Trochanteric Nail System

Surgical Technique





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Trochanteric Nail System

Introduction

The trochanteric nail is a next-generation hip nail that addresses the remaining shortcomings of current systems such as lateral lag screw irritation, lag screw cut out, workflow inefficiencies, and loss of rotational reduction. The system consists of three nail types—short nails, long nails, and the innovative ES nails.



Telescoping Lag Screw

The Arthrex telescoping lag screw allows for controlled self-contained collapse within the lag screw. Other lag screws are designed to slide within the nail during the healing process, which can cause the lateral end of the lag screw to protrude into the patient's soft tissue, causing irritation and/or bursitis.





Biologic Augmentation

The system allows for the delivery of orthobiologics (BoneSync™ cement, Angel® platelet-rich plasma, AlloSync Pure™, etc) through the lag screw and instrumentation.



Advanced Instrumentation

System instruments are designed to reduce surgical pain points and facilitate operative workflow. Some examples include locking the lag screw through the inserter (no set screw required), captured distal 5.0 mm screws, calibrated drill bits, and jig removal through the more lateral impactor hole.

ES Nail Option

The ES nail combines the mechanical advantages of a long nail with the ease of a short nail. It doubles the torsional rigidity compared to a distally locked, long nail and provides more rigidity than an unlocked long trochanteric nail.¹ It extends through the isthmus of the bone, which can reduce distal tip stress risers, potential "pendulum" effects, and risks of peri-prosthetic fractures associated with short nails.

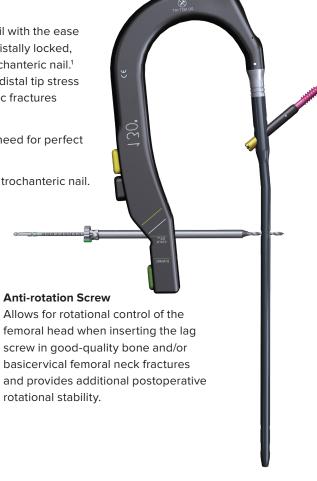
The ES hole is easily targeted through the nail jig without the need for perfect circles or additional attachments or devices.

Patients with shaft fractures should not be treated with the ES trochanteric nail.



Reference

 Test report T0209. Stress analysis of the aos extended short trochanteric nail vs. the short and long trochanteric nails. Advanced Orthopaedic Solutions; September 2006.



Indications and Preoperative Planning

Indications

The Arthrex Trochanteric Nail System is intended to treat stable and unstable proximal fractures of the femur including pertrochanteric, intertrochanteric, and high subtrochanteric fractures and combinations of these fractures. The long trochanteric nail is additionally indicated for subtrochanteric fractures, pertrochanteric fractures associated with shaft fractures, pathologic fractures (including prophylactic use) in osteoporotic bone of the trochanteric and diaphyseal areas, long subtrochanteric fractures, ipsilateral femoral fractures, proximal and distal nonunions and malunions, and revision procedures.

The ES nail is only intended to treat stable and unstable proximal fractures of the femur including pertrochanteric, intertrochanteric, and high subtrochanteric fractures and combinations of these fractures.

Preoperative Planning

Preoperative radiographs of the uninjured femur may be used to establish proper nail diameter, expected amount of reaming (if necessary), lag screw angle, nail length, and lag screw length.







ES Trochanteric Nail



Long Trochanteric Nail

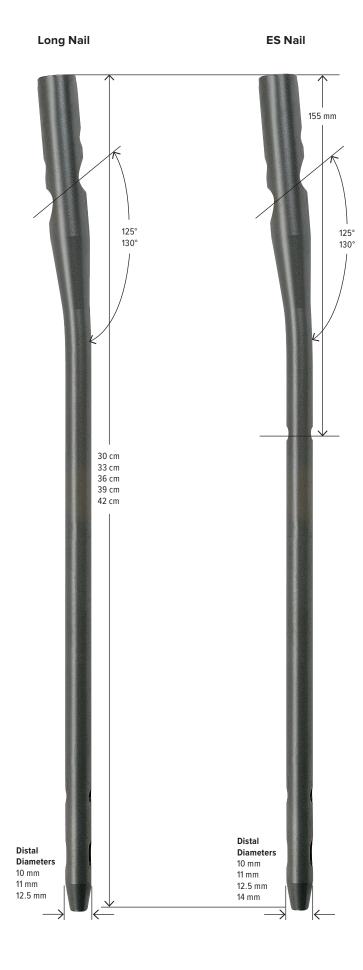
Implant Features



All Nails 5° Lateralization

Long and ES Nails 10° Anteversion

Nail Length (cm)	Radius of Curvature (m)
30	0.9
33	0.9
36	1.0
39	1.3
42	1.3



10.5 mm Telescoping Lag Screw



10.5 mm Telescoping Lag Screw, Left



10.5 mm Solid Locking Lag Screw



5.0 mm Anti-rotation Screw



5.0 mm Captured Cortical Screw



30 mm-50 mm (2 mm increments)

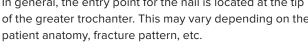
55 mm-120 mm (5 mm increments)

Captured End Caps



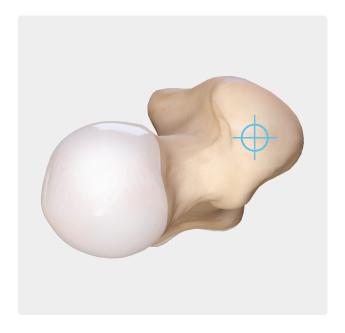
Entry Point

In general, the entry point for the nail is located at the tip of the greater trochanter. This may vary depending on the





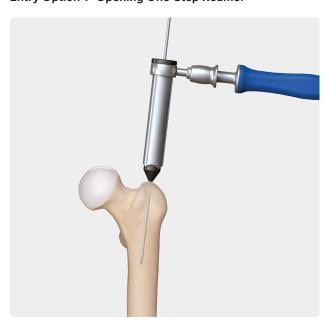
Lateral-junction of the anterior and middle third of greater trochanter to optimize placement within the femoral neck.





Trochanteric Nail System Surgical Technique

Entry Option 1–Opening One-Step Reamer



1a

Insert the **3.2 mm guide pin** through the **soft-tissue** protector with pin guide while aiming towards the central axis of the femoral shaft in the AP and lateral image views, distal to the lesser trochanter.



Remove the ${\bf black\;pin\;guide}$ and then ream over the 3.2 mm guide pin with the 16.5 mm cannulated entry reamer. The entry reamer has grooves that are read from the top of the soft-tissue protector. The grooves indicate the reaming depth needed to insert the nail flush, 5 mm, or 10 mm deep into the femur.

Entry Option 2-Cannulated Awl



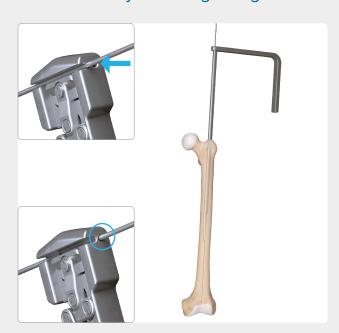


1b

Alternatively, the greater trochanter can be opened with a **cannulated curved awl**, followed by the 3.0 mm ball nose guidewire placed through the curved awl to the desired depth. The **guidewire gripper** can be used through the guidewire cannulation or the side groove option to advance the wire. The awl is then removed.

Prepare the proximal body with the **16.5 mm cannulated entry reamer** over the **3.0 mm ball nose guidewire** through the **soft-tissue protector**.

Intramedullary Reaming: Long and ES Nails Only



In general, it is not necessary to use flexible reamers to ream the femoral canal for the short trochanteric nail. Reaming may be necessary when using the ES trochanteric nail or long trochanteric nail.

A **reduction tool** (fracture finger) is available to assist in passing the **3.0 mm ball nose guidewire** through diaphyseal fractures by providing additional control of the proximal femoral fragment to gain alignment with the distal fragment(s).

The **guidewire gripper** is used through the guidewire cannulation or the side groove option to advance the wire to the desired depth within the distal femur.



The length for the ES trochanteric nail and long trochanteric nails is determined by sliding the **guidewire depth gauge** over the guidewire to the greater trochanter and reading the measurement from the laser mark on the guidewire.



Begin reaming with the 8 mm end-cutting reamer over the ball nose guidewire. All other reamers are side cutting. Sequentially ream until cortical chatter is achieved. It is recommended to ream at least 1 mm to 1.5 mm over the desired nail diameter.







2

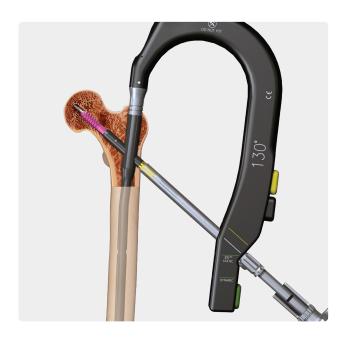
Attach the 125° or 130° radiolucent targeting arm to the desired nail with the ball hex driver. Introduce the nail into the proximal femur. If a ball-tip guidewire is used, pass the nail over the guidewire.

For the ES and long nails, use the targeting arm to control nail rotation during implantation. Start with the targeting arm anterior and rotate laterally as the nail advances. This allows the bow of the nail to pass through the proximal femur. The short nail has no bow so it can be implanted with the jig lateral to the leg. If needed, gentle malleting on the **impactor** pad can be used to advance the nail. **Do NOT directly impact the radiolucent targeting arm!**



Once the nail has been implanted, insert the lag screw triple-sleeve assembly though the targeting arm by pressing the black button. The assembly consists of the lag screw sheath, 3.2 mm pin guide, and 3.2 mm obturator.

Make an incision and push the assembly up to the lateral cortex of the femur and then remove the obturator.

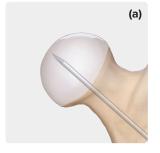


Option: If biologic augmentation with a bone void filler is desired, please see page 21 for augmentation steps, as a longer guide pin from the Arthrex Augmentation System will be needed.



4

Insert the 3.2 mm lag screw guide pin with a pin driver through the pin guide into the femoral head. The positioning of the guide pin should be checked on both AP and lateral views.





AP (a)—the guide pin should be centered AP in the femoral head or slightly inferior.

Lateral (b)—the guide pin should be centered in the femoral head or slightly posterior.

Advance the tip of the guide pin approximately 5 mm from the subchondral bone.

Note: If there is intraoperative instability of the femoral head fragment, the anti-rotation screw sheath and drill guide may be inserted into the targeting module at this time. The anti-rotation screw or just the anti-rotation drill may be used to stabilize the head fragment while preparing and inserting the lag screw.

Measurement Device: Lag Screw Depth Gauge



The lag screw depth gauge is a dual-sided tool designed to provide two measurements: (1) the reaming depth to the tip of the guide pin, and (2) the appropriate lag screw length to ensure the locking ring is centered within the nail when the screw is advanced to the guide pin tip.



With the pin guide against the lateral cortex, place the "REAMING DEPTH" side of the lag screw depth gauge over the guide pin and against the pin guide.

This measurement will provide the reaming distance from the 3.2 mm pin guide to the tip of the guide pin.

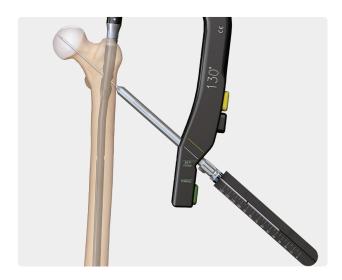


2

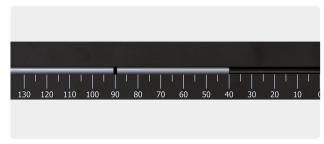
Place the "LAG SCREW LENGTH" side of the lag screw depth gauge over the guide pin with extension pressed against the targeting arm above or below the lag screw cannula.

This measurement will provide the lag screw length required to ensure the locking ring is centered within the nail when advanced to the tip of the guide pin.

Alternate Measurement Device: Legacy Depth Gauge



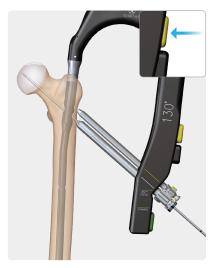
Place the guide pin depth gauge under the 3.2 mm lag screw guide pin with the flat end against the pin guide.



Read the required length from the depth gauge and ensure that the pin guide is touching the bone. The guide pin measures to the tip so at least 5 to 10 mm should be subtracted from the measurement when determining reaming depth and lag screw length selection. Fracture reduction, nail position, and/or anticipated fracture compression should be considered.

Anti-Rotation Bar (Optional)

The anti-rotation bar provides provisional rotational stability of the femoral head and neck during lag screw insertion.



1

While depressing the yellow button, insert the anti-rotation triple-sleeve assembly into the targeting arm. Ensure that it is properly seated and positioned against the lateral cortex.



2

Remove the obturator and drill using the 5.0 mm calibrated stepped drill bit.

Note: A drill depth of approximately 10-15 mm short of the intended lag screw position is recommended. To maximize anti-rotation screw thread purchase, avoid drilling beyond the desired screw location.



3

Remove the inner drill cannula. Using the drill measurement, insert the appropriately sized anti-rotation bar into the outer sheath.

Calibration marks may be used to confirm the proper depth and potential anti-rotation screw length.

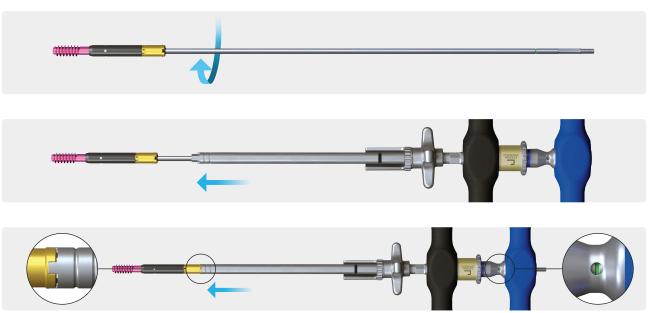




Set the **adjustable stop** on the **10.3 mm cannulated lag screw drill** to the desired depth. At least 5-10 mm less than the measurement is recommended so the tip of the drill does not pass beyond the guide pin.

Remove the **3.2 mm pin guide** from the **lag screw sheath** by depressing the black lever. Drill over the lag screw guide pin through the femoral head until the stop contacts the sheath. Confirm the desired depth radiographically and ensure the sheath is seated against the bone.

A **lag screw tap** is available if needed.



5

Screw the **lag screw capturing rod** onto the desired length lag screw. Slide the **lag screw inserter** over the **lag screw capturing rod** and rotate the inserter until the "castle" pieces and hex driver mate with the lag screw.

A green line centered in the window in the blue handle can be used to ensure proper alignment.







Screw the lag screw capturing rod nut onto the rear of the assembly. Do NOT use the ball hex driver for this step. Hand tighten ONLY!

The gold ring should be set forward showing the blue ring to prepare for lag screw insertion. If the black ring is showing, pull back and rotate the knob clockwise.







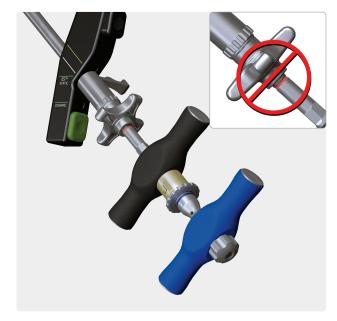
7

Insert the lag screw over the **3.2 mm lag screw guide pin** through the **lag screw sheath** to the desired depth using the blue handle. When the black laser marking on the inserter reaches the sheath, the lag screw has exited the other end of the sheath.

Note: If intraoperative compression is planned, countersink the lag screw to provide enough travel for the lag screw to lock into the nail.

Note: The left threaded lag screw is implanted by turning the handle counterclockwise.





Push the **compression sleeve** towards the targeting arm and rotate clockwise until it makes contact. If intraoperative compression is desired, continue rotating the compression sleeve clockwise until compression is achieved.

The mechanism will stop advancing and spin in place showing a red line when the lag screw is too lateral and can no longer be locked. If this occurs, the lag screw should be inserted further into the head and the compression knob used again.

Note: If planning for compression, choose a shorter lag screw and countersink the lateral edge of the lag screw prior to the compression step.







Pull back on the gold knob and turn counterclockwise to engage the black handle. The black ring will now be showing.

To lock the telescoping lag screw/solid locking lag screw, hold the blue lag screw insertion handle stationary and turn the black locking T-handle clockwise until the torque limiter clicks.







Pull out the inserter assembly and unscrew the lag screw capturing rod by hand or with the lag screw capturing rod wrench.

Unscrew the lag screw capturing rod nut by hand or with the ball hex driver.



11

To allow postoperative compression in the telescoping lag screw, remove the activation sleeve by inserting the activation tool through the sheath into the lag screw and turning counterclockwise. The activation sleeve will retain to the tip of the activation tool once disengaged from the lag screw.

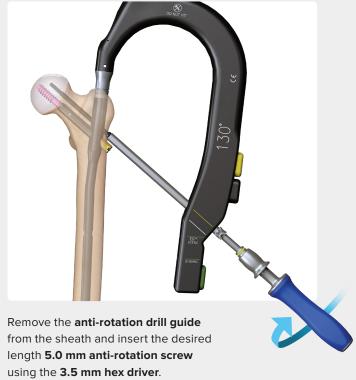
Remove the **lag screw sheath**.

Note: If postoperative compression is not desired, leave the activation sleeve within the lag screw.

Anti-Rotation Screw Insertion (Optional)



If there is rotational instability during insertion of the lag screw, a **5.0 mm anti-rotation screw** may be used to prevent rotation of the femoral head. Place the **anti-rotation screw triple-sleeve** assembly into the anti-rotation hole in the targeting arm while depressing the yellow button. Extend the incision as needed. Remove the **anti-rotation obturator** and drill with the **5.0 mm calibrated step drill**.

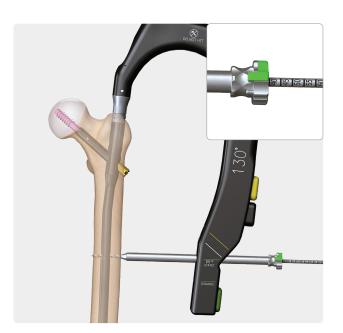


It is recommended to use an anti-rotational screw at least 10 mm shorter than the lag screw.

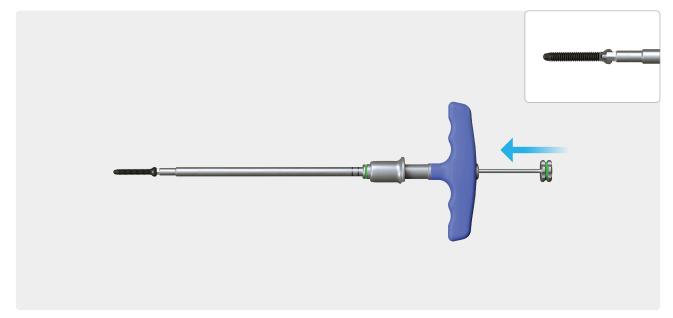


12

For the ES and short nails, distal locking is accomplished using the targeting arm. Place the **distal screw triple-sleeve** assembly through the appropriate distal hole while depressing the green button on the targeting arm and mark the skin.

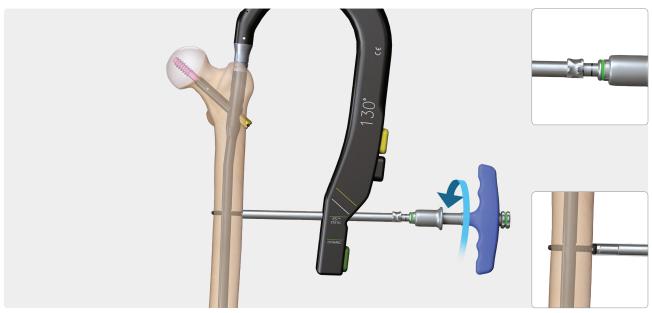


Make the incision and place the distal screw triple-sleeve assembly to the lateral cortex of the bone. Remove the **distal drill guide obturator**. Drill bicortically using the **4.0 mm calibrated drill bit** and measure off of the drill bit.



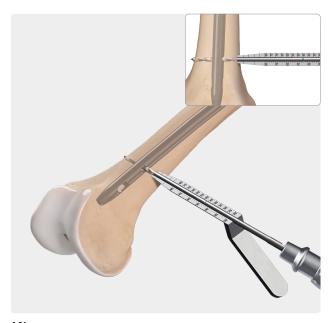
Assemble the **5.0 mm captured cortical screw** onto the **5.0 mm cannulated hex driver** and **T-handle** and then screw the **screw capturing rod** into the head of the 5.0 mm screw.

Depending on preference, a **straight screwdriver handle** with its own capturing rod is also available.



14a

Remove the **distal drill guide** and insert the 5.0 mm screw through the sheath using the captured hex driver. When the first laser mark reaches the sheath, the bottom of the screw head has reached the other end of the sheath. Unscrew the capturing rod in the hex driver and remove the driver assembly.





14b

For the long nail, distal locking is accomplished using the perfect circles technique and confirming the screw length with the calibrated line on the **4.0** mm short drill bit with the distal depth gauge or hook-tip depth gauge.







15

To remove the jig, use the ball hex driver to unscrew the locking bolt through the top hole or the impactor pad attachment hole.

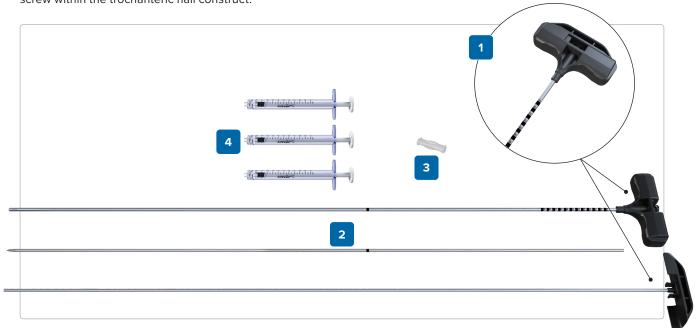
End Cap (optional)

An end cap can be used to protect the proximal threads of the nail and/or increase the proximal height of the nail. Choose the proper end cap based on the depth of countersink of the nail, flush, 5 mm, or 10 mm. Using the **5.0 mm** hex driver with **T-handle** or straight handle and corresponding capturing rod, implant the appropriate end cap into the proximal end of the nail.

Trochanteric Nail Augmentation System

System Components (ABS-1094)

The Arthrex Trochanteric Nail Augmentation System enables streamlined delivery of any bone graft around the lag screw within the trochanteric nail construct.



Pic.	Qty.	Description
1	1	Delivery cannula, 3.2 mm
2	1	Guide pin, 3.2 mm
3	1	Female-to-female Luer
4	3	Syringe, 1 cc

The system is able to deliver a variety of flowable bone grafts, such as allograft or synthetic bone void fillers.





Preoperative Planning

Before the case, it is important to determine whether bone graft augmentation will be used, to ensure that the longer guide pin from the augmentation kit is selected.



Trochanteric Nail Augmentation System Technique



Following nail placement, the 3.2 mm guide pin from the augmentation system is inserted into the femoral head using a pin driver through the pin guide. Standard steps for measuring reaming depth and determining lag screw length are then followed, along with the usual reaming procedure.

Note: After reaming, confirm that the 3.2 mm guide pin has not perforated the femoral head. If perforation has occurred, do not proceed with augmentation, and complete the remaining procedural steps without the addition of biologics.



selected, begin insertion, but **stop advancing**

10 mm before the final insertion point.

3

Remove the guide pin from the inserter handle.



Insert the delivery cannula though the blue handle.



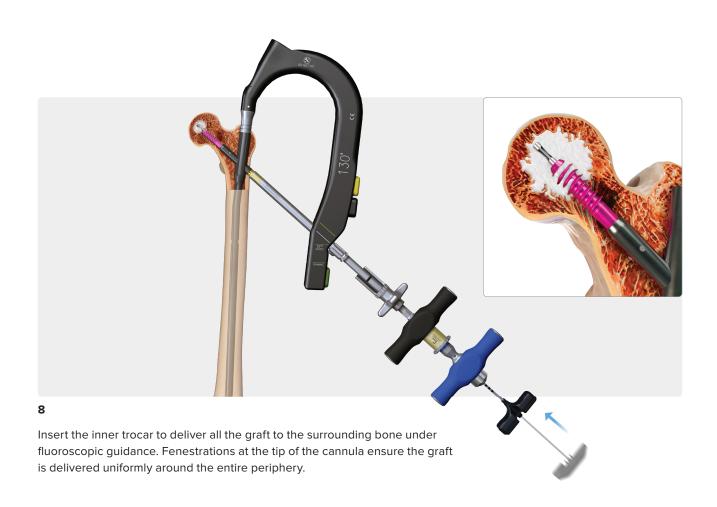
Match the cannula measurement mark to the selected lag screw size (a). This will determine the injection depth (b), which is 10 mm past the tip of the lag screw. Therefore, the cannula tip will protrude 10 mm beyond the incompletely inserted lag screw. This position must be confirmed on fluoroscopy.

Example: If a 100 mm lag screw is selected, "100" mark on the delivery cannula should be seen at the top of the handle.



Note: Before proceeding with augmentation, it is essential to confirm that the femoral head has not been inadvertently perforated by the guidewire or cannula during the previous steps. If perforation of the femoral head has occurred, augmentation should not be completed.







With the delivery cannula inside the inserter handle, advance the lag screw through the bone void filler until it reaches the appropriate tip-apex position. The bone void filler surrounds the screw threads and flows into the surrounding bone.

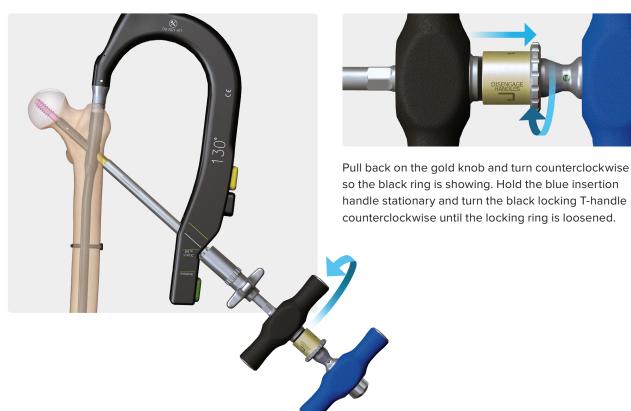
10

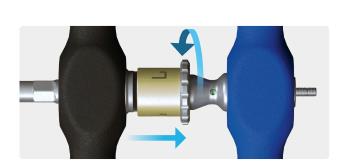
Complete the standard remaining steps for lag screw activation (optional), antirotation screw insertion (optional), and jig removal.



Removal Technique

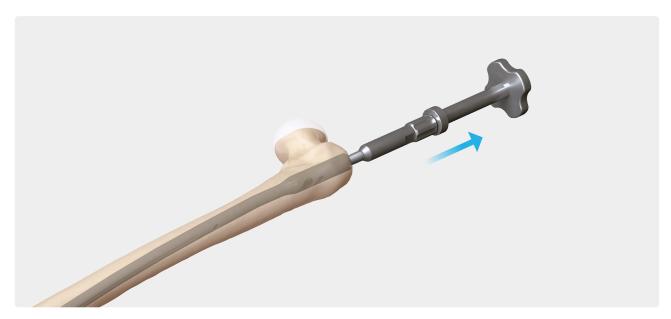
Lag Screw Loosening and Removal





Pull back on the gold knob and turn clockwise so the blue ring is showing. Turn the blue insertion handle counterclockwise to remove the lag screw.

Nail Removal



To extract the nail, remove the end cap if present and attach the extraction bolt. Remove the lag screw as shown in the previous section (jig not required) and the anti-rotation screw (if present) and cortical locking screws. Attach the impactor pad to the extraction bolt and then apply backward blows with a mallet.

Legacy Lag Screw Inserter Technique





Thread the **compression sleeve** over the **lag screw inserter**. Place the **lag screw capturing rod** through the lag screw inserter and attach the selected 10.5 mm telescoping or solid locking lag screw onto the inserter. Rotate the inserter until the "castle" pieces and hex driver mate with the lag screw.





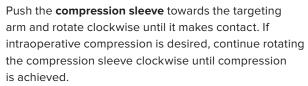


Insert the lag screw over the **3.2 mm lag screw guide pin** through the **lag screw sheath** to the desired depth using the blue handle. When the black laser marking on the inserter reaches the sheath, the lag screw has exited the other end of the sheath.

Note: If intraoperative compression is planned, countersink the lag screw to provide enough travel for the lag screw to lock into the nail.

Note: The left-threaded lag screw is implanted by turning the handle counterclockwise.

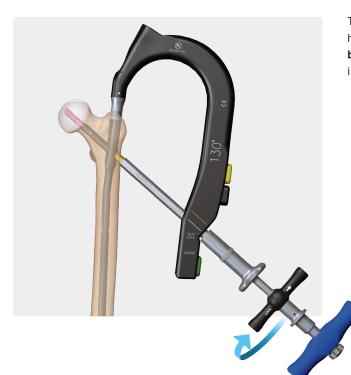




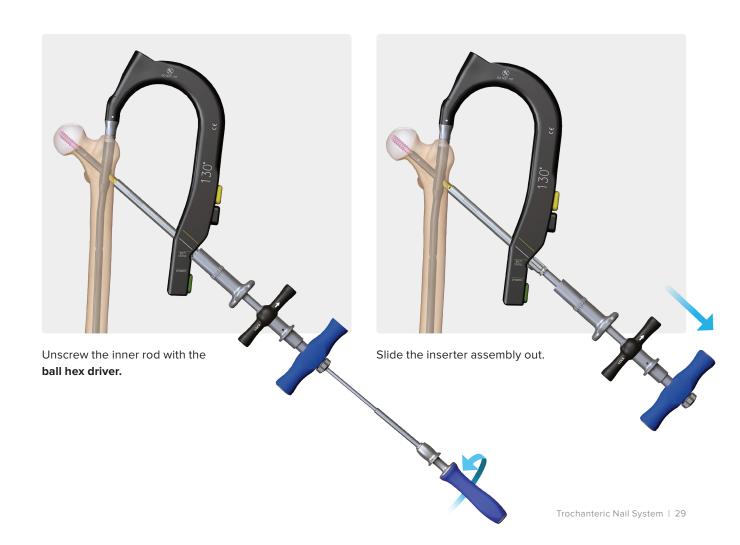


The mechanism will stop advancing and spin in place showing a red line when the lag screw is too lateral and can no longer be locked. If this occurs, the lag screw should be inserted further into the head and the compression knob used again.

Note: If planning for compression, choose a shorter lag screw and countersink the lateral edge of the lag screw prior to the compression step.

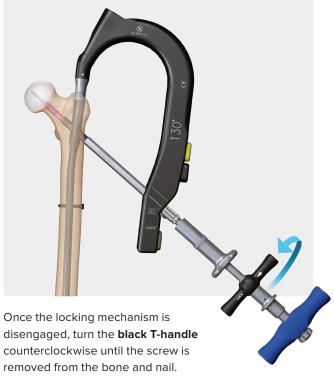


To lock the **telescoping or solid locking lag screw**, hold the **blue insertion handle** stationary and turn the **black locking T-handle** clockwise until firm resistance is achieved.



Lag Screw Loosening and Removal





Note: Using the blue handle for removal may inadvertently lock the nail.

Ordering Information

Trochanteric nail, instrument set 1	9914-100S	AR-9095S-01
Trochanteric nail, instrument case 1	9914-100	AR-9095C-01
Trochanteric nail, instrument set 2	9914-200S	AR-9095S-02
Trochanteric nail, instrument case 2	9914-200	AR-9095C-02
Instruments		
Obturator, 3.6 mm	0227-000	AR-9095-04
Awl T-handle, curved, cannulated, silicone, blue	0256-200	AR-9095-50
Entry reamer, cannulated, large Hudson, 16.5 mm	0257-000	AR-9095-01
Hip screw drill, cannulated, large Hudson, 10.3 mm	0258-000	AR-9095-02
Lag screw tap, cannulated, large Hudson, 10.5 mm	0259-000	AR-9095-03
Adjustable stop assembly	0261-000	AR-9095-51
Pin guide, soft tissue protector, 3.2 mm	0304-100	AR-9095-10
Pin guide, 3.2 mm	0312-200	AR-9095-52
Anti-rotation drill guide, locking assembly, 5.0 mm	0313-100	AR-9095-53

Distal drill guide, locking assembly, 4.0 mm	0315-100	AR-9095-62
Screw driver handle, cannulated, silicone, Hudson	0467-100	AR-9095-25
T-Handle, cannulated, silicone, large Hudson	0468-100	AR-9095-26
Quick connect, cannulated, silicone, large Hudson female/J-Hall	0469-100	AR-9095-27
Hex screw driver, long, large Hudson, 3.5 mm	0471-000	AR-9095-05
Hex screw driver, cannulated, large Hudson, 5.0 mm	0472-000	AR-9095-06
Ball hex driver, large Hudson, 9⁄32	0474-000	AR-9095-07
Hex driver, cannulated, large Hudson, 9⁄32 in	0475-000	AR-9095-08
Screw capturing rod, short, for T-handle	0476-000	AR-9095-23
Screw capturing rod, long, for straight handle	0477-000	AR-9095-24
Guidewire gripper	0481-100	AR-9095-54
Silicone palm handle, 3/16 square quick connect	0486-100	AR-9095-28
Guide pin depth gauge (legacy)	0506-000	AR-9095-13
Lag screw depth gauge		AR-9095-73

Guidewire depth gauge, modular/ trochanteric nail	0512-200	AR-9095-14
Depth gauge, distal	0514-200	AR-9095-15
Hook tip depth gauge, trochanteric nail	0531-000	AR-9095-19
Obturator, pin guide, 3.2 mm	0616-000	AR-9095-09
Lag screw sheath with handle	0617-300	AR-9095-20
Obturator, anti-rotation drill guide, 5.0 mm	0620-000	AR-9095-11
Anti-rotation and distal sheath, locking	0621-100	AR-9095-16
Obturator, drill guide, distal, 4.0 mm	0622-000	AR-9095-12
Soft tissue protector, Hudson, quick connect	0623-000	AR-9095-21
Reduction tool	0804-000	AR-9095-29
Ball spike	0817-000	AR-9095-30
Impactor pad	0826-000	AR-9095-31
Extractor bolt	0828-000	AR-9095-32S
Lag screw removal tool	0856-100	AR-9095-59
Lag screw extraction tool, capturing rod	0857-100	AR-9095-35
Lag screw extraction tool, capturing rod nut	0858-200	AR-9095-36
Radiolucent targeting arm, 125° trochanteric nail	1267-100	AR-9095-60
Radiolucent targeting arm, 130° trochanteric nail	1268-100	AR-9095-61
Locking bolt, radiolucent insertion guide	1269-000	AR-9095-55
Lag screw tap, left, cannulated, large Hudson, 10.5 mm	4046-000	AR-9095-38
Lag screw inserter, trochanteric nail	5030-000	AR-9095-58
Lag screw locking tool	5031-100	AR-9095-57
Compression sleeve, lag screw inserter	5032-000	AR-9095-56
Lag screw capturing rod	5033-100	AR-9095-66
Lag screw capturing rod nut	5046-100	AR-9095-49
Lag screw capturing rod wrench	5048-000	AR-9095-37
Reamers		
Flexible reamer shaft	0233-000	AR-9095R-01
Reamer head, 9 mm	0234-090	AR-9095R-090
Reamer head, 9.5 mm	0234-095	AR-9095R-095
Reamer head, 10 mm	0234-100	AR-9095R-100
Reamer head, 10.5 mm	0234-105	AR-9095R-105
Reamer head, 11 mm	0234-110	AR-9095R-110
Reamer head, 11.5 mm	0234-115	AR-9095R-115
Reamer head, 12 mm	0234-120	AR-9095R-120
Reamer head, 12.5 mm	0234-125	AR-9095R-125
Reamer head, 13 mm	0234-130	AR-9095R-130
Reamer head, 13.5 mm	0234-135	AR-9095R-135
Reamer head, 14 mm	0234-140	AR-9095R-140
Reamer head, 14.5 mm	0234-145	AR-9095R-145
Reamer head, 15 mm	0234-150	AR-9095R-150
Reamer head, 15.5 mm	0234-155	AR-9095R-155
Reamer head, 16.5 mm	0234-165	AR-9095R-165

Manakhana		
Monobloc reamer, forward cutting, 8.0 mm (Hudson)	0251-080	AR-9095FR-80
Lower extremity reamer case	9918-100	AR-9095C-03
Lower extremity reamer case	9918-100S	AR-9095S-03
Disposables		
Guide pin, 3.2 mm × 330 mm	S0100-000	AR-9095-40S
Guide pin, 3.2 mm × 381 mm	S0100-381	AR-9095-41S
Step drill, calibrated, 5.0 mm	S0209-200	AR-9095-42S
Drill, AO style, 4.0 mm × 165 mm	S0210-200	AR-9095-43S
Drill, calibrated, AO, 4.0 mm × 280 mm	S0219-100	AR-9095-44S
Cortical tap, large Hudson, 5.0 mm	S0260-000	AR-9095-45S
Activation tool	S0457-000	AR-9095-46S
Ball nose guidewire, sterile, 3.0 mm × 900 mm	0101-900S	AR-9095-39S
Anti-rotation bar, short		AR-9095-67S
Anti-rotation bar, long		AR-9095-67LS
Short Trochanteric Nails		
Trochanteric nail, 9 mm × 20 cm × 125°	1029-200	AR-9094-9-2025
Trochanteric nail, 10 mm × 20 cm × 125°	1030-200	AR-9094-10-2025
Trochanteric nail, 11 mm × 20 cm × 125°	1031-200	AR-9094-11-2025
Trochanteric nail, 12 mm × 20 cm × 125°	1032-200	AR-9094-12-2025
Trochanteric nail, 13 mm × 20 cm × 125°	1033-200	AR-9094-13-2025
Trochanteric nail, 9 mm × 20 cm × 130°	1034-200	AR-9094-9-2030
Trochanteric nail, 10 mm × 20 cm × 130°	1040-200	AR-9094-11-2030
Trochanteric nail, 11 mm × 20 cm × 130°	1036-200	AR-9094-13-2030
Trochanteric nail, 12 mm × 20 cm × 130°	1041-200	AR-9094-10-2030
Trochanteric nail, 13 mm × 20 cm × 130°	1037-200	AR-9094-12-2030
ES Trochanteric Nails		
ES Trochanteric nail, left, 10 mm × 30 cm × 125°	1020-305	AR-9094ES-10-3025L
ES Trochanteric nail, left, 10 mm × 33 cm × 125°	1020-335	AR-9094ES-10-3025L
ES Trochanteric nail, left, 10 mm × 36 cm × 125°	1020-365	AR-9094ES-10-3625L
ES Trochanteric nail, left, 10 mm × 39 cm × 125°	1020-395	AR-9094ES-10-3925L
ES Trochanteric nail, left, 10 mm × 42 cm × 125°	1020-425	AR-9094ES-10-4225L
ES Trochanteric nail, left, 11 mm × 30 cm × 125°	1022-305	AR-9094ES-11-3025L
ES Trochanteric nail, left, 11 mm × 33 cm × 125°	1022-335	AR-9094ES-10-3325L
ES Trochanteric nail, left, 11 mm × 36 cm × 125°	1022-365	AR-9094ES-10-3625L
ES Trochanteric nail, left, 11 mm × 39 cm × 125°	1022-395	AR-9094ES-10-3925L
ES Trochanteric nail, left, 11 mm × 42 cm × 125°	1022-425	AR-9094ES-10-4225L
ES Trochanteric nail, right, 10 mm × 30 cm × 125°	1021-305	AR-9094ES-10-3025R

ES Trochanteric nail, right, 10 mm × 33 cm × 125°	1021-335	AR-9094ES-10-3325R
ES Trochanteric nail, right, 10 mm × 36 cm × 125°	1021-365	AR-9094ES-10-3625R
ES Trochanteric nail, right, 10 mm × 39 cm × 125°	1021-395	AR-9094ES-10-3925R
ES Trochanteric nail, right, 10 mm × 42 cm × 125°	1021-425	AR-9094ES-10-4225R
ES Trochanteric nail, right, 11 mm × 30 cm × 125°	1023-305	AR-9094ES-11-3025R
ES Trochanteric nail, right, 11 mm × 33 cm × 125°	1023-335	AR-9094ES-11-3325R
ES Trochanteric nail, right, 11 mm × 36 cm × 125°	1023-365	AR-9094ES-11-3625R
ES Trochanteric nail, right, 11 mm × 39 cm × 125°	1023-395	AR-9094ES-11-3925R
ES Trochanteric nail, right, 11 mm × 42 cm × 125°	1023-425	AR-9094ES-11-4225R
ES Trochanteric nail, left, 10 mm × 30 cm × 130°	1066-305	AR-9094ES-10-3030L
ES Trochanteric nail, left, 10 mm × 33 cm × 130°	1066-335	AR-9094ES-10-3330L
ES Trochanteric nail, left, 10 mm × 36 cm × 130°	1066-365	AR-9094ES-10-3630L
ES Trochanteric nail, left, 10 mm × 39 cm × 130°	1066-395	AR-9094ES-10-3930L
ES Trochanteric nail, left, 10 mm × 42 cm × 130°	1066-425	AR-9094ES-10-4230L
ES Trochanteric nail, left, 11 mm × 30 cm × 130°	1058-305	AR-9094ES-11-3030L
ES Trochanteric nail, left, 11 mm × 33 cm × 130°	1058-335	AR-9094ES-11-3330L
ES Trochanteric nail, left, 11 mm × 36 cm × 130°	1058-365	AR-9094ES-11-3630L
ES Trochanteric nail, left, 11 mm × 39 cm × 130°	1058-395	AR-9094ES-11-3930L
ES Trochanteric nail, left, 11 mm × 42 cm × 130°	1058-425	AR-9094ES-11-4230L
ES Trochanteric nail, right, 10 mm × 30 cm × 130°	1067-305	AR-9094ES-10-3030R
ES Trochanteric nail, right, 10 mm × 33 cm × 130°	1067-335	AR-9094ES-10-3330R
ES Trochanteric nail, right, 10 mm × 36 cm × 130°	1067-365	AR-9094ES-10-3630R
ES Trochanteric nail, right, 10 mm × 39 cm × 130°	1067-395	AR-9094ES-10-3030R
ES Trochanteric nail, right, 10 mm × 42 cm × 130°	1067-425	AR-9094ES-11-3030R
ES Trochanteric nail, right, 11 mm × 30 cm × 130°	1059-305	AR-9094ES-11-3330R
ES Trochanteric nail, right, 11 mm × 33 cm × 130°	1059-335	AR-9094ES-11-3630R
ES Trochanteric nail, right, 11 mm × 36 cm × 130°	1059-365	AR-9094ES-11-3930R
ES Trochanteric nail, right, 11 mm × 39 cm × 130°	1059-395	AR-9094ES-11-4230R
ES Trochanteric nail, right, 11 mm × 42 cm × 130°	1059-425	AR-9094ES-10-4230R
ES Trochanteric Nails (Special Orde	r)	
ES Trochanteric nail, left, 12.5 mm × 30 cm × 125°	1120-305	AR-9094ES-12-3025L
ES Trochanteric nail, left, 12.5 mm × 33 cm × 125°	1120-335	AR-9094ES-12-3325L

ES Trochanteric nail, left, 12.5 mm × 36 cm × 125°	1120-365	AR-9094ES-12-3625L
ES Trochanteric nail, left, 12.5 mm × 39 cm × 125°	1120-395	AR-9094ES-12-3925L
ES Trochanteric nail, left, 12.5 mm × 42 cm × 125°	1120-425	AR-9094ES-12-4225L
ES Trochanteric nail, right, 12.5 mm × 30 cm × 125°	1121-305	AR-9094ES-12-3025R
ES Trochanteric nail, right, 12.5 mm × 33 cm × 125°	1121-335	AR-9094ES-12-3325R
ES Trochanteric nail, right, 12.5 mm × 36 cm × 125°	1121-365	AR-9094ES-12-3625R
ES Trochanteric nail, right, 12.5 mm × 39 cm × 125°	1121-395	AR-9094ES-12-3925R
ES Trochanteric nail, right, 12.5 mm × 42 cm × 125°	1121-425	AR-9094ES-12-4225R
ES Trochanteric nail, left, 12.5 mm × 30 cm × 130°	1122-305	AR-9094ES-12-3030L
ES Trochanteric nail, left, 12.5 mm × 33 cm × 130°	1122-335	AR-9094ES-14-3030L
ES Trochanteric nail, left, 12.5 mm × 36 cm × 130°	1122-365	AR-9094ES-14-3330L
ES Trochanteric nail, left, 12.5 mm × 39 cm × 130°	1122-395	AR-9094ES-14-3630L
ES Trochanteric nail, left, 12.5 mm × 42 cm × 130°	1122-425	AR-9094ES-14-3930L
ES Trochanteric nail, right, 12.5 mm × 30 cm × 130°	1123-305	AR-9094ES-14-4230L
ES Trochanteric nail, right, 12.5 mm × 33 cm × 130°	1123-335	AR-9094ES-14-3030R
ES Trochanteric nail, right, 12.5 mm × 36 cm × 130°	1123-365	AR-9094ES-14-3330R
ES Trochanteric nail, right, 12.5 mm × 39 cm × 130°	1123-395	AR-9094ES-14-3630R
ES Trochanteric nail, right, 12.5 mm × 42 cm × 130°	1123-425	AR-9094ES-14-3930R
ES Trochanteric nail, left, 14 mm × 30 cm × 130°	1068-305	AR-9094ES-14-4230R
ES Trochanteric nail, left, 14 mm × 33 cm × 130°	1068-335	AR-9094ES-12-3330L
ES Trochanteric nail, left, 14 mm × 36 cm × 130°	1068-365	AR-9094ES-12-3630L
ES Trochanteric nail, left, 14 mm × 39 cm × 130°	1068-395	AR-9094ES-12-3930L
ES Trochanteric nail, left, 14 mm × 42 cm × 130°	1068-425	AR-9094ES-12-4230L
ES Trochanteric nail, right, 14 mm × 30 cm × 130°	1069-305	AR-9094ES-12-3030R
ES Trochanteric nail, right, 14 mm × 33 cm ×130°	1069-335	AR-9094ES-12-3330R
ES Trochanteric nail, right, 14 mm × 36 cm × 130°	1069-365	AR-9094ES-12-3630R
ES Trochanteric nail, right, 14 mm × 39 cm × 130°	1069-395	AR-9094ES-12-3930R
ES Trochanteric nail, right, 14 mm × 42 cm × 130°	1069-425	AR-9094ES-12-4230R
Long Trochanteric Nails		
Trochanteric nail, left, 10 mm × 30 cm × 125°	1020-300	AR-9094-10-3025L
Trochanteric nail, left, 10 mm × 33 cm × 125°	1020-330	AR-9094-10-3325L
Trochanteric nail, left, 10 mm × 36 cm × 125°	1020-360	AR-9094-10-3625L

Trochanteric nail, left, 10 mm × 39 cm × 125°	1020-390	AR-9094-10-3925L
Trochanteric nail, left, 10 mm × 42 cm × 125°	1020-420	AR-9094-10-4225L
Trochanteric nail, left, 11 mm × 30 cm × 125°	1022-300	AR-9094-10-3025R
Trochanteric nail, left, 11 mm × 33 cm × 125°	1022-330	AR-9094-10-3325R
Trochanteric nail, left, 11 mm × 36 cm × 125°	1022-360	AR-9094-10-3625R
Trochanteric nail, left, 11 mm × 39cm × 125°	1022-390	AR-9094-10-3925R
Trochanteric nail, left, 11 mm × 42 cm × 125°	1022-420	AR-9094-10-4225R
Trochanteric nail, right, 10 mm × 30 cm × 125°	1021-300	AR-9094-11-3025L
Trochanteric nail, right, 10 mm × 33 cm × 125°	1021-330	AR-9094-11-3325L
Trochanteric nail, right, 10 mm × 36 cm × 125°	1021-360	AR-9094-11-3625L
Trochanteric nail, right, 10 mm × 39 cm × 125°	1021-390	AR-9094-11-3925L
Trochanteric nail, right, 10 mm × 42 cm × 125°	1021-420	AR-9094-11-4225L
Trochanteric nail, right, 11 mm × 30 cm × 125°	1023-300	AR-9094-11-3025R
Trochanteric nail, right, 11 mm × 33 cm × 125°	1023-330	AR-9094-11-3325R
Trochanteric nail, right, 11 mm × 36 cm × 125°	1023-360	AR-9094-11-3625R
Trochanteric nail, right, 11 mm × 39 cm × 125°	1023-390	AR-9094-11-3925R
Trochanteric nail, right, 11 mm × 42 cm × 125°	1023-420	AR-9094-11-4225R
Trochanteric nail, left, 10 mm × 30 cm × 130°	1050-300	AR-9094-10-3030L
Trochanteric nail, left, 10 mm × 33 cm × 130°	1050-330	AR-9094-10-3330L
Trochanteric nail, left, 10 mm × 36 cm × 130°	1050-360	AR-9094-10-3630L
Trochanteric nail, left, 10 mm × 39 cm × 130°	1050-390	AR-9094-10-3930L
Trochanteric nail, left, 10 mm × 42 cm × 130°	1050-420	AR-9094-10-4230L
Trochanteric nail, left, 11 mm × 30 cm × 130°	1058-300	AR-9094-11-3030L
Trochanteric nail, left, 11 mm × 33 cm × 130°	1058-330	AR-9094-11-3330L
Trochanteric nail, left, 11 mm × 36 cm × 130°	1058-360	AR-9094-11-3630L
Trochanteric nail, left, 11 mm × 39 cm × 130°	1058-390	AR-9094-11-3930L
Trochanteric nail, left, 11 mm × 42 cm × 130°	1058-420	AR-9094-11-4230L
Trochanteric nail, right, 10 mm × 30 cm × 130°	1051-300	AR-9094-10-3030R
Trochanteric nail, right, 10 mm × 33 cm × 130°	1051-330	AR-9094-10-3330R
Trochanteric nail, right, 10 mm × 36 cm ×130°	1051-360	AR-9094-10-3630R
Trochanteric nail, right, 10 mm × 39 cm × 130°	1051-390	AR-9094-10-3930R
Trochanteric nail, right, 10 mm × 42 cm × 130°	1051-420	AR-9094-10-4230R

Trochanteric nail, right, 11 mm × 30 cm × 130°	1059-300	AR-9094-11-3030R
Trochanteric nail, right, 11 mm × 33 cm ×130°	1059-330	AR-9094-11-3330R
Trochanteric nail, right, 11 mm × 36 cm × 130°	1059-360	AR-9094-11-3630R
Trochanteric nail, right, 11 mm × 39 cm × 130°	1059-390	AR-9094-11-3930R
Trochanteric nail, right, 11 mm × 42 cm × 130°	1059-420	AR-9094-11-4230R
Long Trochanteric Nails (Special Or	der)	
Trochanteric nail, left, 12.5 mm × 30 cm × 130°	1122-300	AR-9094-12-3030L
Trochanteric nail, left, 12.5 mm × 33 cm × 130°	1122-330	AR-9094-12-3330L
Trochanteric nail, left, 12.5 mm × 36 cm × 130°	1122-360	AR-9094-12-3630L
Trochanteric nail, left, 12.5 mm × 39 cm × 130°	1122-390	AR-9094-12-3930L
Trochanteric nail, left, 12.5 mm × 42 cm × 130°	1122-420	AR-9094-12-4230L
Trochanteric nail, right, 12.5 mm × 30 cm × 130°	1123-300	AR-9094-12-3030R
Trochanteric nail, right, 12.5 mm × 33 cm × 130°	1123-330	AR-9094-12-3330R
Trochanteric nail, right, 12.5 mm × 36 cm × 130°	1123-360	AR-9094-12-3630R
Trochanteric nail, right, 12.5 mm × 39 cm × 130°	1123-390	AR-9094-12-3930R
Trochanteric nail, right, 12.5 mm × 42 cm × 130°	1123-420	AR-9094-12-4230R
Solid Lag Screws		
Solid locking lag screw, 10.5 mm × 70 mm	1094-070	AR-9094-1070
Solid locking lag screw, 10.5 mm × 75 mm	1094-075	AR-9094-1075
Solid locking lag screw, 10.5 mm × 80 mm	1094-080	AR-9094-1080
Solid locking lag screw, 10.5 mm × 85 mm	1094-085	AR-9094-1085
Solid locking lag screw, 10.5 mm × 90 mm	1094-090	AR-9094-1090
Solid locking lag screw, 10.5 mm × 95 mm	1094-095	AR-9094-1095
Solid locking lag screw, 10.5 mm × 100 mm	1094-100	AR-9094-1100
Solid locking lag screw, 10.5 mm × 105 mm	1094-105	AR-9094-1105
Solid locking lag screw, 10.5 mm × 110 mm	1094-110	AR-9094-1110
Solid locking lag screw, 10.5 mm × 115 mm	1094-115	AR-9094-1115
Solid locking lag screw, 10.5 mm × 120 mm	1094-120	AR-9094-1120
Telescoping Lag Screws		
Telescoping lag screw, 10.5 mm × 85 mm	1099-085	AR-9094-085
Telescoping lag screw, 10.5 mm × 90 mm	1099-090	AR-9094-090
Telescoping lag screw, 10.5 mm × 95 mm	1099-095	AR-9094-095
Telescoping lag screw, 10.5 mm × 100 mm	1099-100	AR-9094-100

Telescoping lag screw, 10.5 mm × 105 mm	1099-105	AR-9094-105
Telescoping lag screw, 10.5 mm × 110 mm	1099-110	AR-9094-110
Telescoping lag screw, 10.5 mm × 115 mm	1099-115	AR-9094-115
Telescoping lag screw, 10.5 mm × 120 mm	1099-120	AR-9094-120
Telescoping Lag Screws, left		
Telescoping lag screw, left, 10.5 mm × 85 mm	1192-085	AR-9094-085L
Telescoping lag screw, left, 10.5 mm × 90 mm	1192-090	AR-9094-090L
Telescoping lag screw, left, 10.5 mm × 95 mm	1192-095	AR-9094-095L
Telescoping lag screw, left, 10.5 mm × 100 mm	1192-100	AR-9094-100L
Telescoping lag screw, left, 10.5 mm × 105 mm	1192-105	AR-9094-105L
Telescoping lag screw, left, 10.5 mm × 110 mm	1192-110	AR-9094-110L
Telescoping lag screw, left, 10.5 mm × 115 mm	1192-115	AR-9094-115L
Telescoping lag screw, left, 10.5 mm × 120 mm	1192-120	AR-9094-120L
Anti-Rotation Screws		
Anti-rotation screw, cancellous, 5.0 mm × 60 mm	8021-060	AR-9094AR-060
Anti-rotation screw, cancellous, 5.0 mm × 65 mm	8021-065	AR-9094AR-065
Anti-rotation screw, cancellous, 5.0 mm × 70 mm	8021-070	AR-9094AR-070
Anti-rotation screw, cancellous, 5.0 mm × 75 mm	8021-075	AR-9094AR-075
Anti-rotation screw, cancellous, 5.0 mm × 80 mm	8021-080	AR-9094AR-080
Anti-rotation screw, cancellous, 5.0 mm × 85 mm	8021-085	AR-9094AR-085
Anti-rotation screw, cancellous, 5.0 mm × 90 mm	8021-090	AR-9094AR-090
Anti-rotation screw, cancellous, 5.0 mm × 95 mm	8021-095	AR-9094AR-095
Anti-rotation screw, cancellous, 5.0 mm × 100 mm	8021-100	AR-9094AR-100
Anti-rotation screw, cancellous, 5.0 mm × 105 mm	8021-105	AR-9094AR-105
Anti-rotation screw, cancellous, 5.0 mm × 110 mm	8021-110	AR-9094AR-110
Distal Screws		
Cortical screw, captured, 5.0 mm x 24 mm	8001-024	AR-9093-50-024
Cortical screw, captured, 5.0 mm x 26 mm	8001-026	AR-9093-50-026
Cortical screw, captured, 5.0 mm x 28 mm	8001-028	AR-9093-50-028
Captured cortical screw, 5.0 mm × 30 mm	8001-030	AR-9093-50-030
Captured cortical screw, 5.0 mm × 32 mm	8001-032	AR-9093-50-032
Captured cortical screw, 5.0 mm × 34 mm	8001-034	AR-9093-50-034
Captured cortical screw, 5.0 mm × 36 mm	8001-036	AR-9093-50-036

Captured cortical screw 5.0 mm × 38 mm	8001-038	AR-9093-50-038
Captured cortical screw, 5.0 mm × 40 mm	8001-040	AR-9093-50-040
Captured cortical screw 5.0 mm × 42 mm	8001-042	AR-9093-50-042
Captured cortical screw, 5.0 mm × 44 mm	8001-044	AR-9093-50-044
Captured cortical screw, 5.0 mm × 46 mm	8001-046	AR-9093-50-046
Captured cortical screw, 5.0 mm × 48 mm	8001-048	AR-9093-50-048
Captured cortical screw, 5.0 mm × 50 mm	8001-050	AR-9093-50-050
Captured cortical screw, 5.0 mm × 55 mm	8001-055	AR-9093-50-055
Captured cortical screw, 5.0 mm × 60 mm	8001-060	AR-9093-50-060
5.0 mm Distal Screws		
Captured cortical screw, 5.0 mm × 65 mm	8001-065	AR-9093-50-065
Captured cortical screw, 5.0 mm × 70 mm	8001-070	AR-9093-50-070
Captured cortical screw, 5.0 mm × 75 mm	8001-075	AR-9093-50-075
Captured cortical screw, 5.0 mm × 80 mm	8001-080	AR-9093-50-080
Captured cortical screw, 5.0 mm × 85 mm	8001-085	AR-9093-50-085
Captured cortical screw, 5.0 mm × 90 mm	8001-090	AR-9093-50-090
Captured cortical screw, 5.0 mm × 95 mm	8001-095	AR-9093-50-095
Captured cortical screw, 5.0 mm × 100 mm	8001-100	AR-9093-50-100
Captured cortical screw, 5.0 mm × 105 mm	8001-105	AR-9093-50-105
Captured cortical screw, 5.0 mm × 110 mm	8001-110	AR-9093-50-110
End Caps		
Captured bullet tip end cap, 1 mm	1047-019	AR-9094C-01
Captured bullet tip end cap, 5 mm	1047-059	AR-9094C-05
Captured bullet tip end cap, 10 mm	1047-109	AR-9094C-10
Locking end cap, captured, Trochanteric Nail, 1 mm	1048-019	AR-9094CP-01
Anti-rotation set screw	1085-000	AR-9094SAR
Biologic Augmentation		
Trochanteric Nail Augmentation System		ABS-1094
QuickSet Cement, 5 cc		ABS-3005
QuickSet Cement, 8 cc		ABS-3008
BoneSync Calcium Phosphate Cement, 3 cc		ABS-3103
BoneSync Calcium Phosphate Cement, 5 cc		ABS-3105
AlloSync Pure Demineralized Bone Matrix, 1 cc		ABS-2010-01
AlloSync Pure Demineralized Bone Matrix, 2.5 cc		ABS-2010-02

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



US patent information