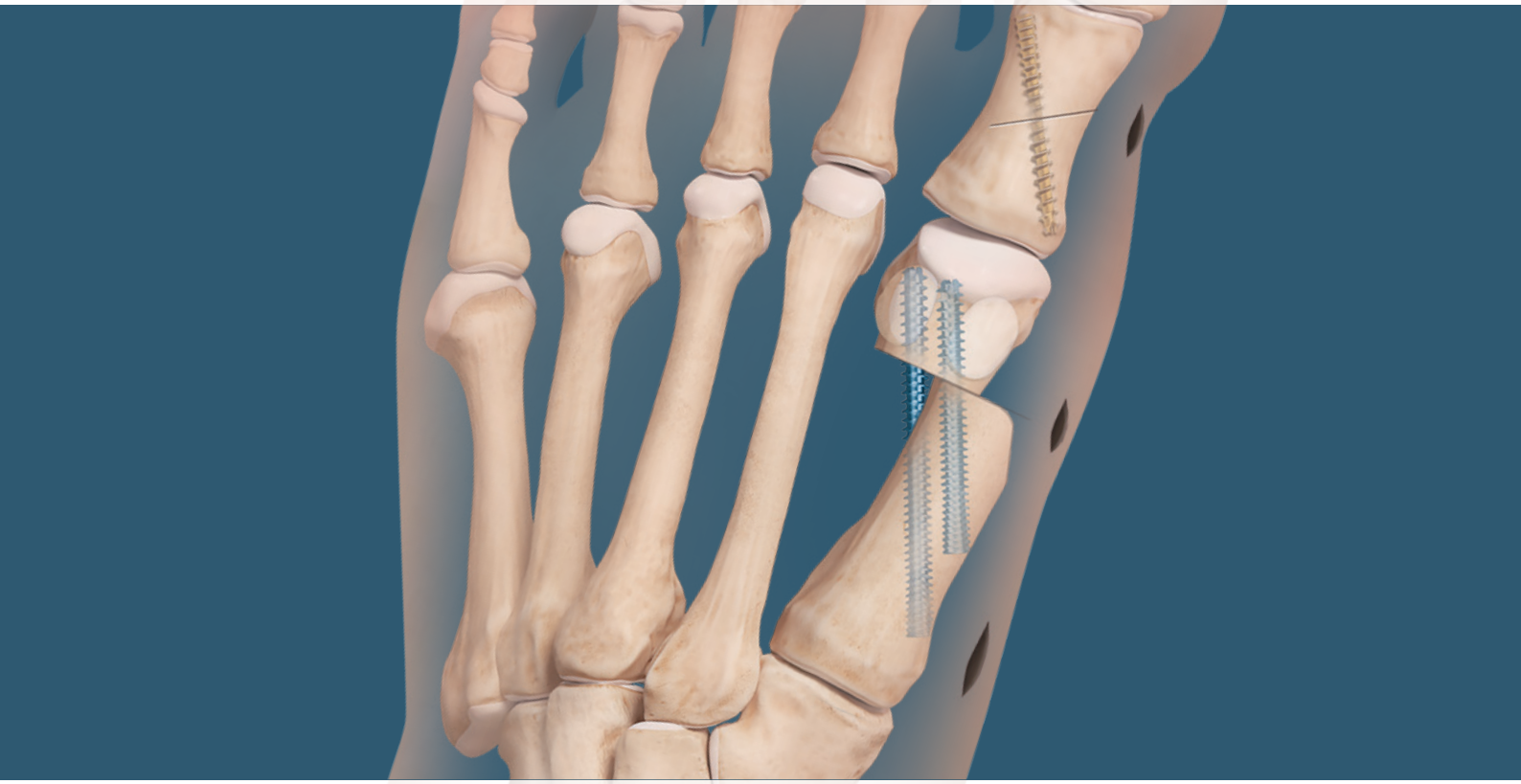
Minimally Invasive Surgery

Bunion Correction Surgical Technique



Arthrex®

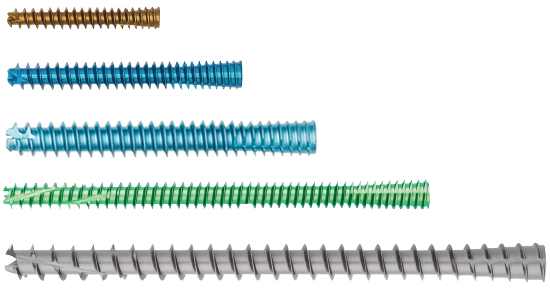
Minimally Invasive Foot Surgery

The Arthrex MIS product portfolio provides surgeons with all the tools necessary to perform minimally invasive or percutaneous surgery of the foot. First, Arthrex offers a dedicated, high-quality power unit with the ideal performance parameters for MIS surgery. Next, Arthrex offers an array of disposable burrs designed specifically for the various osteotomies performed during MIS procedures. Furthermore, Arthrex offers surgeons a small, reusable instrument set complete with a reusable blade handle and other reusable rasps and elevators. Finally, in instances where bony fixation is needed, Arthrex offers a comprehensive line of cannulated, headless, fully threaded Compression FT screws that allow for stable fixation of any osteotomy.

DrillSaw Power™ System
This ergonomic, low-speed and high-torque pencil grip driver allows for safe and effective creation of osteotomies during minimally invasive or percutaneous procedures.

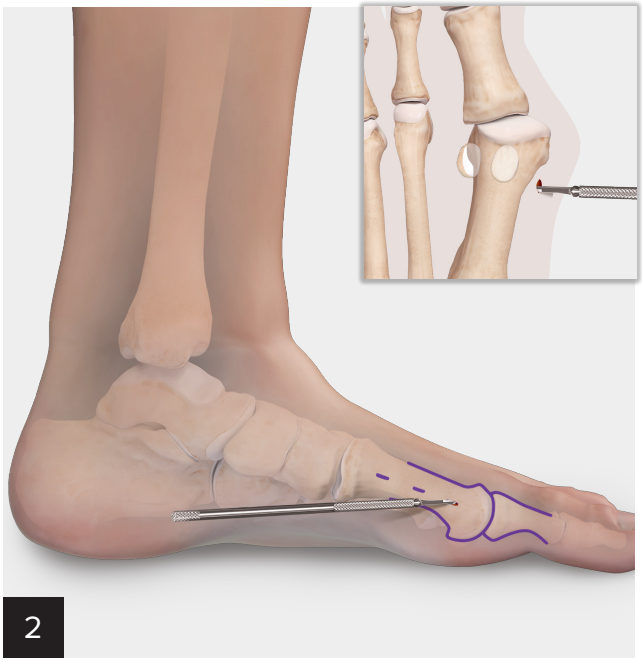
Percutaneous Burrs
The wide selection of single-use burrs is designed for various procedures including cheilectomies, exostectomies, and osteotomies.

Minimally Invasive Instrument set
This small yet functional, reusable set cuts down on cost, offering an array of the more commonly used instruments during minimally invasive or percutaneous procedures.

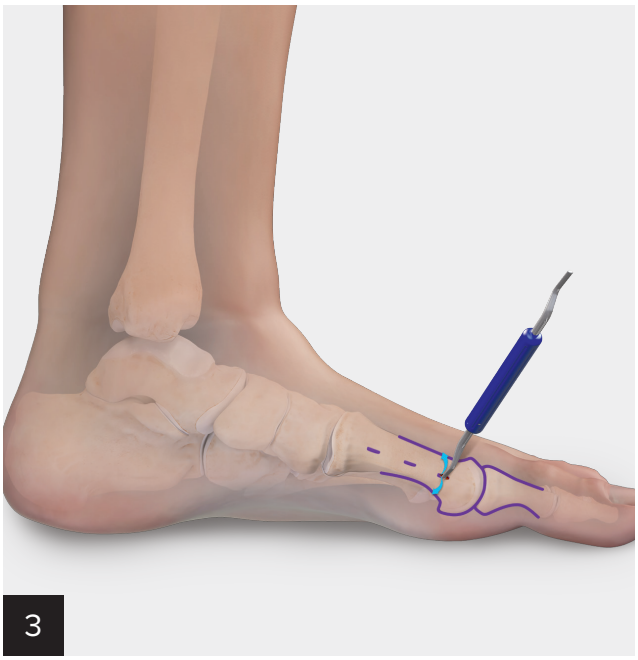


Fully Threaded Compression Screws
With available diameters ranging from 2.5 mm to 7 mm and lengths from 8 mm to 140 mm, the Compression FT screws offer surgeons a variety of options for osteotomy fixation.

Initially mark out the bony anatomy of the metatarsal and proximal phalanx. It is also helpful to draw out the mid shaft of the metatarsal.



Make a 5 mm incision immediately proximal to the sesamoid complex at the metatarsal neck.



Free the soft tissues at the osteotomy site using the the specialized periosteal elevator.

It is important to note that either a straight transverse osteotomy or chevron osteotomy (inset) can be performed at this level.

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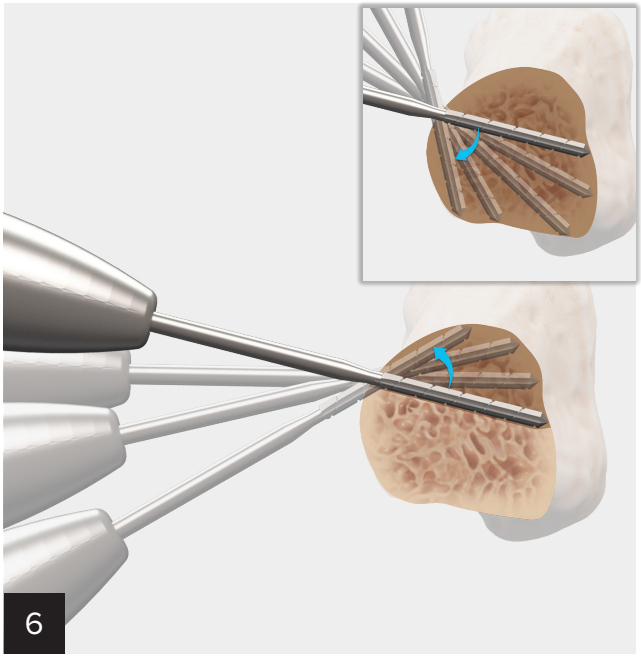

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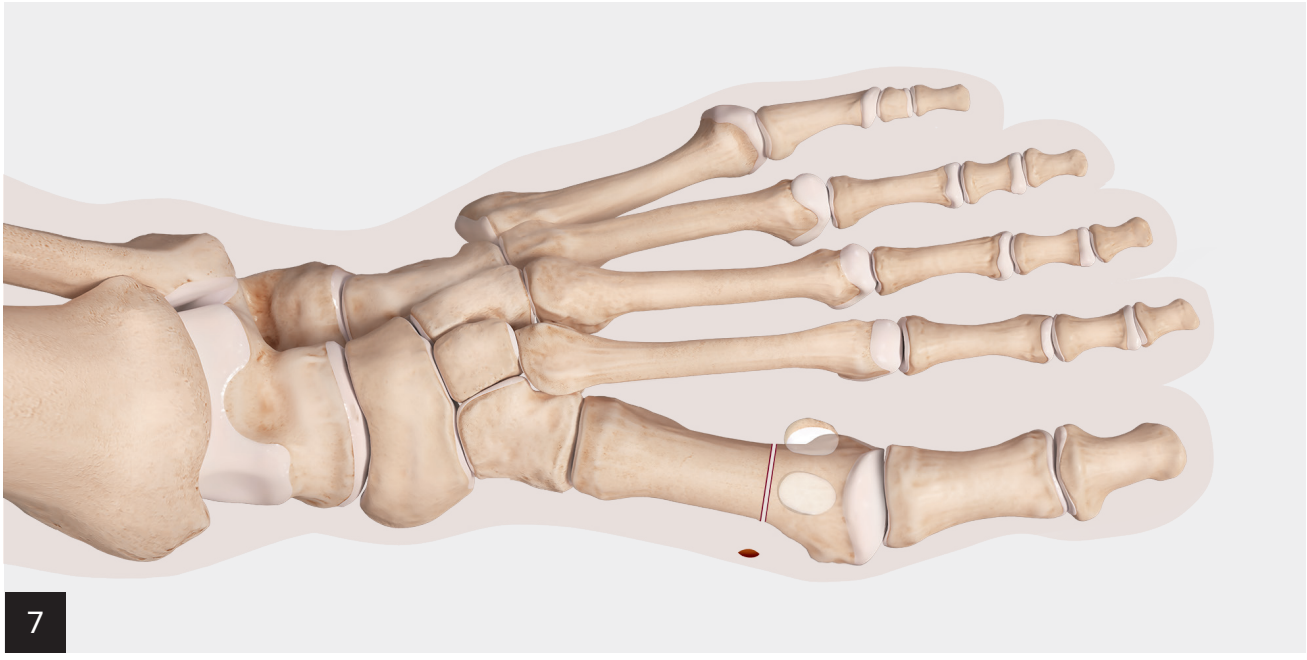
For a transverse osteotomy, introduce the burr at the apex of the osteotomy through both cortices aiming in a slight plantar direction. First perform the dorsal cut by rotating the hand plantarly (burr moves dorsal). Next, perform the plantar cut by rotating the hand dorsal (burr moves plantar).



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AP view of a completed transverse osteotomy.

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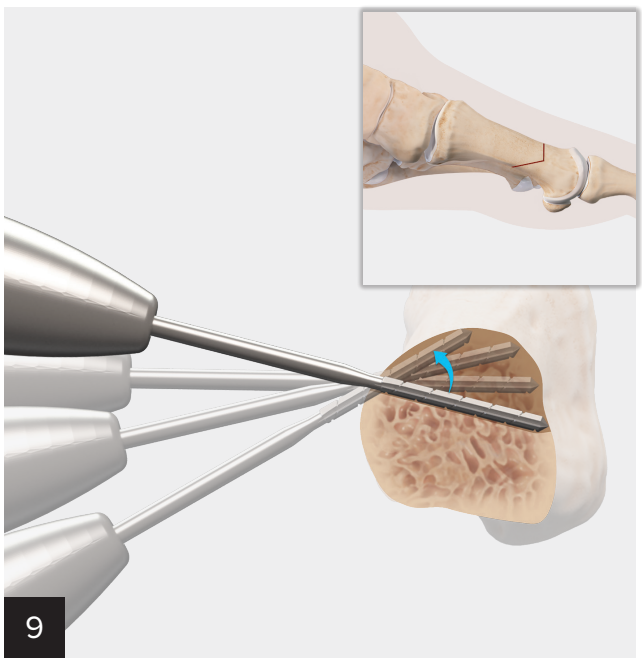

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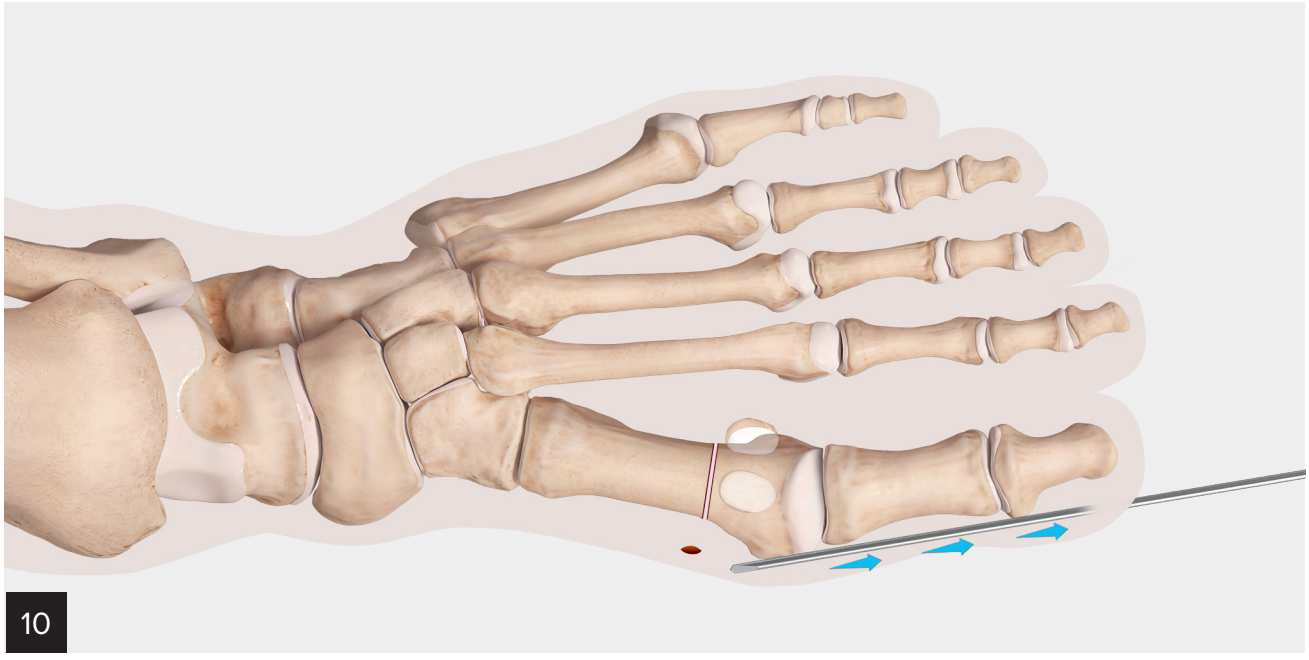
Alternatively, for a chevron osteotomy, initially introduce the burr in the same fashion as for the transverse osteotomy. However, following the dorsal cut, angle the handpiece toward the dorsum of the great toe to complete the plantar limb of the chevron cut.



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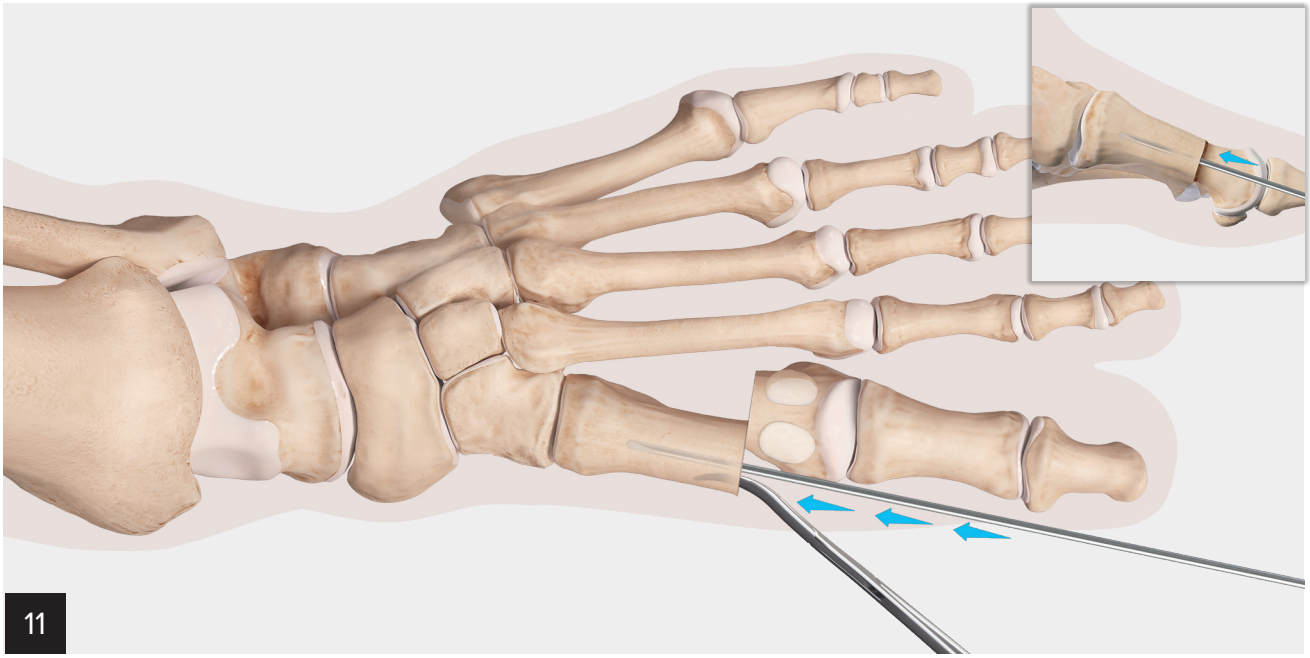
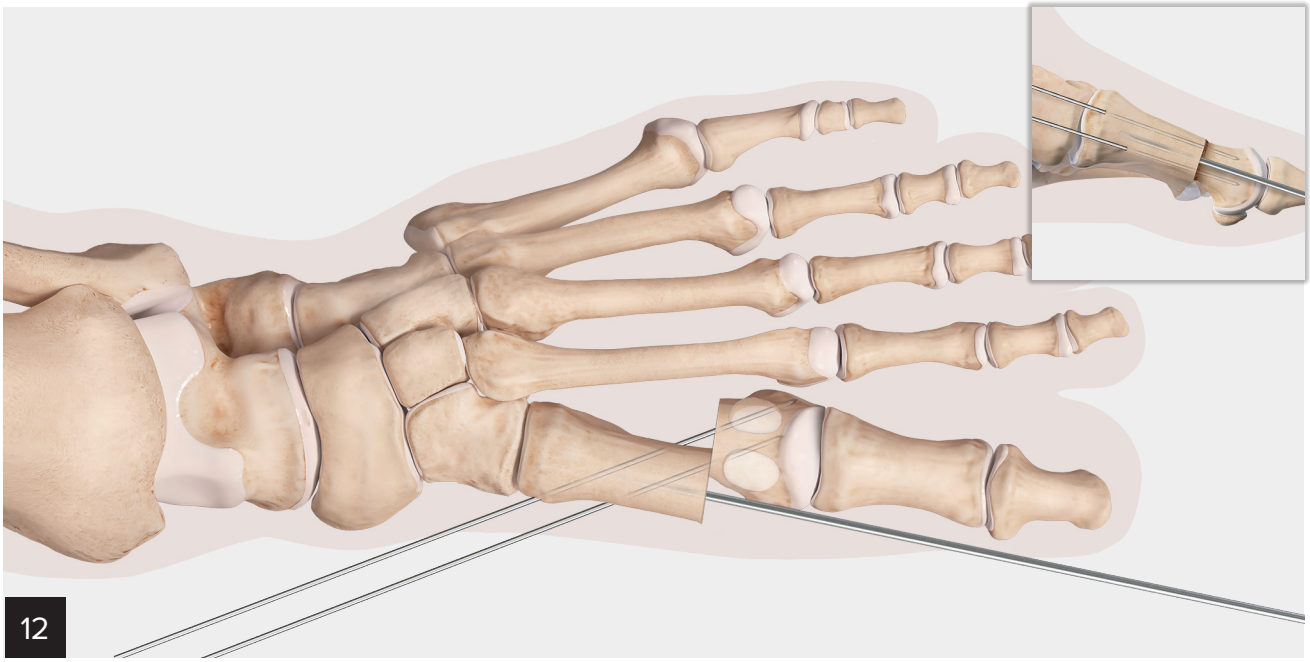
Next, pass a 2.0 mm wire through the medial incision, adjacent to the proximal phalanx and out midline, medial to the nail bed.



Insert a hemostat into the metatarsal canal to help facilitate superior passage of the 2.0 mm wire through the metatarsal canal. Use the temporary wire to help maintain the lateral metatarsal shift and sesamoid reduction and facilitate placement of definitive fixation. The inset shows the ideal position of the wire in the lateral plane.

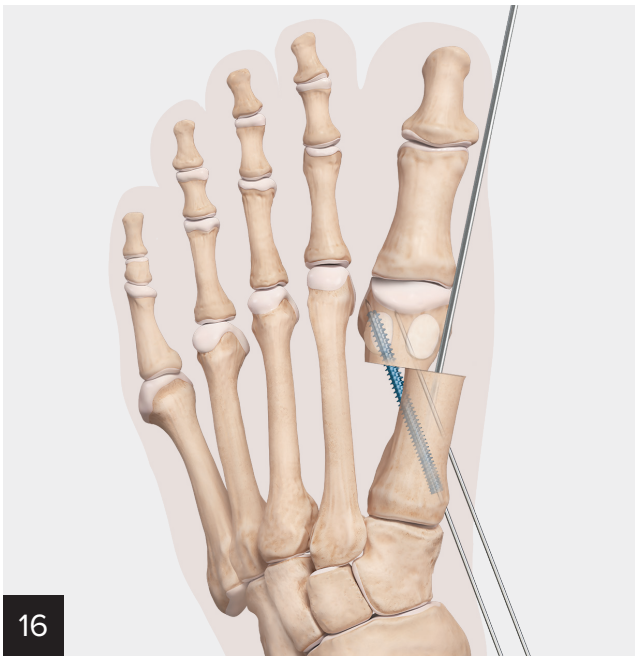


Place 2 parallel K-wires from proximal to distal through the metatarsal. Ensure that the proximal wire traverses both cortices of the proximal metatarsal prior to penetrating the capital fragment. The inset shows the proper parallel orientation of the wires in the lateral plane.

Using the beaver blade, create 5 mm incisions at both pin sites. Insert the depth gauge to measure the approximate screw lengths for both screws.

Proceed to drill over the proximal K-wire with the cannulated drill. Take care to drill the capital fragment to prevent distraction of the osteotomy. Leave the K-wire in place.

The optional profile drill can be used over the K-wire to drill the near cortex.



Implant the appropriate length Compression FT screw over the K-wire.

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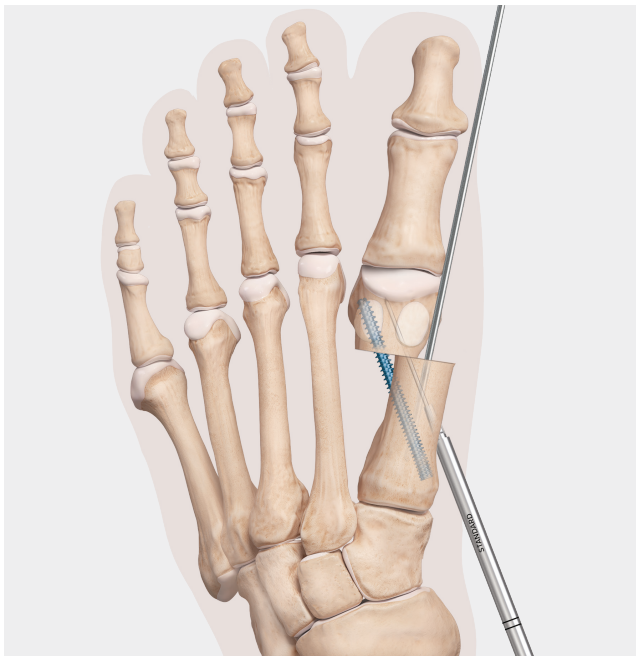
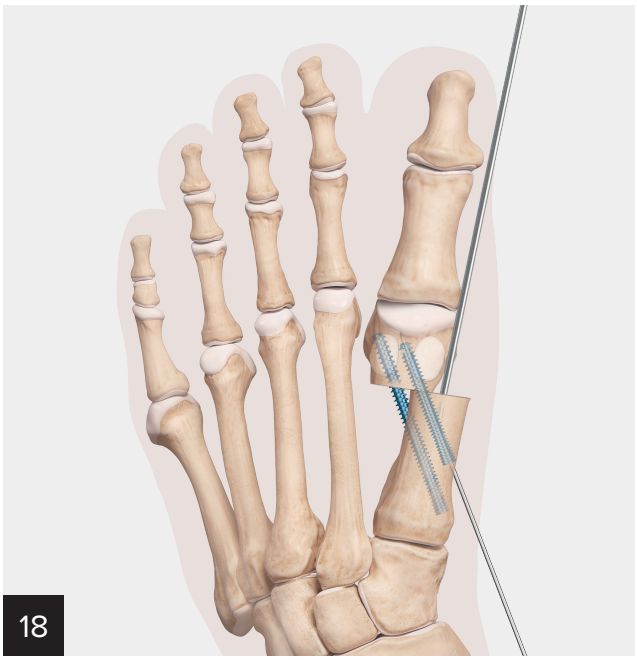


Next, proceed to drill over the second K-wire with the cannulated drill, again ensuring to drill into the capital fragment. The optional profile drill can be used to drill the near cortex.



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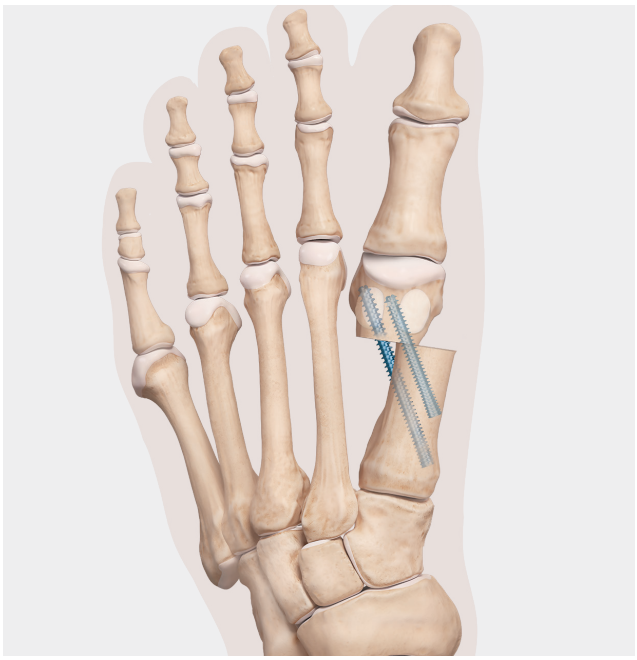
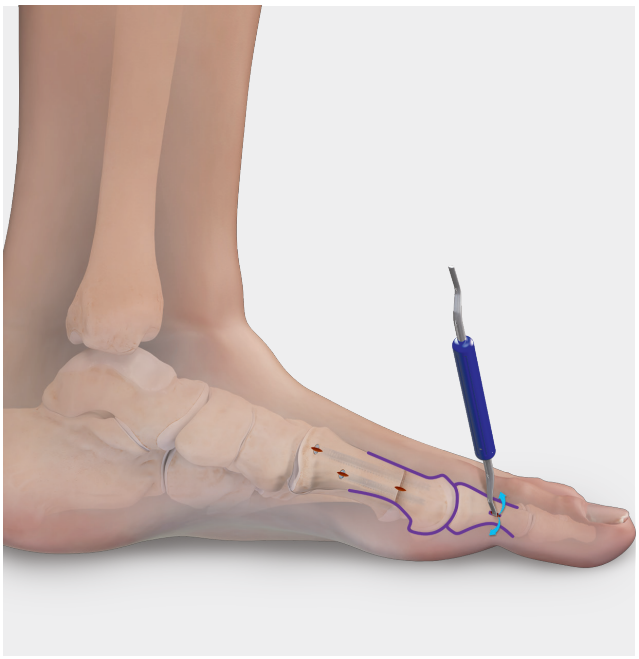
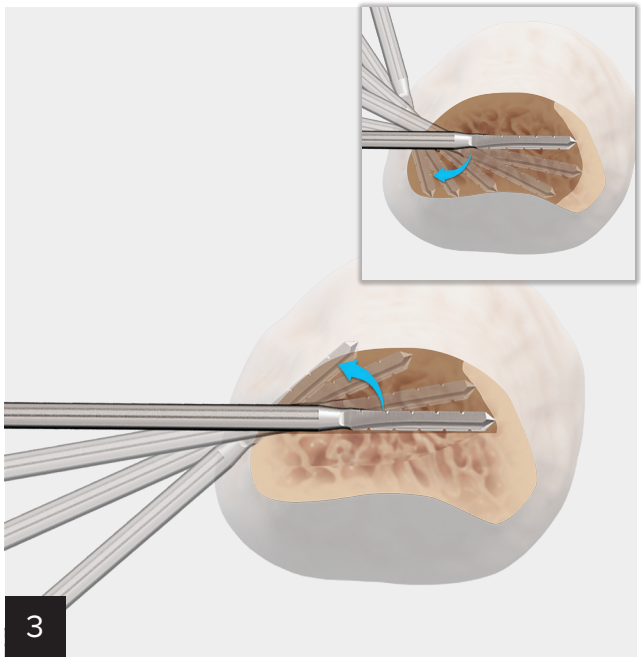


Implant the second Compression FT screw over the K-wire to complete the construct. At this point the 2.0 mm intramedullary wire can be removed.

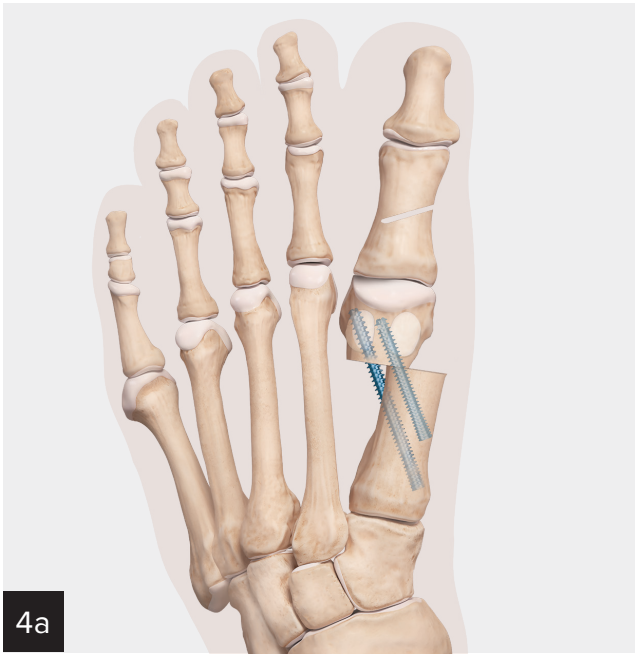


Make an incision midline at the proximal phalanx and use the periosteal elevator to elevate the soft tissue both dorsal and plantar.

Insert the burr midline at the proximal phalanx and aimed 45 degrees proximal toward the proximal lateral aspect of the proximal phalanx. Be careful not to advance the burr bicortically.



Next, rotate the burr dorsal and finally plantar, again ensuring not to violate the lateral cortex.



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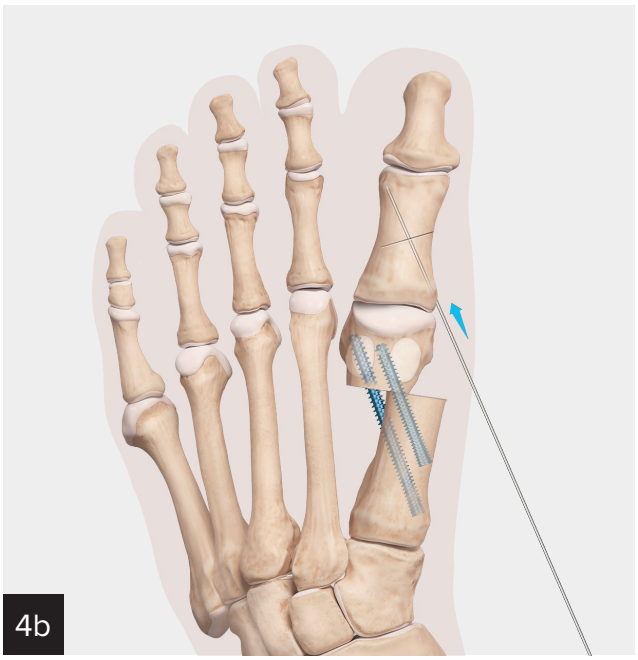
Use fluoroscopy to confirm an adequate osteotomy has been achieved. Manually reduce the osteotomy and insert a K-wire to prepare for definitive fixation.



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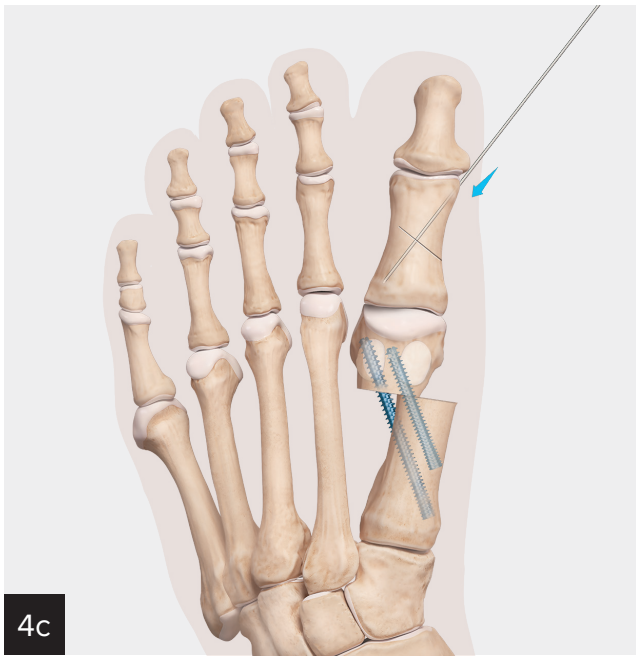

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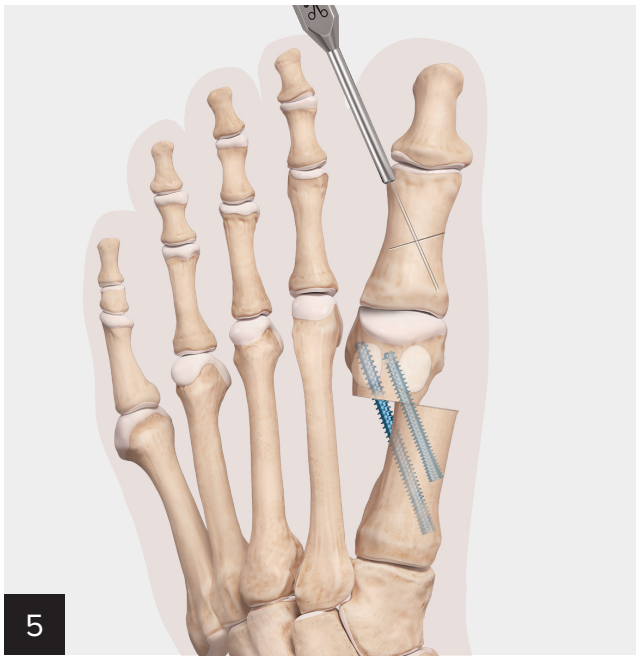
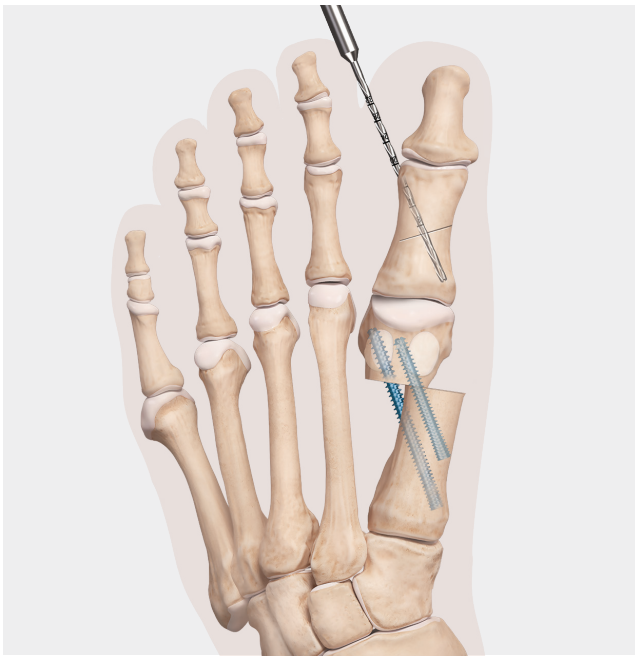
Option B/C: Surgeons can alter the direction of the osteotomy based upon the direction of definitive fixation desired.





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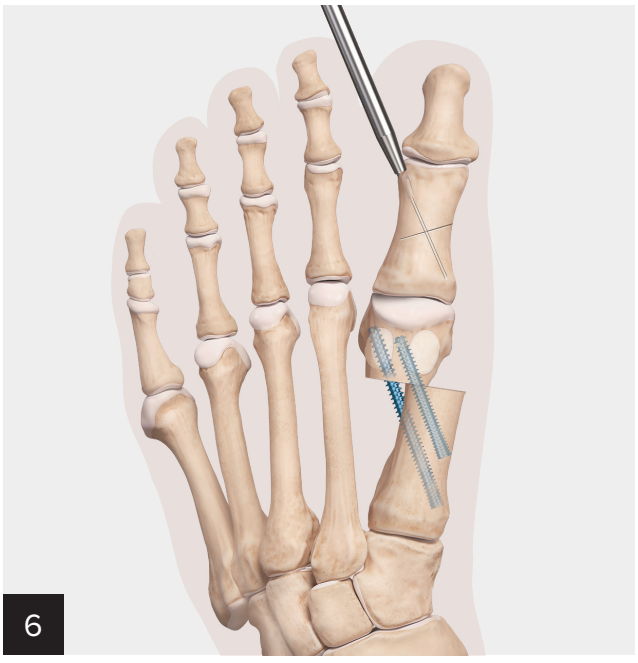
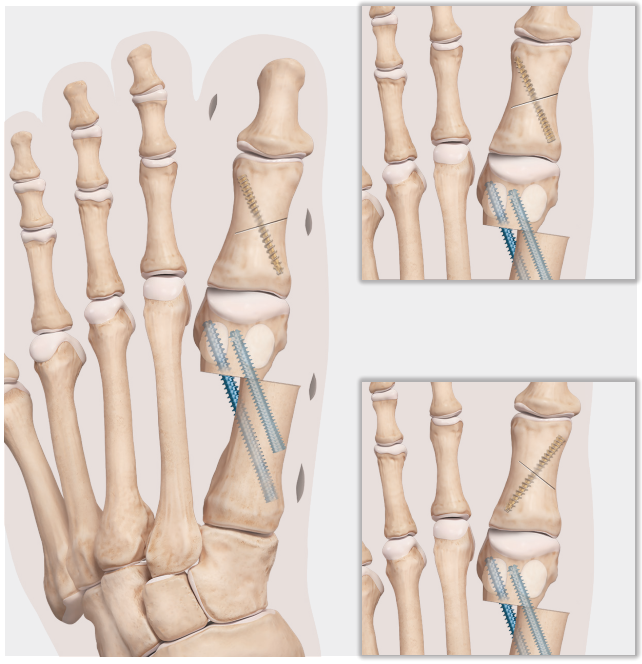
Use the beaver blade to create a small incision. Proceed to measure and drill for the Compression FT screw.





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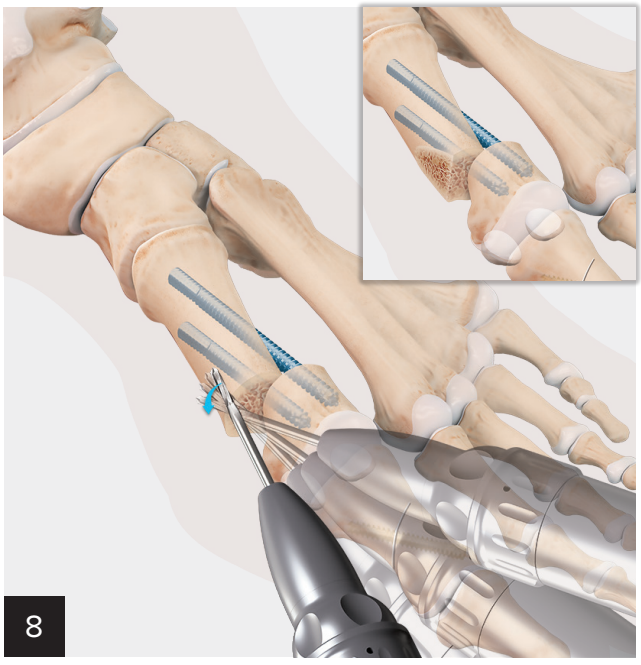
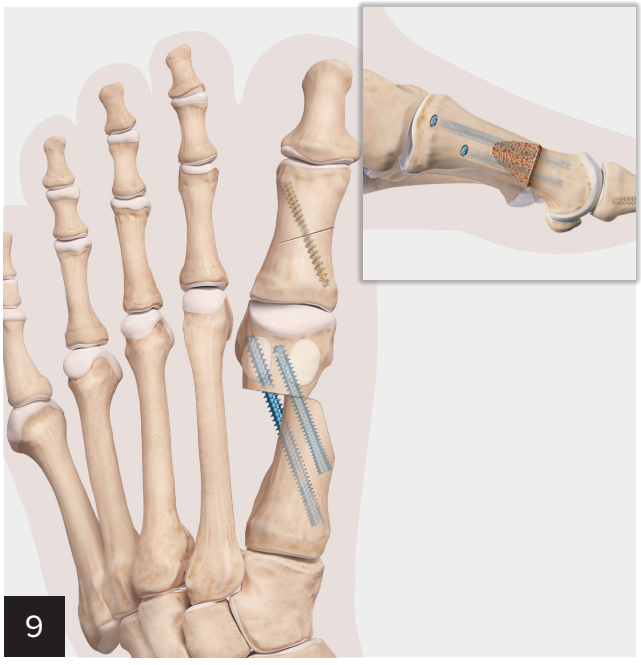
The optional profile drill can be used at this time. Insert the Compression FT screw to complete the construct.

If a palpable shelf of bone exists at the medial aspect of the metatarsal, a wedge burr can be used to safely shave down the prominence.



Insert the wedge burr through the initial medial incision and proceed to shave down the prominence until it is no longer palpable outside the skin.

Express the bone slurry created to complete the construct.



Final A/P and lateral views of the construct.

Ordering Information

MIS Instrument Set (AR-8880S)

Product Description	Item Number
Scalpel Handle, 13 cm	**3KL**
Rasp and Blunt Elevator, small	AR-**8880-01**
Rasp and Blunt Elevator, medium	AR-**8880-02**
Combination Elevator, straight and curved ends, sharp	AR-**8880-03**
MIS Instrument Case	AR-**8880C**

DrillSaw Highspeed 200™ Set (AR-200)

Product Description	Item Number
Instruments	
DrillSaw Highspeed 200 set console	AR-**200C**
Motor w/ Cable 0-15,000 rpm	AR-**200M**
Irrigation Clip	AR-**200SP**
Foot Pedal	OEM**06202400**
IV Stand	OEM**04005900**
Motor Support	OEM**06177800**

Disposables, sterile

Product Description	Item Number
Mini Scalpel Blades, sterile, qty. 10	**64/ST**
Irrigation Tubing Set, qty. 6	OEM**04364100**
Osteotomies for Lesser Toe Deformity Correction	
Burr, straight, sterile, 8 mm × 2 mm	AR-**300-B002**
Burr, straight, sterile, 12 mm × 2.2 mm	AR-**300-B003**
Osteotomies for Hallux Valgus Correction	
Burr, straight, sterile, 13 mm × 2 mm	AR-**300-B001**
Burr, straight, sterile, 19.5 × 2 mm	AR-**300-B201**
Bone Resection for Hallux Valgus/Hallux Rigidus Correction	
Burr, conical, sterile, 13 mm × 4.3 mm	AR-**300-B101**
Burr, straight, sterile, 13 mm × 2.9 mm	AR-**300-B102**
Burr, oval, sterile, 15 mm × 5 mm	AR-**300-B103**
Chevron Osteotomy for Calcaneal Displacement	
Burr, straight, sterile, 20 mm × 3.1 mm	AR-**300-B202**

Accessories

Product Description	Item Number
Motor w/ Cable, 3.5 m	AR-**200M**
MIS Burr Adapter, 2.35 mm	AR-**300B**
Spray Clip	AR-**200SP**

Optional

Product Description	Item Number
Sayre Elevator	AR-**8954-05**

Compression FT Screws

Product Description	Item Number
2.5 Micro Compression FT™ Screws	
8 mm-14 mm (1 mm increments)	AR-**8725-08H – 14H**
16 mm-50 mm (2 mm increments)	AR-**8725-16H – 50H**
3.5 Mini Compression FT™ Screws	
12 mm-60 mm (2 mm increments)	AR-**8730-12H – 60H**
4.0 Standard Compression FT Screws	
16 mm-60 mm (2 mm increments)	AR-**8740-16H – 60H**
5.0 mm Large Compression FT Screws	
20 mm-50 mm (2 mm increments)	AR-**8750-20H – 50H**
55 mm-90 mm (5 mm increments)	AR-**8750-55H – 90H**
7.0 mm X-Large Compression FT Screws	
35 mm-120 mm (5 mm increments)	AR-**8770-35H – 120H**
125 mm-140 mm (5 mm increments)	AR-**8770-125HS – 140HS**

Multimedia

Product Description	Item Number
Minimally Invasive Akin Osteotomy Surgical Technique, Presented by Jorge Acevedo, MD, video	VID**1-01430-EN**
Minimally Invasive Cheilectomy Sawbone Demonstration, Presented by Jorge Acevedo, MD, video	VID**1-01431-EN**
Minimally Invasive Chevron Osteotomy Sawbone Demonstration, Presented by Jorge I. Acevedo, MD, and James McWilliam, MD, video	VID**1-01433-EN**
Minimally Invasive Calcaneal Osteotomy, Presented by Jorge I. Acevedo, MD, and James McWilliam, MD, video	VID**1-01434-EN**
Minimally Invasive Calcaneal Osteotomy Surgical Technique, Presented by Jorge I. Acevedo, MD, and James McWilliam, MD, video	VID**1-01405-EN**
Minimally Invasive Chevron and Akin Osteotomy, Presented by Jorge I. Acevedo, MD, video	VID**1-01406-EN**
Minimally Invasive Cheilectomy Surgical Technique, Presented by Jorge I. Acevedo, MD, and James McWilliam, MD, video	VID**1-01407-EN**
Minimally Invasive Bunionette, video	VID**1-01409-EN**

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