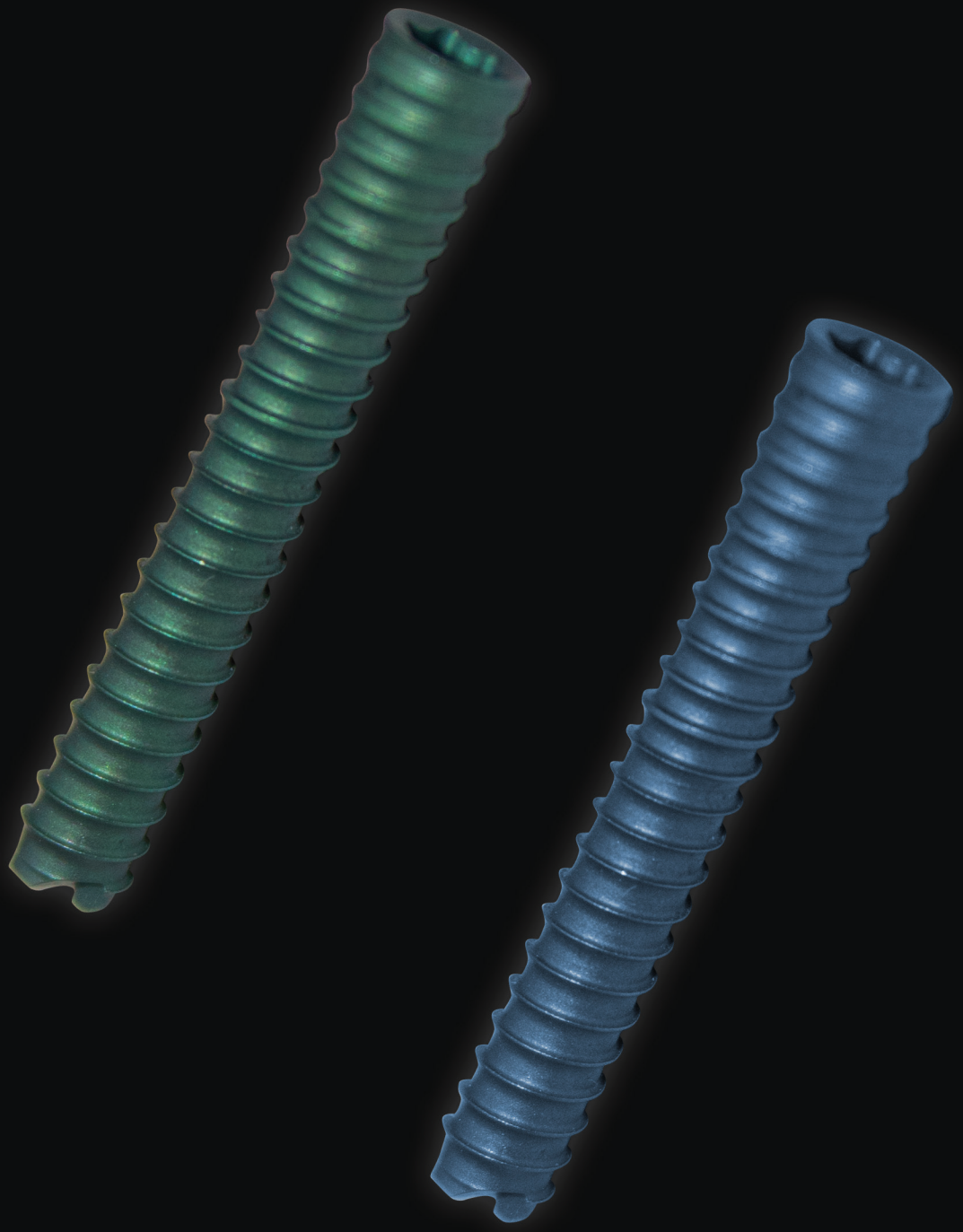
SURGICAL TECHNIQUE

THS Headless double compression screw



TRAUFIX
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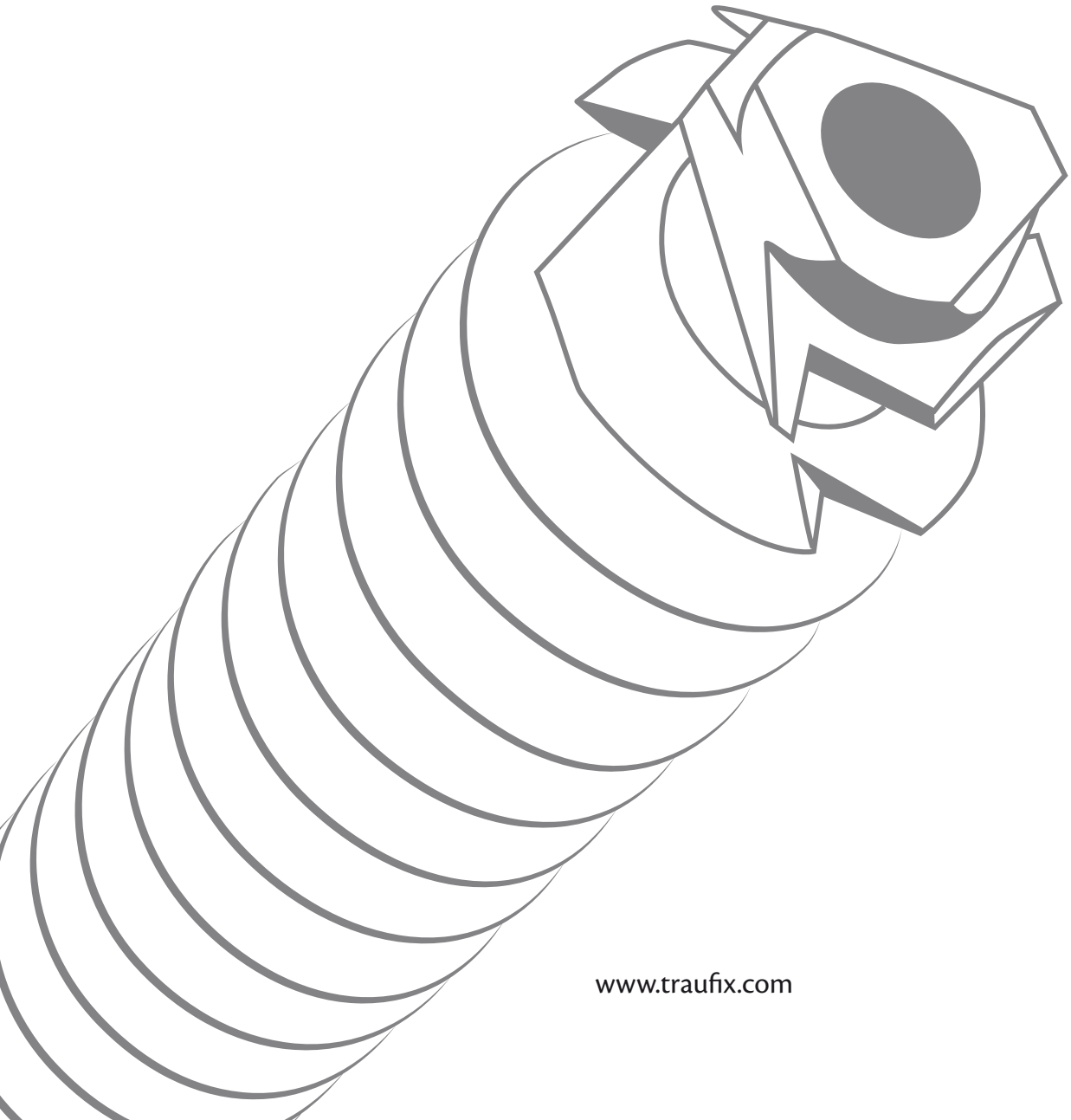


INTRODUCTION

Headless compression screw system

Since its introduction, THS headless compression screw technology has revolutionized the way surgeons approach fractures, fusions, and osteotomies.

THS is the next generation of fully threaded headless fasteners offering a variety of sizes and lengths ranging from the largest of 5.0 mm diameter with 60 mm length and with 1.1 mm cannula and the smallest with 2.5 mm diameter with 8 mm length and 0.8 mm cannula.

Feedback from surgeons on its long-term effects has helped develop this continuously evolving fully threaded headless implant featuring instrumentation designed to simplify surgical technique.

The THS family is comprised of 51 unique screw size options to cover short to long bone.

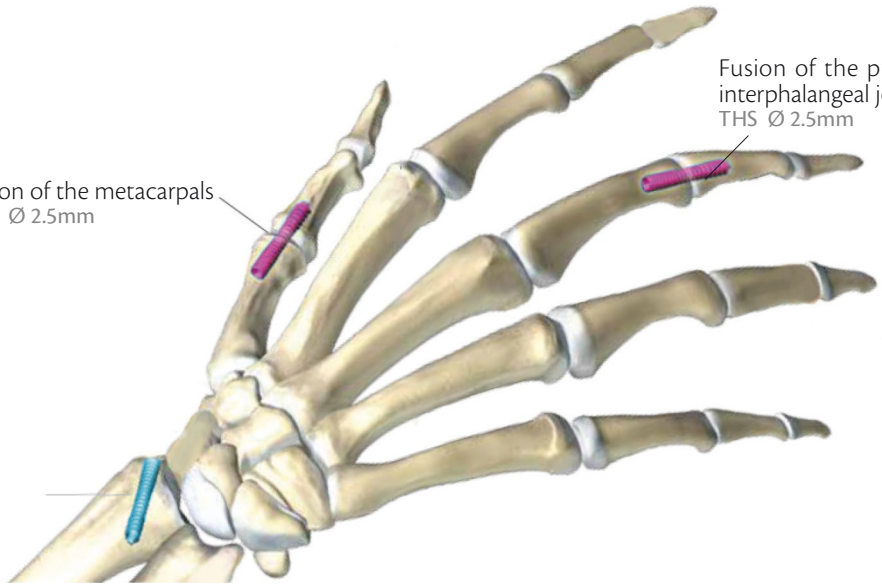
INDICATIONS OF USE

This description of the technique is not sufficient for the immediate clinical application of this product, practical learning with a surgeon experienced in the use of these products is highly recommended.

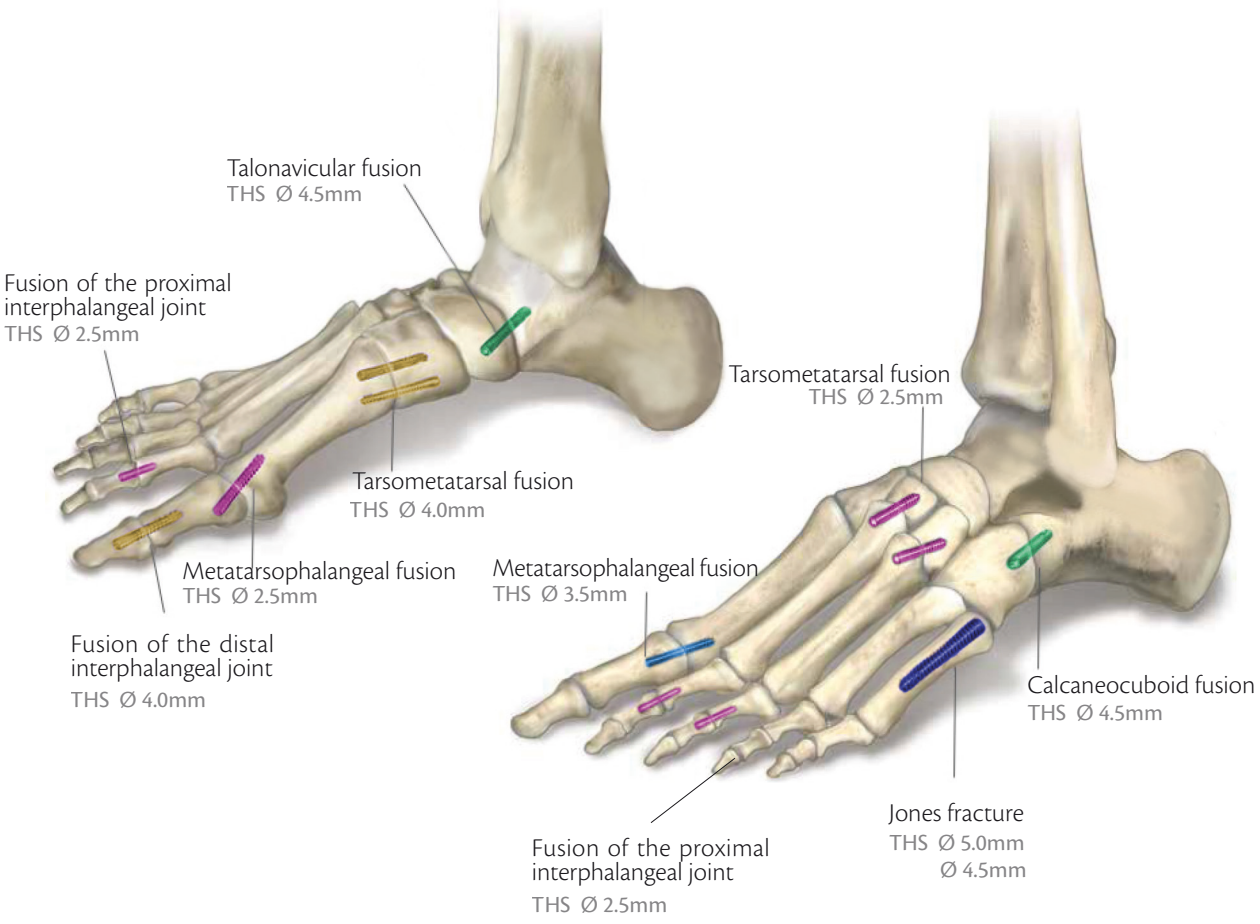
THS 2.5, 3.5, 4.0, 4.5 and **5.0** are designed for use as fixation devices for small bones, bone fragments and in osteotomies. They are not designed for interference or soft tissue fixation.

THS 2.5 can be used for fusions, fractures or osteotomies of the clavicle, humerus, radius, ulna, tibia, talus, malleolus and calcaneus.

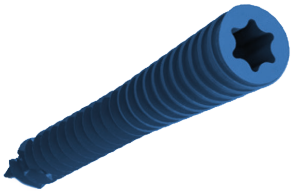
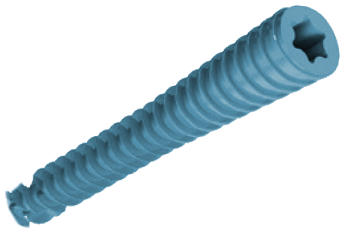
Hand and wrist



Foot and ankle



Other fractures:
Navicular fracture / THS **Ø 4.0mm**
Talus fracture / THS **Ø 4.5mm**
Medial malleolus fracture / THS **Ø 4.0/4.5mm**

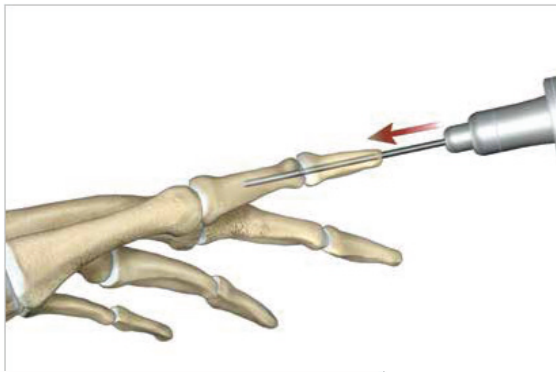
THS TABLE		LENGTHS			FEATURES
	7.0 mm	40mm 45mm 50mm 55mm 60mm 65mm	70mm 75mm 80mm 85mm 90mm 95mm	100mm 105mm 110mm 120mm	Self-tapping and drilling capacity screw, cannulated for 1.1 mm Kirschner, has a Torx 3.2mm head.
	5.0 mm	25mm 30mm 35mm	40mm 45mm 50mm	55mm 60mm	Self-tapping and drilling capacity screw, cannulated for 1.1 mm Kirschner, has a Torx 3.2mm head.
	4.5 mm	20mm 22mm 24mm 26mm	28mm 30mm 35mm 40mm	45mm 50mm	Self-tapping and drilling capacity screw, cannulated for 1.1 mm Kirschner, has a Torx 3.2mm head.
	4.0 mm	16mm 18mm 20mm 22mm 24mm	26mm 28mm 30mm 32mm 34mm		Self-tapping and drilling capacity screw, cannulated for 1.1 mm Kirschner, has a Torx 3.2mm head.
	3.5 mm	10mm 12mm 14mm 16mm	18mm 20mm 22mm 24mm	26mm 28mm 30mm	Self-tapping and drilling capacity screw, cannulated for 0.8 mm Kirschner, has a Torx 2.3mm head.
	2.5 mm	08mm 10mm 12mm 14mm	16mm 18mm 20mm 22mm	24mm 26mm 28mm 30mm	Self-tapping and drilling capacity screw, cannulated for 0.8 mm Kirschner, has a Torx 2.3mm head.

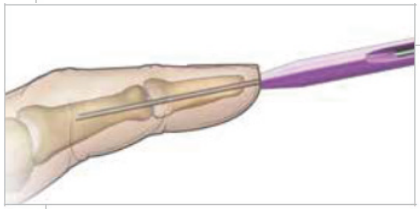
SURGICAL TECHNIQUE DESCRIPTION
Fusion of the distal interphalangeal joint: 2.5 THS family

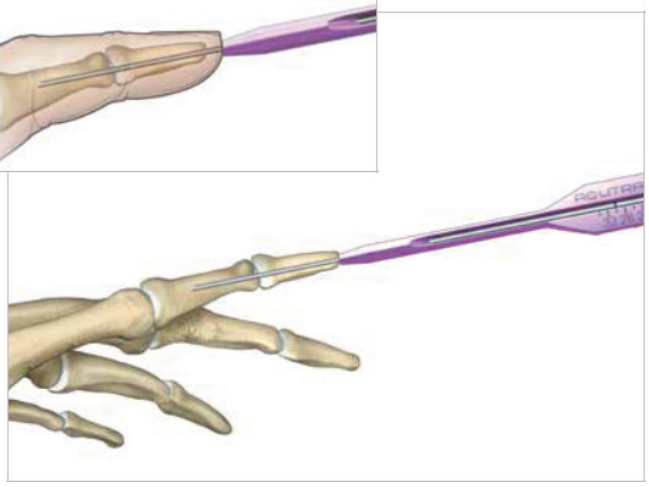
1. Insertion of the trocar-tipped Kirschner wire
A double-ended trocar-tipped Kirschner wire is inserted into the distal phalanx through a transverse incision over the distal interphalangeal joint.

2. Reduction of the proximal and middle phalanx
The joint is then reduced and the Kirschner wire is placed proximally in the middle phalanx.

3. Determination of screw length
Make a small transverse (fish mount) incision at the tip of the distal phalanx and separate it using a small clip (snap closure). Measure the length of the guide wire using the percutaneous sizer or by placing a second guide wire at the entry point and subtracting the difference. This must be taken into consideration if the screw is to be placed under the surface of the distal phalanx to measure the screw.

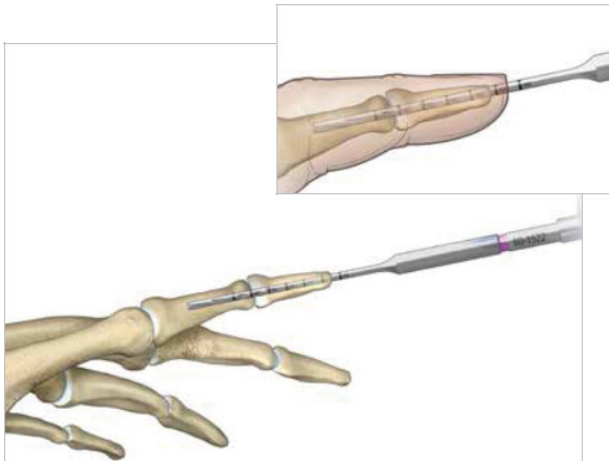






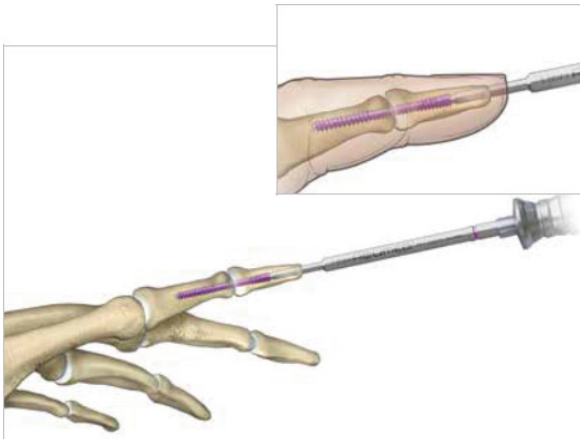
4. Drilling

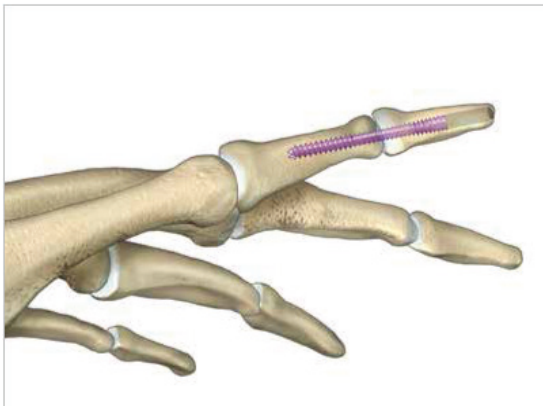
Choose the long-cannulated drill bit and place it over the guide wire. Drill with an electric drill bit or end mill through the joint in the middle phalanx to the desired depth. This must be taken into consideration if the screw is to be placed under the surface of the distal phalanx for the depth of the prepared hole.



5. Screw insertion

Insert the correct size screw using the appropriate Torx screwdriver. If you encounter resistance during insertion or if there is any separation of the bone fragments, stop, remove the screw, re-drill with the long drill bit, and reinsert the screw. Confirm screw placement and length using imaging techniques. Finally, remove the guide wire.





SURGICAL TECHNIQUE DESCRIPTION
Jones fracture: 4.5 and 5.0 THS family

Purpose: fracture in the hypovascular area of the base of the fifth metatarsal— "Jones" fracture — Torg 1, 2 and 3. In type 3 fractures, and internal bone graft can be performed before inserting the screw..

1. Patient positioning
Place the patient in a semi-lateral position, using a positioning pouf. The patient will need to be positioned at the distal end of the stretcher and the leg undergoing surgery will be covered with a sterile drape facing upward. The stress rate of the surgical limb should be checked prior to preparation and covered with a sterile drape to confirm that the surgical limb can be positioned over the mini C-arc during surgery.

2. Delimitation of the indication area
The base of the fifth metatarsal is delimited, including the attachments of the peroneus brevis and peroneus anterior tendons.

3. Focus and exposure
The 0.8 mm guide wire for the THS 2.5 – 4.5 screws can be positioned at the base of the fifth metatarsal by radioscopic guidance. A small incision is made at the base of the fifth metatarsal at the intersection of the peroneus brevis and peroneus anterior tendons.

⚠ Pay attention to identify and protect the branches of the sural nerve that run above the peroneal tendons. If necessary, the fibers of the external aponeurosis and peroneus brevis are separated and retracted from the styloid process at the base of the fifth metatarsal. A mini Hohmann type retractor is placed on the plantar aspect of the base of the fifth metatarsal. The surgeon can use his own fingers to reduce the fifth metatarsal fracture by placing them between the fourth and fifth metatarsals. This allows the fifth metatarsal fracture site to be closed during guide wire, drill, and screw placement. A guide wire is inserted from the base of the fifth metatarsal into the central area of the metatarsal shaft. This is kept within the intramedullary canal to avoid distal penetration. Check the correct placement by radioscopy.

4. Depth measurement

Depth is measured from the exposed area of the guide wire with a cannulated depth gauge.

5. Guide wire insertion

After size selection, insert guide wire approximately 5mm to maintain distal nail fixation prior to drilling.

Caution: Be sure not to damage the distal articular surfaces when inserting the guide wire.

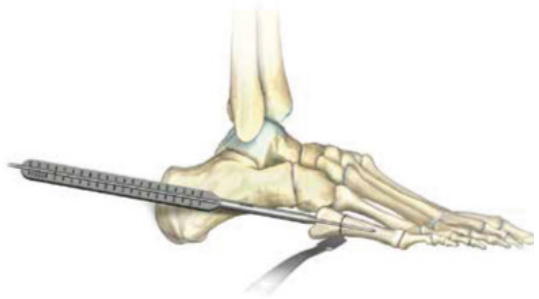
6. Guide wire placement in soft tissue

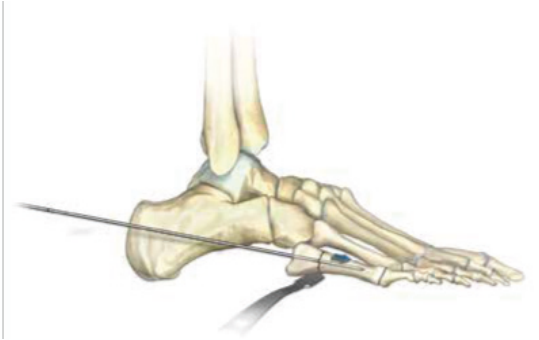
Place the soft tissue guide wire (to be used throughout this process) over the guide wire and open the proximal cortex with a suitable fluted profile drill.

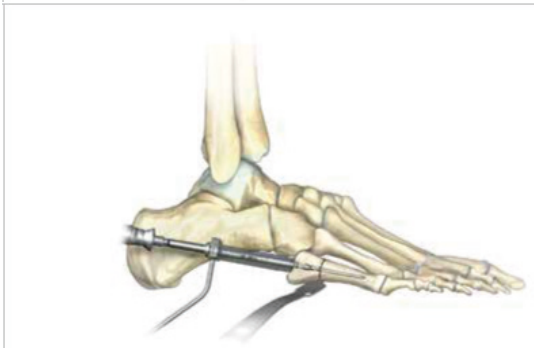
7. Drilling

Keep the soft tissue guide wire in place and pierce the distal fragment with a long-fluted drill bit. Consider drill markings to confirm desired depth.

Tip: The long drill bit is recommended to mitigate the effects of different bone densities and separation of bone fragments during screw insertion.

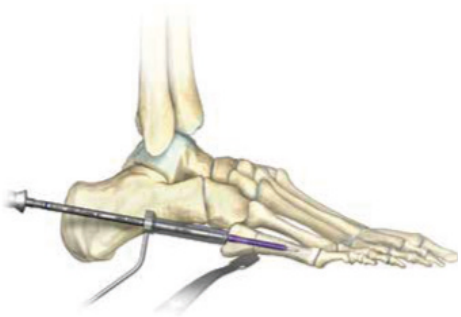






8. Fracture compression

For countersinking and compression of the fracture, it must be taken into account that a screw must be inserted that is 5 mm shorter than the total depth measured on the guide wire, protecting the soft tissues with a soft tissue guide wire.



9. Screw insertion

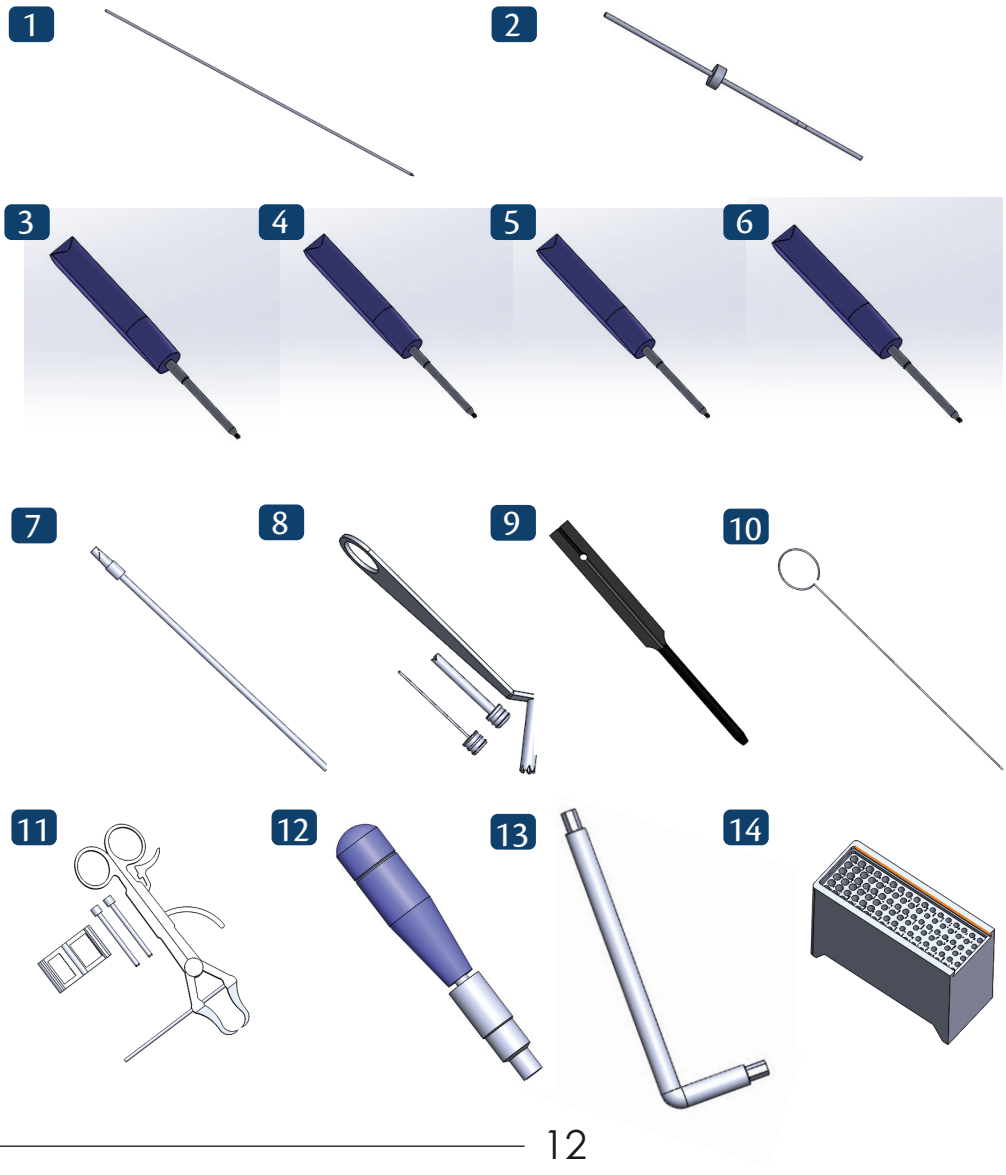
The screw is placed with fluoroscopic guidance to avoid penetration into the cortex.

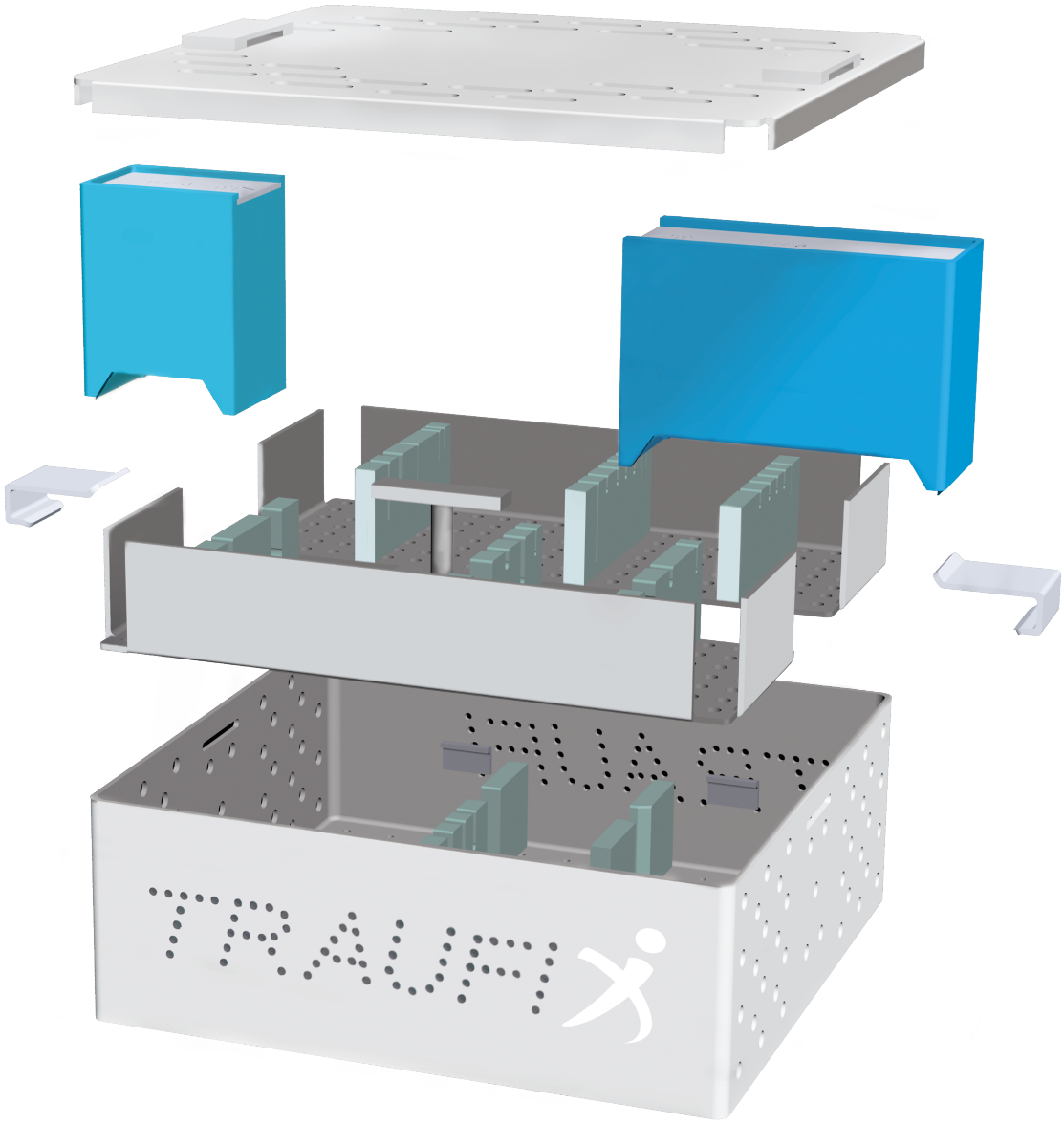
Postoperative protocol: the patient is placed in a soft bandage and supported by a fiberglass splint.

Patients do not carry weight for 2-6 weeks postoperatively depending on the type of Torg fracture, bone quality, and underlying pathologies.

INSTRUMENTAL

1) 0.8mm Kirschner wire 120mm
   1.1mm Kirschner wire 120mm
2) Cannulated drill bit with stop
3) 2.3mm Solid screwdriver
4) 2.3mm Cannulated screwdriver
5) 3.2mm Solid screwdriver
6) 3.2mm Cannulated screwdriver
7) Conical drill bit
   2.5-3.5mm screws
   4.0mm screws
   4.5mm screws
   5.0mm screws
8) Kirschner drill guide set, drill bit screwdriver
9) Depth gauge
10) Hook tip wire
11) Forceps with tips and adjustable guide (Guides for 1.8, 2.0 and 2.5)
12) Straight handle (AO)
13) Allen wrench
14) Box screw





Instrumental Box THS Traufix Headless Screw

THS HEADLESS DOUBLE COMPRESSION SCREW

2.5mm THS

244.08 2.5 mm THS Headless double compression screw 08 mm
244.10 2.5 mm THS Headless double compression screw 10 mm
244.12 2.5 mm THS Headless double compression screw 12 mm
244.14 2.5 mm THS Headless double compression screw 14 mm
244.16 2.5 mm THS Headless double compression screw 16 mm
244.18 2.5 mm THS Headless double compression screw 18 mm
244.20 2.5 mm THS Headless double compression screw 20 mm
244.22 2.5 mm THS Headless double compression screw 22 mm
244.24 2.5 mm THS Headless double compression screw 24 mm
244.26 2.5 mm THS Headless double compression screw 26 mm
244.28 2.5 mm THS Headless double compression screw 28 mm
244.30 2.5 mm THS Headless double compression screw 30 mm

THS 3.5mm

240.10 3.5 mm THS Headless double compression screw 10 mm
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THS 4.0mm

241.16 4.0 mm THS Headless double compression screw 16 mm
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241.34 4.0 mm THS Headless double compression screw 34 mm

THS 4.5mm

242.20 4.5 mm THS Headless double compression screw 20 mm
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242.40 4.5 mm THS Headless double compression screw 40 mm
242.45 4.5 mm THS Headless double compression screw 45 mm
242.50 4.5 mm THS Headless double compression screw 50 mm

THS 5.0mm

243.25 5.0 mm THS Headless double compression screw 25 mm
243.30 5.0 mm THS Headless double compression screw 30 mm
243.35 5.0 mm THS Headless double compression screw 35 mm
243.40 5.0 mm THS Headless double compression screw 40 mm
243.45 5.0 mm THS Headless double compression screw 45 mm
243.50 5.0 mm THS Headless double compression screw 50 mm
243.55 5.0 mm THS Headless double compression screw 55 mm
243.60 5.0 mm THS Headless double compression screw 60 mm

THS 7.0mm

261.40 7.0 mm THS Headless double compression screw 40 mm
261.45 7.0 mm THS Headless double compression screw 45 mm
261.50 7.0 mm THS Headless double compression screw 50 mm
261.55 7.0 mm THS Headless double compression screw 55 mm
261.60 7.0 mm THS Headless double compression screw 60 mm
261.65 7.0 mm THS Headless double compression screw 65 mm
261.70 7.0 mm THS Headless double compression screw 70 mm
261.75 7.0 mm THS Headless double compression screw 75 mm
261.80 7.0 mm THS Headless double compression screw 80 mm
261.85 7.0 mm THS Headless double compression screw 85 mm
261.90 7.0 mm THS Headless double compression screw 90 mm
261.95 7.0 mm THS Headless double compression screw 95 mm
261.100 7.0 mm THS Headless double compression screw 100 mm
261.105 7.0 mm THS Headless double compression screw 105 mm
261.110 7.0 mm THS Headless double compression screw 110 mm
261.120 7.0 mm THS Headless double compression screw 120 mm

NOTES

NOTES

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