stryker

Mako® Total Knee with Triathlon®

Surgical protocol

Mako Total Knee with Triathlon
Surgical protocol

Contents

This document is intended to be used by healthcare professionals only.

Mako Total Knee with Triathlon
Surgical protocol

Section 1: introduction

This surgical protocol describes the technique and instruments utilized to implant the Triathlon Knee during a Mako Total Knee procedure. Final bone preparation, trialing and implantation steps are executed with Triathlon instruments as indicated in this technique. The steps in this technique are to be completed after robotic-arm assisted femoral and tibial bone preparation.

Pages six to ten summarize the Mako Total Knee workflow, including robotic-arm assisted femoral and tibial bone preparation. Refer to the Mako Total Knee surgical technique, 210469, for detailed instructions for use.

Indications

General total knee arthroplasty (TKA) indications include:

- Painful, disabling joint disease of the knee resulting from: noninflammatory degenerative joint disease (including osteoarthritis, traumatic arthritis, or avascular necrosis), rheumatoid arthritis or post-traumatic 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.
- Fracture of the distal femur and/or proximal tibia that cannot be stabilized by standard fracture management techniques.

Additional indications for posterior stabilized (PS) 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.

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.

The Triathlon single-use instruments are intended for use in a single total knee arthroplasty.

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

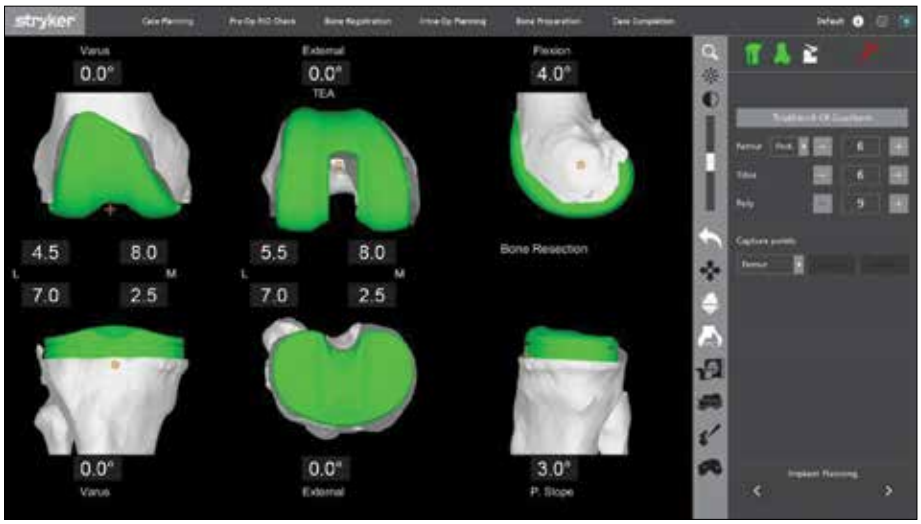
Patient counseling

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

Mako Total Knee with Triathlon
Surgical protocol

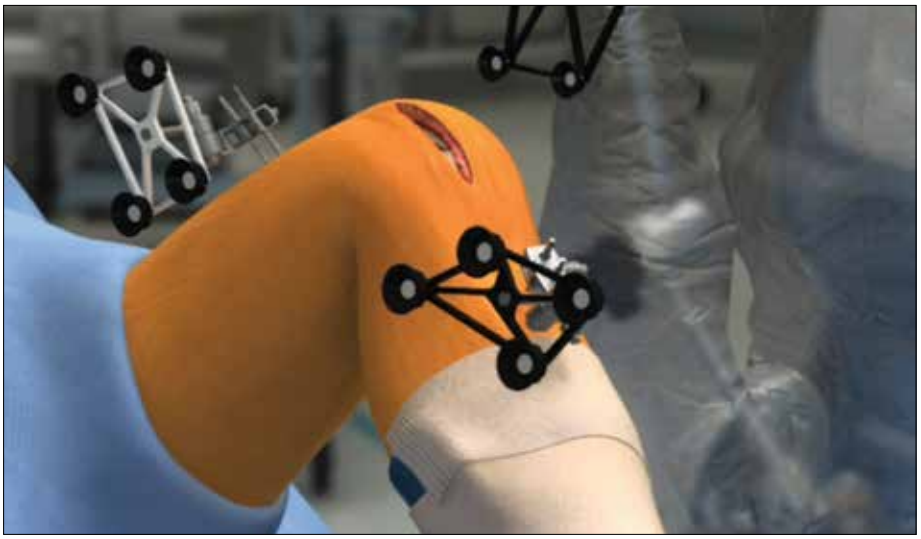
Pre-op planning

Establish the pre-operative plan as described in the Mako Total Knee surgical technique 210469.



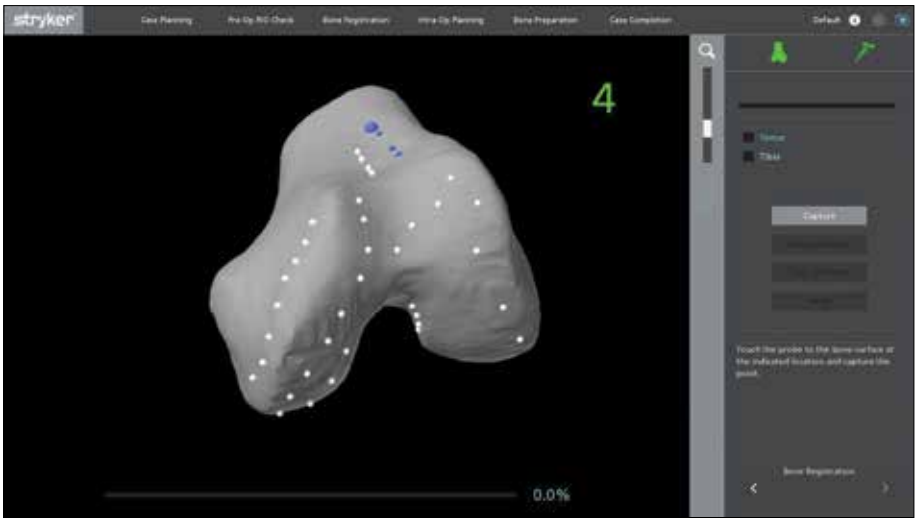
Incision and array placement

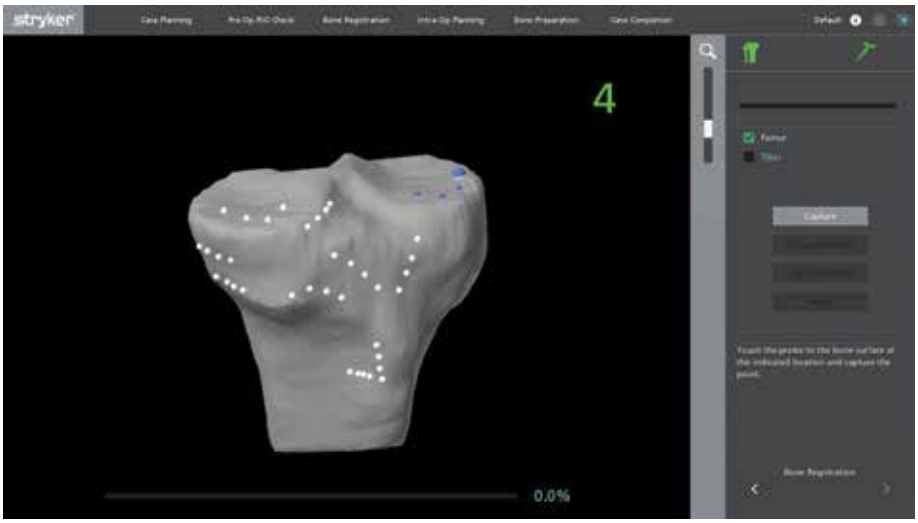
Perform the incision and expose the joint. Place the femoral and tibial arrays, and the femoral and tibial checkpoints.

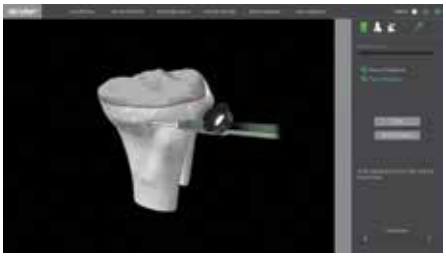


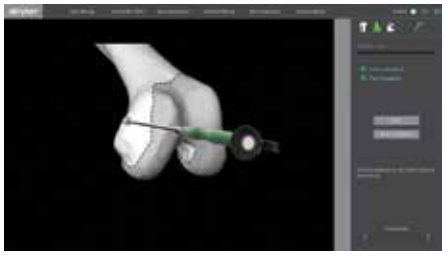
Bone registration

Collect patient landmarks. Register and verify the femoral and tibial checkpoints. Perform bone registration and verification of both the femoral and tibial surfaces.









Mako Total Knee with Triathlon
Surgical protocol

Intra-operative planning

Depending on the procedure workflow selected in surgeon preferences, the Mako Total Knee application will follow one of the following two workflows: measured resection workflow or ligament balancing workflow (see additional comments below).

Measured resection workflow

The measured resection workflow utilizes planned resections of the distal femur, posterior femur, and proximal tibia. After deformity and laxity assessments are made throughout the range of motion, final adjustments to the components can be made, if necessary. Ligament tension is not directly considered, but instead will be assessed later during trialing.

Joint/ligament balancing

Complete a kinematic assessment of the joint throughout the range of motion and assess:

- ROM
- Varus/valgus deformity
- Laxity in the knee joint

Ligament balancing workflow

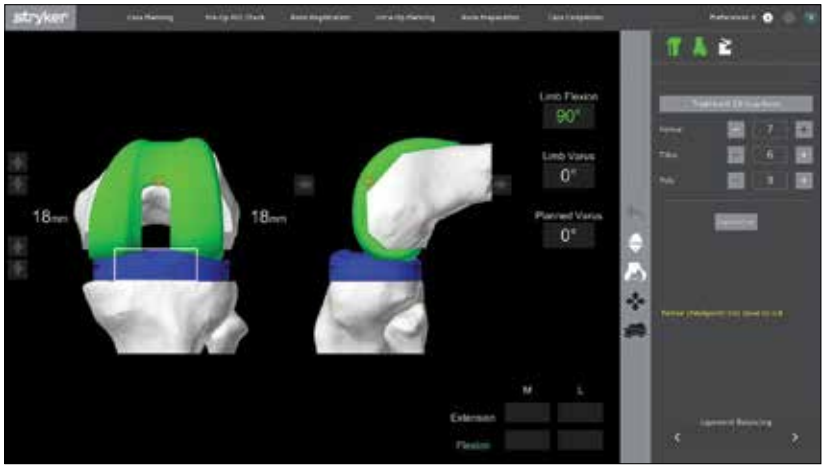
The ligament balancing workflow applies proper tension to the knee joint in extension and flexion. The surgeon can then finalize the implant plan to obtain symmetric medial and lateral gaps, as well as balanced extension and flexion gaps. There are two ligament balancing techniques, pre-resection balancing and distal/tibial cut first.

Pre-resection balancing

The pre-resection workflow is a technique in which the planned gaps are balanced prior to making any bone resections. Adjustments to the femoral and tibial implant component positions can be made to balance the knee and create the intraoperative plan.

Gap and Insert Thickness Correspondence

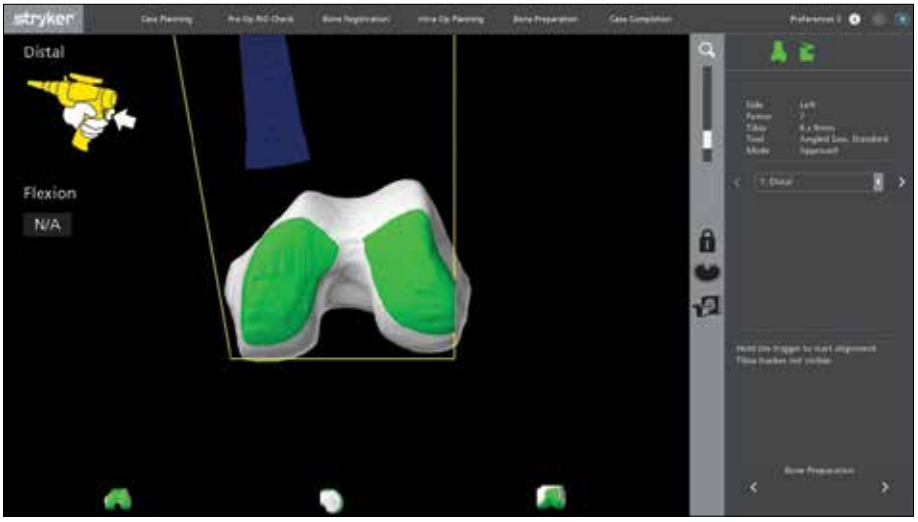
Approximate gap (mm)	Insert thickness (mm)	Insert type
18	9	CR, CS, or PS
19	10	CR, CS, or PS
20	11	CR, CS, or PS
21	12	CR, CS, or PS
22	13	CR, CS, or PS
23	14	CR, CS, or PS
25	16	CR, CS, or PS
28	19	CR, CS, or PS

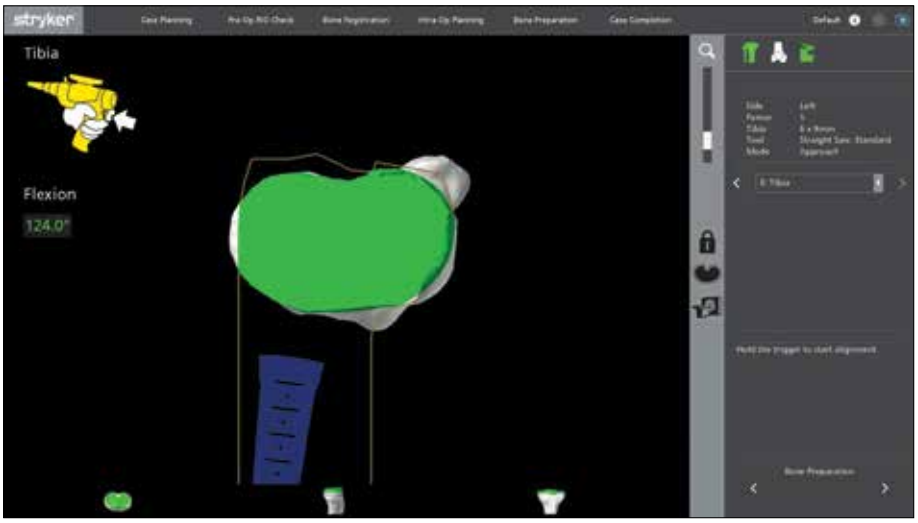


Distal femoral/tibial cut first balancing

The distal/tibia cut first workflow is a technique in which both the distal femur and proximal tibia resections are made prior to using a knee tensioner to balance the extension and flexion gaps. With this workflow, adjustments to rotation, A/P position and the distal/proximal position of the femoral component can be made to balance
the knee.

Robotic-arm assisted bone preparation





Verify checkpoints and complete the femoral and tibial bone resections.

The following cutting order is recommended for measured resection workflow for maximum efficiency:

- Distal femoral cut
- Posterior chamfer cut
- Posterior femoral cut
- Anterior femoral cut
- Anterior chamfer cut
- Tibial cut

In this surgical technique, femoral and tibial preparation is demonstrated through the use of Triathlon single-use instruments. Information on femoral and tibial preparation through the use of alternative Triathlon instruments may be found in TRATH-SP-3.

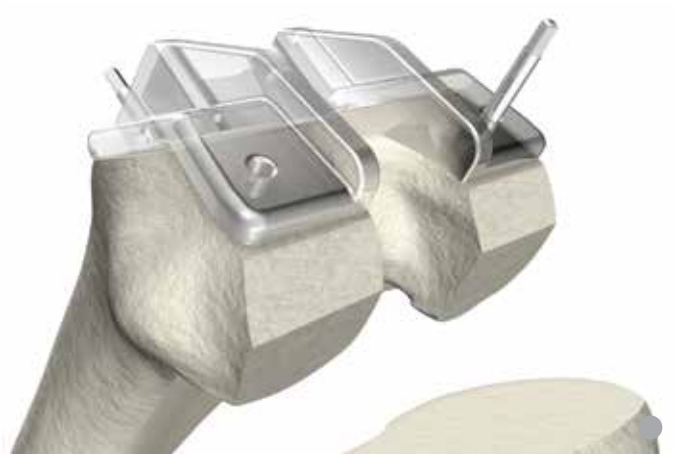


Figure 1

Femoral preparation

PS box preparation

- If the surgeon has chosen a PS knee, then the intercondylar notch must be resected. In order to accomplish this, the single-use PS box cutting guide is placed onto the distal femur. Since the width of the distal portion of the guide represents the exact width of the implant, it should be centered and placed in the desired position flush with the distal resection. The box guide is then pinned to the femur using the headless pins through the holes on the anterior surface, as well as the distal surface of the cutting guide.

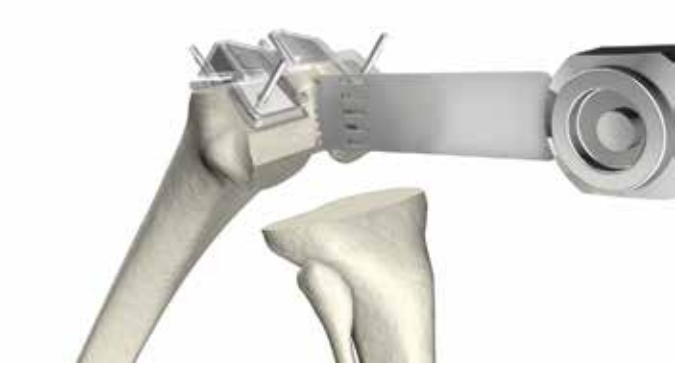


Figure 2

- Using the inside surfaces of the box opening as guides, score the posterior cortex on both sides of the posterior portion of the intercondylar notch as well as the anterior using the saw blade.

Note: Care must be taken not to saw beyond the depth of the single-use PS box cutting guide.

See catalog
Triathlon single-use instrumentation femoral prep kit

PS box cutting guide

6541-4-003A (non-sterile)
or 7650-2038A (Sterile)

Fluted headless pins - 3″

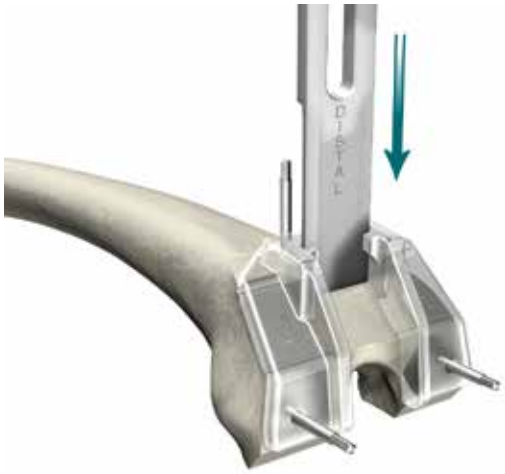


Figure 3

- The chisel is assembled to the impaction handle and then is placed within the slot of the single-use PS box cutting guide with the surface marked "distal" towards the distal portion of the femur. The chisel is then fully engaged with a mallet and left in place. The rest of the box is then resected using a saw blade taking care to make a flush resection. (The box chisel is then removed.)

Note: In order to prepare a proper rectangular box, care should be taken not to bias the saw blade. Preparation of a proper rectangular shape will facilitate an accurate implantation of the PS component with minimal bone resection.

Figure 4

PS box trialing

Figure 5

If the optional and recommended Triathlon PS femoral box trial/protector is chosen:

- Remove the PS box cutting guide.
- Place by hand **(not through impaction)** the appropriate size Triathlon PS femoral box trial/protector into the prepared box to assure accuracy of the box preparation. There are two Triathlon PS femoral box trial/protectors (Size 1-4 and Size 5-8). See figure 5 for proper orientation.
- The box trial/protector is fully seated when both the distal and posterior "wings" are flush with the bone.

Note: Triathlon PS femoral box trial/protector assesses the accuracy of M/L box width and box depth.

Instrument bar

See catalog
Triathlon single-use instrumentation femoral prep kit

PS Box cutting guide

6541-4-003A (non-sterile)
or 7650-2038A (Sterile)

Fluted headless pins - 3″

6541-4-709

Box chisel

6541-4-810

Impaction handle

6541-4-803

Slap hammer

See catalog

Triathlon PS femoral box trial/protector

Femoral preparation

Tibial preparation

Patella preparation

Component implantation

Mako Total Knee with Triathlon
Surgical protocol

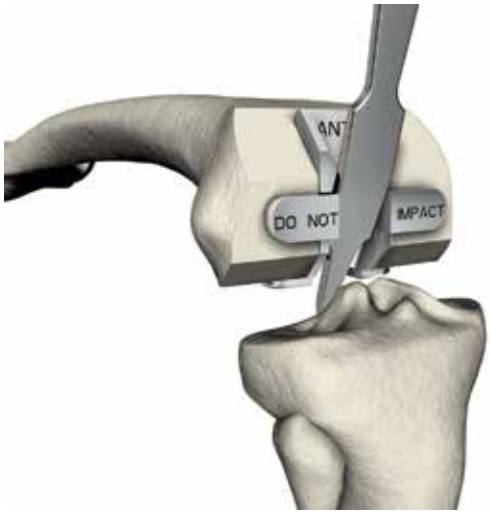


Figure 6

- To protect the prepared femoral box prior to trialing with a femoral component, place the Triathlon PS femoral box trial/protector into the prepared box by hand (not through impaction). Ensure the box trial is fully seated on the distal and posterior resections as described above in the box trialing step.
  - The Triathlon PS femoral box trial/protector features a slot in which a retractor can be placed to lever against the distal femur during tibial subluxation.
  - If preferred, select an extraction tool that fits into the retractor hole for ease of removal.
  - Remove the Triathlon PS femoral box trial/protector prior to assembling and implanting the Triathlon PS femoral component.

Figure 7

Femoral trial assessment

(The remaining portion of the technique should be used for a posterior stabilized or cruciate retaining knee.)

- Assemble the appropriate size symmetrical single-use PS or CR femoral trial to the femoral impactor extractor with the impaction handle or use the femoral trial extractor pictured in figure 7.

Figure 8

- Impact the single-use PS or CR femoral trial onto the prepared distal femur. Use the impaction handle to ensure the femoral trial is aligned with the distal plane.

Figure 9

- Remove the femoral impactor/extractor and impaction handle and assess the fit of the single-use PS or CR femoral trial. Care must be taken to ensure that all of the osteophytes beyond the end of the posterior femoral condyles are removed.
  - Cruciate retaining knee: Attach the 1/4″ peg drill to the universal driver and create the modular femoral distal fixation peg holes. The posterior osteophyte removal tool or any curved osteotome may be used to remove posterior osteophytes.
  - Posterior stabilized knee: If the modular femoral distal fixation pegs are to be used, use the 1/4″ Peg Drill, attached to the universal driver to prepare the distal femoral peg holes.
- The assessment of the fit of the single-use femoral trial is similar for both the CR and PS implants. The appropriate size femoral implant trial is applied to the femoral trial impactor/extractor. The femoral trial is then impacted onto the prepared distal femur and the impactor/extractor is removed. The fit of the femoral trial is checked to ensure that there is a flush fit.
- The Triathlon CR knee has integral medial and lateral femoral pegs. Therefore, if a CR implant is chosen, the 1/4″ peg drill is assembled to the universal driver and distal fixation peg holes are drilled through the holes in condyles of the femoral trial.
- The cemented posteriorly stabilized femoral component does not come with integral pegs but rather modular capability. Should the surgeon choose to use distal fixation pegs, the holes are drilled in a similar fashion. At this point, the tibia, if not already prepared, must be prepared for the tibial implant. Keeping the femoral trial in place helps assure adequate exposure, but it may be removed for tibial preparation if desired.

Instrument bar

See catalog

Triathlon PS femoral box trial/ protector

See catalog
Triathlon single-use instrumentation femoral prep kit

CR universal femoral trial

See catalog
Triathlon single-use instrumentation femoral prep kit

PS universal femoral trial

6541-7-807

MIS femoral trial extractor

6541-4-807

Femoral impactor/extractor

6541-4-525

1/4″ Peg drill

6541-4-801

Universal driver

Figure 10

- To remove the femoral trial, attach the femoral impactor/extractor or the femoral trial impactor to the single-use PS or CR femoral trial and remove from the femur.

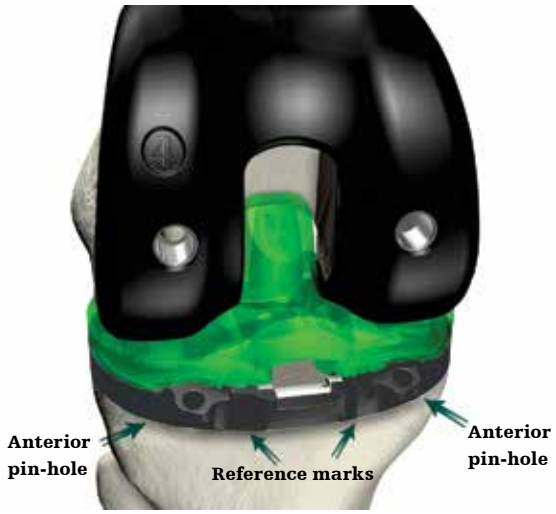


Figure 11

Final tibial preparation and trialing

- The tibial alignment handle, single-use universal tibial template, and single-use tibial insert trial are used to size the tibia, perform a trial reduction, and assess overall component fit, ligament stability and joint range of motion.
- Once the surgeon has determined alignment, the single-use universal tibial template has multiple pin-holes that can be used to secure the template in the desired position.

Note: Mako Total Knee planning page can be used to help with alignment of tibial template. The implant planning page shows the reference marks on the Triathlon tibial template (see figure 11). You can use the blunt probe to touch off on these grooves and confirm alignment.

- If headed nails are placed in the anterior-vertical pin-holes (applicable only to sizes 3, 4, 5, 6, 7 and 8) of the single-use universal tibial template, ensure that the single-use tibial insert trial is inserted posterior to the headed nails.

Note: Do not impact the single-use tibial insert trial. In the event that excessive resistance is encountered during insertion of the single-use tibial insert trial, remove, reposition, and reinsert the single-use tibial insert trial. Ensure all excess debris (bone and soft tissue) is cleared from the single-use universal tibial template.

- After trial reduction, the single-use tibial insert trial can be removed by hand or with the aid of a blunt instrument.

Figure 12

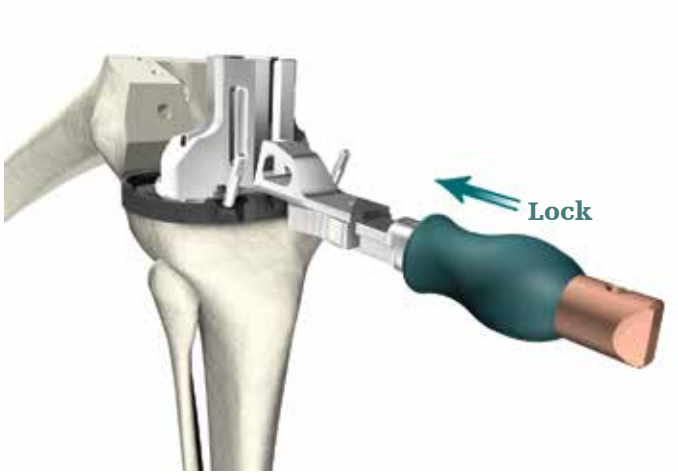


Figure 13

Tibial keel preparation

- Once the proper position and tibial template is secured using the headed nails or headless pins, the tibial keel must be prepared. Making sure the punch guide is in the unlocked position, assemble the keel punch guide to the single-use universal tibial template. Place the posterior tabs at a slight angle into the two locating slots toward the posterior portion of the single-use universal tibial template. Allow the keel punch guide to sit flat on the single-use universal tibial template and push forward on the handle to lock the keel punch guide to the single-use universal tibial template.

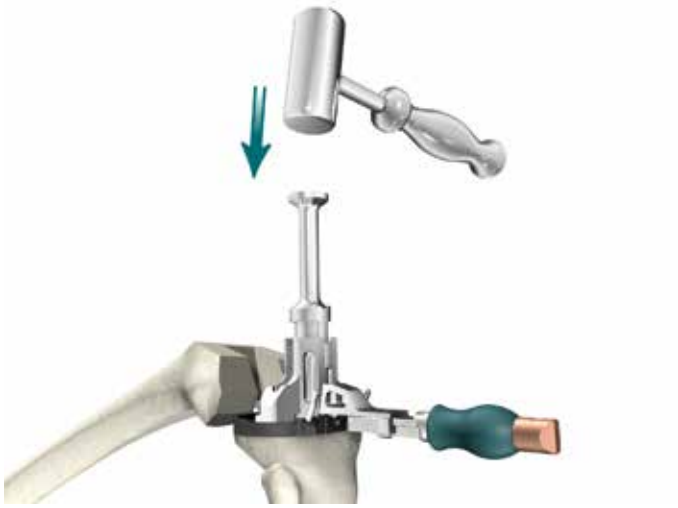


Figure 14

- 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.

Instrument bar

See catalog
Triathlon single-use instrumentation femoral prep kit

CR universal femoral trial

See catalog
Triathlon single-use instrumentation femoral prep kit

PS universal femoral trial

6541-7-807

MIS femoral trial extractor

See catalog
Triathlon single-use instrumentation tibial kit

Tibial insert trial

See catalog
Triathlon single-use instrumentation tibial kit

Tibial template

6541-4-515

Headed nails - 1 1/2″

6541-4-575

Headed nails - 3/4″

6541-4-300

Headed nail impactor/extractor

6633-7-605

Pin puller

Size 1, 2, 3 - **6541-2-713**
Size 4, 5, 6, 7, 8 - **6541-2-748**

Keel punch guide

Sizes 1, 2, 3 - **6541-2-013**
Sizes 4, 5, 6 - **6541-2-046**
Sizes 7, 8 - **6541-2-078**

Keel punch

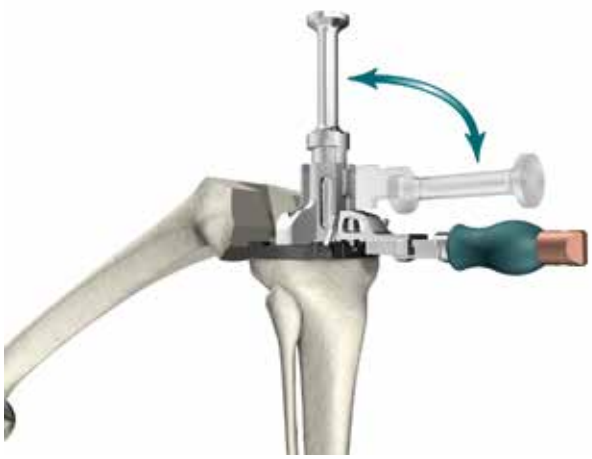


Figure 15

- To extract the keel punch, lift up on the keel punch handle and pull the handle down to cantilever the keel punch out of the tibia.
- Unlock and remove the keel punch guide.
- Remove all pins and remove the single-use universal tibial template (unless using again for patella trial assessment).

Figure 16

Patellar preparation

Remove all osteophytes and synovial insertions around the patella, and measure thickness using a caliper. After determining the depth of the cut with a caliper, affix the stylus in the appropriate slot to the patella resection guide, and capture the patella between the jaws of the saw guide. Using .050″ non-offset sawblade, resect the patella.

Figure 17

- Choose the appropriate size patella template and insert into the patella clamp.
- Center the chosen patellar drill guide over the patella with the clamp perpendicular to the trochlear groove. Drill three fixation holes with the appropriate drill (metal-backed patella or all poly).
- Prepare the resected bone surfaces for bone cement application.

Figure 18

Trial assessment

- Remove any residual cartilage and wash away all debris. Place correct size patella trial (symmetric or asymmetric) onto the prepared patella.
- Replace all trials and assess patellar tracking by taking the knee through a ROM. The patella should track normally throughout the ROM without tendency for tilting or lateral subluxation.

Instrument bar

Size 1, 2, 3 - **6541-2-713**
Size 4, 5, 6, 7, 8 - **6541-2-748**

Keel punch guide

Sizes 1, 2, 3 - **6541-2-013**
Sizes 4, 5, 6 - **6541-2-046**
Sizes 7, 8 - **6541-2-078**

Keel punch

6633-7-744

Patella clamp

6633-7-738

Patella stylus

6633-7-736

Slotted patella resection guide

See catalog

Express symmetric & asymmetric patella drill templates

6541-3-524

All-poly patella drill w/stop

See catalog

Symmetric & asymmetric patella trials

Figure 19

Component implantation

- If modular femoral distal fixation pegs are desired in a PS knee, they are added at this point.
- Insert the tip of the 1/8'' hex drive into the modular femoral distal fixation peg and turn the slip torque handle to tighten.

Figure 20

PS or CR femoral component – cemented

- Attach the femoral impactor extractor to the impaction handle and attach to the appropriate size and side femoral component. Place the femoral component on the femur and impact it until fully seated.

Figure 21

- The femoral flexion impactor or the femoral impactor can be attached to the impaction handle to further seat the femoral component onto the prepared femur.

Note: Clear all excess bone cement

Figure 22

Primary tibial baseplate - cemented

- Connect the tibial baseplate impactor extractor to the impaction handle.
- Introduce the primary tibial baseplate onto the prepared tibia and impact until the baseplate is seated. Unlock the locking lever and remove the assembly from the primary tibial baseplate.
    - To further seat the baseplate, attach the tibial baseplate impactor to the impaction handle.
- Impact until the primary tibial baseplate is fully seated.

Note: clear all excess bone cement while maintaining position of the primary tibial baseplate.

Instrument bar

See catalog

PS femoral component cemented

See catalog

CR femoral component cemented

6541-4-807

Femoral impactor/extractor

6541-4-810

Impaction handle

6541-4-802

1/8″ hex drive

6541-4-825

Slip torque handle

See catalog

Modular femoral distal fixation pegs

6541-7-811

MIS femoral flexion impactor

6541-4-805

Baseplate impactor/extractor

Figure 23

Tibial insert implantation

1. Assemble the tibial insert to the primary tibial baseplate.
2. You may use a trial insert for a final assessment of joint stability and range of motion if required. Assemble the tibial insert by distracting the joint and angling the insert posteriorly into baseplate.

Tips:

1. The posterior lip of the tibial insert must fit beneath the posterior primary tibial baseplate wall lip.
2. Ensure there is no soft tissue or debris remaining on the baseplate.
3. Insert is fully seated once the locking wire locks under barbs on anterior/interior surface of baseplate.

Note: The tibial insert impactor 6541-4-813, which is available in the standard Triathlon primary instrument Set, may be used for the final seating of the tibial insert.

Figure 24

Patellar component - cemented

- Place the patella component onto the prepared patella, making certain the fixation peg holes are aligned to the corresponding holes.
- Seat the patellar component onto the prepared patella by clamping the patella clamp.
- Leave the assembly clamped to the patella while excess cement is cleared and polymerization is complete.
- Remove the patella clamp.

Figure 25

- Assess the joint in flexion and extension.

Closure

- After cement polymerization and removal of all residual cement, thoroughly irrigate the joint. Close soft tissues in the normal layered fashion.

Instrument bar

6541-4-810

Impaction handle

6541-4-807

Femoral impactor/extractor

See catalog

PS femoral component - cemented

See catalog

CR femoral component - cemented

6541-4-802

1/8″ hex drive

6541-4-825

Slip torque handle

See catalog

Modular femoral distal fixation pegs

6541-4-811

Femoral impactor

See catalog

Primary tibial baseplate - cemented

6541-4-813

Tibial insert impactor

See catalog

CR & PS tibial inserts

See catalog

Symmetric & asymmetric patellas

6541-3-800E

Express cement cap

6633-7-744

Patella clamp

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Quantity in kit
Mako Triathlon patella tray (symmetric configuration) part numbers		
6541-3-524	All poly patella drill with stop	1
6633-7-738	Patella stylus	1
7650-1454	Patella caliper	1
6633-7-736	Slotted patella resection guide	1
6541-3-800E	Express cement cap	1
6633-7-744	Patella clamp	1
6541-3-627E	Express symmetric patella drill template - 27mm	1
6541-3-629E	Express symmetric patella drill template - 29mm	1
6541-3-631E	Express symmetric patella drill template - 31mm	1
6541-3-633E	Express symmetric patella drill template - 33mm	1
6541-3-636E	Express symmetric patella drill template - 36mm	1
6541-3-639E	Express symmetric patella drill template - 39mm	1
5550-T-278	Symmetric patella trial S27mm x 8mm	1
5550-T-298	Symmetric patella trial S29mm x 8mm	1
5550-T-319	Symmetric patella trial S31mm x 9mm	1
5550-T-339	Symmetric patella trial S33mm x 9mm	1
5550-T-360	Symmetric patella trial S36mm x 10mm	1
5550-T-391	Symmetric patella trial S39mm x 11mm	1
5555-5110	Mako Triathlon patella tray	1
1020-9000	Single tray case	1
	Total quantity	**20**

Catalog #	Description	Quantity in kit
Mako Triathlon core instrument tray part numbers		
6541-4-525	1/4″ peg drill	1
6541-4-809	Headless pin driver	1
6633-7-605	Pin puller	1
6541-4-801	Universal driver	1
6541-7-811	MIS femoral flexion impactor	1
6541-4-400	Bladerunner	1
6541-4-709	Box chisel	1
6541-4-811	Femoral impactor	1
6541-4-807	Femoral impactor extractor	1
6541-4-810	Impaction handle	1
6541-4-812	Tibial baseplate impactor	1
6541-4-805	Tibial baseplate impactor extractor	1
6541-2-713	Size 1-3 keel punch guide	1
6541-2-748	Size 4-8 keel punch guide	1
6541-2-013	Size 1-3 keel punch	1
6541-2-046	Size 4-6 keel punch	1
6541-2-078	Size 7-8 keel punch	1
6541-7-807	MIS femoral trial extractor	1
6541-2-807	Tibial alignment handle	1
6541-4-602	Universal alignment rod	1
6541-4-300	Headed nail impactor extractor	1
6541-4-515	Headed nails - 1.5″	2
6541-4-575	Headed nail - 0.75″	2
6541-4-710	Posterior osteophyte removal tool	1
5555-5111	Mako triathlon core tray	1
1020-9000	Single tray case	1
	Total quantity	**29**

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Quantity in kit
Mako Triathlon trial tray part numbers **Triathlon CR configuration**		
6541-5-70X **or** **6541-1-70XE**	#x 4:1 cutting guide, x = 1, 2, 3, 4, 5, 6, 7 and 8	1

5510-T-X01
or
5510-T-X02
	CR femoral trial #x left or CR femoral trial #x right,
	x = 1, 2, 3, 4, 5, 6, 7 and 8
		1

6541-2-60X	#x Universal tibial template, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
6541-7-806	MIS 4:1 impactor/extractor	1
5530-T-X09A	Modified hollow CR tibial insert trial #x - 9mm, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
5530-T-X11A	Modified hollow CR tibial insert trial #x - 11mm, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
5530-T-X13A	Modified hollow CR tibial insert trial #x - 13mm, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
5555-5113	Mako Triathlon trialing tray	1
		Total quantity 8

Mako Triathlon trial tray part numbers **Triathlon PS configuration**		
6541-5-70X **or** **6541-1-70XE**	#x 4:1 cutting guide, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
5511-T-X01 **or** **5511-T-X02**	PS femoral trial #x left or PS femoral trial #x right, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
6541-2-60X	#x universal tibial template, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
6541-5-71X	#x MIS PS box cutting guide, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
6541-7-806	MIS 4:1 impactor/extractor	1
5532-T-X09A	Modified hollow PS tibial insert trial #x - 9mm, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
5532-T-X11A	Modified hollow PS tibial insert trial #x - 11mm, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
5532-T-X13A	Modified hollow PS tibial insert trial #x - 13mm, x = 1, 2, 3, 4, 5, 6, 7 and 8	1
5555-5113	Mako Triathlon trialing tray	1
		Total quantity 9

Note: The optional Triathlon CS tibial insert trials and optional Triathlon CR & PS tibial insert trial thicknesses (16, 19, 22, 25mm) are available in the standard Triathlon primary instrument set.

Catalog #	Description	Quantity in kit

Mako Triathlon general tray part numbers
Triathlon universal tibial tray / Triathlon PS configuration

6543-4-818	Universal torque wrench	1
6543-4-800	Tibial counter wrench	1
6543-4-517	Tibial boss reamer	1
6541-4-810	Impaction handle	1
6541-5-2XX	Sizes XX Triathlon PS femoral finishing punch, XX = 12, 34, 56, 78	1
6541-5-814	Sizes 1-4 Triathlon PS femoral box trial/protector	1
6541-5-858	Sizes 5-8 Triathlon PS femoral box trial/protector	1
8050-5002	Anterior femoral retractor	1
5555-5112	Mako general tray	1
	Total quantity	**10**

Mako Triathlon general tray part numbers
Triathlon PS / Spacer block configuration

6541-4-610	Adjustable spacer block	1
6541-4-810	Impaction handle	1
6541-5-2XX	Sizes XX Triathlon PS femoral finishing punch, XX = 12, 34, 56, 78	1
6541-5-814	Sizes 1-4 Triathlon PS femoral box trial/protector	1
6541-5-858	Sizes 5-8 Triathlon PS femoral box trial/protector	1
8050-5002	Anterior femoral retractor	1
5555-5112	Mako general tray	1
	Total quantity	**8**

* Two 1/2 trays per single tray case (1020-9000).

Non-tray specific part numbers

6541-4-003A (non-sterile) or 7650-2038A (sterile)	Fluted headless pins - 3″	1 pack
	Total quantity	**2**

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Quantity in kit
CR solid insert trialing tray		
5530-T-109Y	Triathlon solid CR tibial insert trial size 1 - 9mm	1
5530-T-110Y	Triathlon solid CR tibial insert trial size 1 - 10mm	1
5530-T-111Y	Triathlon solid CR tibial insert trial size 1 - 11mm	1
5530-T-112Y	Triathlon solid CR tibial insert trial size 1 - 12mm	1
5530-T-113Y	Triathlon solid CR tibial insert trial size 1 - 13mm	1
5530-T-114Y	Triathlon solid CR tibial insert trial size 1 - 14mm	1
5530-T-116Y	Triathlon solid CR tibial insert trial size 1 - 16mm	1
5530-T-119Y	Triathlon solid CR tibial insert trial size 1 - 19mm	1
5530-T-209Y	Triathlon solid CR tibial insert trial size 2 - 9mm	1
5530-T-210Y	Triathlon solid CR tibial insert trial size 2 - 10mm	1
5530-T-211Y	Triathlon solid CR tibial insert trial size 2 - 11mm	1
5530-T-212Y	Triathlon solid CR tibial insert trial size 2 - 12mm	1
5530-T-213Y	Triathlon solid CR tibial insert trial size 2 - 13mm	1
5530-T-214Y	Triathlon solid CR tibial insert trial size 2 - 14mm	1
5530-T-216Y	Triathlon solid CR tibial insert trial size 2 - 16mm	1
5530-T-219Y	Triathlon solid CR tibial insert trial size 2 - 19mm	1
5530-T-309Y	Triathlon solid CR tibial insert trial size 3 - 9mm	1
5530-T-310Y	Triathlon solid CR tibial insert trial size 3 - 10mm	1
5530-T-311Y	Triathlon solid CR tibial insert trial size 3 - 11mm	1
5530-T-312Y	Triathlon solid CR tibial insert trial size 3 - 12mm	1
5530-T-313Y	Triathlon solid CR tibial insert trial size 3 - 13mm	1
5530-T-314Y	Triathlon solid CR tibial insert trial size 3 - 14mm	1
5530-T-316Y	Triathlon solid CR tibial insert trial size 3 - 16mm	1
5530-T-319Y	Triathlon solid CR tibial insert trial size 3 - 19mm	1
5530-T-409Y	Triathlon solid CR tibial insert trial size 4 - 9mm	1
5530-T-410Y	Triathlon solid CR tibial insert trial size 4 - 10mm	1
5530-T-411Y	Triathlon solid CR tibial insert trial size 4 - 11mm	1
5530-T-412Y	Triathlon solid CR tibial insert trial size 4 - 12mm	1
5530-T-413Y	Triathlon solid CR tibial insert trial size 4 - 13mm	1
5530-T-414Y	Triathlon solid CR tibial insert trial size 4 - 14mm	1
5530-T-416Y	Triathlon solid CR tibial insert trial size 4 - 16mm	1
5530-T-419Y	Triathlon solid CR tibial insert trial size 4 - 19mm	1
5530-T-509Y	Triathlon solid CR tibial insert trial size 5 - 9mm	1
5530-T-510Y	Triathlon solid CR tibial insert trial size 5 - 10mm	1

Catalog #	Description	Quantity in kit

CR solid insert trialing tray - continued

5530-T-511Y	Triathlon solid CR tibial insert trial size 5 - 11mm	1
5530-T-512Y	Triathlon solid CR tibial insert trial size 5 - 12mm	1
5530-T-513Y	Triathlon solid CR tibial insert trial size 5 - 13mm	1
5530-T-514Y	Triathlon solid CR tibial insert trial size 5 - 14mm	1
5530-T-516Y	Triathlon solid CR tibial insert trial size 5 - 16mm	1
5530-T-519Y	Triathlon solid CR tibial insert trial size 5 - 19mm	1
5530-T-609Y	Triathlon solid CR tibial insert trial size 6 - 9mm	1
5530-T-610Y	Triathlon solid CR tibial insert trial size 6 - 10mm	1
5530-T-611Y	Triathlon solid CR tibial insert trial size 6 - 11mm	1
5530-T-612Y	Triathlon solid CR tibial insert trial size 6 - 12mm	1
5530-T-613Y	Triathlon solid CR tibial insert trial size 6 - 13mm	1
5530-T-614Y	Triathlon solid CR tibial insert trial size 6 - 14mm	1
5530-T-616Y	Triathlon solid CR tibial insert trial size 6 - 16mm	1
5530-T-619Y	Triathlon solid CR tibial insert trial size 6 - 19mm	1
5530-T-709Y	Triathlon solid CR tibial insert trial size 7 - 9mm	1
5530-T-710Y	Triathlon solid CR tibial insert trial size 7 - 10mm	1
5530-T-711Y	Triathlon solid CR tibial insert trial size 7 - 11mm	1
5530-T-712Y	Triathlon solid CR tibial insert trial size 7 - 12mm	1
5530-T-713Y	Triathlon solid CR tibial insert trial size 7 - 13mm	1
5530-T-714Y	Triathlon solid CR tibial insert trial size 7 - 14mm	1
5530-T-716Y	Triathlon solid CR tibial insert trial size 7 - 16mm	1
5530-T-719Y	Triathlon solid CR tibial insert trial size 7 - 19mm	1
5530-T-809Y	Triathlon solid CR tibial insert trial size 8 - 9mm	1
5530-T-810Y	Triathlon solid CR tibial insert trial size 8 - 10mm	1
5530-T-811Y	Triathlon solid CR tibial insert trial size 8 - 11mm	1
5530-T-812Y	Triathlon solid CR tibial insert trial size 8 - 12mm	1
5530-T-813Y	Triathlon solid CR tibial insert trial size 8 - 13mm	1
5530-T-814Y	Triathlon solid CR tibial insert trial size 8 - 14mm	1
5530-T-816Y	Triathlon solid CR tibial insert trial size 8 - 16mm	1
5530-T-819Y	Triathlon solid CR tibial insert trial size 8 - 19mm	1
6541-9-100	Triathlon CR insert trial tray (Size 1-8)	1
	Total quantity	**65**

*Note: The above tray is optional to accommodate 10mm, 12mm and 14mm trials. All trials of other thickness listed in this protocol are interchangeable in all existing trays.

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Quantity in kit
PS solid insert trialing tray		
5532-T-109Y	Triathlon solid PS tibial insert trial size 1 - 9mm	1
5532-T-110Y	Triathlon solid PS tibial insert trial size 1 - 10mm	1
5532-T-111Y	Triathlon solid PS tibial insert trial size 1 - 11mm	1
5532-T-112Y	Triathlon solid PS tibial insert trial size 1 - 12mm	1
5532-T-113Y	Triathlon solid PS tibial insert trial size 1 - 13mm	1
5532-T-114Y	Triathlon solid PS tibial insert trial size 1 - 14mm	1
5532-T-116Y	Triathlon solid PS tibial insert trial size 1 - 16mm	1
5532-T-119Y	Triathlon solid PS tibial insert trial size 1 - 19mm	1
5532-T-122Y	Triathlon solid PS tibial insert trial size 1 - 22mm	1
5532-T-209Y	Triathlon solid PS tibial insert trial size 2 - 9mm	1
5532-T-210Y	Triathlon solid PS tibial insert trial size 2 - 10mm	1
5532-T-211Y	Triathlon solid PS tibial insert trial size 2 - 11mm	1
5532-T-212Y	Triathlon solid PS tibial insert trial size 2 - 12mm	1
5532-T-213Y	Triathlon solid PS tibial insert trial size 2 - 13mm	1
5532-T-214Y	Triathlon solid PS tibial insert trial size 2 - 14mm	1
5532-T-216Y	Triathlon solid PS tibial insert trial size 2 - 16mm	1
5532-T-219Y	Triathlon solid PS tibial insert trial size 2 - 19mm	1
5532-T-222Y	Triathlon solid PS tibial insert trial size 2 - 22mm	1
5532-T-309Y	Triathlon solid PS tibial insert trial size 3 - 9mm	1
5532-T-310Y	Triathlon solid PS tibial insert trial size 3 - 10mm	1
5532-T-311Y	Triathlon solid PS tibial insert trial size 3 - 11mm	1
5532-T-312Y	Triathlon solid PS tibial insert trial size 3 - 12mm	1
5532-T-313Y	Triathlon solid PS tibial insert trial size 3 - 13mm	1
5532-T-314Y	Triathlon solid PS tibial insert trial size 3 - 14mm	1
5532-T-316Y	Triathlon solid PS tibial insert trial size 3 - 16mm	1
5532-T-319Y	Triathlon solid PS tibial insert trial size 3 - 19mm	1
5532-T-322Y	Triathlon solid PS tibial insert trial size 3 - 22mm	1
5532-T-409Y	Triathlon solid PS tibial insert trial size 4 - 9mm	1
5532-T-410Y	Triathlon solid PS tibial insert trial size 4 - 10mm	1
5532-T-411Y	Triathlon solid PS tibial insert trial size 4 - 11mm	1
5532-T-412Y	Triathlon solid PS tibial insert trial size 4 - 12mm	1
5532-T-413Y	Triathlon solid PS tibial insert trial size 4 - 13mm	1
5532-T-414Y	Triathlon solid PS tibial insert trial size 4 - 14mm	1
5532-T-416Y	Triathlon solid PS tibial insert trial size 4 - 16mm	1
5532-T-419Y	Triathlon solid PS tibial insert trial size 4 - 19mm	1
5532-T-422Y	Triathlon solid PS tibial insert trial size 4 - 22mm	1
5532-T-509Y	Triathlon solid PS tibial insert trial size 5 - 9mm	1
5532-T-510Y	Triathlon solid PS tibial insert trial size 5 - 10mm	1

Catalog #	Description	Quantity in kit

PS solid insert trialing tray - continued

5532-T-511Y	Triathlon solid PS tibial insert trial size 5 - 11mm	1
5532-T-512Y	Triathlon solid PS tibial insert trial size 5 - 12mm	1
5532-T-513Y	Triathlon solid PS tibial insert trial size 5 - 13mm	1
5532-T-514Y	Triathlon solid PS tibial insert trial size 5 - 14mm	1
5532-T-516Y	Triathlon solid PS tibial insert trial size 5 - 16mm	1
5532-T-519Y	Triathlon solid PS tibial insert trial size 5 - 19mm	1
5532-T-522Y	Triathlon solid PS tibial insert trial size 5 - 22mm	1
5532-T-609Y	Triathlon solid PS tibial insert trial size 6 - 9mm	1
5532-T-610Y	Triathlon solid PS tibial insert trial size 6 - 10mm	1
5532-T-611Y	Triathlon solid PS tibial insert trial size 6 - 11mm	1
5532-T-612Y	Triathlon solid PS tibial insert trial size 6 - 12mm	1
5532-T-613Y	Triathlon solid PS tibial insert trial size 6 - 13mm	1
5532-T-614Y	Triathlon solid PS tibial insert trial size 6 - 14mm	1
5532-T-616Y	Triathlon solid PS tibial insert trial size 6 - 16mm	1
5532-T-619Y	Triathlon solid PS tibial insert trial size 6 - 19mm	1
5532-T-622Y	Triathlon solid PS tibial insert trial size 6 - 22mm	1
5532-T-709Y	Triathlon solid PS tibial insert trial size 7 - 9mm	1
5532-T-710Y	Triathlon solid PS tibial insert trial size 7 - 10mm	1
5532-T-711Y	Triathlon solid PS tibial insert trial size 7 - 11mm	1
5532-T-712Y	Triathlon solid PS tibial insert trial size 7 - 12mm	1
5532-T-713Y	Triathlon solid PS tibial insert trial size 7 - 13mm	1
5532-T-714Y	Triathlon solid PS tibial insert trial size 7 - 14mm	1
5532-T-716Y	Triathlon solid PS tibial insert trial size 7 - 16mm	1
5532-T-719Y	Triathlon solid PS tibial insert trial size 7 - 19mm	1
5532-T-722Y	Triathlon solid PS tibial insert trial size 7 - 22mm	1
5532-T-809Y	Triathlon solid PS tibial insert trial size 8 - 9mm	1
5532-T-810Y	Triathlon solid PS tibial insert trial size 8 - 10mm	1
5532-T-811Y	Triathlon solid PS tibial insert trial size 8 - 11mm	1
5532-T-812Y	Triathlon solid PS tibial insert trial size 8 - 12mm	1
5532-T-813Y	Triathlon solid PS tibial insert trial size 8 - 13mm	1
5532-T-814Y	Triathlon solid PS tibial insert trial size 8 - 14mm	1
5532-T-816Y	Triathlon solid PS tibial insert trial size 8 - 16mm	1
5532-T-819Y	Triathlon solid PS tibial insert trial size 8 - 19mm	1
5532-T-822Y	Triathlon solid PS tibial insert trial size 8 - 22mm	1
6541-9-102	Triathlon PS insert trial tray (Size 1-8)	1
		Total quantity 73

*Note: The above tray is optional to accommodate 10mm, 12mm and 14mm trials. All trials of other thickness listed in this protocol are interchangeable in all existing trays.

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Quantity in kit
CS solid insert trialing tray		
5531-T-109Y	Triathlon solid CS tibial insert trial size 1 - 9mm	1
5531-T-110Y	Triathlon solid CS tibial insert trial size 1 - 10mm	1
5531-T-111Y	Triathlon solid CS tibial insert trial size 1 - 11mm	1
5531-T-112Y	Triathlon solid CS tibial insert trial size 1 - 12mm	1
5531-T-113Y	Triathlon solid CS tibial insert trial size 1 - 13mm	1
5531-T-114Y	Triathlon solid CS tibial insert trial size 1 - 14mm	1
5531-T-116Y	Triathlon solid CS tibial insert trial size 1 - 16mm	1
5531-T-119Y	Triathlon solid CS tibial insert trial size 1 - 19mm	1
5531-T-122Y	Triathlon solid CS tibial insert trial size 1 - 22mm	1
5531-T-209Y	Triathlon solid CS tibial insert trial size 2 - 9mm	1
5531-T-210Y	Triathlon solid CS tibial insert trial size 2 - 10mm	1
5531-T-211Y	Triathlon solid CS tibial insert trial size 2 - 11mm	1
5531-T-212Y	Triathlon solid CS tibial insert trial size 2 - 12mm	1
5531-T-213Y	Triathlon solid CS tibial insert trial size 2 - 13mm	1
5531-T-214Y	Triathlon solid CS tibial insert trial size 2 - 14mm	1
5531-T-216Y	Triathlon solid CS tibial insert trial size 2 - 16mm	1
5531-T-219Y	Triathlon solid CS tibial insert trial size 2 - 19mm	1
5531-T-222Y	Triathlon solid CS tibial insert trial size 2 - 22mm	1
5531-T-309Y	Triathlon solid CS tibial insert trial size 3 - 9mm	1
5531-T-310Y	Triathlon solid CS tibial insert trial size 3 - 10mm	1
5531-T-311Y	Triathlon solid CS tibial insert trial size 3 - 11mm	1
5531-T-312Y	Triathlon solid CS tibial insert trial size 3 - 12mm	1
5531-T-313Y	Triathlon solid CS tibial insert trial size 3 - 13mm	1
5531-T-314Y	Triathlon solid CS tibial insert trial size 3 - 14mm	1
5531-T-316Y	Triathlon solid CS tibial insert trial size 3 - 16mm	1
5531-T-319Y	Triathlon solid CS tibial insert trial size 3 - 19mm	1
5531-T-322Y	Triathlon solid CS tibial insert trial size 3 - 22mm	1
5531-T-409Y	Triathlon solid CS tibial insert trial size 4 - 9mm	1
5531-T-410Y	Triathlon solid CS tibial insert trial size 4 - 10mm	1
5531-T-411Y	Triathlon solid CS tibial insert trial size 4 - 11mm	1
5531-T-412Y	Triathlon solid CS tibial insert trial size 4 - 12mm	1
5531-T-413Y	Triathlon solid CS tibial insert trial size 4 - 13mm	1
5531-T-414Y	Triathlon solid CS tibial insert trial size 4 - 14mm	1
5531-T-416Y	Triathlon solid CS tibial insert trial size 4 - 16mm	1
5531-T-419Y	Triathlon solid CS tibial insert trial size 4 - 19mm	1
5531-T-422Y	Triathlon solid CS tibial insert trial size 4 - 22mm	1
5531-T-509Y	Triathlon solid CS tibial insert trial size 5 - 9mm	1
5531-T-510Y	Triathlon solid CS tibial insert trial size 5 - 10mm	1

Catalog #	Description	Quantity in kit

CS solid insert trialing tray - continued

5531-T-511Y	Triathlon solid CS tibial insert trial size 5 - 11mm	1
5531-T-512Y	Triathlon solid CS tibial insert trial size 5 - 12mm	1
5531-T-513Y	Triathlon solid CS tibial insert trial size 5 - 13mm	1
5531-T-514Y	Triathlon solid CS tibial insert trial size 5 - 14mm	1
5531-T-516Y	Triathlon solid CS tibial insert trial size 5 - 16mm	1
5531-T-519Y	Triathlon solid CS tibial insert trial size 5 - 19mm	1
5531-T-522Y	Triathlon solid CS tibial insert trial size 5 - 22mm	1
5531-T-609Y	Triathlon solid CS tibial insert trial size 6 - 9mm	1
5531-T-610Y	Triathlon solid CS tibial insert trial size 6 - 10mm	1
5531-T-611Y	Triathlon solid CS tibial insert trial size 6 - 11mm	1
5531-T-612Y	Triathlon solid CS tibial insert trial size 6 - 12mm	1
5531-T-613Y	Triathlon solid CS tibial insert trial size 6 - 13mm	1
5531-T-614Y	Triathlon solid CS tibial insert trial size 6 - 14mm	1
5531-T-616Y	Triathlon solid CS tibial insert trial size 6 - 16mm	1
5531-T-619Y	Triathlon solid CS tibial insert trial size 6 - 19mm	1
5531-T-622Y	Triathlon solid CS tibial insert trial size 6 - 22mm	1
5531-T-709Y	Triathlon solid CS tibial insert trial size 7 - 9mm	1
5531-T-710Y	Triathlon solid CS tibial insert trial size 7 - 10mm	1
5531-T-711Y	Triathlon solid CS tibial insert trial size 7 - 11mm	1
5531-T-712Y	Triathlon solid CS tibial insert trial size 7 - 12mm	1
5531-T-713Y	Triathlon solid CS tibial insert trial size 7 - 13mm	1
5531-T-714Y	Triathlon solid CS tibial insert trial size 7 - 14mm	1
5531-T-716Y	Triathlon solid CS tibial insert trial size 7 - 16mm	1
5531-T-719Y	Triathlon solid CS tibial insert trial size 7 - 19mm	1
5531-T-722Y	Triathlon solid CS tibial insert trial size 7 - 22mm	1
5531-T-809Y	Triathlon solid CS tibial insert trial size 8 - 9mm	1
5531-T-810Y	Triathlon solid CS tibial insert trial size 8 - 10mm	1
5531-T-811Y	Triathlon solid CS tibial insert trial size 8 - 11mm	1
5531-T-812Y	Triathlon solid CS tibial insert trial size 8 - 12mm	1
5531-T-813Y	Triathlon solid CS tibial insert trial size 8 - 13mm	1
5531-T-814Y	Triathlon solid CS tibial insert trial size 8 - 14mm	1
5531-T-816Y	Triathlon solid CS tibial insert trial size 8 - 16mm	1
5531-T-819Y	Triathlon solid CS tibial insert trial size 8 - 19mm	1
5531-T-822Y	Triathlon solid CS tibial insert trial size 8 - 22mm	1
6541-9-101	Triathlon CS insert trial tray (Size 1-8)	1
	Total quantity	**73**

*Note: The above tray is optional to accommodate 10mm, 12mm and 14mm trials. All trials of other thickness listed in this protocol are interchangeable in all existing trays.

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Quantity in kit
Triathlon single-use instruments part numbers		
CR tibial prep		
5555-2321	Triathlon CR single-use tibial prep kit size 1	1
5555-2322	Triathlon CR single-use tibial prep kit size 2	1
5555-2323	Triathlon CR single-use tibial prep kit size 3	1
5555-2324	Triathlon CR single-use tibial prep kit size 4	1
5555-2325	Triathlon CR single-use tibial prep kit size 5	1
5555-2326	Triathlon CR single-use tibial prep kit size 6	1
5555-2327	Triathlon CR single-use tibial prep kit size 7	1
5555-2328	Triathlon CR single-use tibial prep kit size 8	1
	Total quantity	**10**
PS tibial prep		
5555-2361	Triathlon PS single-use tibial prep kit size 1	1
5555-2362	Triathlon PS single-use tibial prep kit size 2	1
5555-2363	Triathlon PS single-use tibial prep kit size 3	1
5555-2364	Triathlon PS single-use tibial prep kit size 4	1
5555-2365	Triathlon PS single-use tibial prep kit size 5	1
5555-2366	Triathlon PS single-use tibial prep kit size 6	1
5555-2367	Triathlon PS single-use tibial prep kit size 7	1
5555-2368	Triathlon PS single-use tibial prep kit size 8	1
	Total quantity	**8**
CR femoral prep		
5555-2201	Triathlon CR single-use femoral prep kit size 1	1
5555-2202	Triathlon CR single-use femoral prep kit size 2	1
5555-2203	Triathlon CR single-use femoral prep kit size 3	1
5555-2204	Triathlon CR single-use femoral prep kit size 4	1
5555-2205	Triathlon CR single-use femoral prep kit size 5	1
5555-2206	Triathlon CR single-use femoral prep kit size 6	1
5555-2207	Triathlon CR single-use femoral prep kit size 7	1
5555-2208	Triathlon CR single-use femoral prep kit size 8	1
	Total quantity	**8**
PS femoral prep		
5555-2251	Triathlon PS single-use femoral prep kit size 1	1
5555-2252	Triathlon PS single-use femoral prep kit size 2	1
5555-2253	Triathlon PS single-use femoral prep kit size 3	1
5555-2254	Triathlon PS single-use femoral prep kit size 4	1
5555-2255	Triathlon PS single-use femoral prep kit size 5	1
5555-2256	Triathlon PS single-use femoral prep kit size 6	1
5555-2257	Triathlon PS single-use femoral prep kit size 7	1
5555-2258	Triathlon PS single-use femoral prep kit size 8	1
	Total quantity	**8**

Catalog #	Description	Sizes	Quantity

Triathlon CR femoral component - cemented part numbers

5510-F-X01	Triathlon CR femoral component - left cemented	X = 1,2,3,4,5,6,7 and 8	1 each size
5510-F-X02	Triathlon CR femoral component - right cemented	X = 1,2,3,4,5,6,7 and 8	1 each size
5517-F-X01	Triathlon CR femoral component - left uncemented (PA-beaded)	X = 1,2,3,4,5,6,7 and 8	1 each size
5517-F-X02	Triathlon CR femoral component - right uncemented (PA-beaded)	X = 1,2,3,4,5,6,7 and 8	1 each size

Triathlon CR tibial inserts - Conventional Polyethelyne and X3 Part Numbers

5530-P-X09	Triathlon CR tibial insert - conventional polyethylene 9mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-P-X10	Triathlon CR tibial insert - conventional polyethylene 10mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-P-X11	Triathlon CR tibial insert - conventional polyethylene 11mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-P-X12	Triathlon CR tibial insert - conventional polyethylene 12mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-P-X13	Triathlon CR tibial insert - conventional polyethylene 13mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-P-X14	Triathlon CR tibial insert - conventional polyethylene 14mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-P-X16	Triathlon CR tibial insert - conventional polyethylene 16mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-P-X19	Triathlon CR tibial insert - conventional polyethylene 19mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X09 or 5530-G-X09-E	Triathlon CR tibial insert - X3 9mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X10-E	Triathlon CR tibial insert - X3 10mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X11 or 5530-G-X11-E	Triathlon CR tibial insert - X3 11mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X12-E	Triathlon CR tibial insert - X3 12mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X13 or 5530-G-X13-E	Triathlon CR tibial insert - X3 13mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X14-E	Triathlon CR tibial insert - X3 14mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X16 or 5530-G-X16-E	Triathlon CR tibial insert - X3 16mm	X = 1,2,3,4,5,6,7,8	1 each size
5530-G-X19 or 5530-G-X19-E	Triathlon CR tibial insert - X3 19mm	X = 1,2,3,4,5,6,7,8	1 each size

Triathlon CS tibial inserts - Conventional Polyethelyne and X3 Part Numbers

5531-P-X09	Triathlon CS tibial insert - Conventional polyethylene 9mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X10	Triathlon CS tibial insert - Conventional polyethylene 10mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X11	Triathlon CS tibial insert - Conventional polyethylene 11mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X12	Triathlon CS tibial insert - Conventional polyethylene 12mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X13	Triathlon CS tibial insert - Conventional polyethylene 13mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X14	Triathlon CS tibial insert - Conventional polyethylene 14mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X16	Triathlon CS tibial insert - Conventional polyethylene 16mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X19	Triathlon CS tibial insert - Conventional polyethylene 19mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X22	Triathlon CS tibial insert - Conventional polyethylene 22mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-P-X25	Triathlon CS tibial insert - Conventional polyethylene 25mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X09 or 5531-G-X09-E	Triathlon CS tibial insert - X3 9mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X10-E	Triathlon CS tibial insert - X3 10mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X11 or 5531-G-X11-E	Triathlon CS tibial insert - X3 11mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X12-E	Triathlon CS tibial insert - X3 12mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X13 or 5531-G-X13-E	Triathlon CS tibial insert - X3 13mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X14-E	Triathlon CS tibial insert - X3 14mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X16 or 5531-G-X16-E	Triathlon CS tibial insert - X3 16mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X19 or 5531-G-X19-E	Triathlon CS tibial insert - X3 19mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X22 or 5531-G-X22-E	Triathlon CS tibial insert - X3 22mm	X = 1,2,3,4,5,6,7,8	1 each size
5531-G-X25	Triathlon CS tibial insert - X3 25mm	X = 1,2,3,4,5,6,7,8	1 each size

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Sizes	Quantity
Triathlon PS femoral component - cemented part numbers			
5515-F-X01	Triathlon PS femoral component - left cemented	X = 1,2,3,4,5,6,7, and 8	1 each size
5515-F-X02	Triathlon PS femoral component - right cemented	X = 1,2,3,4,5,6,7, and 8	1 each size
5516-F-X01	Triathlon PS femoral component - left uncemented (PA-beaded)	X = 1,2,3,4,5,6,7, and 8	1 each size
5516-F-X02	Triathlon PS femoral component - right uncemented (PA-beaded)	X = 1,2,3,4,5,6,7, and 8	1 each size
Triathlon PS tibial inserts - Conventional Polyethelyne and X3 Part Numbers			
5532-P-X09	Triathlon PS tibial insert - Conventional polyethylene 9mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X10	Triathlon PS tibial insert - Conventional polyethylene 10mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X11	Triathlon PS tibial insert - Conventional polyethylene 11mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X12	Triathlon PS tibial insert - Conventional polyethylene 12mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X13	Triathlon PS tibial insert - Conventional polyethylene 13mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X14	Triathlon PS tibial insert - Conventional polyethylene 14mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X16	Triathlon PS tibial insert - Conventional polyethylene 16mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X19	Triathlon PS tibial insert - Conventional polyethylene 19mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X22	Triathlon PS tibial insert - Conventional polyethylene 22mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-P-X25	Triathlon PS tibial insert - Conventional polyethylene 25mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X09 or 5532-G-X09-E	Triathlon PS tibial insert - X3 9mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X10-E	Triathlon PS tibial insert - X3 10mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X11 or 5532-G-X11-E	Triathlon PS tibial insert - X3 11mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X12-E	Triathlon PS tibial insert - X3 12mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X13 or 5532-G-X13-E	Triathlon PS tibial insert - X3 13mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X14-E	Triathlon PS tibial insert - X3 14mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X16 or 5532-G-X16-E	Triathlon PS tibial insert - X3 16mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X19 or 5532-G-X19-E	Triathlon PS tibial insert - X3 19mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X22 or 5532-G-X22-E	Triathlon PS tibial insert - X3 22mm	X = 1,2,3,4,5,6,7,8	1 each size
5532-G-X25	Triathlon PS tibial insert - X3 25mm	X = 1,2,3,4,5,6,7,8	1 each size

Catalog #	Description	Sizes	Additional instruments required
Triathlon primary tibial baseplate – options part numbers			(Below instruments are required to implant corresponding baseplates)
5520-B-X00	Primary tibial baseplate – cemented	X = 1,2,3,4,5,6,7, and 8	
5520-M-X00	Primary low profile baseplate – cemented	X = 1,2,3,4,5,6,7, and 8	6541-2-113 size 1-3 MIS keel punch 6541-2-146 size 4-6 MIS keel punch 6541-2-178 size 7/8 MIS keel punch
5521-B-X00	Universal baseplate	X = 1,2,3,4,5,6,7, and 8	6543-4-818 universal torque wrench 6543-4-800 tibial counter wrench 6543-4-517 tibial boss reamer
5536-B-X00	Triathlon Tritanium baseplate	X=1,2,3,4,5,6,7, and 8	6541-6-013 size 1-3 Triathlon cementless keel punch 6541-6-046 size 4-6 Triathlon cementless keel punch 6541-6-078 size 7-8 Triathlon cementless keel punch 6541-2-64X Tritanium tibial peg drill template X=1,2,3,4,5,6,7 and 8 6541-2-625 Tritanium tibial peg drill - 1/8″ 6541-2-626 Tritanium tibial peg drill - 7/32″

Catalog

Catalog #	Description	Sizes	Quantity
Triathlon symmetric patella - conventional polyethylene and X3 part numbers			
Conventional polyethylene			
5550-L-278	Symmetric patella - conventional polyethylene	S27mm × 8mm	1
5550-L-298	Symmetric patella - conventional polyethylene	S29mm × 8mm	1
5550-L-319	Symmetric patella - conventional polyethylene	S31mm × 9mm	1
5550-L-339	Symmetric patella - conventional polyethylene	S33mm × 9mm	1
5550-L-360	Symmetric patella - conventional polyethylene	S36mm × 10mm	1
5550-L-391	Symmetric patella - conventional polyethylene	S39mm × 11mm	1
X3			
5550-G-278 or 5550-G-278-E	Symmetric patella - X3	S27mm × 8mm	1
5550-G-298 or 5550-G-298-E	Symmetric patella - X3	S29mm × 8mm	1
5550-G-319 or 5550-G-319-E	Symmetric patella - X3	S31mm × 9mm	1
5550-G-339 or 5550-G-339-E	Symmetric patella - X3	S33mm × 9mm	1
5550-G-360 or 5550-G-360-E	Symmetric patella - X3	S36mm × 10mm	1
5550-G-391 or 5550-G-391-E	Symmetric patella - X3	S39mm × 11mm	1
Triathlon asymmetric patella - conventional polyethylene and X3 part numbers			
Conventional polyethylene			
5551-L-299	Asymmetric patella - conventional polyethylene	A29mm (S/I*) × 9mm	1
5551-L-320	Asymmetric patella - conventional polyethylene	A32mm (S/I*) × 10mm	1
5551-L-350	Asymmetric patella - conventional polyethylene	A35mm (S/I*) × 10mm	1
5551-L-381	Asymmetric patella - conventional polyethylene	A38mm (S/I*) × 11mm	1
5551-L-401	Asymmetric patella - conventional polyethylene	A40mm (S/I*) × 11mm	1
X3			
5551-G-299 or 5551-G-299-E	Asymmetric patella - X3	A29mm (S/I*) × 9mm	1
5551-G-320 or 5551-G-320-E	Asymmetric patella - X3	A32mm (S/I*) × 10mm	1
5551-G-350 or 5551-G-350-E	Asymmetric patella - X3	A35mm (S/I*) × 10mm	1
5551-G-381 or 5551-G-381-E	Asymmetric patella - X3	A38mm (S/I*) × 11mm	1
5551-G-401 or 5551-G-401-E	Asymmetric patella - X3	A40mm (S/I*) × 11mm	1

* S/I = Superior/Inferior

Mako Total Knee with Triathlon
Surgical protocol

Catalog #	Description	Sizes	Qty	Additional instruments required	
5556-L-319	Symmetric patella with Tritanium	S31mm x 9mm	1	6541-3-522	Metal-backed patella drill w/stop
5556-L-339	Symmetric patella with Tritanium	S33mm x 9mm	1	6541-3-530	Tritanium patella inserter
5556-L-360	Symmetric patella with Tritanium	S36mm x 10mm	1	6541-3-526	Tritanium dense bone patella drill
5556-L-391	Symmetric patella with Tritanium	S39mm x 11mm	1	6541-3-319	Symmetric size S31 patella capture
				6541-3-339	Symmetric size S33 patella capture
				6541-3-360	Symmetric size S36 patella capture
				6541-3-391	Symmetric size S39 patella capture

Catalog #	Description	Sizes	Qty	Additional instruments required	
5552-L-299	Asymmetric patella with Tritanium	A29mm (S/I*) x 9mm	1	6541-3-522	Metal-backed patella drill w/stop
5552-L-320	Asymmetric patella with Tritanium	A32mm (S/I*) x 10mm	1	6541-3-530	Tritanium patella inserter
5552-L-350	Asymmetric patella with Tritanium	A35mm (S/I*) x 10mm	1	6541-3-526	Tritanium dense bone patella drill
5552-L-381	Asymmetric patella with Tritanium	A38mm (S/I*) x 11mm	1	6541-3-299	Asymmetric size A29 patella capture
5552-L-401	Asymmetric patella with Tritanium	A40mm (S/I*) x 11mm	1	6541-3-320	Asymmetric size A32 patella capture
				6541-3-350	Asymmetric size A35 patella capture
				6541-3-381	Asymmetric size A38 patella capture
				6541-3-401	Asymmetric size A40 patella capture

Notes

stryker

Joint Replacement

A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery.

The information presented is intended to demonstrate the breadth of Stryker's product offerings. A surgeon must always refer to the package insert, product label and/or instructions for use before using any of Stryker's products. The products depicted are CE marked according to the Medical Device Directive 93/42/EEC. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your sales representative if you have questions about the availability of products in your area.

TRIATH-SP-21_Rev-1_19390

Manufactured by:

325 Corporate Drive
Mahwah, NJ 07430

stryker.com