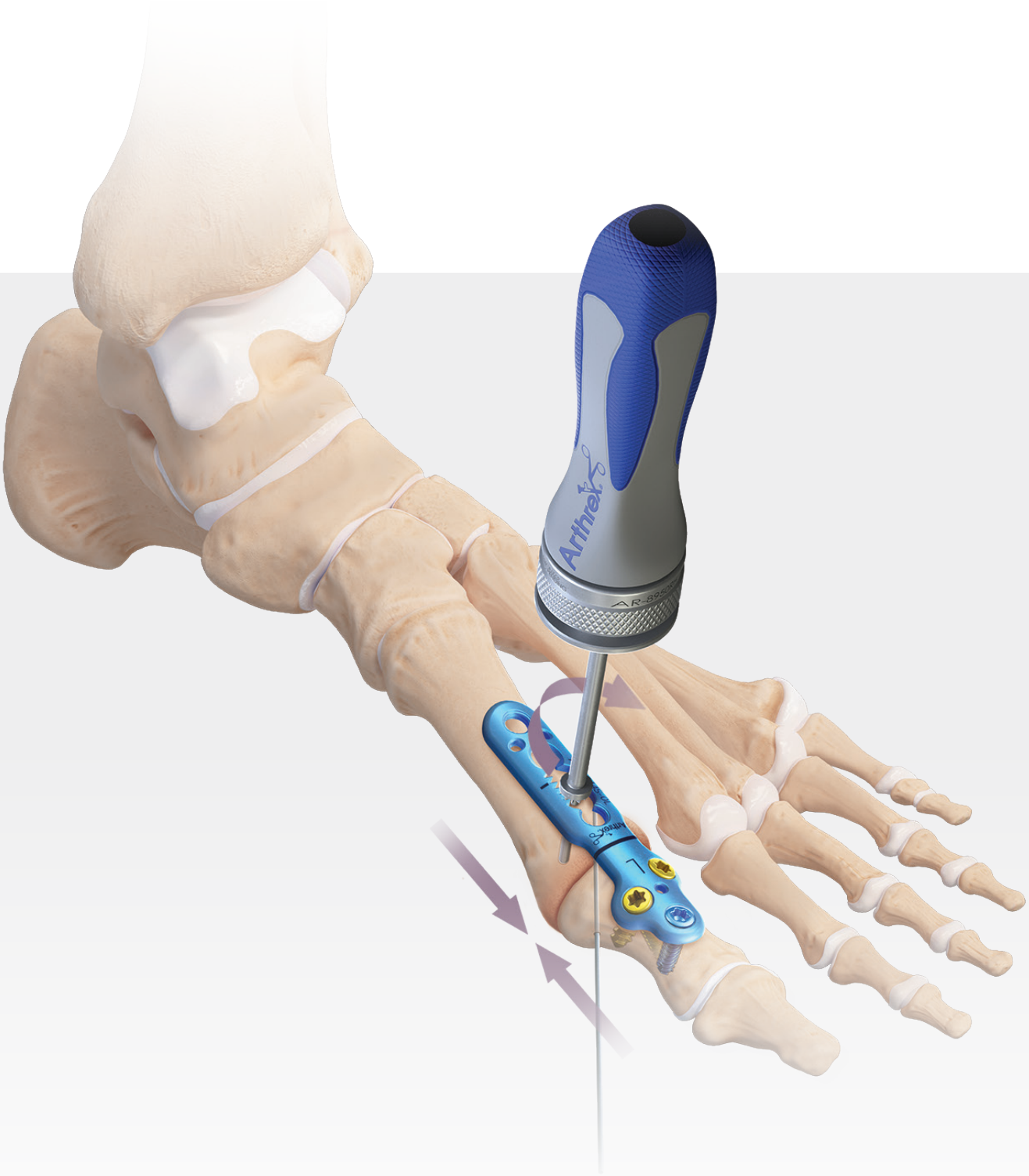
MaxForce™ MTP Fusion

Surgical Technique



Arthrex®

MaxForce™ MTP Fusion

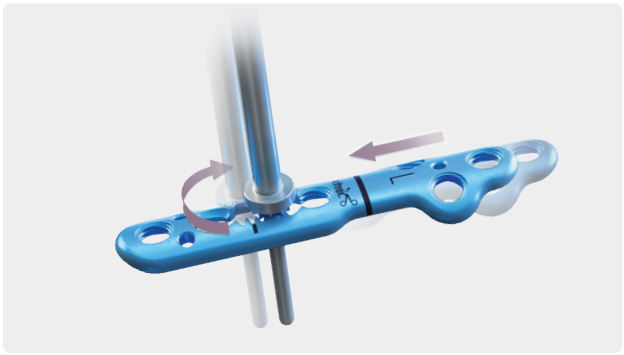
Introduction

The MaxForce MTP plating system is a considerable upgrade from standard MTP fusion plates. Using a unique and patented compression mechanism, along with an oblong compression hole, the MaxForce MTP plates maximize compression for an MTP fusion.[1]

Arthrex's comprehensive range of plate sizes and curvatures provides every option from small to long revision and straight to dorsiflexed, giving surgeons what they need for every fusion type from the simple and straightforward to the complex nonunion or revision Cartiva®* procedure.

Product Highlight

The MaxForce MTP plates allow for maximized compression of the arthrodesis site via two modes of compression. In addition to a standard oblong compression hole with eccentric drilling, these plates use a unique mechanism that allows surgeons to manually dial in compression across the joint. Together, these two modes allow for up to 34 lb of combined compression.[1] The teeth in the plate align with the teeth on the compression device to work like gears. As the compression device is turned clockwise, the plate shifts proximally, compressing the MTP joint.





Flathead Screw

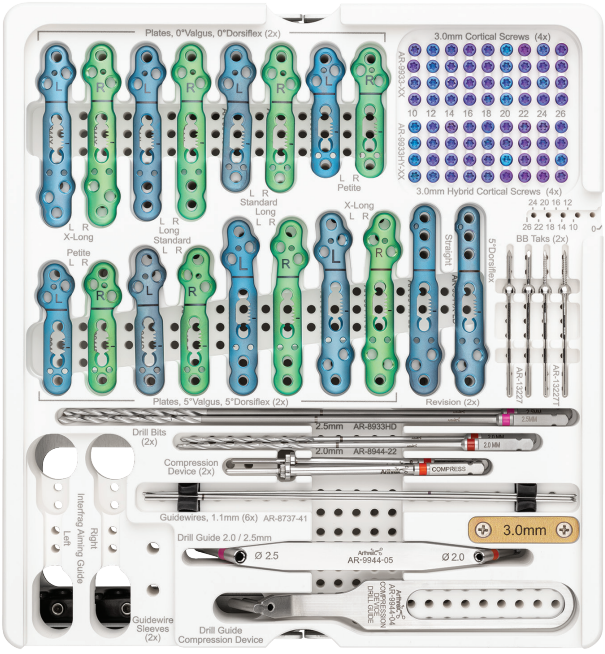
VAL Screw



0° Valgus, 0° Dorsiflex



5° Valgus, 5° Dorsiflex



MaxForce MTP Plate Caddy

*Cartiva is a trademark of Wright Medical Group N.V.

MaxForce™ MTP Fusion Surgical Technique



1

Initially, to prepare the joint for fusion, insert a 1.6 mm guidewire centrally into the metatarsal canal. Use the concave metatarsal reamer to debride the joint of any remaining cartilage.



2

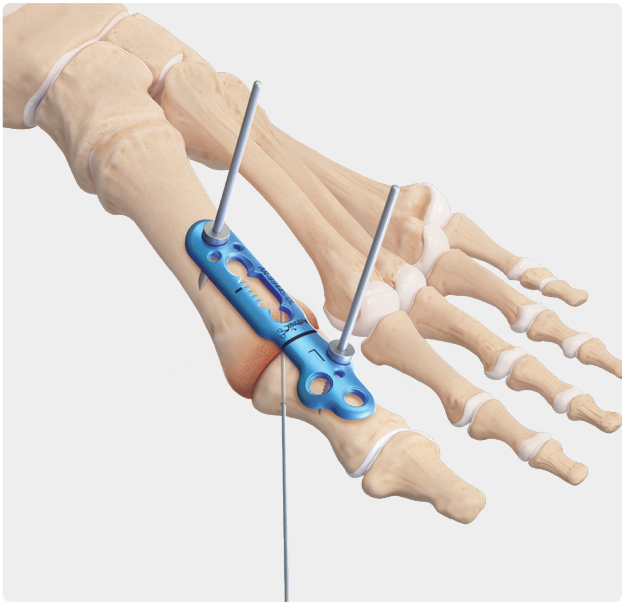
Insert a 1.6 mm guidewire into the proximal phalanx and prepare the base of the phalanx with the convex phalangeal reamer.



3

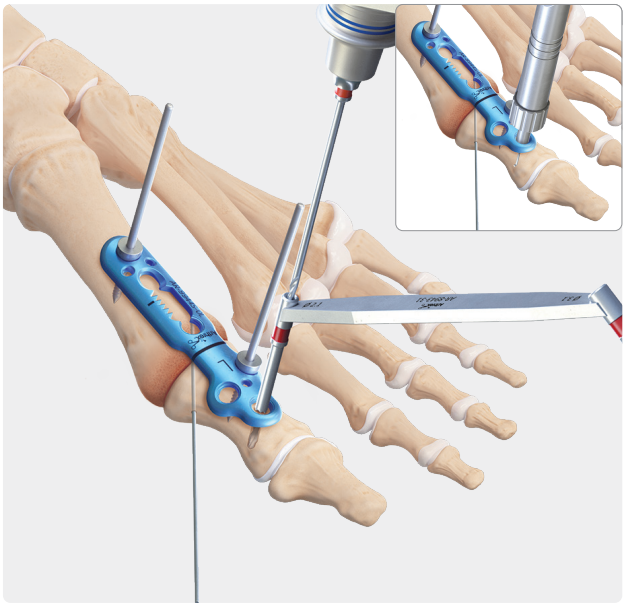
After properly aligning the toe for an anatomic fusion, place a 1.1 mm guidewire across the joint to maintain the toe's position.

Following plate fixation, this wire will be used to insert a 3.5 mm Compression FT screw.



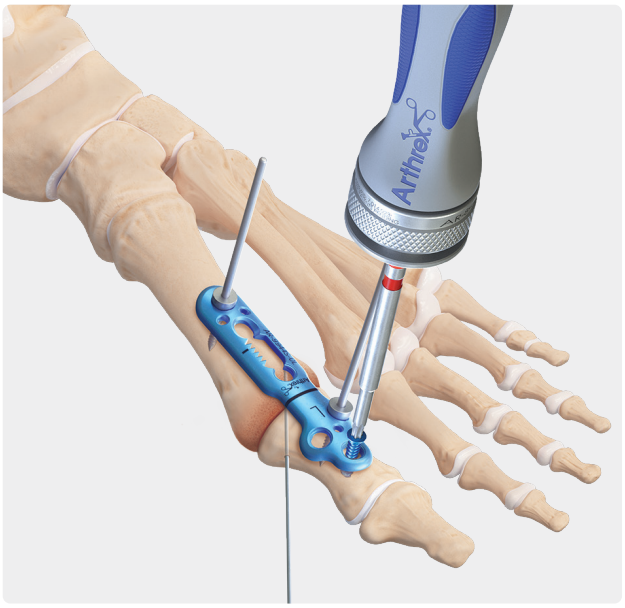
4

Temporarily fixate the plate to bone using BB-Taks. It is important to align the black joint line on the plate with the anatomic joint line.



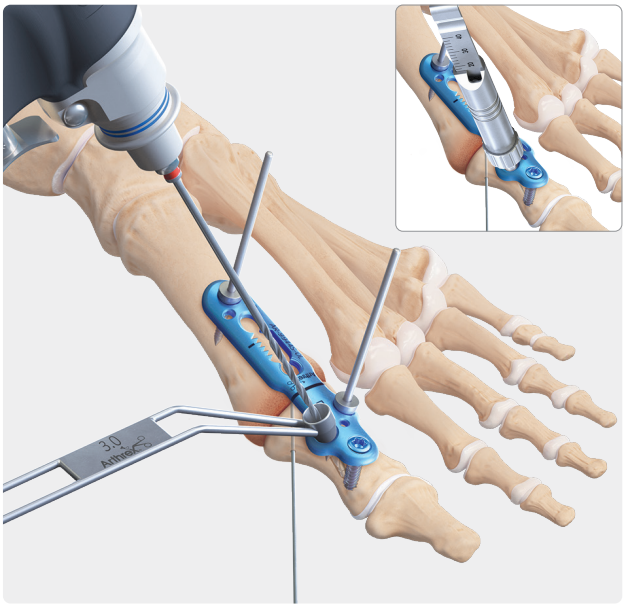
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Drill for the most distal screw using the 2.0 mm drill and drill guide. Using the depth gauge, measure for the length of the screw.



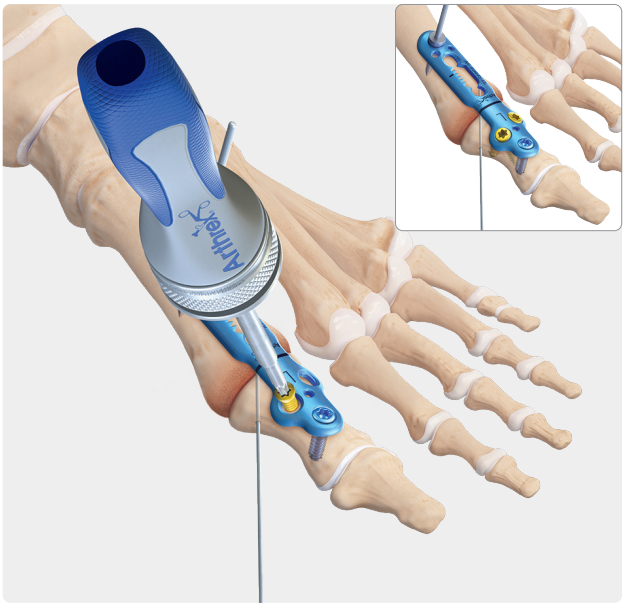
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Insert a 3.0 mm flathead cortical screw. These screws are designed to sit nearly flush with the MTP plate to reduce the overall profile of the construct.



7

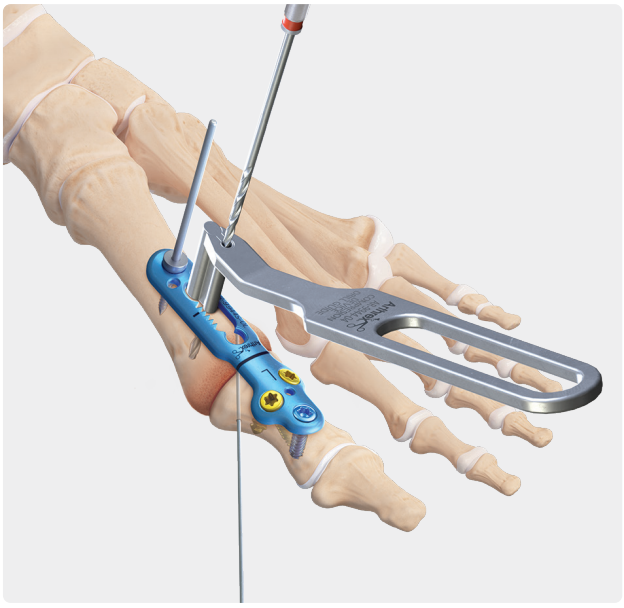
Use the VAL drill guide and a 2.0 mm drill to create a bone tunnel for the 3.0 mm VAL screws. Measure the appropriate depth for the screw.



8

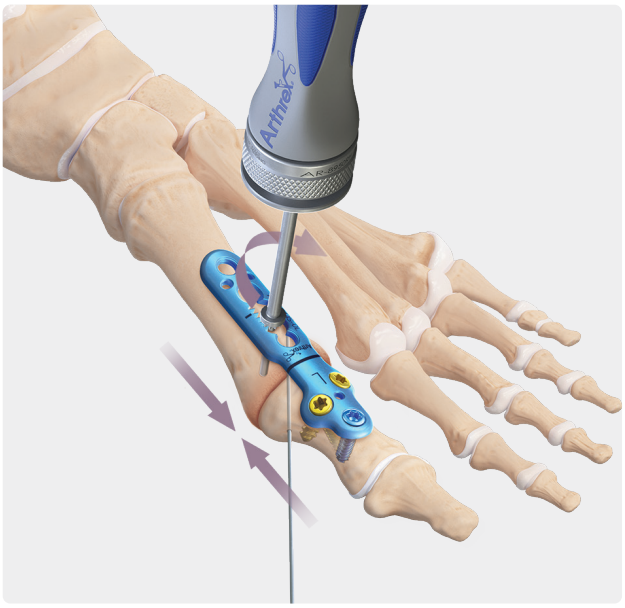
Insert a 3.0 mm VAL screw. Repeat the same process and insert the final screw into the proximal phalanx.

> **Note:** A combination of cortical and locking screws can be used based on surgeon preference.



9

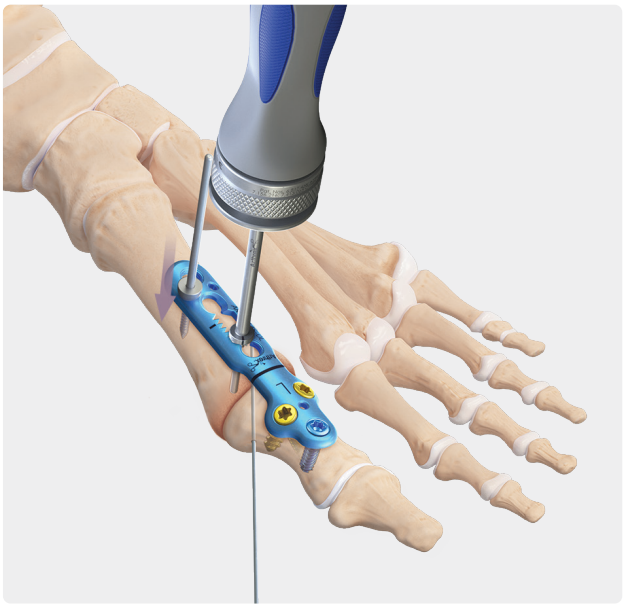
Place the compression drill guide into the proximal compression slot and drill a bicortical bone tunnel through the guide using the 2.0 mm drill.



10

Next, insert the compression device through the prepared bone tunnel and align the laser line on the device with the laser line on the plate. Once the gear is fully engaged into the plate, remove the proximal BB-Tak.

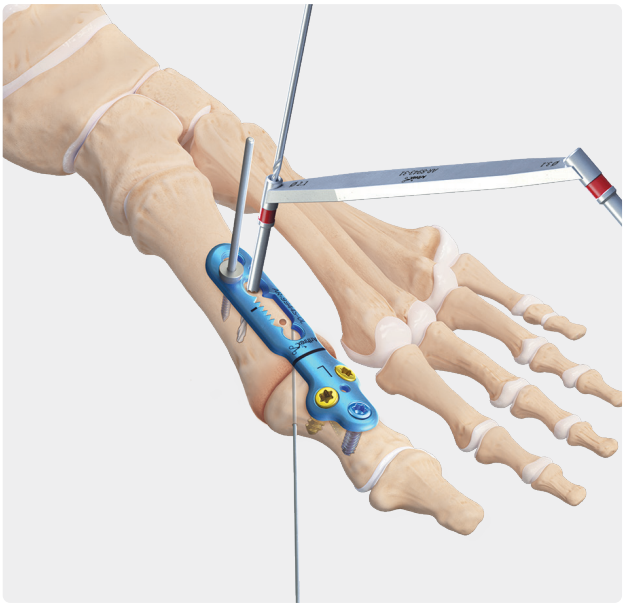
Using two-finger tightness, turn the compression device clockwise to engage the gears and pull the plate proximally. This manually compresses the MTP joint.



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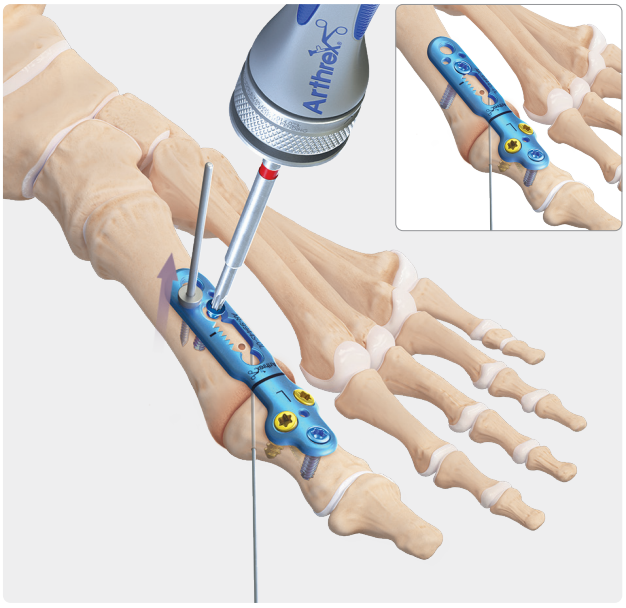
Once adequate compression is achieved, and while maintaining the position of the compression device, place a BB-Tak in one of the proximal holes to temporarily maintain the compression.

> **Note:** The compression device will not typically travel the entirety of the geared mechanism within the plate.



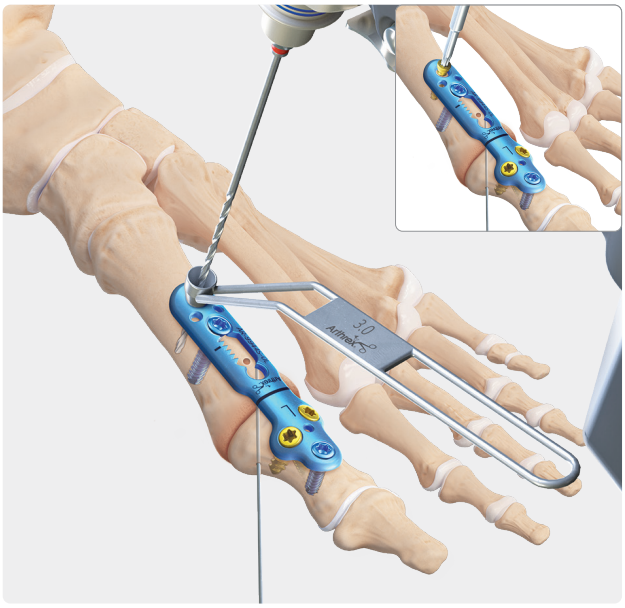
12

Next, use the 2.0 mm drill to drill a bone tunnel in the oblong compression slot through the plate. Use the depth gauge to note the appropriate length screw.

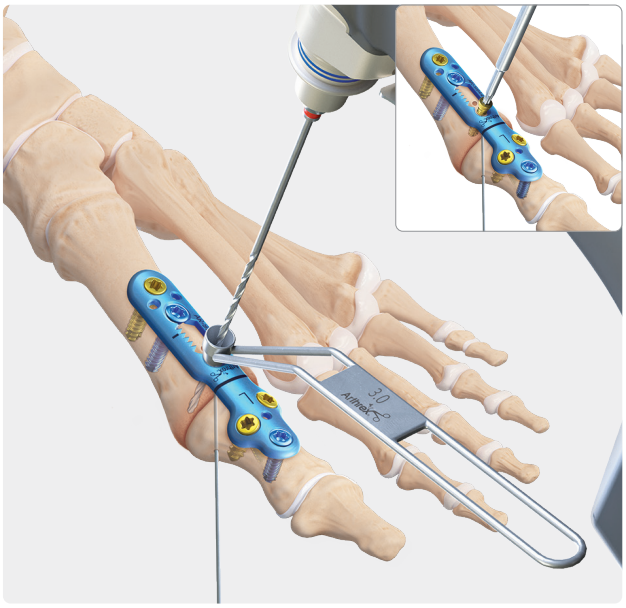


13

Insert a 3.0 mm cortical screw until the head of the screw engages the plate. Remove the BB-Tak and K-wire and continue inserting the screw to achieve additional compression through the oblong hole.



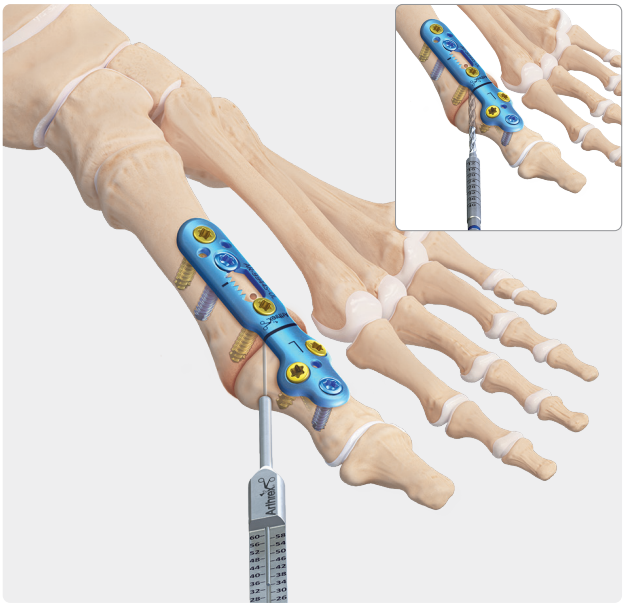
14



15

Proceed to drill, measure, and fixate the remaining proximal holes in the plate to complete the construct.

Note: The fixation point closest to the joint line will accept a VAL or cortical screw.



16

Next, use the cannulated depth gauge for the Compression FT screw to measure and prepare the bone tunnel with the cannulated drill.

Note: It is important to drill a bicortical bone tunnel to achieve maximum compression and prevent distraction



17

Finally, insert the 3.5 mm Compression FT screw across the joint to complete the construct.

Ordering Information

MaxForce™ MTP Compression Plate System	AR-9944S
Instruments	
Drill Guide, 2.0 mm/2.5 mm	AR-9944-05
Drill Guide, MaxForce MTP compression device	AR-9944-04
MaxForce MTP Compression Device, qty. 2	AR-9944-01
MaxForce MTP Compression Plate Caddy and Lid	AR-8950C-37
Plates – Straight (Order Separately)	
MaxForce MTP Compression Plate, petite, 0° valgus, 0° dorsiflex, left	AR-9944P-0L
MaxForce MTP Compression Plate, petite, 0° valgus, 0° dorsiflex, right	AR-9944P-0R
MaxForce MTP Compression Plate, std, 0° valgus, 0° dorsiflex, left	AR-9944S-0L
MaxForce MTP Compression Plate, std, 0° valgus, 0° dorsiflex, right	AR-9944S-0R
MaxForce MTP Compression Plate, long, 0° valgus, 0° dorsiflex, left	AR-9944L-0L
MaxForce MTP Compression Plate, long, 0° valgus, 0° dorsiflex, right	AR-9944L-0R
MaxForce MTP Compression Plate, revision, 0° valgus, 0° dorsiflex, left	AR-9944X-0L
MaxForce MTP Compression Plate, revision, 0° valgus, 0° dorsiflex, right	AR-9944X-0R
Plates – Dorsiflexed and Valgus (Order Separately)	
MaxForce MTP Compression Plate, petite, 5° valgus, 5° dorsiflex, left	AR-9944P-5L
MaxForce MTP Compression Plate, petite, 5° valgus, 5° dorsiflex, right	AR-9944P-5R
MaxForce MTP Compression Plate, std, 5° valgus, 5° dorsiflex, left	AR-9944S-5L
MaxForce MTP Compression Plate, std, 5° valgus, 5° dorsiflex, right	AR-9944S-5R
MaxForce MTP Compression Plate, long, 5° valgus, 5° dorsiflex, left	AR-9944L-5L
MaxForce MTP Compression Plate, long, 5° valgus, 5° dorsiflex, right	AR-9944L-5R
MaxForce MTP Compression Plate, X-long, 5° valgus, 5° dorsiflex, left	AR-9944X-5L
MaxForce MTP Compression Plate, X-long, 5° valgus, 5° dorsiflex, right	AR-9944X-5R
Plates – Revision (Order Separately)	
MaxForce MTP Compression Plate, Revision, straight	AR-9944X-LS
MaxForce MTP Compression Plate, Revision, straight 5° dorsiflex	AR-9944X-LD
Screws, 3.0 mm, Titanium (Order Separately)	
Low-Profile Flathead Screws, cortical, MTP, 3.0 mm × 10 mm – 26 mm (2 mm increments)	AR-9933-10 – 26
Low-Profile Flathead Screws, cortical, MTP, hybrid 3.0 mm × 10 mm – 26 mm (2 mm increments)	AR-9933HY-10-26
Disposables (Order Separately)	
Drill Bit, 2.0 mm, qty. 2	AR-8944-22
Drill Bit, 2.5 mm, qty. 2	AR-8933HD
Guidewire w/ Trocar Tip, 1.1 mm, qty. 6	AR-8737-41
BB-Tak, MTP	AR-13227
BB-Tak, MTP, threaded	AR-13227T
Optional	
MaxForce MTP Compression Plate Caddy and Lid	AR-8950C-16

Reference

1. Arthrex, Inc. Data on file (APT-04668). Naples, FL; 2020.



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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