-7-517	IM Reamer - 17mm	1
6543-7-518	IM Reamer - 18mm	1
6543-7-519	IM Reamer - 19mm	1
6543-7-520	IM Reamer - 20mm	1
6543-7-521	IM Reamer - 21mm	1
5560-T-115	Cemented Stem Trial - 15mm X 50mm	2
5571-T-025	Triathlon Stem Extender Trial - 25mm	2
5571-T-050	Triathlon Stem Extender Trial - 50mm	2
6543-8-101	9 - 21mm Reamer Lower Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**14**

Catalog #	Description	Quantity in Kit
6543-7-522	IM Reamer - 22mm	1
6543-7-523	IM Reamer - 23mm	1
6543-7-524	IM Reamer - 24mm	1
6543-7-525	IM Reamer - 25mm	1
5566-T-022	Triathlon Stem Trial, 22 x 150mm	1
5566-t-023	Triathlon Stem Trial, 23 x 150mm	1
5566-t-024	Triathlon Stem Trial, 24 x 150mm	1
5566-t-025	Triathlon Stem Trial, 25 x 150mm	1
5565-T-022	Triathlon Stem Trial, 22 x 100mm	1
5565-T-023	Triathlon Stem Trial, 23 x 100mm	1
5565-T-024	Triathlon Stem Trial, 24 x 100mm	1
5565-T-025	Triathlon Stem Trial, 25 x 100mm	1
6543-8-108	22 - 25mm Reamers and Stem Trials Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**14**

3 - 6 Femoral Prep Upper Tray Kit Contents

6543-1-005	Distal Spacer - 5mm	2
6543-1-010	Distal Spacer - 10mm	2
6543-1-015	Distal Spacer - 15mm	2
6543-1-600	Femoral Offset Bushing	1
6543-1-603	Size 1-8 Femoral Sizing Templates	1
6543-1-703	#3 All-in-One Cutting Block	1
6543-1-704	#4 All-in-One Cutting Block	1
6543-1-705	#5 All-in-One Cutting Block	1
6543-1-706	#6 All-in-One Cutting Block	1
6543-1-710	Revision Box Cutting Guide	1
6543-1-721	Revision Distal Resection Guide	1
6543-1-750	Femoral Boss Preparation Guide	1
6543-1-751	Femoral Boss Bushing	1
6543-4-400	Joint Line Ruler	1
6543-8-003	3 - 6 Femoral Prep Upper Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**19**

Catalog #	Description	Quantity in Kit
3 - 6 TS Plus Insert Trial Tray Kit Contents		
5537-T-309	Triathlon TS Plus Tibial Insert Trial #3 - 9mm	1
5537-T-311	Triathlon TS Plus Tibial Insert Trial #3 - 11mm	1
5537-T-313	Triathlon TS Plus Tibial Insert Trial #3 - 13mm	1
5537-T-316	Triathlon TS Plus Tibial Insert Trial #3 - 16mm	1
5537-T-319	Triathlon TS Plus Tibial Insert Trial #3 - 19mm	1
5537-T-322	Triathlon TS Plus Tibial Insert Trial #3 - 22mm	1
5537-T-325	Triathlon TS Plus Tibial Insert Trial #3 - 25mm	1
5537-T-328	Triathlon TS Plus Tibial Insert Trial #3 - 28mm	1
5537-T-331	Triathlon TS Plus Tibial Insert Trial #3 - 31mm	1
5537-T-409	Triathlon TS Plus Tibial Insert Trial #4 - 9mm	1
5537-T-411	Triathlon TS Plus Tibial Insert Trial #4 - 11mm	1
5537-T-413	Triathlon TS Plus Tibial Insert Trial #4 - 13mm	1
5537-T-416	Triathlon TS Plus Tibial Insert Trial #4 - 16mm	1
5537-T-419	Triathlon TS Plus Tibial Insert Trial #4 - 19mm	1
5537-T-422	Triathlon TS Plus Tibial Insert Trial #4 - 22mm	1
5537-T-425	Triathlon TS Plus Tibial Insert Trial #4 - 25mm	1
5537-T-428	Triathlon TS Plus Tibial Insert Trial #4 - 28mm	1
5537-T-431	Triathlon TS Plus Tibial Insert Trial #4 - 31mm	1
5537-T-509	Triathlon TS Plus Tibial Insert Trial #5 - 9mm	1
5537-T-511	Triathlon TS Plus Tibial Insert Trial #5 - 11mm	1
5537-T-513	Triathlon TS Plus Tibial Insert Trial #5 - 13mm	1
5537-T-516	Triathlon TS Plus Tibial Insert Trial #5 - 16mm	1
5537-T-519	Triathlon TS Plus Tibial Insert Trial #5 - 19mm	1
5537-T-522	Triathlon TS Plus Tibial Insert Trial #5 - 22mm	1
5537-T-525	Triathlon TS Plus Tibial Insert Trial #5 - 25mm	1
5537-T-528	Triathlon TS Plus Tibial Insert Trial #5 - 28mm	1
5537-T-531	Triathlon TS Plus Tibial Insert Trial #5 - 31mm	1
5537-T-609	Triathlon TS Plus Tibial Insert Trial #6 - 9mm	1
5537-T-611	Triathlon TS Plus Tibial Insert Trial #6 - 11mm	1
5537-T-613	Triathlon TS Plus Tibial Insert Trial #6 - 13mm	1
5537-T-616	Triathlon TS Plus Tibial Insert Trial #6 - 16mm	1
5537-T-619	Triathlon TS Plus Tibial Insert Trial #6 - 19mm	1
5537-T-622	Triathlon TS Plus Tibial Insert Trial #6 - 22mm	1
5537-T-625	Triathlon TS Plus Tibial Insert Trial #6 - 25mm	1
5537-T-628	Triathlon TS Plus Tibial Insert Trial #6 - 28mm	1
5537-T-631	Triathlon TS Plus Tibial Insert Trial #6 - 31mm	1
6543-8-006	3 - 6 TS Plus Insert Trial Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**38**

Catalog #	Description	Quantity in Kit
1,2,7,8 Upper Tray Kit Contents		
6543-1-702	#2 All-in-One Cutting Block	1
6543-1-707	#7 All-in-One Cutting Block	1
6541-2-078	Size 7-8 Keel Punch	1
6541-2-602	#2 Universal Tibial Template	1
6541-2-607	#7 Universal Tibial Template	1
5521-t-200	#2 Baseplate Trial	1
5521-t-700	#7 Baseplate Trial	1
5512-t-201	#2 Femoral Trial Left	1
5512-t-202	#2 Femoral Trial Right	1
5512-t-801	#7 Femoral Trial Left	1
5512-t-802	#7 Femoral Trial Right	1
5540-T-200	Triathlon Femoral Distal Augment Trial, 5mm - #2	2
5540-T-700	Triathlon Femoral Distal Augment Trial, 5mm - #7	2
5541-T-200	Triathlon Femoral Distal Augment Trial, 10mm - #2	2
5541-T-700	Triathlon Femoral Distal Augment Trial, 10mm - #7	2
5542-T-200	Triathlon Femoral Distal Augment Trial, 15mm - #2	2
5542-T-700	Triathlon Femoral Distal Augment Trial, 15mm - #7	2
5543-T-200	Triathlon Femoral Posterior Augment Trial, 5mm - #2	2
5543-T-700	Triathlon Femoral Posterior Augment Trial, 5mm - #7	2
5544-T-200	Triathlon Femoral Posterior Augment Trial, 10mm - #2	2
5544-T-700	Triathlon Femoral Posterior Augment Trial, 10mm - #7	2
5545-T-701	Tibial Augment Trial #7 LM/RL - 5mm	1
5545-T-702	Tibial Augment Trial #7 RM/LL - 5mm	1
5546-T-701	Tibial Augment Trial #7 LM/RL - 10mm	1
5546-T-702	Tibial Augment Trial #7 RM/LL - 10mm	1
5545-T-201	Tibial Augment Trial #2 LM/RL - 5mm	1
5545-T-202	Tibial Augment Trial #2 RM/LL - 5mm	1
5546-T-201	Tibial Augment Trial #2 LM/RL - 10mm	1
5546-T-202	Tibial Augment Trial #2 RM/LL - 10mm	1
6543-8-009	1,2,7,8 Upper Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**41**

Catalog #	Description	Quantity in Kit
1,2,7,8 Lower Tray Kit Contents		
6543-1-701	#1 All-in-One Cutting Block	1
6543-1-708	#8 All-in-One Cutting Block	1
6541-2-601	#1 Universal Tibial Template	1
6541-2-608	#8 Universal Tibial Template	1
5521-T-800	#8 Baseplate Trial	1
5521-T-100	#1 Baseplate Trial	1
5512-T-101	#1 Femoral Trial Left	1
5512-T-102	#1 Femoral Trial Right	1
5512-T-801	#8 Femoral Trial Left	1
5512-T-802	#8 Femoral Trial Right	1
5540-T-100	Triathlon Femoral Distal Augment Trial, 5mm - #1	2
5540-T-800	Triathlon Femoral Distal Augment Trial, 5mm - #8	2
5541-T-100	Triathlon Femoral Distal Augment Trial, 10mm - #1	2
5541-T-800	Triathlon Femoral Distal Augment Trial, 10mm - #8	2
5542-T-100	Triathlon Femoral Distal Augment Trial, 15mm - #1	2
5542-T-800	Triathlon Femoral Distal Augment Trial, 15mm - #8	2
5543-T-100	Triathlon Femoral Posterior Augment Trial, 5mm - #1	2
5543-T-800	Triathlon Femoral Posterior Augment Trial, 5mm - #8	2
5544-T-100	Triathlon Femoral Posterior Augment Trial, 10mm - #1	2
5544-T-800	Triathlon Femoral Posterior Augment Trial, 10mm - #8	2
5545-T-101	Tibial Augment Trial #1 LM/RL - 5mm	1
5545-T-102	Tibial Augment Trial #1 RM/LL - 5mm	1
5546-T-101	Tibial Augment Trial #1 LM/RL - 10mm	1
5546-T-102	Tibial Augment Trial #1 RM/LL - 10mm	1
5545-T-801	Tibial Augment Trial #8 LM/RL - 5mm	1
5545-T-802	Tibial Augment Trial #8 RM/LL - 5mm	1
5546-T-801	Tibial Augment Trial #8 LM/RL - 10mm	1
5546-T-802	Tibial Augment Trial #8 RM/LL - 10mm	1
6543-8-109	1,2,7,8 Lower Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**40**

Catalog #	Description	Quantity in Kit
7, 8 TS Max Insert Trials Tray Kit Contents		
5537-T-722	#7 22mm TS Plus Insert Trial	1
5537-T-725	#7 25mm TS Plus Insert Trial	1
5537-T-728	#7 28mm TS Plus Insert Trial	1
5537-T-731	#7 31mm TS Plus Insert Trial	1
5537-T-822	#8 22mm TS Plus Insert Trial	1
5537-T-825	#8 25mm TS Plus Insert Trial	1
5537-T-828	#8 28mm TS Plus Insert Trial	1
5537-T-831	#8 31mm TS Plus Insert Trial	1
6543-8-013	7, 8 TS Max Insert Trials Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**10**

Catalog #	Description	Quantity in Kit
3 - 6 Femoral Prep Lower Tray Kit Contents		
5512-T-301	TS Femoral Trials	1
5512-T-302	TS Femoral Trials	1
5512-T-401	TS Femoral Trials	1
5512-T-402	TS Femoral Trials	1
5512-T-501	TS Femoral Trials	1
5512-T-501	TS Femoral Trials	1
5512-T-601	TS Femoral Trials	1
5512-T-602	TS Femoral Trials	1
5570-T-020	Triathlon Offset Adaptor Trial - 2mm	1
5570-T-040	Triathlon Offset Adaptor Trial - 4mm	1
5570-T-060	Triathlon Offset Adaptor Trial - 6mm	1
5570-T-080	Triathlon Offset Adaptor Trial - 8mm	1
5540-T-300	Triathlon Femoral Distal Augment Trial, 5mm - #3	2
5540-T-400	Triathlon Femoral Distal Augment Trial, 5mm - #4	2
5540-T-500	Triathlon Femoral Distal Augment Trial, 5mm - #5	2
5540-T-600	Triathlon Femoral Distal Augment Trial, 5mm - #6	2
5541-T-300	Triathlon Femoral Distal Augment Trial, 10mm - #3	2
5541-T-400	Triathlon Femoral Distal Augment Trial, 10mm - #4	2
5541-T-500	Triathlon Femoral Distal Augment Trial, 10mm - #5	2
5541-T-600	Triathlon Femoral Distal Augment Trial, 10mm - #6	2
5542-T-300	Triathlon Femoral Distal Augment Trial, 15mm - #3	2
5542-T-400	Triathlon Femoral Distal Augment Trial, 15mm - #4	2
5542-T-500	Triathlon Femoral Distal Augment Trial, 15mm - #5	2
5542-T-600	Triathlon Femoral Distal Augment Trial, 15mm - #6	2
5543-T-300	Triathlon Femoral Posterior Augment Trial, 5mm - #3	2
5543-T-400	Triathlon Femoral Posterior Augment Trial, 5mm - #4	2
5543-T-500	Triathlon Femoral Posterior Augment Trial, 5mm - #5	2
5543-T-600	Triathlon Femoral Posterior Augment Trial, 5mm - #6	2
5544-T-300	Triathlon Femoral Posterior Augment Trial, 10mm - #3	2
5544-T-400	Triathlon Femoral Posterior Augment Trial, 10mm - #4	2
5544-T-500	Triathlon Femoral Posterior Augment Trial, 10mm - #5	2
5544-T-600	Triathlon Femoral Posterior Augment Trial, 10mm - #6	2
6543-8-103	3 - 6 Femoral Prep Lower Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**54**

Catalog #	Description	Quantity in Kit
9 - 21mm Stem Trial Tray Kit Contents		
5565-T-009	Triathlon Stem Trial, 9 x 100mm	1
5565-T-010	Triathlon Stem Trial, 10 x 100mm	1
5565-T-011	Triathlon Stem Trial, 11 x 100mm	2
5565-T-012	Triathlon Stem Trial, 12 x 100mm	2
5565-T-013	Triathlon Stem Trial, 13 x 100mm	2
5565-T-014	Triathlon Stem Trial, 14 x 100mm	2
5565-T-015	Triathlon Stem Trial, 15 x 100mm	2
5565-T-016	Triathlon Stem Trial, 16 x 100mm	2
5565-T-017	Triathlon Stem Trial, 17 x 100mm	2
5565-T-018	Triathlon Stem Trial, 18 x 100mm	2
5565-T-019	Triathlon Stem Trial, 19 x 100mm	2
5565-T-020	Triathlon Stem Trial, 20 x 100mm	2
5565-T-021	Triathlon Stem Trial, 21 x 100mm	2
5566-T-009	Triathlon Stem Trial, 9 x 150mm	1
5566-T-010	Triathlon Stem Trial, 10 x 150mm	1
5566-T-011	Triathlon Stem Trial, 11 x 150mm	2
5566-T-012	Triathlon Stem Trial, 12 x 150mm	2
5566-T-013	Triathlon Stem Trial, 13 x 150mm	2
5566-T-014	Triathlon Stem Trial, 14 x 150mm	2
5566-T-015	Triathlon Stem Trial, 15 x 150mm	2
5566-T-016	Triathlon Stem Trial, 16 x 150mm	2
5566-T-017	Triathlon Stem Trial, 17 x 150mm	2
5566-T-018	Triathlon Stem Trial, 18 x 150mm	2
5566-T-019	Triathlon Stem Trial, 19 x 150mm	2
5566-T-020	Triathlon Stem Trial, 20 x 150mm	2
5566-T-021	Triathlon Stem Trial, 21 x 150mm	2
6543-8-005	9 - 21mm Stem Trial Upper Tray	1
6543-8-105	9 - 21mm Stem Trial Lower Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**51**

Catalog #	Description	Quantity in Kit
1,2,7,8 TS Plus Insert Trials Tray Kit Contents		
5537-T-809	#8 9mm TS Plus Insert Trial	1
5537-T-811	#8 11mm TS Plus Insert Trial	1
5537-T-813	#8 13mm TS Plus Insert Trial	1
5537-T-816	#8 16mm TS Plus Insert Trial	1
5537-T-819	#8 19mm TS Plus Insert Trial	1
5537-T-709	#7 9mm TS Plus Insert Trial	1
5537-T-711	#7 11mm TS Plus Insert Trial	1
5537-T-713	#7 13mm TS Plus Insert Trial	1
5537-T-716	#7 16mm TS Plus Insert Trial	1
5537-T-719	#7 19mm TS Plus Insert Trial	1
5537-T-209	#2 9mm TS Plus Insert Trial	1
5537-T-211	#2 11mm TS Plus Insert Trial	1
5537-T-213	#2 13mm TS Plus Insert Trial	1
5537-T-216	#2 16mm TS Plus Insert Trial	1
5537-T-219	#2 19mm TS Plus Insert Trial	1
5537-T-222	#2 22mm TS Plus Insert Trial	1
5537-T-225	#2 25mm TS Plus Insert Trial	1
5537-T-228	#2 28mm TS Plus Insert Trial	1
5537-T-231	#2 31mm TS Plus Insert Trial	1
5537-T-109	#1 9mm TS Plus Insert Trial	1
5537-T-111	#1 11mm TS Plus Insert Trial	1
5537-T-113	#1 13mm TS Plus Insert Trial	1
5537-T-116	#1 16mm TS Plus Insert Trial	1
5537-T-119	#1 19mm TS Plus Insert Trial	1
5537-T-122	#1 22mm TS Plus Insert Trial	1
5537-T-225	#1 25mm TS Plus Insert Trial	1
5537-T-128	#1 28mm TS Plus Insert Trial	1
5537-T-131	#1 31mm TS Plus Insert Trial	1
6543-8-011	1,2,7,8 TS Plus Insert Trials Tray	1
6541-9-000	Triathlon Case	1
	Total Quantity	**30**

Triathlon TS Plus Tibial Insert Part Numbers

Catalog #	Description	Size
5537-G-109	TS Plus Tibial Insert - X3 Poly	#1 - 9mm
5537-G-111	TS Plus Tibial Insert - X3 Poly	#1 - 11mm
5537-G-113	TS Plus Tibial Insert - X3 Poly	#1 - 13mm
5537-G-116	TS Plus Tibial Insert - X3 Poly	#1 - 16mm
5537-G-119	TS Plus Tibial Insert - X3 Poly	#1 - 19mm
5537-G-122	TS Plus Tibial Insert - X3 Poly	#1 - 22mm
5537-G-125	TS Plus Tibial Insert - X3 Poly	#1 - 25mm
5537-G-128	TS Plus Tibial Insert - X3 Poly	#1 - 28mm
5537-G-131	TS Plus Tibial Insert - X3 Poly	#1 - 31mm
5537-G-209	TS Plus Tibial Insert - X3 Poly	#2 - 9mm
5537-G-211	TS Plus Tibial Insert - X3 Poly	#2 - 11mm
5537-G-213	TS Plus Tibial Insert - X3 Poly	#2 - 13mm
5537-G-216	TS Plus Tibial Insert - X3 Poly	#2 - 16mm
5537-G-219	TS Plus Tibial Insert - X3 Poly	#2 - 19mm
5537-G-222	TS Plus Tibial Insert - X3 Poly	#2 - 22mm
5537-G-225	TS Plus Tibial Insert - X3 Poly	#2 - 25mm
5537-G-228	TS Plus Tibial Insert - X3 Poly	#2 - 28mm
5537-G-231	TS Plus Tibial Insert - X3 Poly	#2 - 31mm
5537-G-309	TS Plus Tibial Insert - X3 Poly	#3 - 9mm
5537-G-311	TS Plus Tibial Insert - X3 Poly	#3 - 11mm
5537-G-313	TS Plus Tibial Insert - X3 Poly	#3 - 13mm
5537-G-316	TS Plus Tibial Insert - X3 Poly	#3 - 16mm
5537-G-319	TS Plus Tibial Insert - X3 Poly	#3 - 19mm
5537-G-322	TS Plus Tibial Insert - X3 Poly	#3 - 22mm
5537-G-325	TS Plus Tibial Insert - X3 Poly	#3 - 25mm
5537-G-328	TS Plus Tibial Insert - X3 Poly	#3 - 28mm
5537-G-331	TS Plus Tibial Insert - X3 Poly	#3 - 31mm
5537-G-409	TS Plus Tibial Insert - X3 Poly	#4 - 9mm
5537-G-411	TS Plus Tibial Insert - X3 Poly	#4 - 11mm
5537-G-413	TS Plus Tibial Insert - X3 Poly	#4 - 13mm
5537-G-416	TS Plus Tibial Insert - X3 Poly	#4 - 16mm
5537-G-419	TS Plus Tibial Insert - X3 Poly	#4 - 19mm
5537-G-422	TS Plus Tibial Insert - X3 Poly	#4 - 22mm
5537-G-425	TS Plus Tibial Insert - X3 Poly	#4 - 25mm
5537-G-428	TS Plus Tibial Insert - X3 Poly	#4 - 28mm
5537-G-431	TS Plus Tibial Insert - X3 Poly	#4 - 31mm

Continued

Triathlon TS Plus Tibial Insert Part Numbers - Continued

Catalog #	Description	Size
5537-G-509	TS Plus Tibial Insert - X3 Poly	#5 - 9mm
5537-G-511	TS Plus Tibial Insert - X3 Poly	#5 - 11mm
5537-G-513	TS Plus Tibial Insert - X3 Poly	#5 - 13mm
5537-G-516	TS Plus Tibial Insert - X3 Poly	#5 - 16mm
5537-G-519	TS Plus Tibial Insert - X3 Poly	#5 - 19mm
5537-G-522	TS Plus Tibial Insert - X3 Poly	#5 - 22mm
5537-G-525	TS Plus Tibial Insert - X3 Poly	#5 - 25mm
5537-G-528	TS Plus Tibial Insert - X3 Poly	#5 - 28mm
5537-G-531	TS Plus Tibial Insert - X3 Poly	#5 - 31mm
5537-G-609	TS Plus Tibial Insert - X3 Poly	#6 - 9mm
5537-G-611	TS Plus Tibial Insert - X3 Poly	#6 - 11mm
5537-G-613	TS Plus Tibial Insert - X3 Poly	#6 - 13mm
5537-G-616	TS Plus Tibial Insert - X3 Poly	#6 - 16mm
5537-G-619	TS Plus Tibial Insert - X3 Poly	#6 - 19mm
5537-G-622	TS Plus Tibial Insert - X3 Poly	#6 - 22mm
5537-G-625	TS Plus Tibial Insert - X3 Poly	#6 - 25mm
5537-G-628	TS Plus Tibial Insert - X3 Poly	#6 - 28mm
5537-G-631	TS Plus Tibial Insert - X3 Poly	#6 - 31mm
5537-G-709	TS Plus Tibial Insert - X3 Poly	#7 - 9mm
5537-G-711	TS Plus Tibial Insert - X3 Poly	#7 - 11mm
5537-G-713	TS Plus Tibial Insert - X3 Poly	#7 - 13mm
5537-G-716	TS Plus Tibial Insert - X3 Poly	#7 - 16mm
5537-G-719	TS Plus Tibial Insert - X3 Poly	#7 - 19mm
5537-G-722	TS Plus Tibial Insert - X3 Poly	#7 - 22mm
5537-G-725	TS Plus Tibial Insert - X3 Poly	#7 - 25mm
5537-G-728	TS Plus Tibial Insert - X3 Poly	#7 - 28mm
5537-G-731	TS Plus Tibial Insert - X3 Poly	#7 - 31mm
5537-G-809	TS Plus Tibial Insert - X3 Poly	#8 - 9mm
5537-G-811	TS Plus Tibial Insert - X3 Poly	#8 - 11mm
5537-G-813	TS Plus Tibial Insert - X3 Poly	#8 - 13mm
5537-G-816	TS Plus Tibial Insert - X3 Poly	#8 - 16mm
5537-G-819	TS Plus Tibial Insert - X3 Poly	#8 - 19mm
5537-G-822	TS Plus Tibial Insert - X3 Poly	#8 - 22mm
5537-G-825	TS Plus Tibial Insert - X3 Poly	#8 - 25mm
5537-G-828	TS Plus Tibial Insert - X3 Poly	#8 - 28mm
5537-G-831	TS Plus Tibial Insert - X3 Poly	#8 - 31mm

Catalog #	Description	Size
Triathlon Universal Tibial Baseplate Part Numbers		
5521-B-100	Universal Tibial Baseplate	#1
5521-B-200	Universal Tibial Baseplate	#2
5521-B-300	Universal Tibial Baseplate	#3
5521-B-400	Universal Tibial Baseplate	#4
5521-B-500	Universal Tibial Baseplate	#5
5521-B-600	Universal Tibial Baseplate	#6
5521-B-700	Universal Tibial Baseplate	#7
5521-B-800	Universal Tibial Baseplate	#8
Triathlon TS Femoral Component Part Numbers		
5512-F-101	TS Femoral Component	#1 Left
5512-F-201	TS Femoral Component	#2 Left
5512-F-301	TS Femoral Component	#3 Left
5512-F-401	TS Femoral Component	#4 Left
5512-F-501	TS Femoral Component	#5 Left
5512-F-601	TS Femoral Component	#6 Left
5512-F-701	TS Femoral Component	#7 Left
5512-F-801	TS Femoral Component	#8 Left
5512-F-102	TS Femoral Component	#1 Right
5512-F-202	TS Femoral Component	#2 Right
5512-F-302	TS Femoral Component	#3 Right
5512-F-402	TS Femoral Component	#4 Right
5512-F-502	TS Femoral Component	#5 Right
5512-F-602	TS Femoral Component	#6 Right
5512-F-702	TS Femoral Component	#7 Right
5512-F-802	TS Femoral Component	#8 Right
Triathlon TS Stems - Cemented - Part Numbers		
5560-S-209	Triathlon Cemented Stem	9mm x 100mm
5560-S-309	Triathlon Cemented Stem	9mm x 150mm
5560-S-112	Triathlon Cemented Stem	12mm x 50mm
5560-S-212	Triathlon Cemented Stem	12mm x 100mm
5560-S-312	Triathlon Cemented Stem	12mm x 150mm
5560-S-115	Triathlon Cemented Stem	15mm x 50mm
5560-S-215	Triathlon Cemented Stem	15mm x 100mm
5560-S-315	Triathlon Cemented Stem	15mm x 150mm

All items are made of CoCr unless otherwise stated.

Catalog #	Description	Size
Triathlon TS Stems - Cementless - Part Numbers		
5565-S-010	Triathlon Cementless Stem, Titanium	10mm x 100mm
5565-S-011	Triathlon Cementless Stem, Titanium	11mm x 100mm
5565-S-012	Triathlon Cementless Stem, Titanium	12mm x 100mm
5565-S-013	Triathlon Cementless Stem, Titanium	13mm x 100mm
5565-S-014	Triathlon Cementless Stem, Titanium	14mm x 100mm
5565-S-015	Triathlon Cementless Stem, Titanium	15mm x 100mm
5565-S-016	Triathlon Cementless Stem, Titanium	16mm x 100mm
5565-S-017	Triathlon Cementless Stem, Titanium	17mm x 100mm
5565-S-018	Triathlon Cementless Stem, Titanium	18mm x 100mm
5565-S-019	Triathlon Cementless Stem, Titanium	19mm x 100mm
5565-S-020	Triathlon Cementless Stem, Titanium	20mm x 100mm
5565-S-021	Triathlon Cementless Stem, Titanium	21mm x 100mm
5565-S-022	Triathlon Cementless Stem, Titanium	22mm x 100mm
5565-S-023	Triathlon Cementless Stem, Titanium	23mm x 100mm
5565-S-024	Triathlon Cementless Stem, Titanium	24mm x 100mm
5565-S-025	Triathlon Cementless Stem, Titanium	25mm x 100mm
5566-S-010	Triathlon Cementless Stem, Titanium	10mm x 150mm
5566-S-011	Triathlon Cementless Stem, Titanium	11mm x 150mm
5566-S-012	Triathlon Cementless Stem, Titanium	12mm x 150mm
5566-S-013	Triathlon Cementless Stem, Titanium	13mm x 150mm
5566-S-014	Triathlon Cementless Stem, Titanium	14mm x 150mm
5566-S-015	Triathlon Cementless Stem, Titanium	15mm x 150mm
5566-S-016	Triathlon Cementless Stem, Titanium	16mm x 150mm
5566-S-017	Triathlon Cementless Stem, Titanium	17mm x 150mm
5566-S-018	Triathlon Cementless Stem, Titanium	18mm x 150mm
5566-S-019	Triathlon Cementless Stem, Titanium	19mm x 150mm
5566-S-020	Triathlon Cementless Stem, Titanium	20mm x 150mm
5566-S-021	Triathlon Cementless Stem, Titanium	21mm x 150mm
5566-S-022	Triathlon Cementless Stem, Titanium	22mm x 150mm
5566-S-023	Triathlon Cementless Stem, Titanium	23mm x 150mm
5566-S-024	Triathlon Cementless Stem, Titanium	24mm x 150mm
5566-S-025	Triathlon Cementless Stem, Titanium	25mm x 150mm

Triathlon TS Tibial Augment Part Numbers

Catalog #	Description	Size
5545-A-101	Triathlon Tibial Augment - 5mm	#1 LM/RL
5545-A-201	Triathlon Tibial Augment - 5mm	#2 LM/RL
5545-A-301	Triathlon Tibial Augment - 5mm	#3 LM/RL
5545-A-401	Triathlon Tibial Augment - 5mm	#4 LM/RL
5545-A-501	Triathlon Tibial Augment - 5mm	#5 LM/RL
5545-A-601	Triathlon Tibial Augment - 5mm	#6 LM/RL
5545-A-701	Triathlon Tibial Augment - 5mm	#7 LM/RL
5545-A-801	Triathlon Tibial Augment - 5mm	#8 LM/RL
5545-A-102	Triathlon Tibial Augment - 5mm	#1 RM/LL
5545-A-202	Triathlon Tibial Augment - 5mm	#2 RM/LL
5545-A-302	Triathlon Tibial Augment - 5mm	#3 RM/LL
5545-A-402	Triathlon Tibial Augment - 5mm	#4 RM/LL
5545-A-502	Triathlon Tibial Augment - 5mm	#5 RM/LL
5545-A-602	Triathlon Tibial Augment - 5mm	#6 RM/LL
5545-A-702	Triathlon Tibial Augment - 5mm	#7 RM/LL
5545-A-802	Triathlon Tibial Augment - 5mm	#8 RM/LL
5546-A-101	Triathlon Tibial Augment - 10mm	#1 LM/RL
5546-A-201	Triathlon Tibial Augment - 10mm	#2 LM/RL
5546-A-301	Triathlon Tibial Augment - 10mm	#3 LM/RL
5546-A-401	Triathlon Tibial Augment - 10mm	#4 LM/RL
5546-A-501	Triathlon Tibial Augment - 10mm	#5 LM/RL
5546-A-601	Triathlon Tibial Augment - 10mm	#6 LM/RL
5546-A-701	Triathlon Tibial Augment - 10mm	#7 LM/RL
5546-A-801	Triathlon Tibial Augment - 10mm	#8 LM/RL
5546-A-102	Triathlon Tibial Augment - 10mm	#1 RM/LL
5546-A-202	Triathlon Tibial Augment - 10mm	#2 RM/LL
5546-A-302	Triathlon Tibial Augment - 10mm	#3 RM/LL
5546-A-402	Triathlon Tibial Augment - 10mm	#4 RM/LL
5546-A-502	Triathlon Tibial Augment - 10mm	#5 RM/LL
5546-A-602	Triathlon Tibial Augment - 10mm	#6 RM/LL
5546-A-702	Triathlon Tibial Augment - 10mm	#7 RM/LL
5546-A-802	Triathlon Tibial Augment - 10mm	#8 RM/LL

LM-RL = Left Medial/Right Lateral RM/LL = Right Medial/Left Lateral

Triathlon TS Femoral Augment Part Numbers

Catalog #	Description	Size
5540-A-101	Triathlon Femoral Distal Augment - 5mm	#1 Left
5540-A-201	Triathlon Femoral Distal Augment - 5mm	#2 Left
5540-A-301	Triathlon Femoral Distal Augment - 5mm	#3 Left
5540-A-401	Triathlon Femoral Distal Augment - 5mm	#4 Left
5540-A-501	Triathlon Femoral Distal Augment - 5mm	#5 Left
5540-A-601	Triathlon Femoral Distal Augment - 5mm	#6 Left
5540-A-701	Triathlon Femoral Distal Augment - 5mm	#7 Left
5540-A-801	Triathlon Femoral Distal Augment - 5mm	#8 Left
5540-A-102	Triathlon Femoral Distal Augment - 5mm	#1 Right
5540-A-202	Triathlon Femoral Distal Augment - 5mm	#2 Right
5540-A-302	Triathlon Femoral Distal Augment - 5mm	#3 Right
5540-A-402	Triathlon Femoral Distal Augment - 5mm	#4 Right
5540-A-502	Triathlon Femoral Distal Augment - 5mm	#5 Right
5540-A-602	Triathlon Femoral Distal Augment - 5mm	#6 Right
5540-A-702	Triathlon Femoral Distal Augment - 5mm	#7 Right
5540-A-802	Triathlon Femoral Distal Augment - 5mm	#8 Right
5541-A-101	Triathlon Femoral Distal Augment - 10mm	#1 Left
5541-A-201	Triathlon Femoral Distal Augment - 10mm	#2 Left
5541-A-301	Triathlon Femoral Distal Augment - 10mm	#3 Left
5541-A-401	Triathlon Femoral Distal Augment - 10mm	#4 Left
5541-A-501	Triathlon Femoral Distal Augment - 10mm	#5 Left
5541-A-601	Triathlon Femoral Distal Augment - 10mm	#6 Left
5541-A-701	Triathlon Femoral Distal Augment - 10mm	#7 Left
5541-A-801	Triathlon Femoral Distal Augment - 10mm	#8 Left
5541-A-102	Triathlon Femoral Distal Augment - 10mm	#1 Right
5541-A-202	Triathlon Femoral Distal Augment - 10mm	#2 Right
5541-A-302	Triathlon Femoral Distal Augment - 10mm	#3 Right
5541-A-402	Triathlon Femoral Distal Augment - 10mm	#4 Right
5541-A-502	Triathlon Femoral Distal Augment - 10mm	#5 Right
5541-A-602	Triathlon Femoral Distal Augment - 10mm	#6 Right
5541-A-702	Triathlon Femoral Distal Augment - 10mm	#7 Right
5541-A-802	Triathlon Femoral Distal Augment - 10mm	#8 Right

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Catalog #	Description	Size
Triathlon TS Femoral Augment Part Numbers		
5542-A-101	Triathlon Femoral Distal Augment - 15mm	#1 Left
5542-A-201	Triathlon Femoral Distal Augment - 15mm	#2 Left
5542-A-301	Triathlon Femoral Distal Augment - 15mm	#3 Left
5542-A-401	Triathlon Femoral Distal Augment - 15mm	#4 Left
5542-A-501	Triathlon Femoral Distal Augment - 15mm	#5 Left
5542-A-601	Triathlon Femoral Distal Augment - 15mm	#6 Left
5542-A-701	Triathlon Femoral Distal Augment - 15mm	#7 Left
5542-A-801	Triathlon Femoral Distal Augment - 15mm	#8 Left
5542-A-102	Triathlon Femoral Distal Augment - 15mm	#1 Right
5542-A-202	Triathlon Femoral Distal Augment - 15mm	#2 Right
5542-A-302	Triathlon Femoral Distal Augment - 15mm	#3 Right
5542-A-402	Triathlon Femoral Distal Augment - 15mm	#4 Right
5542-A-502	Triathlon Femoral Distal Augment - 15mm	#5 Right
5542-A-602	Triathlon Femoral Distal Augment - 15mm	#6 Right
5542-A-702	Triathlon Femoral Distal Augment - 15mm	#7 Right
5542-A-802	Triathlon Femoral Distal Augment - 15mm	#8 Right
5543-A-100	Triathlon Femoral Posterior Augment, 5mm - Size 1	
5543-A-200	Triathlon Femoral Posterior Augment, 5mm - Size 2	
5543-A-300	Triathlon Femoral Posterior Augment, 5mm - Size 3	
5543-A-400	Triathlon Femoral Posterior Augment, 5mm - Size 4	
5543-A-500	Triathlon Femoral Posterior Augment, 5mm - Size 5	
5543-A-600	Triathlon Femoral Posterior Augment, 5mm - Size 6	
5543-A-700	Triathlon Femoral Posterior Augment, 5mm - Size 7	
5543-A-800	Triathlon Femoral Posterior Augment, 5mm - Size 8	
5544-A-100	Triathlon Femoral Posterior Augment, 10mm - Size 1	
5544-A-200	Triathlon Femoral Posterior Augment, 10mm - Size 2	
5544-A-300	Triathlon Femoral Posterior Augment, 10mm - Size 3	
5544-A-400	Triathlon Femoral Posterior Augment, 10mm - Size 4	
5544-A-500	Triathlon Femoral Posterior Augment, 10mm - Size 5	
5544-A-600	Triathlon Femoral Posterior Augment, 10mm - Size 6	
5544-A-700	Triathlon Femoral Posterior Augment, 10mm - Size 7	
5544-A-800	Triathlon Femoral Posterior Augment, 10mm - Size 8	

Catalog #	Description	Size
Triathlon TS Stem Extender Part Numbers		
5571-S-025	Triathlon Stem Extender	25mm
5571-S-050	Triathlon Stem Extender	50mm
Triathlon TS Offset Adapter Part Numbers		
5570-S-020	Triathlon TS Offset Adapter	2mm
5570-S-040	Triathlon TS Offset Adapter	4mm
5570-S-060	Triathlon TS Offset Adapter	6mm
5570-S-080	Triathlon TS Offset Adapter	8mm

Triathlon TS Knee System
Surgical Protocol

Indications
General Total Knee Arthroplasty (TKR)
Indications include:
- Painful, disabling joint disease of the knee resulting from non-inflammatory degenerative joint disease (including osteoarthritis, traumatic arthritis or avascular necrosis) or rheumatoid arthritis.
- Post-traumatic loss of knee joint configuration and function.
- Moderate varus, valgus, or flexion deformity in which the ligamentous structures can be returned to adequate function and stability.
- Revision of previous unsuccessful knee replacement or other procedure.
- Fracture of the distal femur and/or proximal tibia that cannot be stabilized by standard fracture management techniques.

Additional Indications for Posterior Stabilized (PS) and Total Stabilizer (TS) Components:
- Ligamentous instability requiring implant bearing surface geometries with increased constraint.
- Absent or non-functioning posterior cruciate ligament.
- Severe anteroposterior instability of the knee joint.

Additional indications for Total Stabilizer (TS) Components:
- Severe instability of the knee secondary to compromised collateral ligament integrity or function.

Indications for Bone Augments:
- Painful, disabling joint disease of the knee secondary to degenerative arthritis, rheumatoid arthritis, or post-traumatic arthritis, complicated by the presence of bone loss.
- Salvage of previous unsuccessful total knee replacement or other surgical procedure, accompanied by bone loss.

Contraindications
- Any active or suspected latent infection in or about the knee joint.
- Distant foci of infection which may cause hematogenous spread to the implant site.
- Any mental or neuromuscular disorder which would create an unacceptable risk of prosthesis instability, prosthesis fixation failure, or complications in postoperative care.
- Bone stock compromised by disease, infection or prior implantation which cannot provide adequate support and/or fixation to the prosthesis.
- Skeletal immaturity.
- Severe instability of the knee joint secondary to the absence of collateral ligament integrity and function.
- Obesity. An overweight or obese patient can produce loads on the prosthesis which can lead to failure of the fixation of the device or to failure of the device itself.

See package insert for warnings, precautions, adverse effects and other essential product information.

Patient Counseling
Surgeons should discuss all relevant contraindications, adverse effects and the need for post-implantation protection with their patients.

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A surgeon must always rely on his or her own professional clinical judgment when deciding to use which products and/or techniques on individual patients. Stryker is not dispensing medical advice and recommends that surgeons be trained in orthopaedic implant surgeries before performing any orthopaedic surgeries.

The information presented is intended to demonstrate the breadth of Stryker product offerings. Always refer to the package insert, product label and/or user instructions before using any Stryker product. Products may not be available in all markets. Product availability is subject to the regulatory or medical practices that govern individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker products in your area.

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