



IO FiXTM Plus

INTRAOSSSEOUS FIXATION

Surgical Technique

Patent and Patent Pending
CAUTION: Federal Law (USA) restricts this device to sale by or on the order of a physician.

Notes

INDICATIONS FOR USE

The Extremity Medical Lag Screw and X-PostTM System is intended for the reduction and internal fixation of arthrodeses, osteotomies, intra-articular and extra-articular fractures and nonunions of the small bones and joints of the foot & ankle. This two-part construct is specifically intended for use in the Talonavicular, Calcaneocuboid, Metatarsocuneiform, and Ankle Joint, as well as for Metatarsal Osteotomies.

NOTE: This technique describes the steps for hardware implantation as used in a Talonavicular Fusion with a medial approach. Placement of the construct is based on surgeon preference and access. Please follow the same steps as listed in this procedure for other midfoot indications. Supplemental information is provided at the end of this guide regarding the use of IO FiXTM for Calcaneocuboid Fusion, Tarsometatarsal Fusion and Calcaneal Osteotomies.

Pre-Operative Planning - Templating

Use the template provided to determine the optimal size and position construct for the intended application.

STEP 1 - Exposure and Joint Preparation

A standard longitudinal incision is first performed over the medial aspect of the midfoot. The length is determined by exposure requirements. Once the appropriate dissection to the subperiosteal level has been performed, manual joint exposure of the talonavicular joint and exposure to the articulating cartilage can be achieved. Standard denuding techniques should then be performed.



STEP 2 - Alignment Guidewire

Insert a Ø1.6mm guidewire through navicular in the direction of the desired Lag Screw trajectory. This guidewire will serve as an alignment wire for the X-PostTM orientation. Verify proper positioning with fluoroscopy.



STEP 3 - Alignment Guide

Place the alignment guide over the guidewire and rotate the guide to place the X-PostTM guidewire. The alignment guidewire will need to be removed after the X-PostTM guidewire is placed. The X-PostTM guidewire should be placed 5-10mm from the joint line.

The alignment guide can be removed by removing the initial guidewire and sliding the guide over the X-PostTM guidewire. Verify depth and position of the X-PostTM guidewire via fluoroscopy.



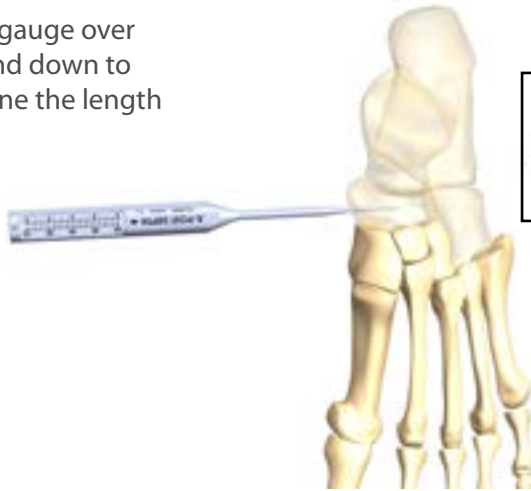
Slide guide over initial guidewire



Place X-PostTM guidewire 5-10mm from joint line

STEP 4 - X-PostTM Depth Measurement

Place the depth gauge over the guidewire and down to bone to determine the length of the X-PostTM.



STEP 5 – Preparation for X-PostTM: Drilling

DRILL 1st

Select the cannulated drill based on the desired X-PostTM size (Table 1). Place the drill over the guidewire and advance below the pre-determined length.

NOTE: For bone of marginal quality, drilling is often the only preparatory step required for the placement of the X-PostTM.



Table 1: Sizes X-PostTM / Lag Screws/ Drills / Reamers

X-Post TM	Lag Screw Size	X-Post TM Pilot Drill	X-Post TM Reamer Size
Ø 4.6mm (Gold)	Ø 3.0mm screw	Ø 2.0mm drill	Ø 4.6 X-Post TM Reamer
Ø 6.6mm (Green)	Ø 4.0mm Screw	Ø 3.4mm drill	Ø 6.6 X-Post TM Reamer
Ø 8.0mm (Blue)	Ø 5.0mm Screw	Ø 4.5mm drill	Ø 8.0/9.5 X-Post TM Reamer (1st line)
Ø 9.5mm (Magenta)	Ø 6.5mm Screw	Ø 4.5mm drill	Ø 8.0/9.5 X-Post TM Reamer (2nd line)

STEP 5a - Preparation for X-PostTM: Reaming (Optional)

If the surgeon feels reaming is required, select the X-PostTM reamer based on the desired X-PostTM size (Table 1). Place the cannulated reamer over the guidewire and advance until the depth line is no longer visible.

NOTE: Hand reaming is highly recommended.

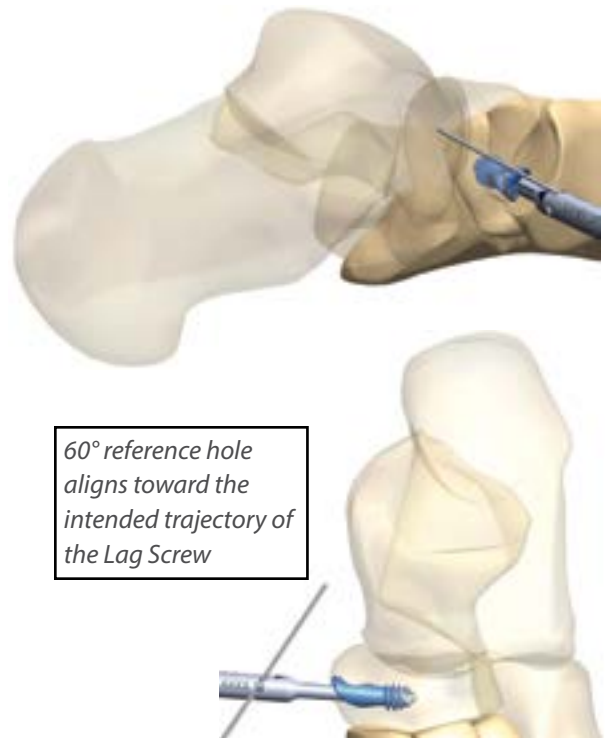


STEP 6 - X-PostTM

Select the appropriate X-PostTM and align the implant to the screwdriver with the laser marked arrows aligning on both driver and implant. Using the appropriate sized hex driver, (Table 2) insert the X-PostTM until flush with cortex, and align the indicator (laser marked arrow) towards the intended fusion area.

Table 2: Hex Sizes

X-Post TM	Hex Size (mm)
Ø 4.6 (Gold)	Ø 2.0
Ø 6.6 (Green)	Ø 3.0
Ø 8.0 (Blue)	Ø 3.0
Ø 9.5 (Magenta)	Ø 3.0



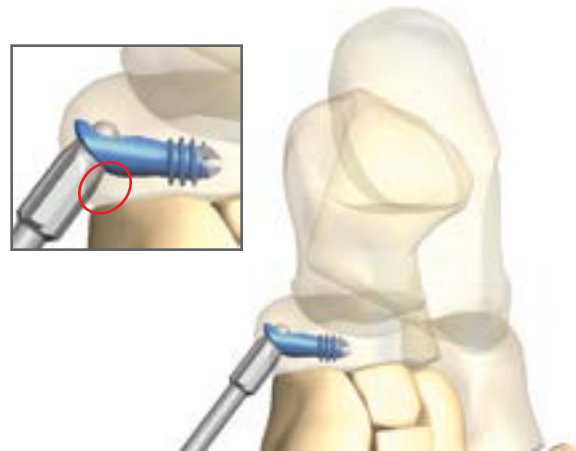
STEP 7 – Clear Additional Bone

In order to gain access to the implant eyelet, remove any obstructing bone by hand using the appropriate size clearing tool (Table 3). This will allow the guide to seat properly. Place the tip of the clearing tool into the X-PostTM with the handle pointing towards 12 o'clock. Drop the handle towards 6 o'clock and turn. Alternatively, a rongeur can be used to remove any impinging bone.

NOTE: Any difficulty seating the drill guide in Step 8 could be due to bony interference at the implant eyelet.

Table 3: Clearing Tools

X-Post TM	Clearing Tool
Ø 4.6 (Gold)	4.6
Ø 6.6 (Green)	6.6
Ø 8.0 (Blue)	8.0
Ø 9.5 (Magenta)	9.5

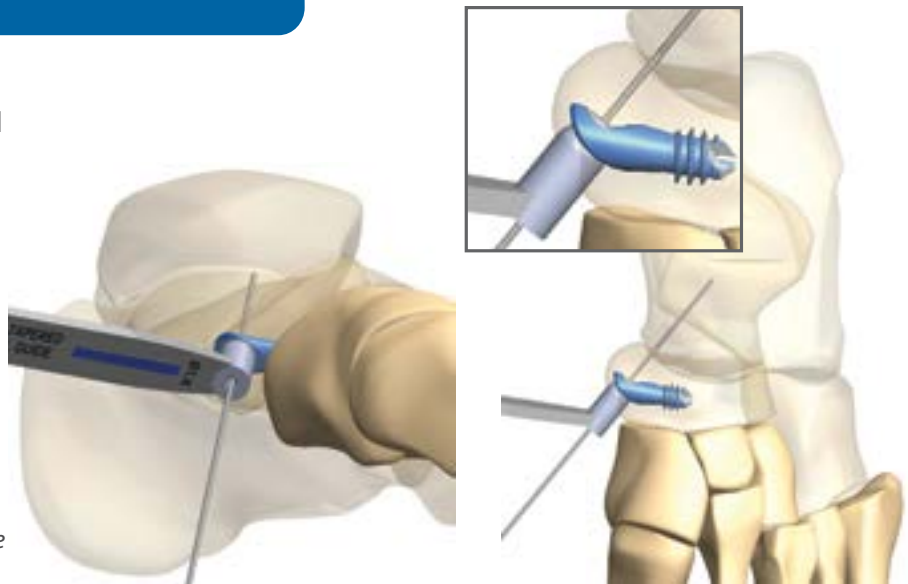


STEP 8 - Insert Lag Screw Guidewire

Insert the appropriate guide in the X-PostTM eyelet until only a small portion of the depth line is visible at the apex of the X-PostTM. In the event the guide is not seated, verify the eyelet is properly cleared of bone.

Insert the guidewire for the Lag Screw to the appropriate depth and verify position via fluoroscopy.

NOTE: The guides are marked with the same color as the corresponding X-PostTM. The tapered and polyaxial Lag Screws utilize different guides.



STEP 9 - Lag Screw Depth Measurement

Measure the length of the Lag Screw by placing the depth gauge over the guidewire and down to the bone.



STEP 10 – Pilot Drill for Lag Screw

Select the appropriate drill based on the X-PostTM sizes (Table 4). Align the first depth marking to the top of the drill guide. Based on this zero reference, drill short of the depth measurement previously recorded. Laser markings on the on drills are in 10mm increments.

Table 4: Drill Sizes

X-Post TM	Drill Size (mm)
Ø 4.6 (Gold)	Ø 2.0
Ø 6.6 (Green)	Ø 3.0
Ø 8.0 (Blue)	Ø 3.4
Ø 9.5 (Magenta)	Ø 4.5



STEP 11 – Lag Screw

Insert the Lag Screw under TWO finger pressure until tactile compression is felt. With the tapered Lag Screw, the Morse Taper engagement should be felt as the tapers engage. With the polyaxial Lag Screw, tighten until an appropriate compression is generated. Verify under fluoroscopy.

Note: Remove any provisional guidewires prior to final tightening. This will ensure maximum compression is applied.



Talonavicular Fusion

FINAL POSITIONING

If additional fixation is determined necessary, an additional Lag Screw, headless screw, or IO FiXTM construct may be implanted per standard techniques.



OPTIONAL TWO CONSTRUCT PLACEMENT



POST-OPERATIVE TREATMENT

Subsequent to incision closure, patients should initially be immobilized non-weight bearing in a well-padded splint for the first two weeks postoperatively. Following repeat incision assessment and suture removal, standard post-operative protocols for arthrodesis, as preferred by the surgeon, should be followed. Progression to full weight bearing and transition out of cast immobilization should be based on bone quality and healing rates, and will likely be individualized on a case by case basis.

IMPLANT REMOVAL

Clear any tissue ingrowth from the Lag Screw and insert the removal driver into Lag Screw. Insert the removal tool through removal driver, and thread into Lag Screw to allow for rigid attachment. Completely remove the Lag Screw to remove. Insert removal driver into the X-PostTM and remove by turning counterclockwise.

SUPPLEMENTAL INDICATION INFORMATION

Placement of the IO FiXTM construct is based on surgeon preference and access.

1: Calcaneocuboid Fusion

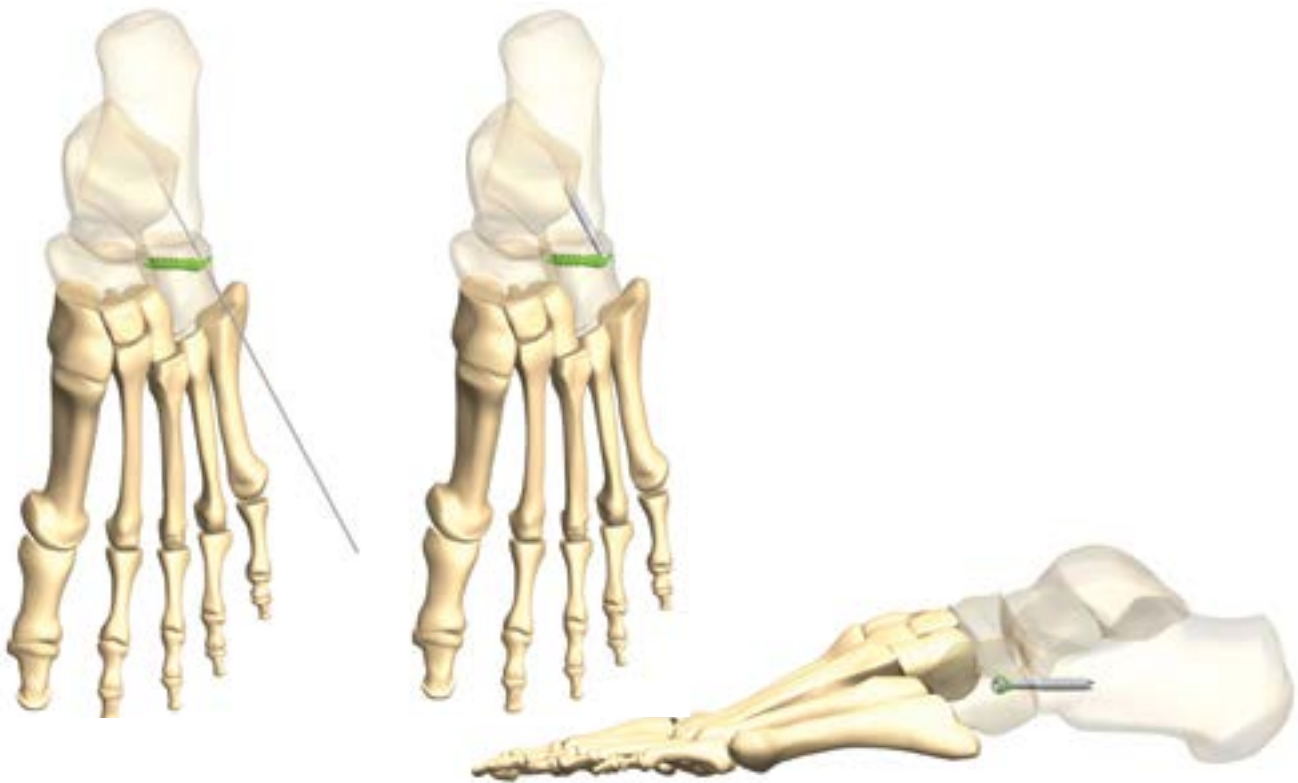
Approach and Exposure

A standard longitudinal incision is first performed over the aspect of the intended joint to be fused. The length is determined by exposure requirements. Once the appropriate dissection to the subperiosteal level has been performed, manual joint exposure of the joint and exposure to the articulating cartilage can be achieved. Standard denuding techniques should then be performed.

X-PostTM Placement

Placement of the IO FiXTM construct is based on surgeon preference and access.

Typically, the X-PostTM is placed in the cuboid approximately 5-10mm from the joint line.



SUPPLEMENTAL INDICATION INFORMATION

Placement of the IO FiXTM construct is based on surgeon preference and access.

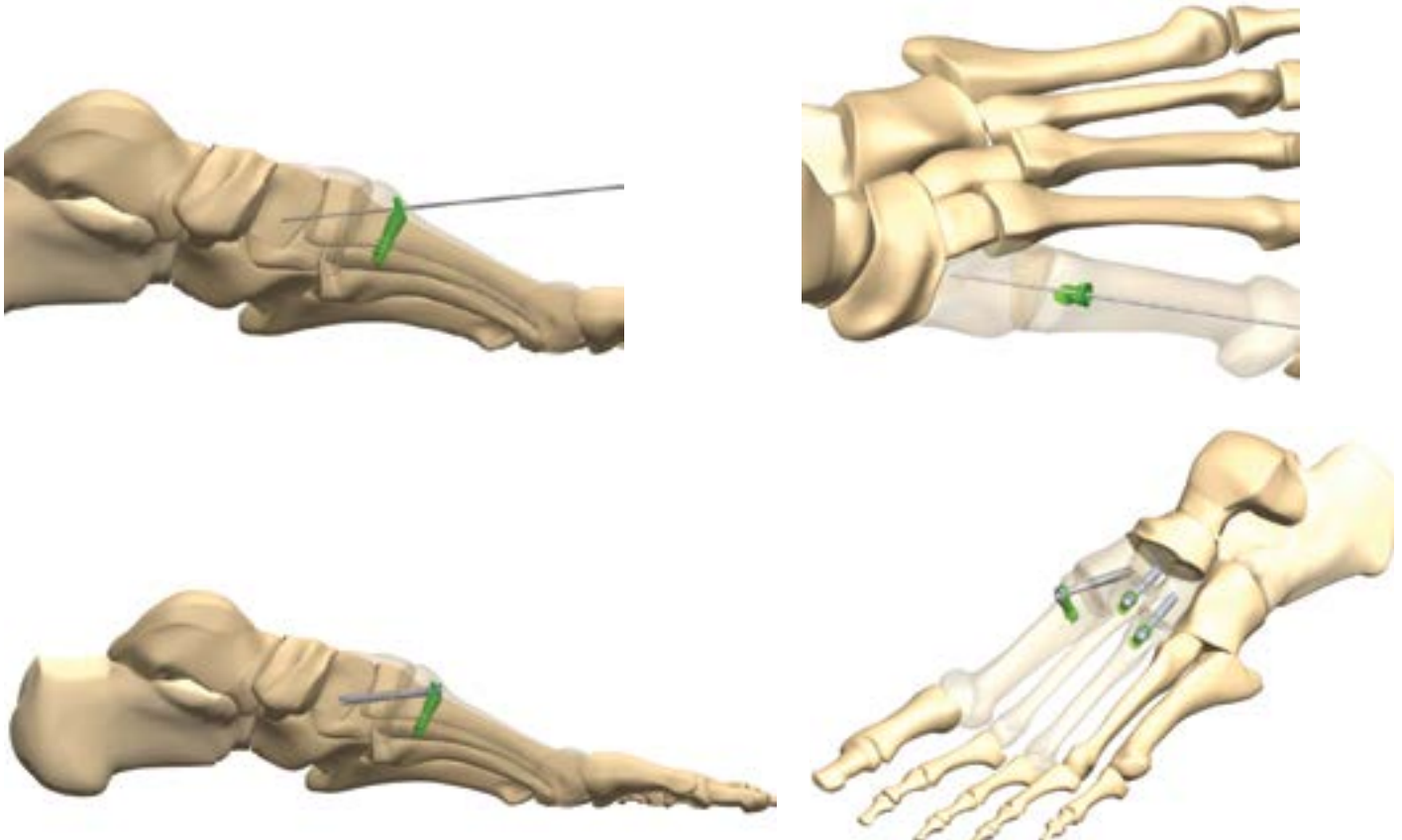
2: Tarsometatarsal (TMT) Fusion

Approach and Exposure

A standard longitudinal incision is first performed over the dorsal aspect of the intended TMT joint to be fused. The length is determined by exposure requirements. Once the appropriate dissection to the subperiosteal level has been performed, manual joint exposure of the joint and exposure to the articulating cartilage can be achieved. Standard denuding techniques should then be performed.

Option 1: Metatarsal X-PostTM Placement

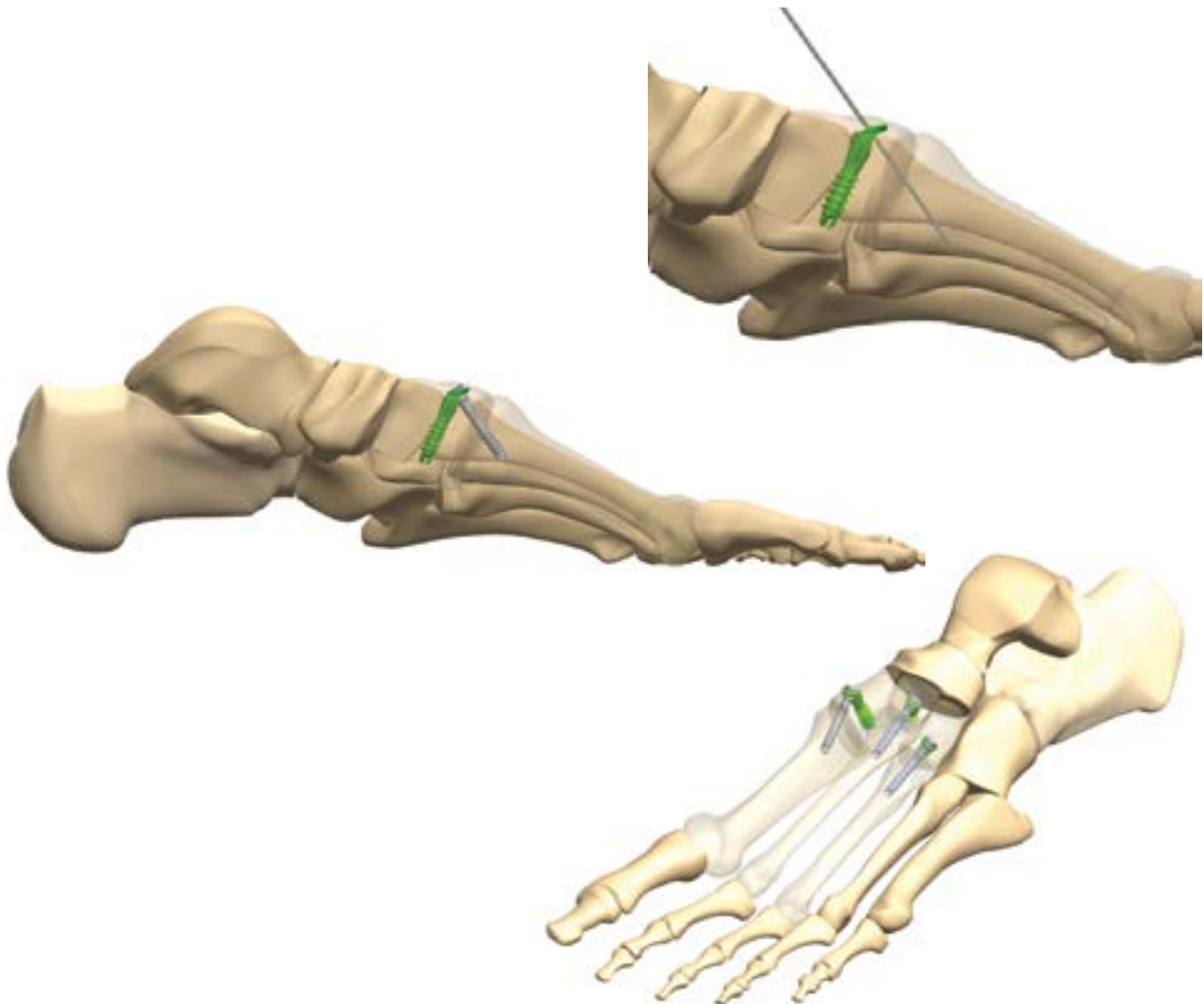
Typically, the X-PostTM is placed within the metatarsal base parallel to the joint - approximately 7-10mm from the joint line.



2: Tarsometatarsal (TMT) Fusion (continued)

Option 2: Cuneiform X-PostTM Placement

The X-PostTM may also be placed in the cuneiform. Caution should be used with this approach in regard to access and potential impingement with the leg during the subsequent drilling steps.



SUPPLEMENTAL INDICATION INFORMATION

Placement of the IO FiXTM construct is based on surgeon preference and access.

3: Calcaneal Osteotomy

Approach and Exposure

An oblique incision is performed over the lateral aspect of the calcaneal tuberosity. The length is determined by exposure requirements. Carefully avoid the sural nerve during dissection to the periosteum.

X-PostTM Placement

Medial Displaced Calcaneal Osteotomy

For a sliding osteotomy, place the X-PostTM in the tuberosity fragment, parallel to the osteotomy. Additional guidewires may be used to provisionally fixate the fragment prior to utilizing the IO FiXTM System. Remove the provisional guidewires prior to fully engaging the Morse Taper of the Lag Screw.

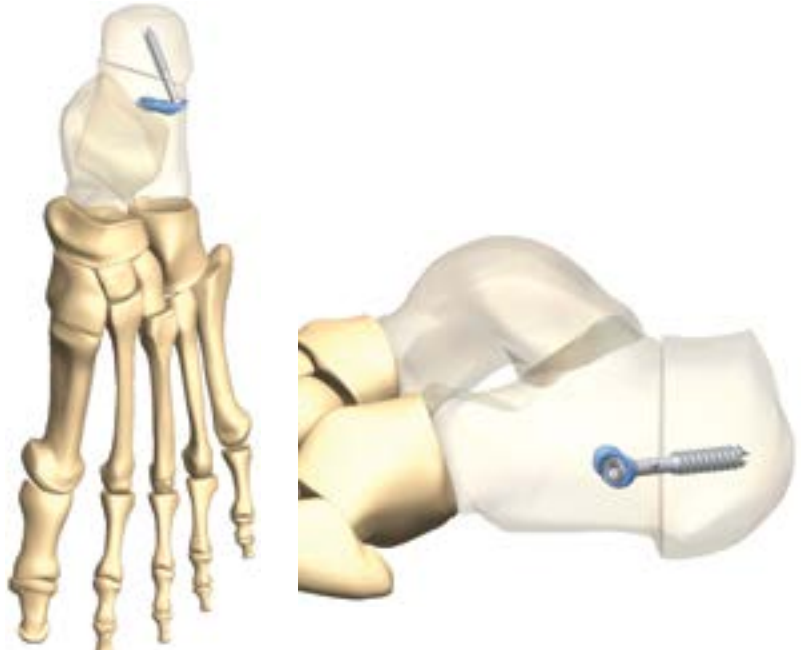


3: Calcaneal Osteotomy (continued):

X-PostTM Placement

Closing-Wedge Osteotomy

For a closing-wedge osteotomy, place the X-PostTM in the proximal calcaneal body parallel to the osteotomy. Additional guidewires may be used to provisionally fixate the fragment prior to utilizing the IO FiXTM System. Remove the provisional guidewires prior to fully engaging the Morse Taper of the Lag Screw.



Pearl

Closing-Wedge Osteotomy

If the opening is unable to reduce fully prior to placing instrumentation, use a Polyaxial Lag Screw. Seating the spherical head will provide an anchoring point to draw the tuberosity segment to the osteotomy site.



3: Calcaneal Osteotomy (continued):

Pearl

Medial Displaced and Closing-Wedge Osteotomies: Place the first construct off-center in order to allow room for the placement of a secondary construct if additional fixation is required.



NOTES:

Table 5: INSTRUMENT LIST

Instrument #	Description	Qty
101-00004	Guidewire- 0.9mm *	10
101-00006	Guidewire- 1.6mm *	10
101-00008	Guidewire Holder- 0.9mm	1
101-00009	Guidewire Holder- 1.6 mm	1
101-00011	Cannulated Drill- 2.0mm *	2
102-00002	Cannulated Drill- 3.0mm *	2
101-00012	Cannulated Drill- 3.4mm*	2
101-00013	Cannulated Drill- 4.5mm *	2
101-00022	Cleaning Brush- 0.9mm	1
101-00023	Cleaning Brush- 1.6mm	1
102-00017	AO Quick Connect Handle	1
102-00020	Removal Screw Driver	1
102-00021	Removal Tool	1
118-00004	4.6 X-Post™ Reamer*	1
118-00005	6.6 X-Post™ Reamer*	1
118-00006	8.0/9.5 X-Post™ Reamer*	1
118-00007	4.6 Tapered Drill Guide	1
118-00008	6.6 Tapered Drill Guide	1
118-00009	8.0 Tapered Drill Guide	1
118-00010	9.5 Tapered Drill Guide	1
118-00011	4.6 Polyaxial Drill Guide	1
118-00012	6.6 Polyaxial Drill Guide	1
118-00013	8.0 Polyaxial Drill Guide	1
118-00014	9.5 Polyaxial Drill Guide	1
118-00015	6.6 Clearing Tool	1
118-00016	9.5 Clearing Tool	1
118-00017	4.6 Clearing Tool	1
118-00018	8.0 Clearing Tool	1
118-00020	2.0 Hex Driver	2
118-00030	3.0 Hex Driver	2
118-00031	1.6 x 60° Alignment Guide	1
118-00039	Ratcheting AO Handle	1
118-00040	Depth Gauge	1
118-00000	IO FiX Instrument Tray	1
126-01000	IO FiX Plus Implant Caddy	1
126-00004	IO FiX Plus X-Ray Template*	1

*disposable

Implant #	Description	Qty
4.6 X-Posts (Gold)		
118-46614	X-Post™ (60 deg) 4.6 x 14mm	2
118-46616	X-Post™ (60 deg) 4.6 x 16mm	2
118-46618	X-Post™ (60 deg) 4.6 x 18mm	2
3.0 Lag Screw (Cannulated Tapered)		
118-30220	Lag Screw (Cannulated Tapered) 3.0 x 20mm	2
118-30222	Lag Screw (Cannulated Tapered) 3.0 x 22mm	2
118-30224	Lag Screw (Cannulated Tapered) 3.0 x 24mm	2
118-30226	Lag Screw (Cannulated Tapered) 3.0 x 26mm	2
118-30228	Lag Screw (Cannulated Tapered) 3.0 x 28mm	2
118-30230	Lag Screw (Cannulated Tapered) 3.0 x 30mm	2
118-30232	Lag Screw (Cannulated Tapered) 3.0 x 32mm	2
118-30234	Lag Screw (Cannulated Tapered) 3.0 x 34mm	2
118-30236	Lag Screw (Cannulated Tapered) 3.0 x 36mm	2
118-30238	Lag Screw (Cannulated Tapered) 3.0 x 38mm	2
118-30240	Lag Screw (Cannulated Tapered) 3.0 x 40mm	2
3.0 Lag Screw (Short Thread Cannulated Tapered)		
118-30420	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 20mm	2
118-30422	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 22mm	2
118-30424	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 24mm	2
118-30426	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 26mm	2
118-30428	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 28mm	2
118-30430	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 30mm	2
118-30432	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 32mm	2
118-30434	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 34mm	2
118-30436	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 36mm	2
118-30438	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 38mm	2
118-30440	Short Thread Lag Screw (Cannulated Tapered) 3.0 x 40mm	2

Implant #	Description	Qty
6.6 X-Posts (Green)		
118-66615	X-Post™ (60 deg) 6.6 x 15mm	2
118-66620	X-Post™ (60 deg) 6.6 x 20mm	3
118-66625	X-Post™ (60 deg) 6.6 x 25mm	3
118-66630	X-Post™ (60 deg) 6.6 x 30mm	2
118-66635	X-Post™ (60 deg) 6.6 x 35mm	2
118-66640	X-Post™ (60 deg) 6.6 x 40mm	2
4.0 Lag Screw (Cannulated Tapered)		
118-40020	Lag Screw (Cannulated Tapered) 4.0 x 20mm	2
118-40022	Lag Screw (Cannulated Tapered) 4.0 x 22mm	2
118-40024	Lag Screw (Cannulated Tapered) 4.0 x 24mm	2
118-40026	Lag Screw (Cannulated Tapered) 4.0 x 26mm	2
118-40028	Lag Screw (Cannulated Tapered) 4.0 x 28mm	2
118-40030	Lag Screw (Cannulated Tapered) 4.0 x 30mm	2
118-40032	Lag Screw (Cannulated Tapered) 4.0 x 32mm	2
118-40034	Lag Screw (Cannulated Tapered) 4.0 x 34mm	2
118-40036	Lag Screw (Cannulated Tapered) 4.0 x 36mm	2
118-40038	Lag Screw (Cannulated Tapered) 4.0 x 38mm	2
118-40040	Lag Screw (Cannulated Tapered) 4.0 x 40mm	2
118-40045	Lag Screw (Cannulated Tapered) 4.0 x 45mm	2
118-40050	Lag Screw (Cannulated Tapered) 4.0 x 50mm	2
4.0 Lag Screw (Short Thread Cannulated Tapered)		
118-40420	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 20mm	2
118-40422	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 22mm	2
118-40424	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 24mm	2
118-40426	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 26mm	2
118-40428	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 28mm	2
118-40430	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 30mm	2
118-40432	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 32mm	2
118-40434	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 34mm	2
118-40436	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 36mm	2
118-40438	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 38mm	2
118-40440	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 40mm	2
118-40445	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 45mm	2
118-40450	Short Thread Lag Screw (Cannulated Tapered) 4.0 x 50mm	2
Lag Screw (Cannulated Polyaxial)		
118-40120	Lag Screw (Cannulated Polyaxial) 4.0 x 20mm	2
118-40122	Lag Screw (Cannulated Polyaxial) 4.0 x 22mm	2
118-40124	Lag Screw (Cannulated Polyaxial) 4.0 x 24mm	2
118-40126	Lag Screw (Cannulated Polyaxial) 4.0 x 26mm	2
118-40128	Lag Screw (Cannulated Polyaxial) 4.0 x 28mm	2
118-40130	Lag Screw (Cannulated Polyaxial) 4.0 x 30mm	2
118-40132	Lag Screw (Cannulated Polyaxial) 4.0 x 32mm	2
118-40134	Lag Screw (Cannulated Polyaxial) 4.0 x 34mm	2
118-40136	Lag Screw (Cannulated Polyaxial) 4.0 x 36mm	2
118-40138	Lag Screw (Cannulated Polyaxial) 4.0 x 38mm	2
118-40140	Lag Screw (Cannulated Polyaxial) 4.0 x 40mm	2
118-40145	Lag Screw (Cannulated Polyaxial) 4.0 x 45mm	2
118-40150	Lag Screw (Cannulated Polyaxial) 4.0 x 50mm	2

Implant #	Description	Qty
8.0 X-Posts (Blue)		
118-80620	X-Post™ (60 deg) 8.0 x 20mm	2
118-80625	X-Post™ (60 deg) 8.0 x 25mm	2
118-80630	X-Post™ (60 deg) 8.0 x 30mm	2
5.0 Lag Screw (Cannulated Tapered)		
118-50020	Lag Screw (Cannulated Tapered) 5.0 X 20mm	2
118-50025	Lag Screw (Cannulated Tapered) 5.0 X 25mm	2
118-50030	Lag Screw (Cannulated Tapered) 5.0 X 30mm	2
118-50035	Lag Screw (Cannulated Tapered) 5.0 X 35mm	2
118-50040	Lag Screw (Cannulated Tapered) 5.0 X 40mm	2
118-50045	Lag Screw (Cannulated Tapered) 5.0 X 45mm	2
118-50050	Lag Screw (Cannulated Tapered) 5.0 X 50mm	2
5.0 Lag Screw (Short Thread Cannulated Tapered)		
118-50420	Short Thread Lag Screw (Cannulated Tapered) 5.0 X 20mm	2
118-50425	Short Thread Lag Screw (Cannulated Tapered) 5.0 X 25mm	2
118-50430	Short Thread Lag Screw (Cannulated Tapered) 5.0 X 30mm	2
118-50435	Short Thread Lag Screw (Cannulated Tapered) 5.0 X 35mm	2
118-50440	Short Thread Lag Screw (Cannulated Tapered) 5.0 X 40mm	2
118-50445	Short Thread Lag Screw (Cannulated Tapered) 5.0 X 45mm	2
118-50450	Short Thread Lag Screw (Cannulated Tapered) 5.0 X 50mm	2
5.0 Lag Screw (Cannulated Polyaxial)		
118-50120	Lag Screw (Cannulated Polyaxial) 5.0 X 20mm	2
118-50125	Lag Screw (Cannulated Polyaxial) 5.0 X 25mm	2
118-50130	Lag Screw (Cannulated Polyaxial) 5.0 X 30mm	2
118-50135	Lag Screw (Cannulated Polyaxial) 5.0 X 35mm	2
118-50140	Lag Screw (Cannulated Polyaxial) 5.0 X 40mm	2
118-50145	Lag Screw (Cannulated Polyaxial) 5.0 X 45mm	2
118-50150	Lag Screw (Cannulated Polyaxial) 5.0 X 50mm	2

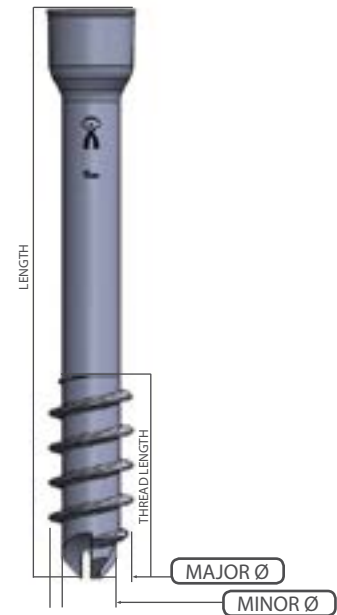
Implant #	Description	Qty
9.5 X-Posts (Magenta)		
118-95625	X-Post™ (60 deg) 9.5 x 25mm	2
118-95630	X-Post™ (60 deg) 9.5 x 30mm	2
118-95635	X-Post™ (60 deg) 9.5 x 35mm	2
6.5 Lag Screw (Cannulated Tapered)		
118-65030	Lag Screw (Cannulated Tapered) 6.5 x 30mm	2
118-65035	Lag Screw (Cannulated Tapered) 6.5 x 35mm	2
118-65040	Lag Screw (Cannulated Tapered) 6.5 x 40mm	2
118-65045	Lag Screw (Cannulated Tapered) 6.5 x 45mm	2
118-65050	Lag Screw (Cannulated Tapered) 6.5 x 50mm	2
118-65055	Lag Screw (Cannulated Tapered) 6.5 x 55mm	2
118-65060	Lag Screw (Cannulated Tapered) 6.5 x 60mm	2
6.5 Lag Screw (Cannulated Polyaxial)		
118-65130	Lag Screw (Cannulated Polyaxial) 6.5 x 30mm	2
118-65135	Lag Screw (Cannulated Polyaxial) 6.5 x 35mm	2
118-65140	Lag Screw (Cannulated Polyaxial) 6.5 x 40mm	2
118-65145	Lag Screw (Cannulated Polyaxial) 6.5 x 45mm	2
118-65150	Lag Screw (Cannulated Polyaxial) 6.5 x 50mm	2
118-65155	Lag Screw (Cannulated Polyaxial) 6.5 x 55mm	2
118-65160	Lag Screw (Cannulated Polyaxial) 6.5 x 60mm	2
118-65165	Lag Screw (Cannulated Polyaxial) 6.5 x 65mm	2
118-65170	Lag Screw (Cannulated Polyaxial) 6.5 x 70mm	2
118-65175	Lag Screw (Cannulated Polyaxial) 6.5 x 75mm	2
118-65180	Lag Screw (Cannulated Polyaxial) 6.5 x 80mm	2
118-65185	Lag Screw (Cannulated Polyaxial) 6.5 x 85mm	2
118-65190	Lag Screw (Cannulated Polyaxial) 6.5 x 90mm	2
118-65195	Lag Screw (Cannulated Polyaxial) 6.5 x 95mm	2
118-65100	Lag Screw (Cannulated Polyaxial) 6.5 x 100mm	2

IMPLANT SPECIFICATIONS

X-POSTTM



LAG SCREWS (Tapered & Polyaxial)

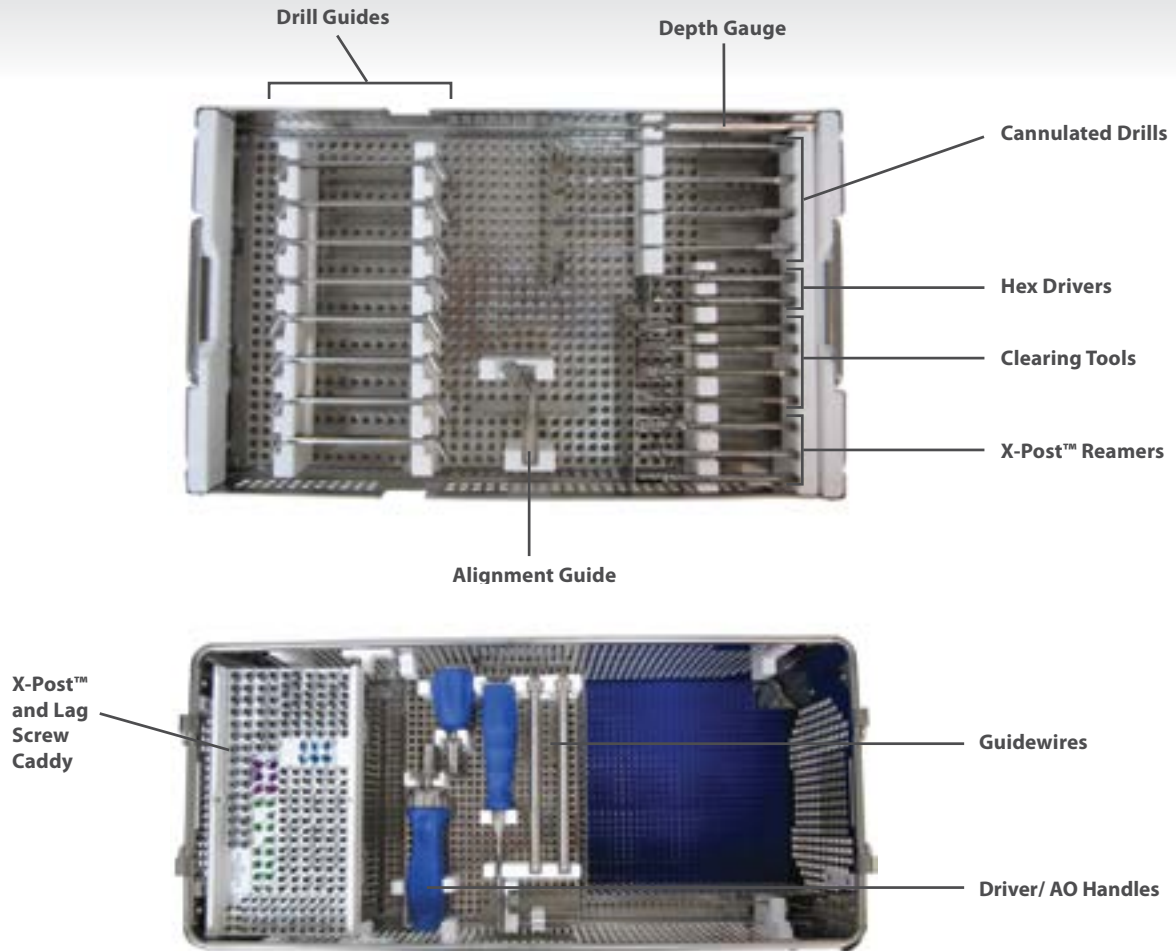


X-PostTM Specifications

X-Post TM	Angle	Length	Major Diameter	Minor Diameter
Ø 4.6mm (Gold)	60°	14, 16, 18mm	4mm	3mm
Ø 6.6mm (Green)	60°	15, 20, 25, 30, 35, 40mm	5mm	3.4mm
Ø 8.0mm (Blue)	60°	20, 25, 30mm	6.5mm	4.5mm
Ø 9.5mm (Magenta)	60°	25, 30, 35mm	6.5mm	4.5mm

Lag Screw Specifications

Lag Screw	3.0mm	4.0mm	5.0mm	6.5mm
Length	20-40mm by 2mm increments	20-50mm by 2mm increments 40-50mm by 5mm increments	20-50mm by 5mm increments	30-100mm by 5mm increments
Thread Length (Standard)	L - 8	20, 22mm = L - 12 24-50mm = L - 15	20mm = L - 12 25-50mm = L - 15	16mm
Thread Length Range (Short Thread)	8-12mm	8-12mm	8-12mm	N/A
Major Diameter	3.1mm	4.0mm	5.0mm	6.5mm
Minor Diameter	2.1mm	3.0mm	3.4mm	4.5mm



Implants and Instruments
(Listed In Order of Use)

Number	Description
1	1.6mm/ 0.9mm Guidewires
2	Alignment Guide
3	Depth Gauge
4	X-Post™ Drill / Reamer
5	X-Posts™
6	Hex Drivers
7	Ratcheting AO Handle
8	Clearing Tool or Rongeurs
9	Drill Guides
10	Cannulated Drills
11	Lag Screws

Drill/Reamer Selection

X-Post™ Size	Lag Screw	Guide Wire	Pilot Drill X-Post™	Reamer	Driver Hex	Clearing Tool	Screw Pilot Drill
Ø 4.6 (Gold)	Ø 3.0	Ø 0.9	Ø 2.0	Ø 4.6	Ø 2.0	4.6	Ø 2.0
Ø 6.6 (Green)	Ø 4.0	Ø 1.6	Ø 3.4	Ø 6.6	Ø 3.0	6.6	Ø 3.0
Ø 8.0 (Blue)	Ø 5.0	Ø 1.6	Ø 4.5	Ø 8.0/ 9.5 (1st Line)	Ø 3.0	8.0	Ø 3.4
Ø 9.5 (Magenta)	Ø 6.5	Ø 1.6	Ø 4.5	Ø 8.0/ 9.5 (2nd Line)	Ø 3.0	9.5	Ø 4.5