Tibial Nail System

Surgical Technique



Arthrex®

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Tibial Nail System

Indications

The tibial nail system is intended to provide temporary stabilization of various types of fractures, malunions, and nonunions of the tibia. The tibial nail system is indicated for long bone fracture fixation of tibial fractures, which may include the following:

- Traverse, oblique, spiral, segmental and comminuted fractures
- Fractures with bone loss and bone transport
- Open and closed fractures, pathologic fractures
- Corrective osteotomies
- Pseudarthrosis of the tibial shaft
- Nonunions, malunions, metaphyseal and epiphyseal fractures



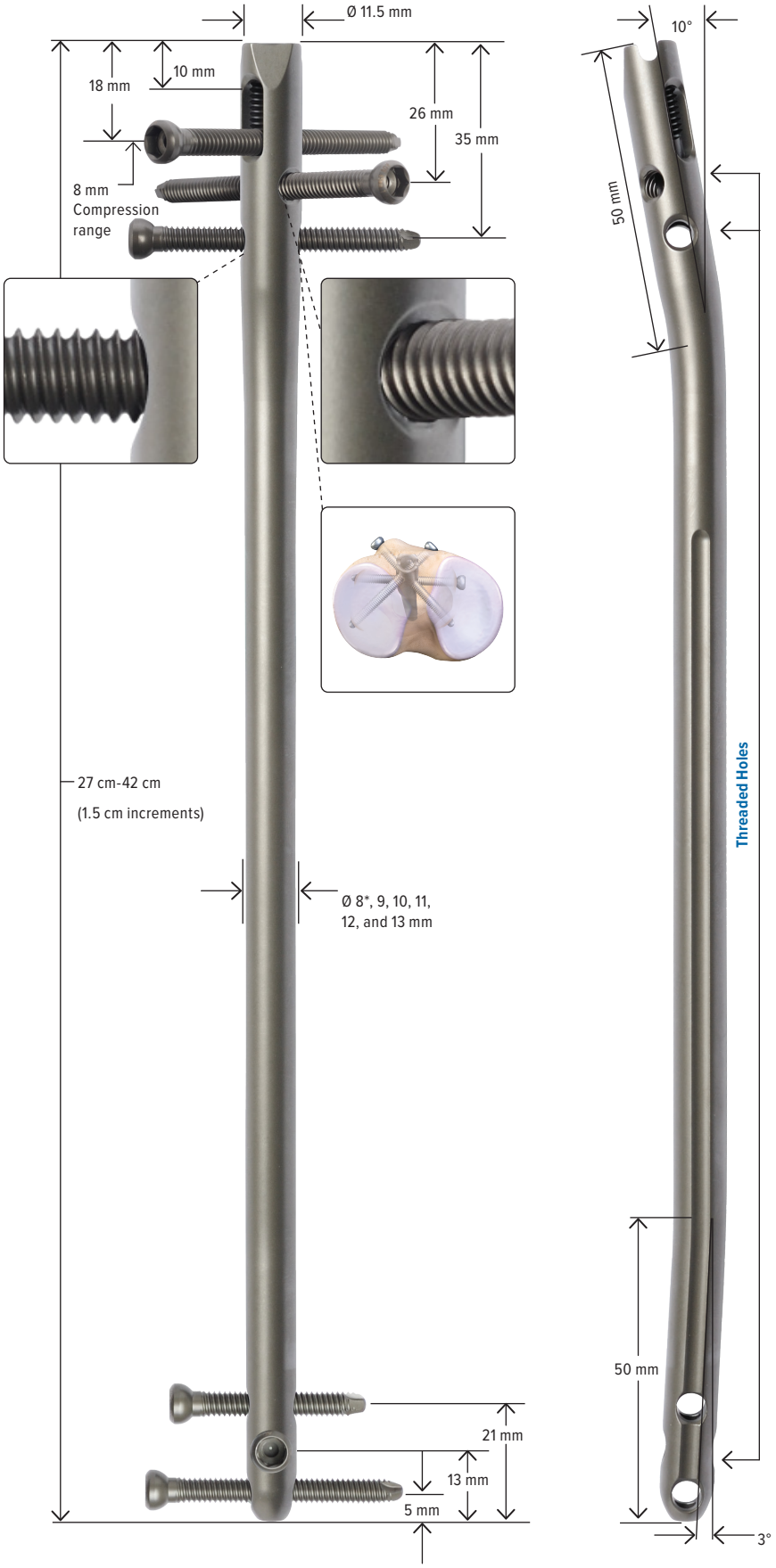
System Overview

The system contains instrumentation that can be used for either a parapatellar approach or a suprapatellar approach. The distal screw configuration is the most distal combination of screws that features a threaded locking option available on the market today. This maximizes the working length of the nail and stretches the indications for tibial nailing.

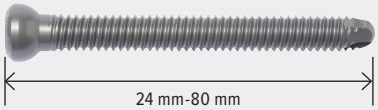
The Tibial Nail System features the following:

- Three distal screws at 5 mm, 13 mm, and 21 mm from the end of the nail
- Three proximal screw options, including a dynamic slot for compression or static positioning
- Threaded screw holes to maintain screw position in the two proximal static holes and the distal AP hole
- Up to 8 mm of intraoperative compression
- Flexible suprapatellar sheath to minimize pressure on the patella
- **Diameters:** 8 mm-13 mm in 1 mm increments
- **Lengths:** 27 cm-42 cm in 1.5 cm increments
- 10° proximal Herzog bend and 3° distal bend to facilitate implantation

Implant Features



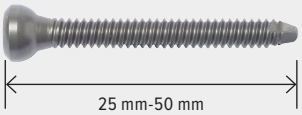
5.0 mm Captured Cortical Screw



5.0 mm Cannulated Blocking Screw



4.2 mm Captured Cortical Screw*



Spacer, Static Locking



End Caps

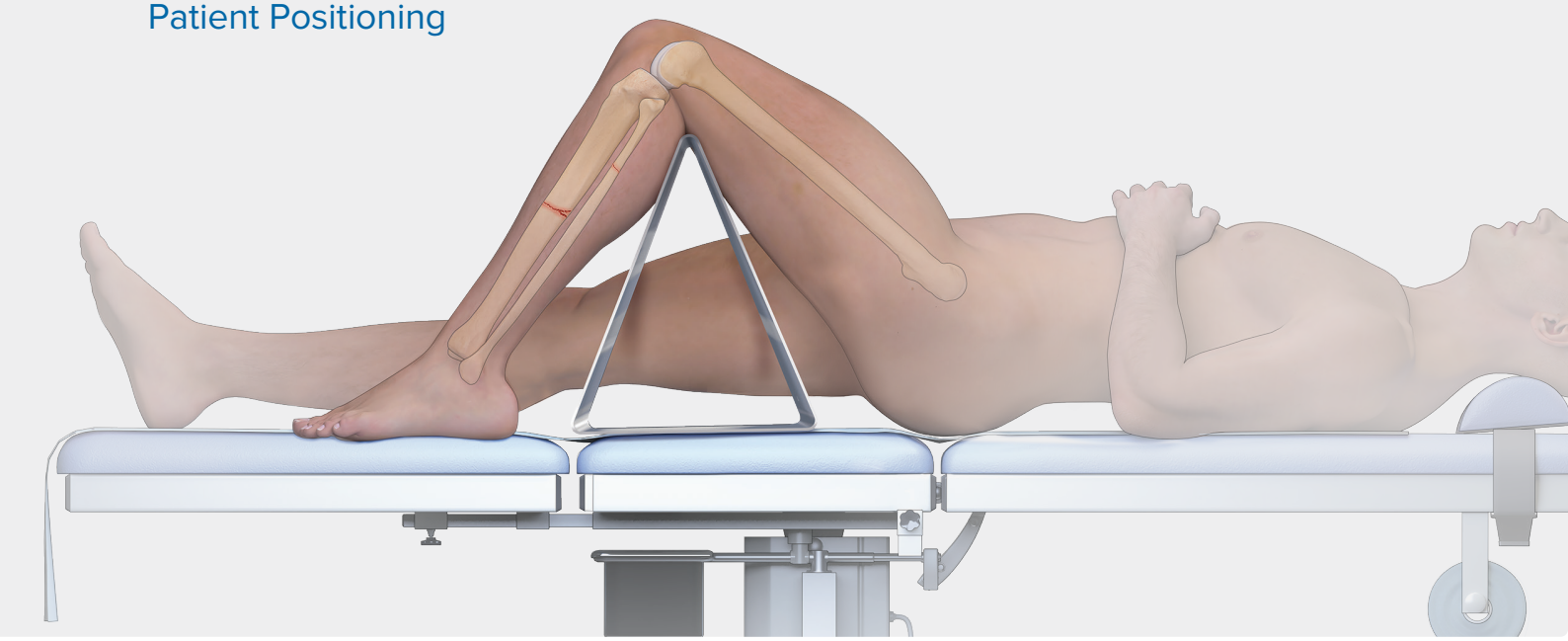


Note: The flush end cap also enables postoperative fracture compression when a single proximal screw is placed in the oblong slot.

*8 mm nails require 4.2 mm captured cortical screws for distal locking.

Tibial Nail System: Infrapatellar Approach

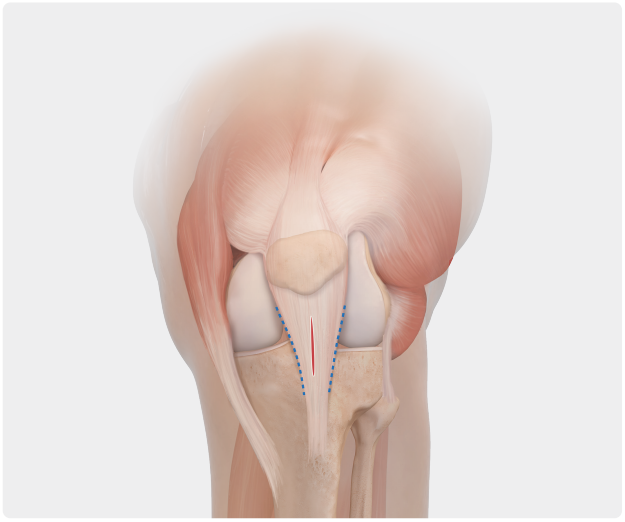
Patient Positioning



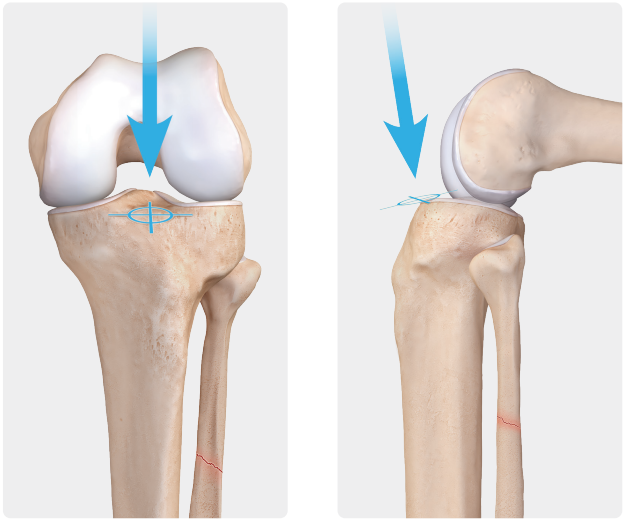
Position the patient supine on a radiolucent table. Knee flexion will assist with the identification of the anatomic landmarks to allow accurate incision placement. For ease of distal locking from the medial direction, it is helpful to place the C-arm on the opposite side of the injured limb.

> **Note:** To confirm adequate visualization and reduction capabilities, take preliminary radiographic images before the patient is fully prepped and completely draped.

Incision and Entry Point



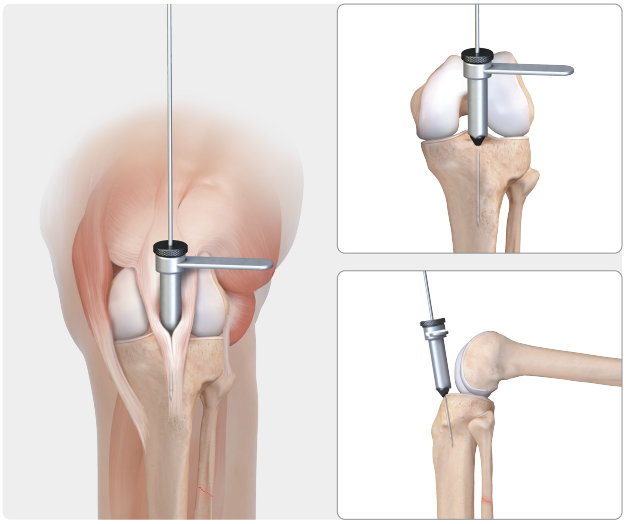
Make a patellar splitting or parapatellar incision, 1.5 cm to 3 cm in length, in line with the intramedullary canal.



Locate the entry point into the tibial intramedullary canal just medial to the lateral tibial eminence in the AP view, and 10° off the anatomic axis of the medullary canal in the lateral view. The proximal bend in the Arthrex tibial nail is designed to accommodate a start point translated anterior to the anatomic axis.

Based on surgeon preference, an entry point is made with one of the following two options:

ENTRY OPTION A



Place the 3.2 mm guide pin using the entry tube and 3.2 mm pin guide. Orient the entry tube and pin guide into the proper position and insert the guide pin into the metaphysis 1.5 cm to 3 cm.

Use AP and lateral fluoroscopic views to confirm accurate placement of the guide pin.

Remove the pin guide from the entry tube and use the 12 mm cannulated entry reamer through the entry tube to open the proximal tibia.



When used with the entry tube, the markings on the reamer shaft correspond to the final position of the nail relative to the tibia cortex. The lines correspond to 0 mm, 5 mm, and 10 mm of countersinking.

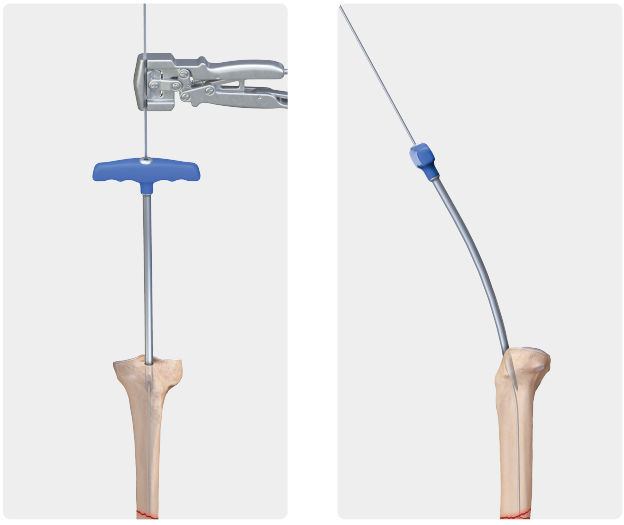
Once access to the tibial canal has been gained, place the 3.0 mm ball nose guidewire through the opening.

> **Note:** Up to 8 mm of compression can be achieved through the nail. Therefore, if intraoperative compression is anticipated, it is recommended to countersink the nail to prevent prominence after compression is achieved.

ENTRY OPTION B



Use fluoroscopy to verify the entry point and direction in both the AP and lateral views, then advance the 9.5 mm curved cannulated awl in line with the tibial canal.

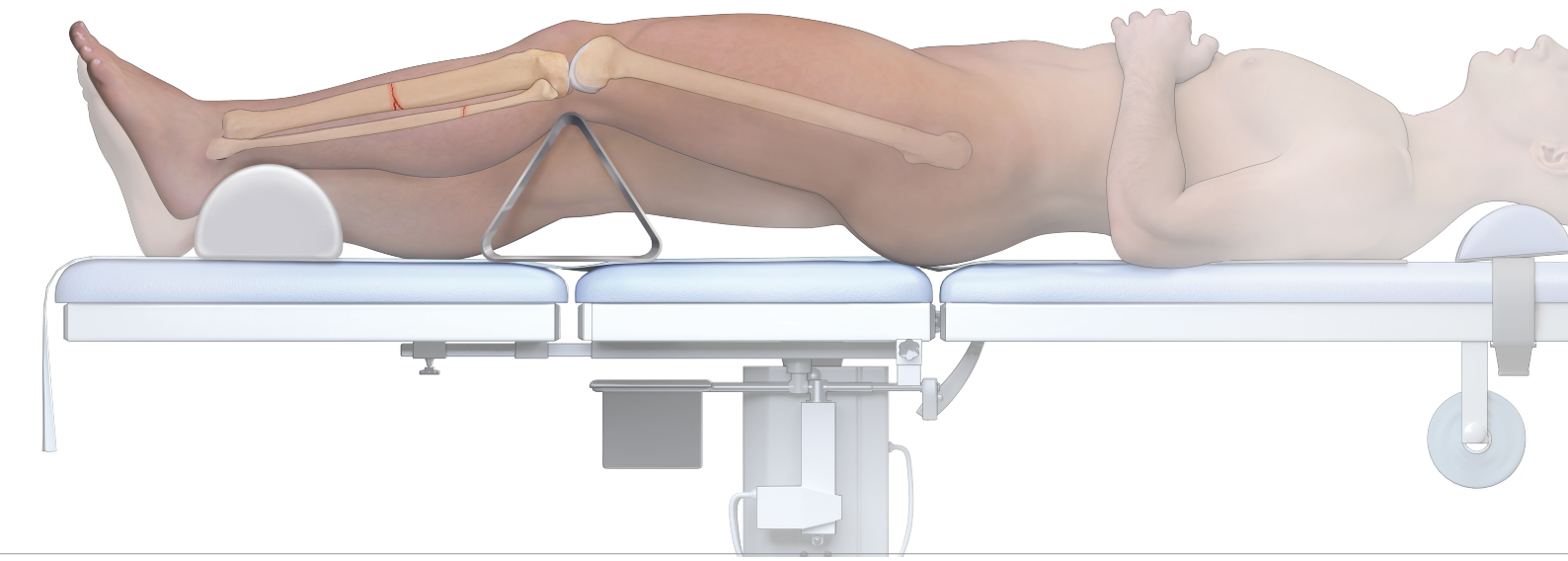


Once access to the tibial canal has been gained, place the 3.0 mm ball nose guidewire through the curved cannulated awl into the entry site using the 2.0/3.0 mm guidewire gripper.

> **Note:** After optional curved cannulated awl is used, ensure a 12 mm reamer is used to open the canal proximally.

Tibial Nail System: Semiextended Approach

Patient Positioning



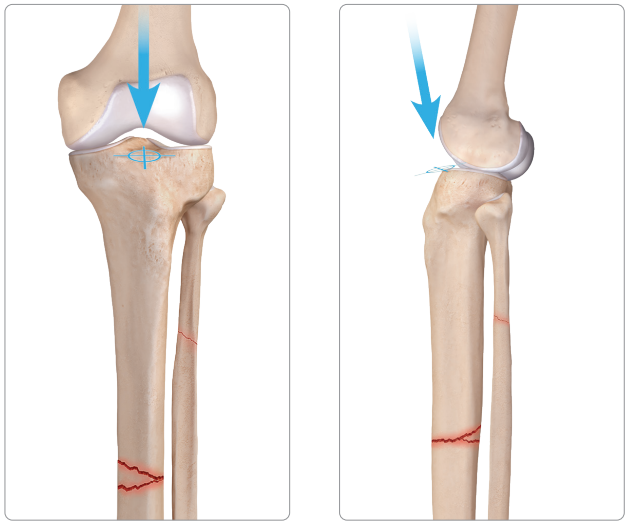
The patient is positioned in the supine position on a radiolucent table with the unaffected limb extended away from the affected limb. Using the semi-extended technique, the affected limb should be in 10° to 20° of flexion and positioned to permit visualization of the fracture with radiography.

> **Note:** To confirm adequate visualization and reduction capabilities, take preliminary radiographic images before the patient is fully prepped and completely draped.

Suprapatellar Incision and Entry Point



Make a longitudinal midline skin incision approximately 1.5 inches in length above the patella. Make a second deep incision medial to the patella, cutting the superior two-thirds of the medial retinaculum but leaving the cuff intact. Extend the incision 1 cm to 2 cm into the quadriceps tendon. The incision is through the medial one-third of the quadriceps tendon. Sublux the patella laterally.

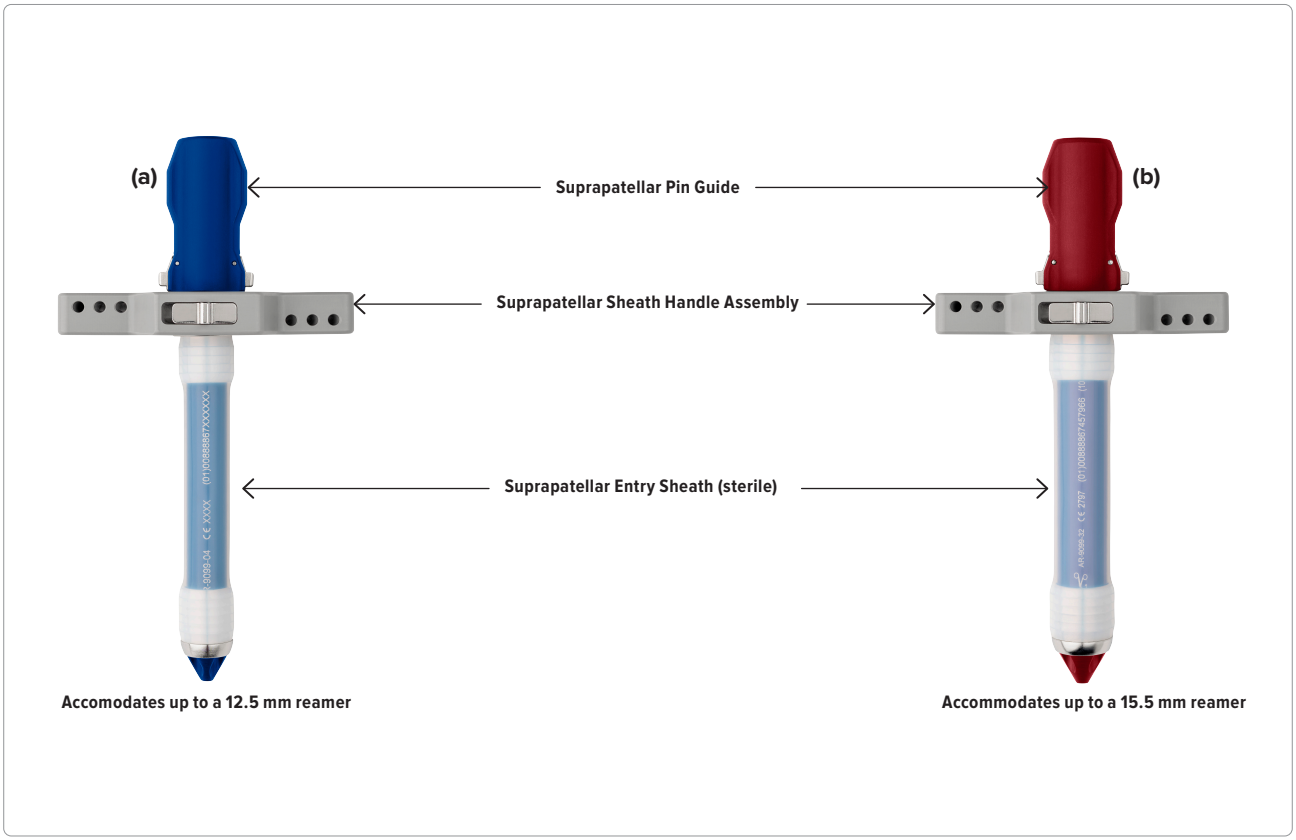


Locate the entry point into the tibial intramedullary canal just medial to the lateral tibial eminence in the AP view and in line with the anterior cortex in the intramedullary canal in the lateral view.

Suprapatellar Pin Guide

Suprapatellar Pin Guide (Small) 12.7 mm (a)

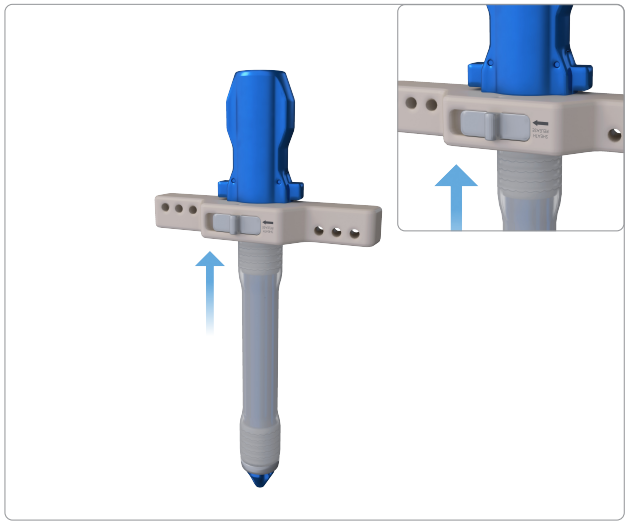
Suprapatellar Pin Guide (Large) 15.9 mm (b)



Based on surgeon preference, an entry point is made with one of the following two options:

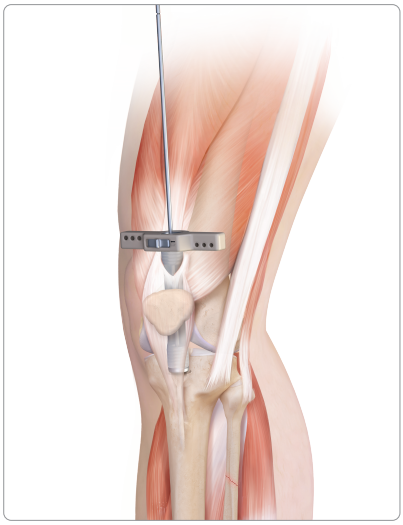
ENTRY OPTION A

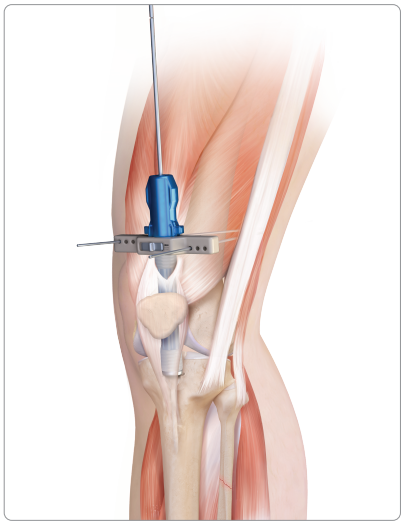


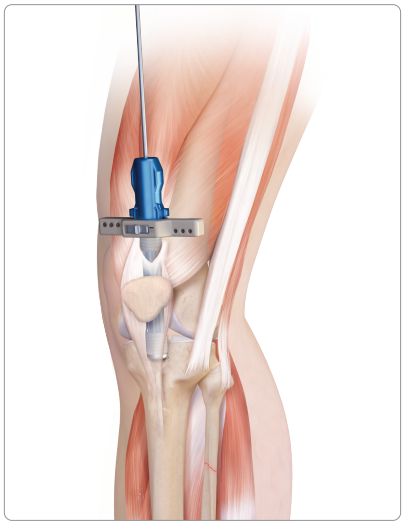


Assemble the pin guide, sheath handle assembly, and suprapatellar entry sheath.

ENTRY OPTION A (CONT.)





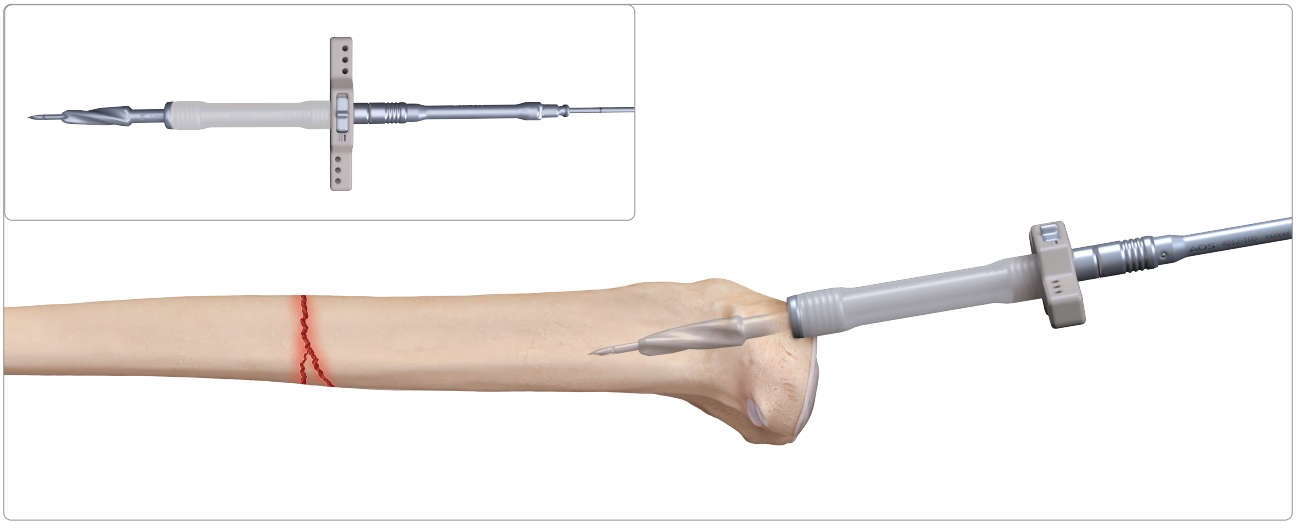


Place the sheath handle assembly in the proper position over the tibia canal entry point and insert the 3.2 mm guide pin through the cannula of the pin guide. Orient the guide pin to the proper position and insert into the tibial metaphysis 1.5 cm to 3 cm.

Use AP and lateral fluoroscopic views to confirm accurate placement of the guide pin. If using an off-center guidewire hole, unthread the sheath handle prior to placing the wire to facilitate removal.

If additional stability is desired or needed, the sheath handle assembly can be secured to the femur with pins placed in the selected holes. With the guide pin in position and secure, remove the pin guide from the entry tube by rotating the handle counterclockwise until the threads are disengaged. Then pull the pin guide from the sheath handle assembly and entry sheath.

Note: For mid-shaft and distal tibia fractures, a central starting point in the AP view is adequate.
For more proximal fractures, however, a slight lateral starting point is recommended to avoid proximal fragment malalignment.



Once the pin guide is removed from the suprapatellar entry sheath, use the 12 mm cannulated entry reamer through the suprapatellar entry sheath to open the proximal tibia.

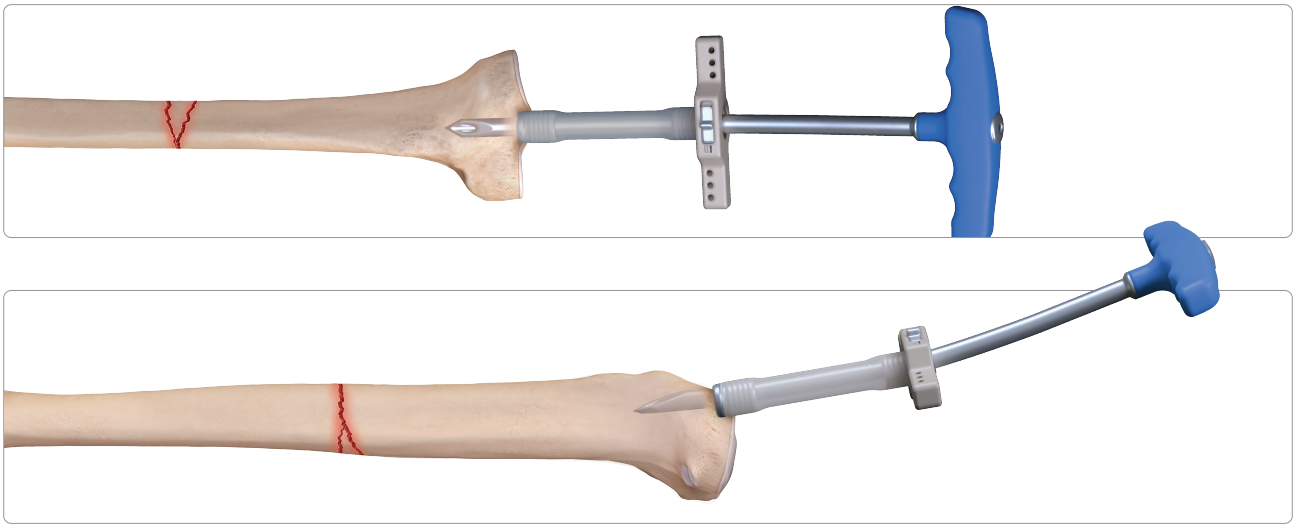
Note: Marks on entry reamer correlate to 5 mm and 10 mm of countersinking.

Fluoroscopically verify the entry point and direction in both the AP and lateral views. Once access to the tibial canal has been gained, remove the guide pin and place the 3.0 mm ball nose guidewire into the entry site using the 2.0/3.0 mm guidewire gripper.

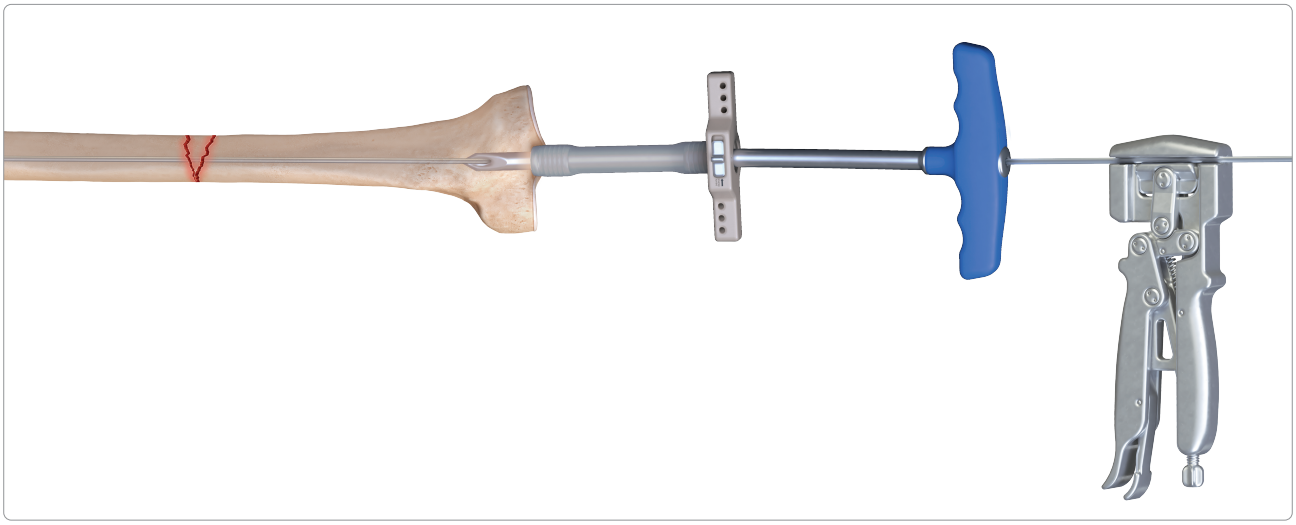
The reamer extension can be used for longer nails.

Note: The tibial nail compression range is 8 mm.

ENTRY OPTION B

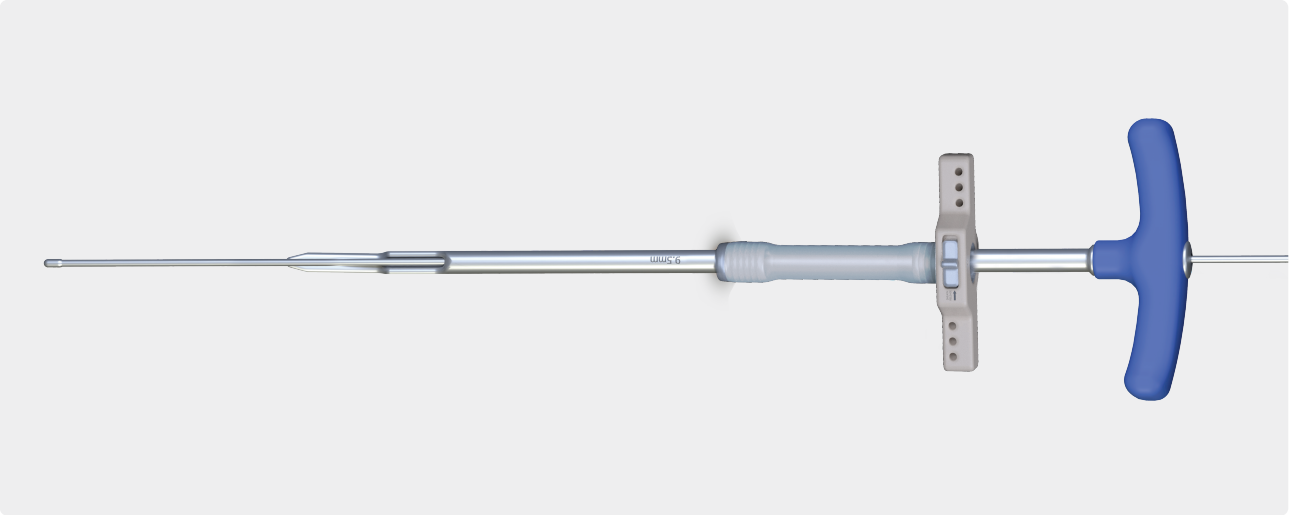


Fluoroscopically verify the entry point and direction in both the AP and lateral views, then advance the 9.5 mm curved cannulated awl through the suprapatellar entry sheath and in line with the tibial canal.



Once access to the tibial canal has been gained, place the 3.0 mm ball nose guidewire through the curved cannulated awl into the entry site using the 2.0/3.0 mm guidewire gripper.

General Technique Steps for All Approaches



1

Obtain appropriate anatomic reduction in order to restore length, alignment, and rotation of the injured limb. To aid in manipulating the fracture fragments and passing the ball nose guidewire, a 9.5 mm reduction tool is available.

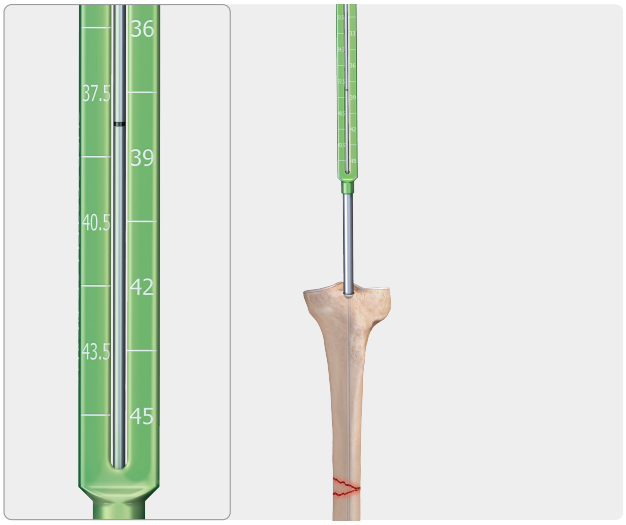
Insert the reduction tool into the canal and use the curved tip to direct the ball nose guidewire past the fracture, into the region of the center distal epiphyseal scar, on both the AP and lateral view. Once the ball nose guidewire is at the desired depth, detach the guidewire gripper and remove the reduction tool.



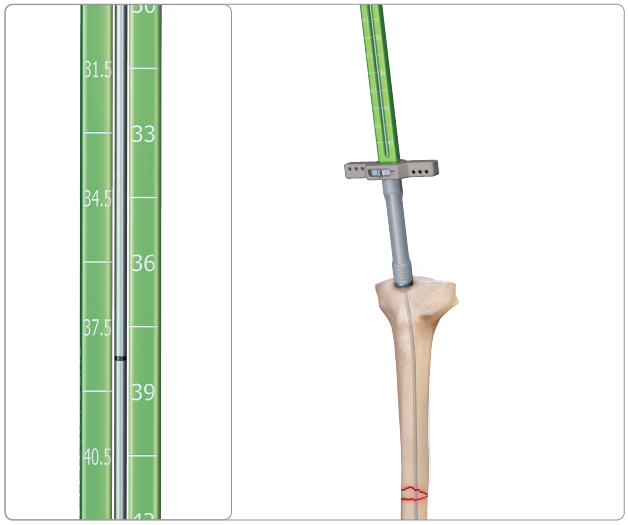
2

Achieve proper alignment of the injured limb prior to reaming and maintain throughout the reaming process. Begin reaming with the 8 mm monobloc reamer over the ball nose guidewire. Ream the canal in 0.5 mm increments using the 9.0 mm to 12.5 mm reamer heads and the flexible modular shaft until cortical chatter is achieved. It is recommended to ream to a size 1.0 mm to 1.5 mm larger than the selected nail. Monitor the reaming procedure to avoid eccentric or excessive cortex reaming.

> **Note:** Use the reamer extension if additional length is required.



3 | Standard



3 | Suprapatellar

Slide the guidewire depth gauge onto the ball nose guidewire until it contacts the bone. Read the measurement that lines up with the laser mark on the guidewire to determine the nail length.

> **Note:** If the mark on the ball nose guidewire is in between sizes, it is recommended to select the smaller of the two sizes.



4 | Standard

After selecting the desired nail, attach the nail to the insertion guide with the connection bolt and the ball hex driver on the T-handle. Ensure proper orientation by aligning the beveled surfaces on the nail and insertion guide.



4 | Suprapatellar

> **Note:** The suprapatellar extended insertion guide offers an increased jig length and must be used when performing this procedure via the suprapatellar approach. Ensure proper orientation by aligning the beveled surfaces on the nail and insertion guide.

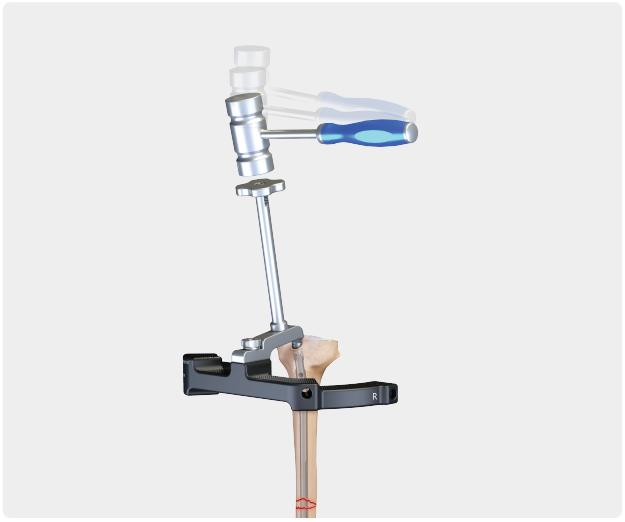


5 | Standard



5 | Suprapatellar

Place the tibial nail-targeting module on the selected insertion guide. Insert the locking bolt and tighten it in a clockwise direction using the ball hex driver connected to the T-handle. The impactor pad should be used if impaction is necessary.



6 | Standard



6 | Suprapatellar

Insert the nail over the ball nose guidewire and into the canal. If the nail does not enter easily, use a slotted mallet to strike against the impactor pad surface.

> **Note:** Take care not to strike the targeting module with the slotted mallet. Avoid excessive force when inserting the nail. If the nail jams in the canal while inserting, extract it and choose the next-smaller diameter nail or prepare the canal appropriately.

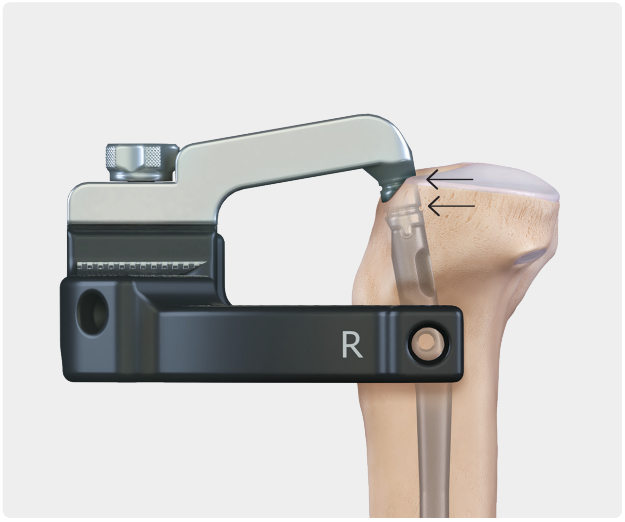


7 | Standard



7 | Suprapatellar

Confirm fracture reduction and ensure appropriate nail insertion depth proximally and distally with mediolateral and AP fluoroscopy. Verify the nail position to ensure that it has not rotated during insertion. The bevel on the nail's proximal end should be centered on the tibia.



8 | Standard

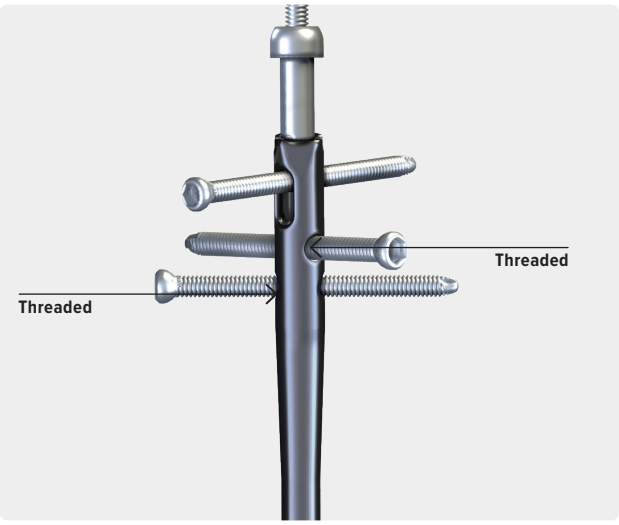


8 | Suprapatellar

The jig is marked by two grooves, indicating 5 mm or 13 mm of countersinking of the tibial nail. If intraoperative compression or postoperative dynamization is planned, it is recommended to countersink the nail accordingly to prevent prominence.

Note: 8 mm of compression can be achieved through the nail. See page 21 for compression.

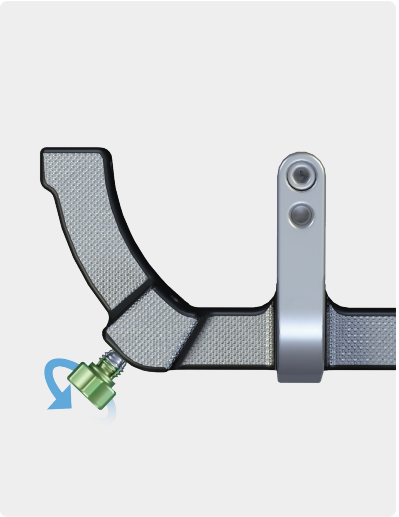
SCREW INSERTION

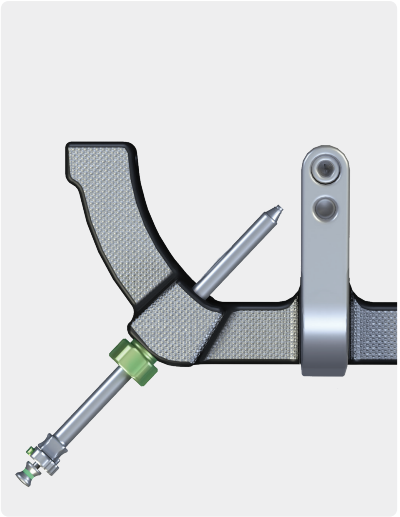


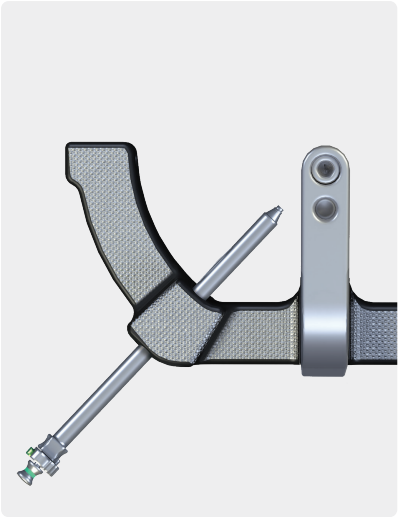
Proximal Screw Options

Proximal locking includes two statically locked threaded holes and one slot that allows for fracture dynamization, apposition, or compression.

> **Note:** If compression is desired, ensure distal screws are inserted prior to proximal screws.





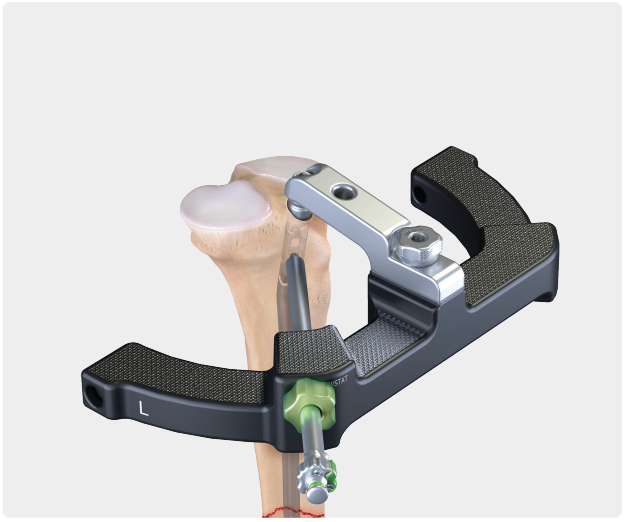


9

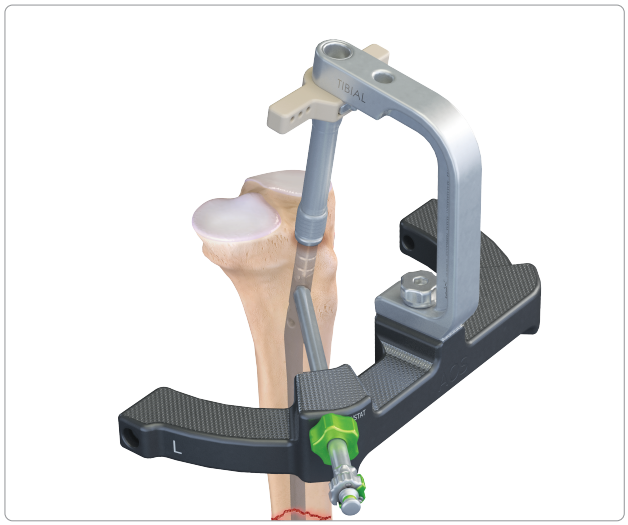
Insert the green locking collet into the targeting module and thread in until the clear anodized portion sits within the locking hole. The locking collet is now free to place the sheath and trocar. After positioning the sheath and trocar, turn the locking collet clockwise to lock.

Alternatively, the sheath and trocar may be used freely without the locking collet.

> **Note:** The targeting module is marked to indicate which hole should be used for dynamic or static locking and left or right.



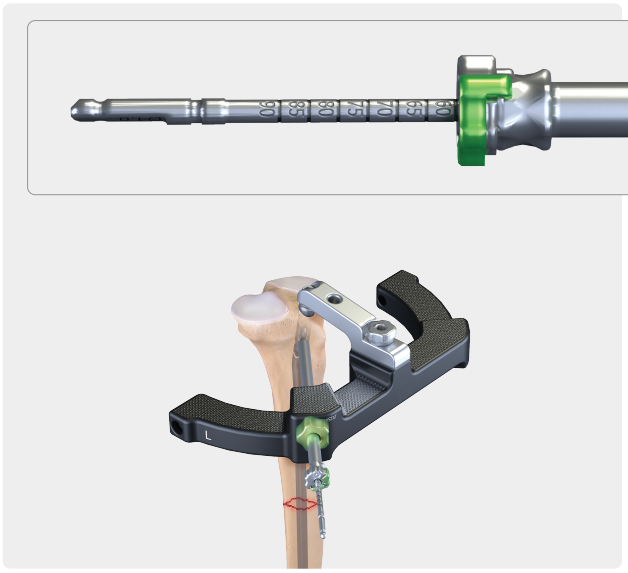
10 | Standard



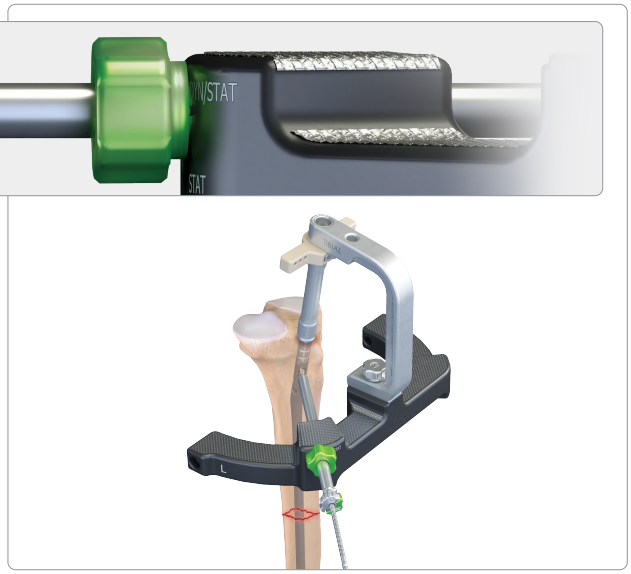
10 | Suprapatellar

Place the protective distal sheath, 4.0 mm distal drill guide, and obturator through the appropriate locking hole with a locking collet in the targeting module. Make a stab incision and bluntly dissect to the bone. When the trocar is placed against the bone cortex, lock the sheath and trocar by turning the green locking collet in a clockwise direction until tight. Remove the trocar.

> **Note:** The drill guide extends past the screw sheath to allow a smaller incision and a more percutaneous approach. When the drill guide is assembled in the screw sheath, the drill guide will sit on bone; the sheath will not.



11 | Standard



11 | Suprapatellar

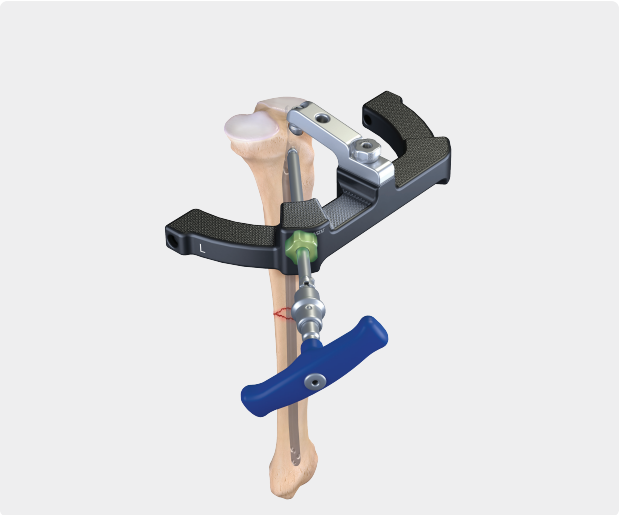
Using the 4.0 mm calibrated drill, drill for the proximal 5.0 mm screws. Screw length can be measured directly from the drill or with the hook tip depth gauge.



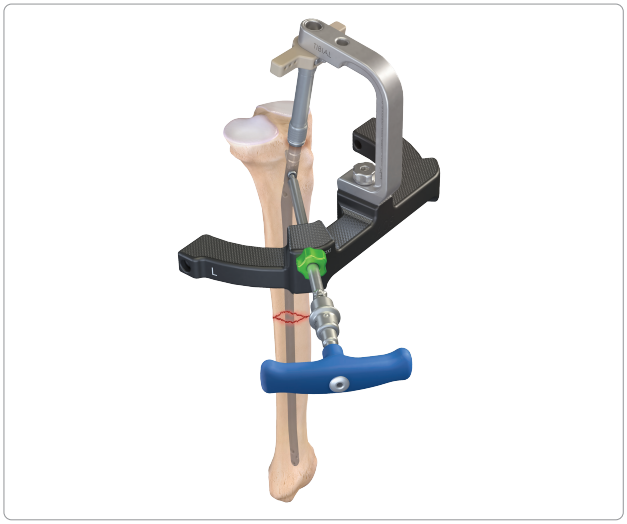


12

Using the 5.0 mm cannulated hex driver, screw-capturing rod, and T-handle, attach the screw to the driver. Capture the screw by threading the capturing rod into the head of the screw.

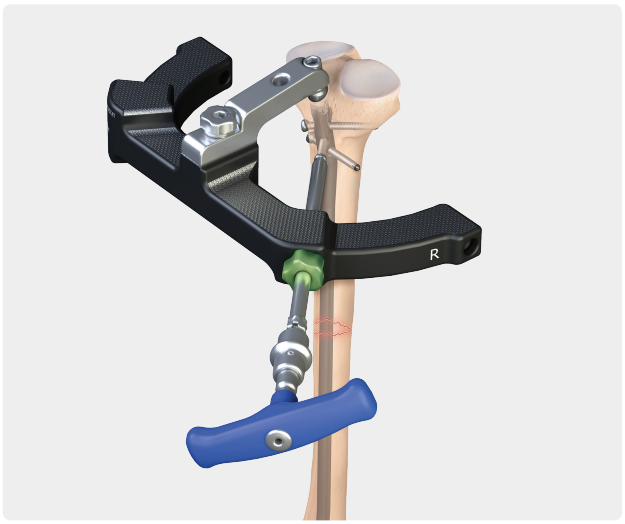


13 | Standard

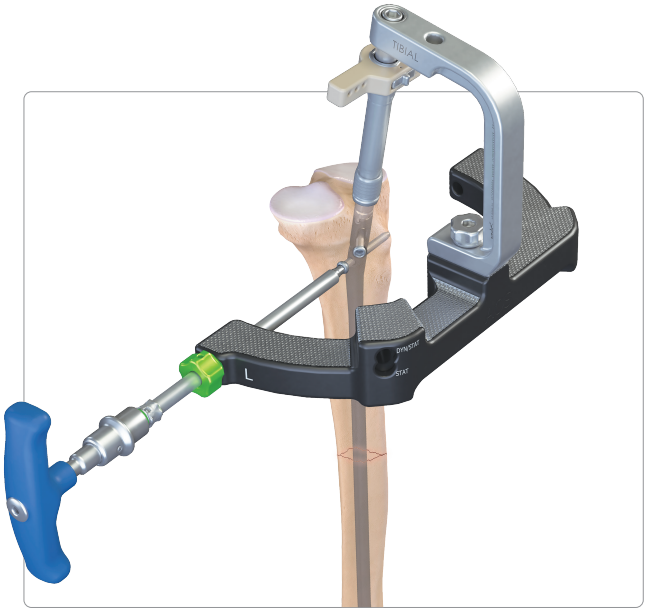


13 | Suprapatellar

Insert the 5.0 mm captured cortical screw through the sheath. The cannulated hex driver is etched with two laser lines. When the lines align with the end of the sheath, the screw head is seated against bone.

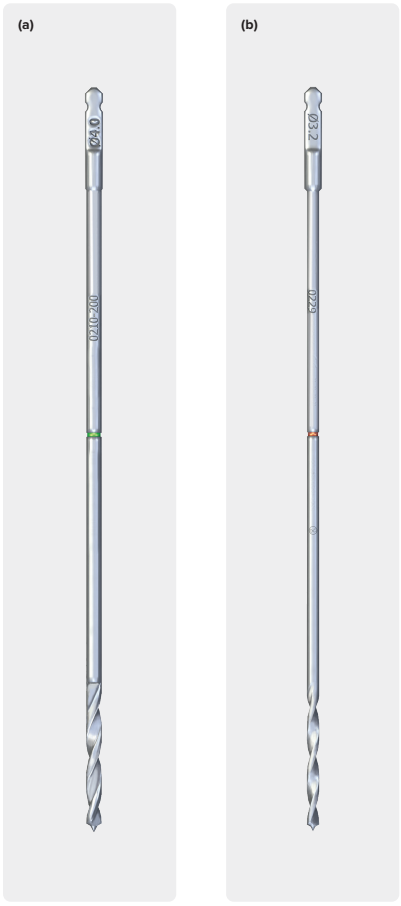


14 | Standard



14 | Suprapatellar

Additional proximal screws can be added where appropriate to maintain fixation and compression.



Distal Screw Technique

Distal locking includes two mediolateral holes and one threaded AP hole. Use the 5.0 mm captured cortical screw for tibial nails 9 mm to 11 mm in diameter.

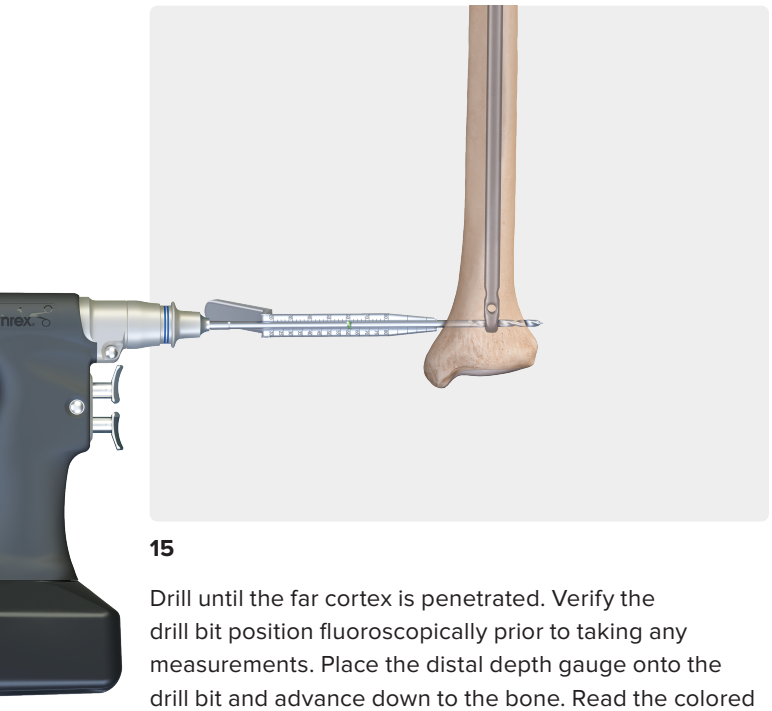
> **Note:** For the 8 mm tibial nail diameter, use the 4.2 mm captured cortical screw.

A percutaneous approach, with protection of underlying neurovascular structures, is most common. Use fluoroscopy to conduct distal locking with a standard free-hand technique.

> **Note:** Accurate C-arm position is confirmed when the distal nail hole appears to be a perfect circle.

Once correct placement has been verified fluoroscopically, make a stab wound in direct alignment with the distal hole.

For 5.0 mm captured cortical screws, use the 4.0 mm drill with green color band **(a)**. For 4.2 mm captured cortical screws, use the 3.2 mm drill with red color band **(b)**.



15

Drill until the far cortex is penetrated. Verify the drill bit position fluoroscopically prior to taking any measurements. Place the distal depth gauge onto the drill bit and advance down to the bone. Read the colored calibration line on the drill bit that corresponds to the calibrations indicated on the distal depth gauge.



16

Remove the drill bit and advance the selected screw using the cannulated hex driver, screw-capturing rod, and T-handle used for the proximal screws.

Repeat the steps above for additional screw placement.



17

Once all desired screws have been inserted, remove the jig using the ball hex driver.



Optional End Cap Placement

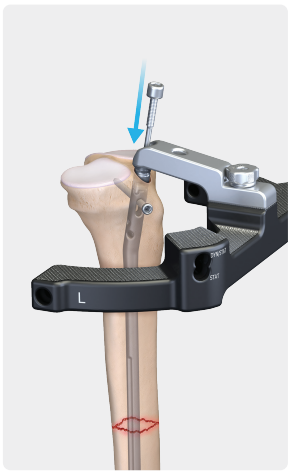
Flush, 5 mm, and 10 mm end caps are provided in the system to prevent bony in-growth and add length when needed. The flush end cap may also be used for compression by pushing against the most proximal screw within the dynamic slot.

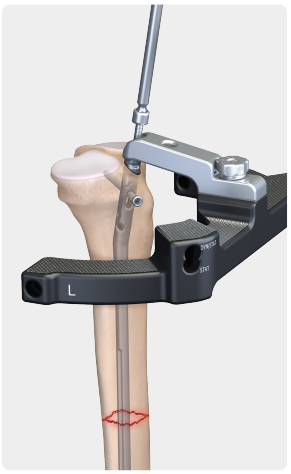
> **Note:** End cap placement is made easier using the 5.0 mm cannulated hex driver, screw-capturing rod, and T-handle to capture the selected end cap during insertion.

Tibial Nail Compression Techniques

A proximal dynamic slot has been incorporated in the nail with an 8 mm range of controlled compression. If using compression, countersink the nail by at least 10 mm to avoid backing out into the joint. The jig is marked by two grooves to indicate static and dynamic or compression placement. Seat the nail to the proximal groove for dynamic locking or to the distal groove for static locking. The distal groove represents 5 mm of countersink and the proximal groove represents 13 mm of countersink to account for up to 8 mm of compression.

Compression Method 1: The Compression Bolt
Following distal interlocking screw insertion, insert one screw in the dynamic portion of the oblong slot. Introduce the compression tool through the top of the nail and tighten using the ball hex driver. The fracture will compress up to 8 mm.



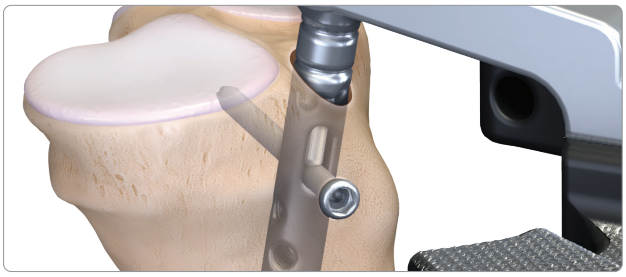


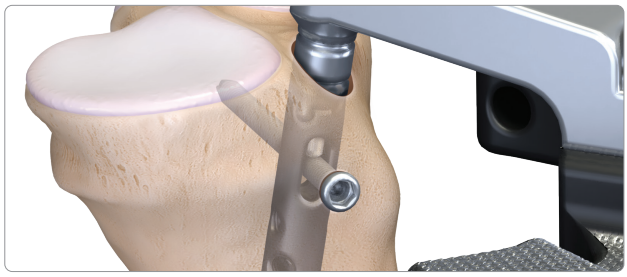
Standard





Suprapatellar





A second proximal interlock must be placed before removal of the compression device.

Compresion Method 2: End Cap Compression



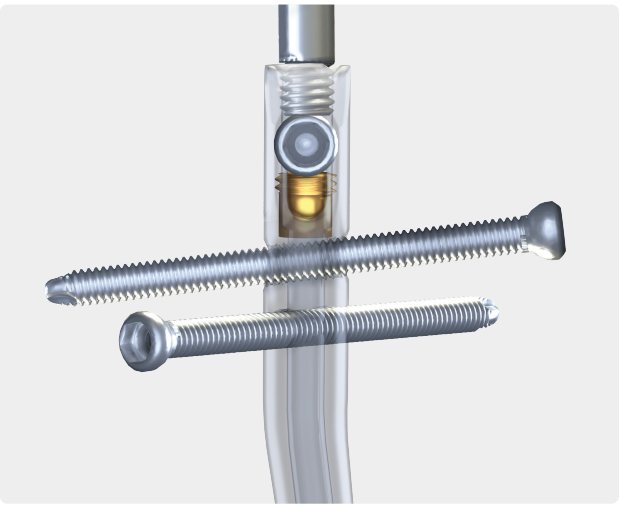
Following distal screw insertion, insert one screw in the dynamic portion of the oblong slot. Remove the outrigger and disconnect the nail. Insert the compression end cap over a guidewire and advance to compress.

> **Note:** This method only works with one proximal screw in the oblong slot.



Alternatively, when compression is not needed, the compression end cap can be used in the static portion of this slot to provide an additional fixed-angle screw construct.

Locking Static Spacer



If static locking is required in the superior aspect of the dynamic slot, the static spacer can be preloaded into the nail before the nail is implanted.

This provides static fixations at the proximal portion of the oblong hole.

Nail Removal

If the surgeon deems it appropriate to remove the nail, a conical extractor is used with the impactor rod to aid in nail extraction.

Locate the top of the nail through an appropriate incision. Remove the end cap using the 5.0 mm cannulated hex driver.

Make the appropriate incisions and remove all locking screws. Remove all overgrown bone around the nail's proximal aspect and interlocking holes to avoid iatrogenic fracture during nail extraction. Once locking screws are removed, attach the conical extractor to the impactor rod and use the conical thread to engage the nail threads and cannula. Use the slotted mallet to remove the nail.

> **Note:** Leaving in one locking screw prior to removal can help to securely fasten the conical extractor to the nail.

Ordering Information

Item Description	AOS Number	Item Number
Instruments		
Screw capturing rod long, straight handle		AR-9092-23
T-handle, curved awl, silicone blue, cannulated	0256-200	AR-9095-50
Distal drill guide, 4.0 mm, qty. 2	0315-100	AR-9095-62
T-handle, cannulated, Hudson female/J-Hall connect	0468-100	AR-9095-26
Screw capturing rod, short, for T-handle	0476-000	AR-9095-23
Guidewire gripper	0481-100	AR-9095-54
Ball hex driver, large Hudson	0494-000	AR-9095-07
AR/5.0 mm screw sheath	0621-100	AR-9095-16
Obturator drill guide, 4 mm	0622-000	AR-9095-72
Hex screwdriver, NS AR screw, 5.0 mm		AR-9095-06
Hook tip depth gauge		AR-9095-19
Screwdriver handle, cannulated, large Hudson		AR-9095-25
Quick connect, large Hudson		AR-9095-27
Ball spike		AR-9095-30
Extended distal depth gauge		AR-9095-68
Obturator, 3.6 mm	0273-000	AR-9097-05
Soft tissue protector	0634-100	AR-9097-20
Locking knob, insertion guide, tibial nail, qty. 2	1239-100	AR-9097-25
Locking collet, targeting module, tibial nail, qty. 3	1242-100	AR-9097-26
Power hex screw driver, 5.0 mm		AR-9097-12
Power capturing rod, 5.0 mm		AR-9097-13
Power hex screw driver, short, 5.0 mm		AR-9097-14
Pin guide, entry tube, 3.2 mm	0310-000	AR-9099-03
Depth gauge, calibrated shaft, proximal hook tip	0507-100	AR-9099-06
Screw sheath depth gauge	0514-200	-
Guidewire depth gauge, suprapatellar	0520-100	AR-9099-08
Depth gauge, hook tip, assembly, short	0525-000	AR-9099-09
Entry tube, 13.0 mm	0612-100	AR-9099-10
Suprapatellar sheath handle	0641-000	AR-9099-11
Impactor pad	0837-000	AR-9099-14
Reduction tool, tibial nail	0838-000	AR-9099-15
Insertion guide, low profile, tibial nail	1235-100	AR-9099-16
Insertion guide locking bolt, tibial nail, qty. 2	1236-000	AR-9099-17
Reduction bolt, insertion guide, tibial nail	1237-000	AR-9099-18
Pin guide, suprapatellar, 12.7 mm		AR-9099-04
Pin guide, suprapatellar, 15.9 mm		AR-9099-32
Suprapatellar sheath handle		AR-9099-11

Item Description	AOS Number	Item Number
Targeting module, tibial nail	1238-100	AR-9099-19
Tibial insertion guide, extended	1255-300	AR-9099-20
Locking bolt, tibial insertion guide, extended, qty. 2	1256-100	AR-9099-21
Reduction bolt, extended insertion guide, tibia nail	1257-100	AR-9099-22
Reamer shaft extension, large Hudson	4012-100	AR-9099-23
Nails		
Tibial nail, 8 mm × 27 cm	1108-270	AR-9098-08-270
Tibial nail, 8 mm × 28.5 cm	1108-285	AR-9098-08-285
Tibial nail, 8 mm × 30 cm	1108-300	AR-9098-08-300
Tibial nail, 8 mm × 31.5 cm	1108-315	AR-9098-08-315
Tibial nail, 8 mm × 33 cm	1108-330	AR-9098-08-330
Tibial nail, 8 mm × 34.5 cm	1108-345	AR-9098-08-345
Tibial nail, 8 mm × 36 cm	1108-360	AR-9098-08-360
Tibial nail, 8 mm × 37.5 cm	1108-375	AR-9098-08-375
Tibial nail, 8 mm × 39 cm	1108-390	AR-9098-08-390
Tibial nail, 8 mm × 40.5 cm		AR-9098-08-405
Tibial nail, 8 mm × 42 cm		AR-9098-08-420
Tibial nail, 9 mm × 27 cm	1109-270	AR-9098-09-270
Tibial nail, 9 mm × 28.5 cm	1109-285	AR-9098-09-285
Tibial nail, 9 mm × 30 cm	1109-300	AR-9098-09-300
Tibial nail, 9 mm × 31.5 cm	1109-315	AR-9098-09-315
Tibial nail, 9 mm × 33 cm	1109-330	AR-9098-09-330
Tibial nail, 9 mm × 34.5 cm	1109-345	AR-9098-09-345
Tibial nail, 9 mm × 36 cm	1109-360	AR-9098-09-360
Tibial nail, 9 mm × 37.5 cm	1109-375	AR-9098-09-375
Tibial nail, 9 mm × 39 cm	1109-390	AR-9098-09-390
Tibial nail, 9 mm × 40.5 cm		AR-9098-09-405
Tibial nail, 9 mm × 42 cm		AR-9098-09-420
Tibial nail, 10 mm × 27 cm	1110-270	AR-9098-10-270
Tibial nail, 10 mm × 28.5 cm	1110-285	AR-9098-10-285
Tibial nail, 10 mm × 30 cm	1110-300	AR-9098-10-300
Tibial nail, 10 mm × 31.5 cm	1110-315	AR-9098-10-315
Tibial nail, 10 mm × 33 cm	1110-330	AR-9098-10-330
Tibial nail, 10 mm × 34.5 cm	1110-345	AR-9098-10-345
Tibial nail, 10 mm × 36 cm	1110-360	AR-9098-10-360
Tibial nail, 10 mm × 37.5 cm	1110-375	AR-9098-10-375
Tibial nail, 10 mm × 39 cm	1110-390	AR-9098-10-390
Tibial nail, 10 mm × 40.5 cm	1110-405	AR-9098-10-405
Tibial nail, 10 mm × 42 cm	1110-420	AR-9098-10-420
Tibial nail, 11 mm × 27 cm	1111-270	AR-9098-11-270
Tibial nail, 11 mm × 28.5 cm	1111-285	AR-9098-11-285
Tibial nail, 11 mm × 30 cm	1111-300	AR-9098-11-300
Tibial nail, 11 mm × 31.5 cm	1111-315	AR-9098-11-315
Tibial nail, 11 mm × 33 cm	1111-330	AR-9098-11-330

Item Description	AOS Number	Item Number
Tibial nail, 11 mm × 34.5 cm	1111-345	AR-9098-11-345
Tibial nail, 11 mm × 36 cm	1111-360	AR-9098-11-360
Tibial nail, 11 mm × 37.5 cm	1111-375	AR-9098-11-375
Tibial nail, 11 mm × 39 cm	1111-390	AR-9098-11-390
Tibial nail, 11 mm × 40.5 cm	1111-405	AR-9098-11-405
Tibial nail, 11 mm × 42 cm	1111-420	AR-9098-11-420
Tibial nail, 12 mm × 27 cm	1112-270	AR-9098-12-270
Tibial nail, 12 mm × 28.5 cm	1112-285	AR-9098-12-285
Tibial nail, 12 mm × 30 cm	1112-300	AR-9098-12-300
Tibial nail, 12 mm × 31.5 cm	1112-315	AR-9098-12-315
Tibial nail, 12 mm × 33 cm	1112-330	AR-9098-12-330
Tibial nail, 12 mm × 34.5 cm	1112-345	AR-9098-12-345
Tibial nail, 12 mm × 36 cm	1112-360	AR-9098-12-360
Tibial nail, 12 mm × 37.5 cm	1112-375	AR-9098-12-375
Tibial nail, 12 mm × 39 cm	1112-390	AR-9098-12-390
Tibial nail, 12 mm × 40.5 cm	1112-405	AR-9098-12-405
Tibial nail, 12 mm × 42 cm	1112-420	AR-9098-12-420
Tibial nail, 13 mm × 27 cm	1113-270	AR-9098-13-270
Tibial nail, 13 mm × 28.5 cm	1113-285	AR-9098-13-285
Tibial nail, 13 mm × 30 cm	1113-300	AR-9098-13-300
Tibial nail, 13 mm × 31.5 cm	1113-315	AR-9098-13-315
Tibial nail, 13 mm × 33 cm	1113-330	AR-9098-13-330
Tibial nail, 13 mm × 34.5 cm	1113-345	AR-9098-13-345
Tibial nail, 13 mm × 36 cm	1113-360	AR-9098-13-360
Tibial nail, 13 mm × 37.5 cm	1113-375	AR-9098-13-375
Tibial nail, 13 mm × 39 cm	1113-390	AR-9098-13-390
Tibial nail, 13 mm × 40.5 cm	1113-405	AR-9098-13-405
Tibial nail, 13 mm × 42 cm	1113-420	AR-9098-13-420
Screws		
Captured cortical screw, 5 mm × 24 mm-50 mm, (2 mm increments)	8001-024-050	AR-9093-50-024
Captured cortical screw, 5 mm × 55 mm-80 mm, (5 mm increments)	8001-055-080	AR-9093-50-080
Captured cortical screw, 4.2 mm × 25 mm-50 mm, (5 mm increments)	8002-025-050	AR-9098-42-050
End Caps and Accessories (Tibial Nail)		
End cap, 5 mm	1115-050	AR-9098-00-05
End cap, 10 mm	1115-100	AR-9098-00-10
Compression end cap	1116-000	AR-9098-00-00
Static spacer	1117-000	AR-9098-01-01
Disposables		
Distal depth gauge	0514-200	AR-9094-15
Guide pin, 3.2 mm × 330 mm, sterile	S0100-000	AR-9095-40s
Drill, AO, 4 mm × 165 mm, sterile	S0210-200	AR-9095-43S

Item Description	AOS Number	Item Number
Drill, calibrated, AO, 4 mm × 280 mm, sterile	S0219-100	AR-9095-44S
Guidewire, ball nose, sterile, 3 mm	0101-900S	AR-9095-39S
Screwdriver, hex, cannulated, 5 mm	0472-000	AR-9095-06
Guidewire w/ trocar tip, 2 mm × 300 mm	0102-300	AR-9099-01
Entry reamer, tibial nail, cannulated, 12 mm	0228-100	AR-9099-02
Suprapatellar tibial entry sheath (AOS)	0642-000	
Drill, AO, 3.2 mm × 165 mm, sterile	S0229-000	AR-9099-24S
Extractor, easy-out	0812-100	AR-9099-13
Suprapatellar entry sheath, small, 8 mm-11 mm	-	AR- 9099-12S
Suprapatellar entry sheath, large, 8 mm-13 mm	-	AR- 9099-29S
Entry reamer reusable 12 mm	-	AR-9099-02RU
Nonsterile implant (nails) case	9974-000	-
Nonsterile implant (screws) case	9975-000	-
Tibial nail case assembly	9974-000	-
Tibial nail screw case assembly	9975-000	-
Tibial nail instrument case assembly	9920-000	-
Tibial nail case, 12 mm-13 mm	9967-000	-
Cases and Trays		
Instrument case	9920-000	AR-9099C-01 or AR-9099C-02
Tibial Nail System, Instrument Set 1		AR-9099S-01
Locking knob, insertion guide		AR-9097-25
Locking collet, targeting module		AR-9097-26
Pin guide, entry tube, 3.2 mm		AR-9099-03
Pin guide, suprapatellar, 12.7 mm		AR-9099-04
Guide wire depth gauge, suprapatellar		AR-9099-08
Entry tube, 13.0 mm		AR-9099-10
Suprapatellar sheath handle		AR-9099-11
Impactor pad		AR-9099-14
Insertion guide, low profile, tibial nail		AR-9099-16
Lock bolt, insert guide, tibial nail		AR-9099-17
Reduction bolt, insert guide, tibial nail		AR-9099-18
Targeting module, tibial nail		AR-9099-19
Insertion guide, extended, tibial		AR-9099-20
Lock bolt, insert guide, extended, tibial		AR-9099-21
Reduction bolt, insert guide, extended, tibial		AR-9099-22
Pin guide, suprapatellar, 15.9 mm		AR-9099-32
Tibial Nail System case 1 of 2		AR-9099C-01
Tibial Nail System, instrument set 2		AR-9099S-02
Hex screwdriver, NS AR screw, 5.0 mm		AR-9095-06
Ball hex driver, large Hudson, 9/32"		AR-9095-07

Item Description	AOS Number	Item Number
Screw sheath, 5.0 mm		AR-9095-16
Hook tip depth gauge		AR-9095-19
Screw capturing rod, short, for T-handle		AR-9095-23
Screw capturing rod, long, straight handle		AR-9095-24
Screw driver handle, cannulated, large hudson		AR-9095-25
T-handle, comfort, cannulated, large Hudson		AR-9095-26
Quick connect, large Hudson, female/J-Hall		AR-9095-27
Ball spike		AR-9095-30
Awl T-handle, cannulated, curved, blue		AR-9095-50
Guidewire gripper		AR-9095-54
Distal drill guide, 4.0 mm		AR-9095-62
Extended distal depth gauge		AR-9095-68
Trocar tipped obturator, 4.0 drill guide		AR-9095-72
Obturator, 3.6 mm		AR-9097-05
Power hex screw driver, 5.0 mm		AR-9097-12

Item Description	AOS Number	Item Number
Power capturing rod, 5.0 mm		AR-9097-13
Power hex screw driver, short, 5.0 mm		AR-9097-14
Power capturing rod, short, 5.0 mm		AR-9097-15
Reduction tool, curved		AR-9097-22
Square quick connect		AR-9097-23
Standard hex driver, 5.0 mm		AR-9097-37
Slotted mallet		AR-9097-38
Screw sheath depth gauge		AR-9099-06
Hook tip depth gauge, short		AR-9099-09
Tibial Nail system case 2 of 2		AR-9099C-02

This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience, and should conduct a thorough review of pertinent medical literature and the product's directions for use. Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.

Arthrex manufacturer, authorized representative, and importer information (Arthrex eIFUs)

US patent information

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