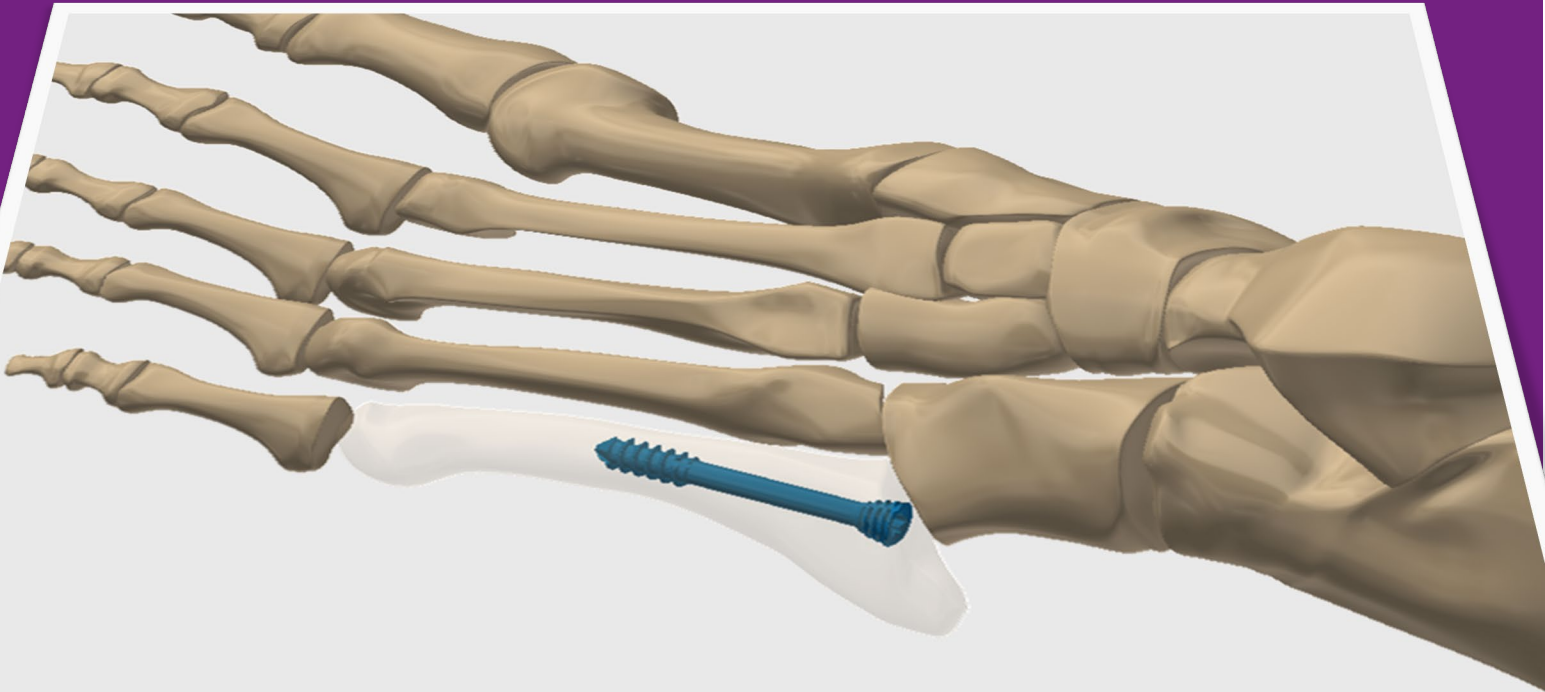
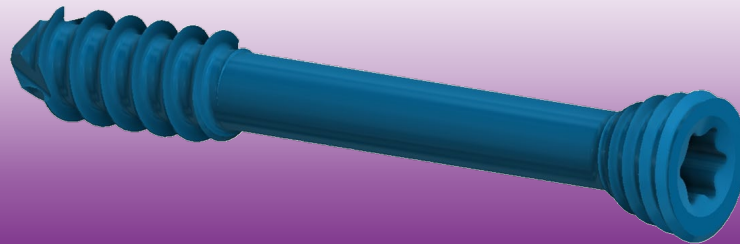


GEO Jones/5th Metatarsal Fracture System Operative Technique



The GEO Jones/5th Metatarsal Fracture System

Features and Benefits

The GEO Jones/5th Metatarsal Fracture System consists of solid headless bone screws and instrumentation designed to facilitate optimal targeting, sizing and placement of screws for 5th metatarsal base /Jones Fractures.

The solid, headless GEO Jones/5th Met screws provide strength and compression. Unlike headed screws, the GEO headless screws can be inserted flush with the surface of the metatarsal base so soft tissue and joint irritation are minimized, giving the implant a no-profile prominence. The length of shaft threads are one-third of the total screw length to provide ample clearance for lagging past the fracture with excellent intramedullary bone purchase.

All GEO implants and instruments are provided pre-sterilized and for Single Use Only. This eliminates cleaning and sterility concerns typically associated with end user autoclave sterilization trays.

The GEO Jones/5th Metatarsal Fracture System instruments are assembled in Convenience Kits corresponding to screw diameter. This ensures that instrumentation needed for the procedure may be quickly accessed and will accommodate the intended screw diameter. All Jones/5th Metatarsal instruments are available in extended lengths to clear the lateral malleolus facilitating patient safety and adequate intraoperative workspace.

Because GEO implants, instrument kits, and individual instrument packages are housed in the GEO CART, the correct screw size, all the necessary instruments, or even additional implant types are immediately available and ready to use.

All GEO implant and instrument packages are labeled for quick identification so there is no delay in retrieving the exact item needed. Instrument kits identify the specific implant size and are color-code matched for convenient and quick selection.

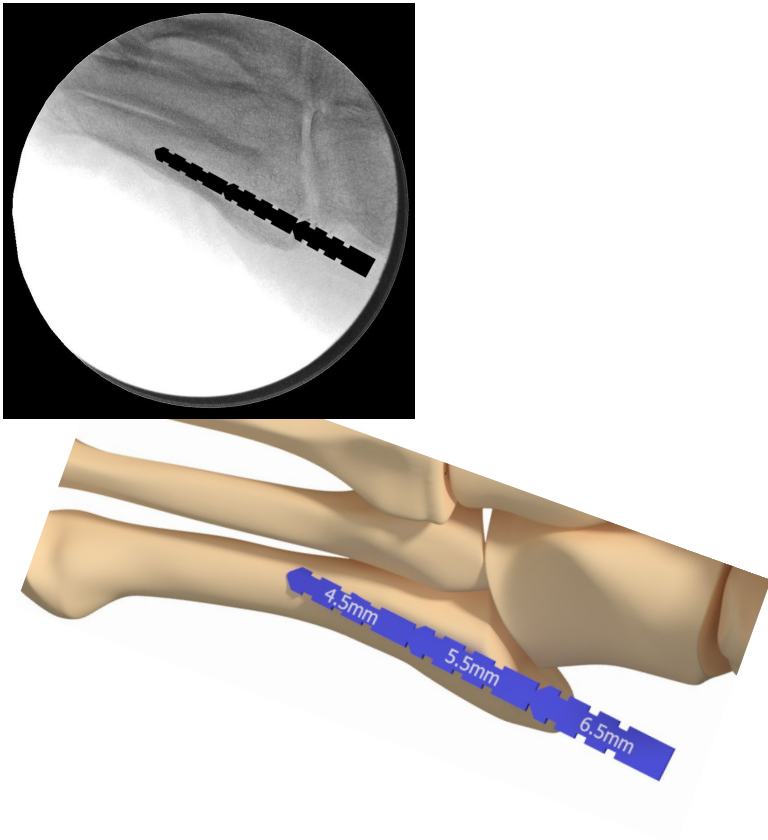


OPERATIVE TECHNIQUE

STEP 1

Determine Screw Diameter

In order to choose the appropriate diameter screw to be implanted and the associated diameter-specific instrument kit, use the screw template from the GEO Jones/5th Metatarsal General Instrument Kit. The template is radiopaque and includes sizes for the 4.5mm, 5.5mm, and 6.5mm GEO 5th Metatarsal solid screws. Both the thread diameter and the shaft core diameter are represented in the template.



STEP 2

Assemble K-wire Guide

From the general kit components, locate the 3.0mm k-wire guide insert and thread it into the appropriate opening in the guide handle.



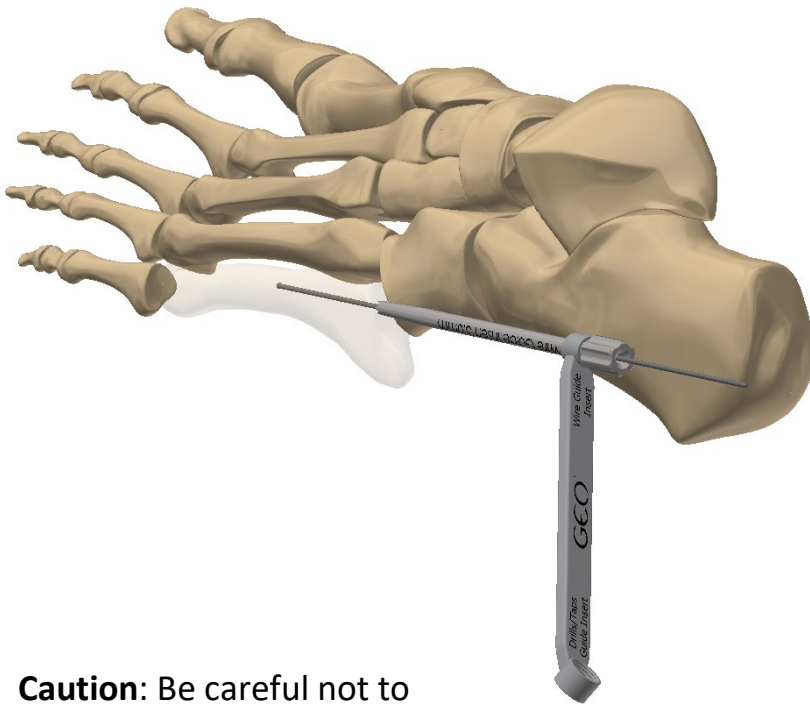
STEP 3

Insert 1.6mm K-wire

A percutaneous incision is made approximately 1cm proximal, superior and medial, to the 5th metatarsal base. Place the k-wire guide against the base of the 5th metatarsal keeping it dorsal and medial to the tuberosity.

Insert the 1.6mm trocar-tip k-wire. This can be done under power or manual force. Insert the k-wire to approximately the isthmus of the canal.

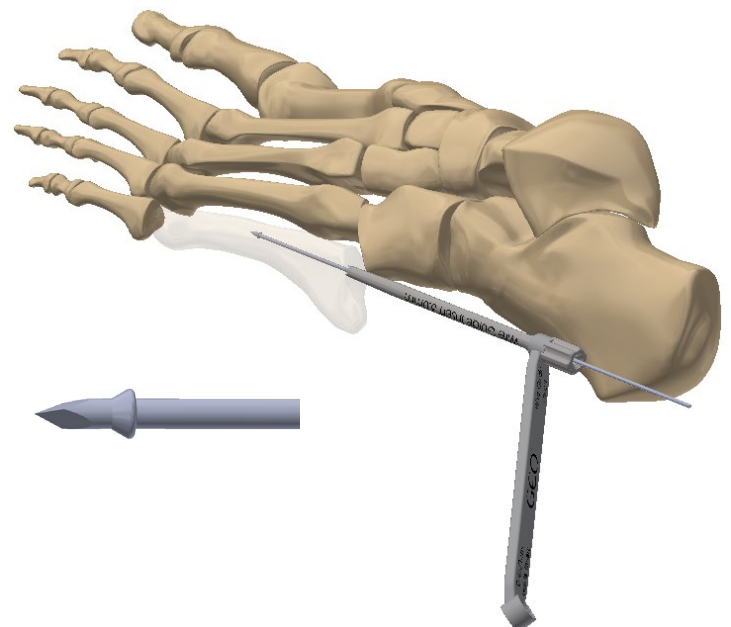
The intramedullary position of the k-wire must be confirmed on all three fluoroscopic views.

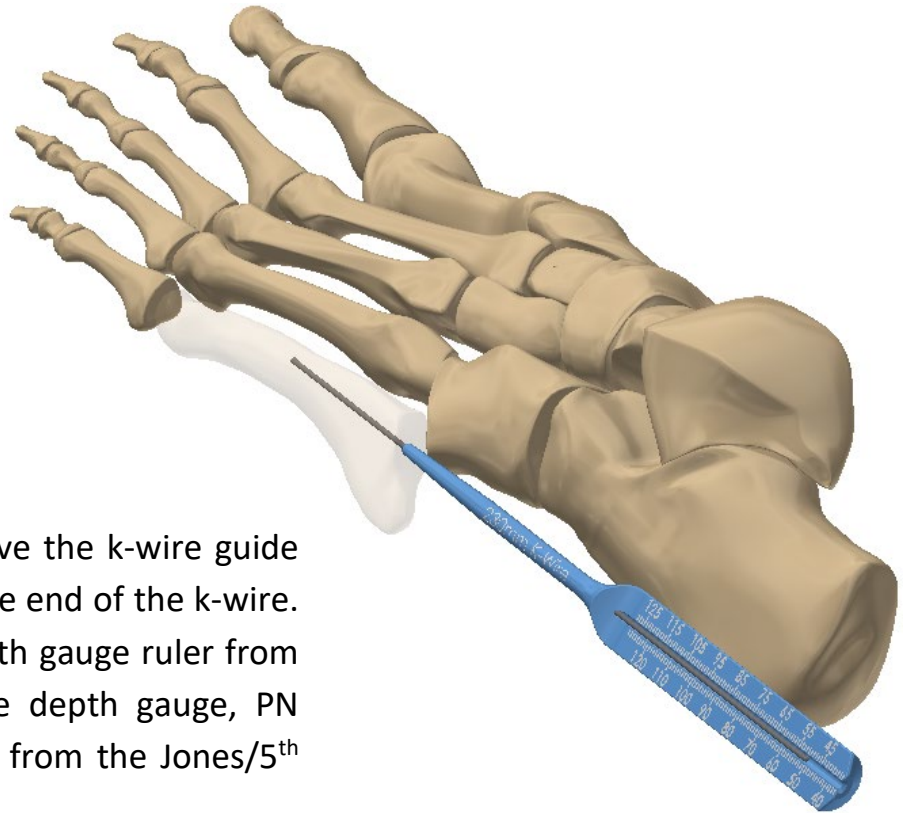


Caution: Be careful not to penetrate the cortex with the trocar-tip k-wire.

Optional: Insert Ball-tip K-wire

Insert the 2.6mm ball-tip k-wire. This can be done under power or manual force. Insert the k-wire to approximately the isthmus of the canal. A 2mm flair is placed just proximal to the trocar tip to aid in maintaining the wire trajectory within the bone canal.





STEP 4

Measure for Screw Length

With the k-wire in position, remove the k-wire guide and place the depth gauge over the end of the k-wire. Read the screw length on the depth gauge ruler from the end of the k-wire. Note: the depth gauge, PN 27000230, is packaged separately from the Jones/5th Metatarsal instrument kits.

STEP 5

Assemble Drill/Tap Tissue Protector

Remove the depth gauge and pull the k-wire guide from the k-wire.

Three GEO Jones/5th Metatarsal Fracture System diameter-specific Kits are available, corresponding to the following GEO Jones/5th metatarsal Solid Screw diameters:

- 4.5mm
- 5.5mm
- 6.5mm

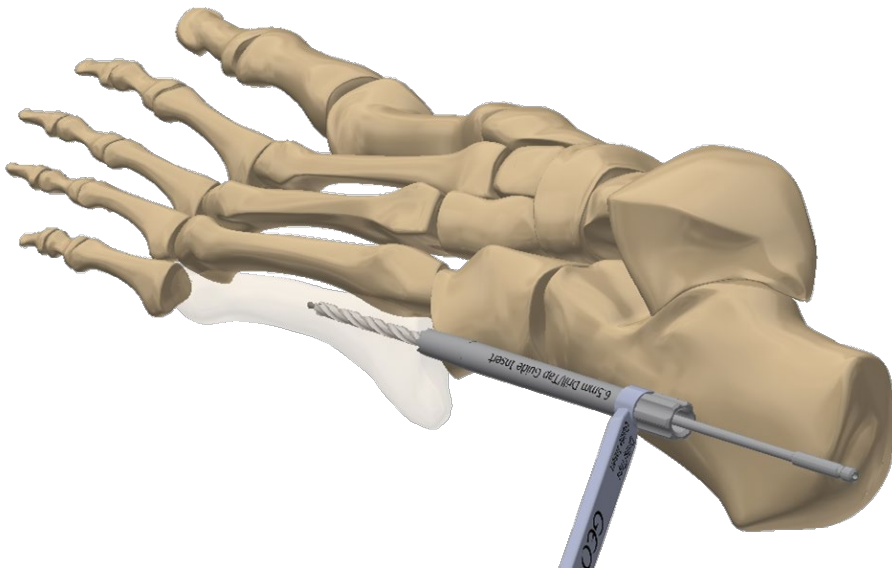
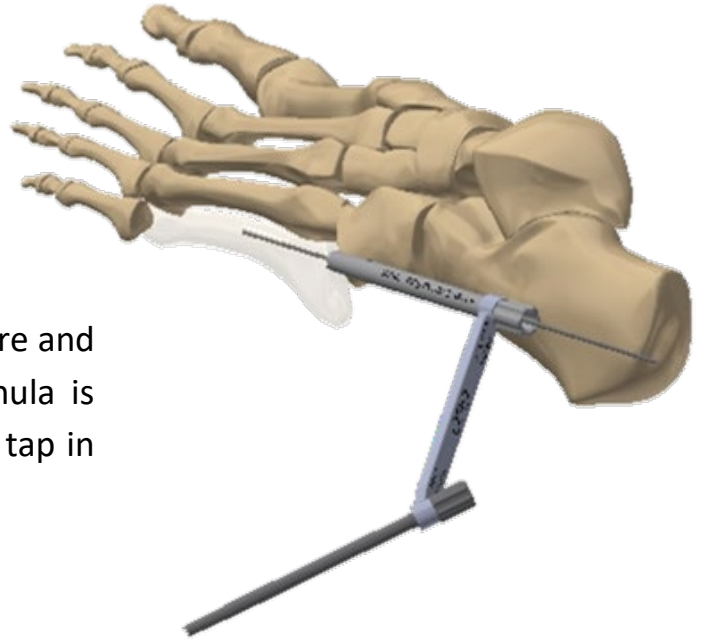
Choose the appropriate kit for the diameter of screw to be implanted. From the kit components, locate the drill/tap tissue protector and thread it into the appropriate opening in the guide handle.



STEP 6

Place Tissue Protector

Place the tissue protector over the k-wire and slide it to the bone surface. The cannula is appropriately sized for the drill bit and tap in the kit.



STEP 7

Drill

Using the cannulated drill from the kit, drill over the k-wire until the k-wire end, or ball-tip, is reached.

Caution: Be careful not to penetrate the cortex with the drill.

STEP 8

Tap

Remove the drill bit. Using the cannulated tapered tap from the kit, tap the hole over the k-wire until reaching the end. If harder bone is encountered, it may be necessary to start with a smaller diameter tap. Additional taps are available in individual pre-sterilized packages.

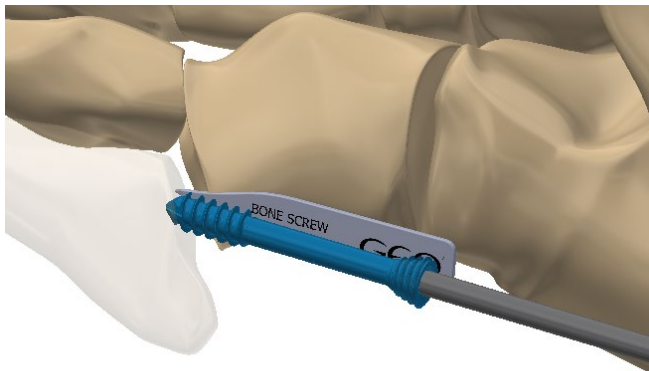


STEP 9

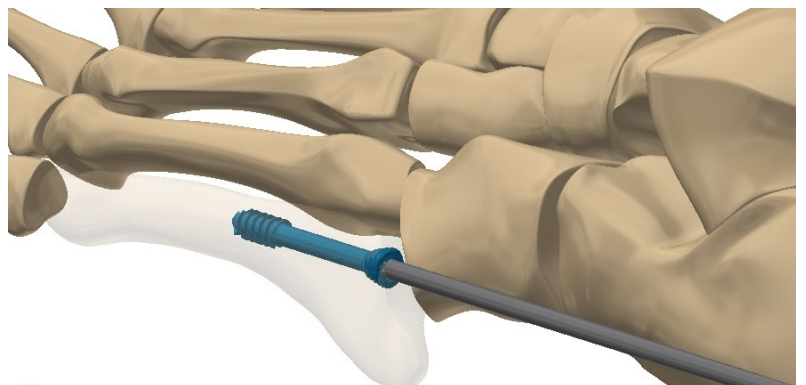
Insert Screw

Remove the tap, k-wire, and tissue protector. Choose the appropriate length screw in the diameter associated with the instrument kit used. Note: all GEO 5th metatarsal bone screws are headless and solid.

Using the Hexalobe T-20 driver tip provided in the kit, insert the screw. A tissue shield is also provided in the instrument kit and can be placed at the insertion site to protect against abrasion from the threaded screw head. The teeth at the distal edge can be used to secure it to the bone.



The GEO 5th met screws are solid and headless for strength, additional compression, and to avoid any soft tissue or cuboid-5th metatarsal joint irritation. Be sure to sink the screw head into the bone until it is approximately flush with the proximal 5th metatarsal bone surface to achieve optimal compression.



Solid Headless Screws



Diameter	Length	Thread Length	Part Number
4.5 mm	36 mm	12 mm	10264036
	38 mm	12.7 mm	10264038
	40 mm	13.3 mm	10264040
	42mm	14 mm	10264042
	44 mm	14.7 mm	10264044
	46 mm	15.3 mm	10264046
	48 mm	16 mm	10264048
	50 mm	16.7 mm	10264050
	55 mm	18.3 mm	10264055
	60 mm	20 mm	10264060
65 mm	21.7 mm	10264065	
5.5 mm	36 mm	12 mm	10265036
	38 mm	12.7 mm	10265038
	40 mm	13.3 mm	10265040
	42mm	14 mm	10265042
	44 mm	14.7 mm	10265044
	46 mm	15.3 mm	10265046
	48 mm	16 mm	10265048
	50 mm	16.7 mm	10265050
	55 mm	18.3 mm	10265055
	60 mm	20 mm	10265060
65 mm	21.7 mm	10265065	
6.5 mm	40 mm	13.3 mm	10266040
	42 mm	14 mm	10266042
	44 mm	14.7 mm	10266044
	46 mm	15.3 mm	10266046
	48mm	16 mm	10266048
	50 mm	16.7 mm	10266050
	55 mm	18.3 mm	10266055
	60 mm	20 mm	10266060
65 mm	21.7 mm	10266065	











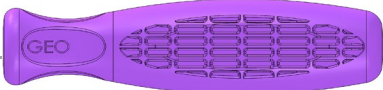
All Screws are Titanium

GEO Jones/5th Metatarsal Fracture System

Instrument Kits

For Use With	Kit Components	Part Number
All Jones/ 5 th Met Screw Diameters	Trocar-Tip k-wire, 1.6mm	70100017
	2mm Ball-Tip k-wire, 1.6mm	
	Wire Guide, 3.0mm Threaded	
	Guide Handle	
	Screw Diameter Template	
4.5 mm Diameter Screws	Drill/Tap Tissue Protector, 4.5mm	70100014
	Cannulated Drill Bit, 3.4mm x, AO	
	Tap, Tapered, Cannulated 4.5mm, AO	
	Hexalobe Driver Tip, T-20, AO	
	Screw Tissue Shield	
5.5 mm Diameter Screws	Drill/Tap Tissue Protector, 5.5mm	70100015
	Cannulated Drill Bit, 3.4mm, AO	
	Tap, Tapered, Cannulated 5.5mm, AO	
	Hexalobe Driver Tip, T-20, AO	
	Screw Tissue Shield	
6.5 mm Diameter Screws	Drill/Tap Tissue Protector, 6.5mm	70100016
	Cannulated Drill Bit, 4.3mm, AO	
	Tap, Tapered, Cannulated 6.5mm, AO	
	Hexalobe Driver Tip, T-20, AO	
	Screw Tissue Shield	

Individual Instruments

Instrument	Part Number
	
Ball-Tip K-wire, 2.6mm Ball, 230mm Length	13616230
Trocar-Tip K-wire, 1.6mm Diameter, 230mm Length	13016230
	
Drill Bit, 3.4mm x 200mm, Cannulated, AO Connector	21034200
Drill Bit, 4.3mm x 200mm, Cannulated, AO Connector	21043200
	
Tap, 3.5mm x 200mm, Tapered, Cannulated, AO Connector	26200035
Tap, 4.5mm x 200mm, Tapered, Cannulated, AO Connector	26200045
Tap, 5.5mm x 200mm, Tapered, Cannulated, AO Connector	26200055
Tap, 6.5mm x 200mm, Tapered, Cannulated, AO Connector	26200065
	
Guide Handle, Double End	22091008
	
Drill/Tap Tissue Protector, 4.5mm, Threaded Insert	22140045
Drill/Tap Tissue Protector, 5.5mm, Threaded Insert	22140055
Drill/Tap Tissue Protector, 6.5mm, Threaded Insert	22140065
	
Wire Guide, 3.0mm, Threaded Insert	22130030
	
Hexalobe Driver Tip, T-20, 175mm, Solid, AO Connector	20019920
	
Depth Gauge Ruler, 230mm K-wire	27000230
	
Screw Tissue Shield	22190000
	
Screw Template	27351008
	
AO Driver Handle, Single Use	20080000

GEO Jones/5th Metatarsal Fracture System

INDICATIONS FOR USE

The GEO Bone Screw System is indicated for bone fractures, osteotomies, arthrodesis, osteochondritis, and tendon reattachment. Surgical indications include fixation of malunion and nonunion, acute fractures, repetitive stress fractures, malleolar, talus, and greater tuberosity fractures, Jones fracture, and 5th metatarsal fracture fixation and bone reconstruction where appropriate for the size of the device.

CONTRAINDICATIONS

- **Not** intended for attachment or fixation to the posterior elements (pedicles) of the cervical, thoracic or lumbar spine;
- In patients with active local infection or any evidence of infection;
- In patients with metal sensitivity or allergic reaction to foreign bodies;
- In patients with poor or insufficient bone quality or quantity;
- In the presence of any clinical or functional abnormalities that would preclude the potential of achieving a good outcome for the patient;
- Other conditions that may place the patient at risk physiologically;
- Irreparable tendon system

WARNINGS

- GEO implants and instrumentation are Single Use Only;
- Reuse could result in failure of the device to perform as intended, transmission of infectious diseases, and/or harm to the patient or user;
- The implant can fail due to excessive load or fatigue;
- A successful result may not be obtained in each case. Corrective surgery may be required;
- Pre-operative and operating procedures, surgical techniques and proper patient selection are important considerations for the successful use of these devices.
- Selection of the proper type and size of implant is extremely important. Failure to utilize the appropriate size implant and instrumentation may result in loosening, fracture of the device, bone or both;
- The use of implants for purposes other than indicated may result in implant breakage, injury, reoperation and/or removal;
- Patient sensitivity to implant materials should be considered and assessed prior to implantation;
- Implants are for temporary fixation until healing is complete and may not withstand weight bearing or unsupported stress.

For full prescribing information, refer to the GEO Bone Screw System Instructions for Use.

Instructions for Use (IFU) and this Operative Technique Guide are available at www.gramercyortho.com or contact GEO Customer Service 855-436-2278 and these materials will be provided to you at no cost.

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