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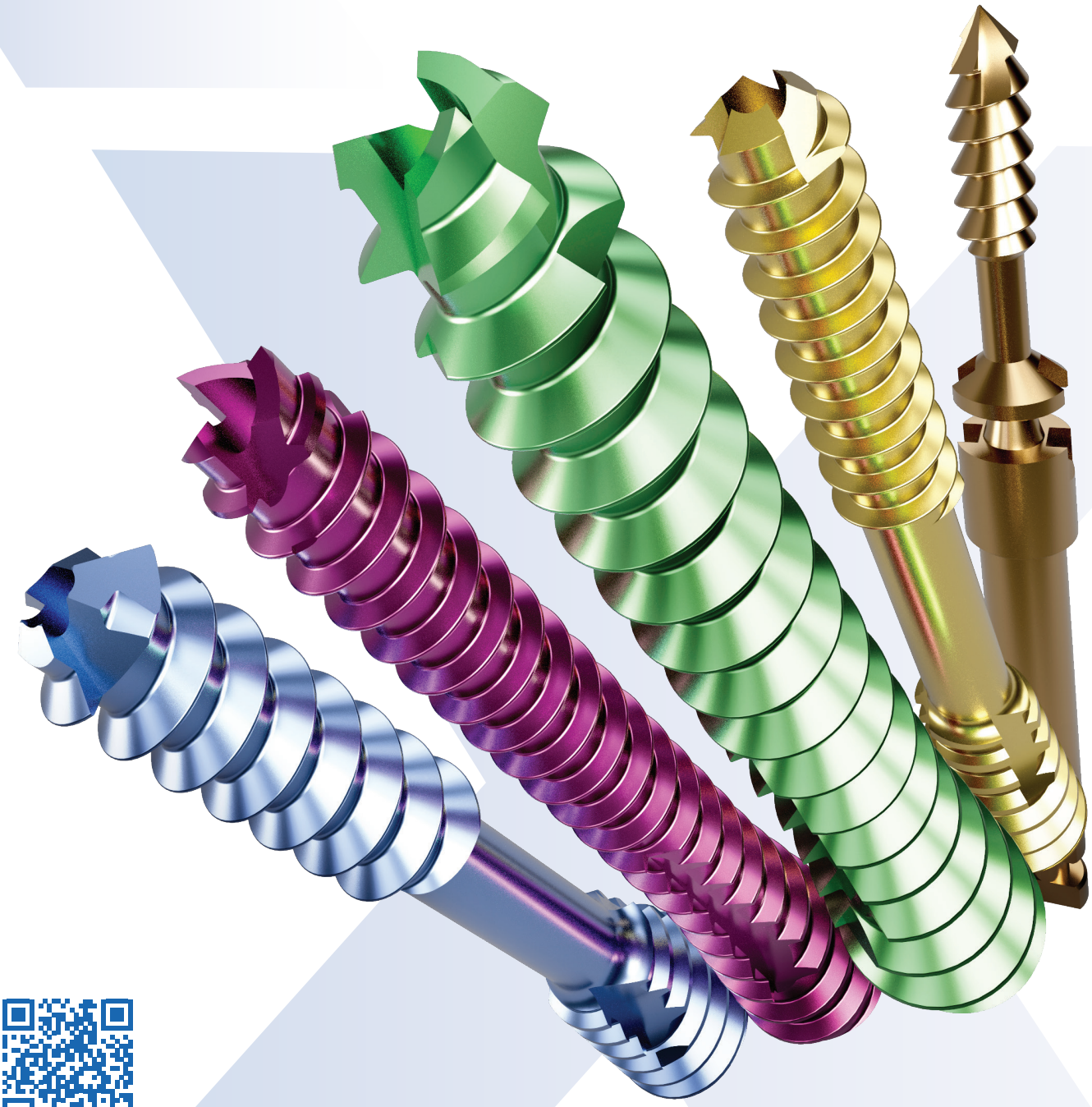
MetaFore™

Small Screw System

Surgical Technique Guide



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Implant Overview

2.5mm Cannulated Partially Threaded Headless Compression Screw

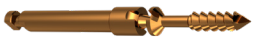
12-40mm, 2mm increments

(171-250XX-S)

3.0mm Cannulated Partially Threaded Headless Compression Screw

14-40mm, 2mm increments

(171-300XX-S)



2.0mm Snap Off Compression Screw

11-14mm, 1mm increments

(171-200XX-S)

2.5mm Cannulated Fully Threaded Headless Screw

12-40mm, 2mm increments

(171-251XX-S)

3.0mm Cannulated Fully Threaded Headless Screw

14-40mm, 2mm increments

(171-301XX-S)

Instrument Overview

Disposable:

1.0mm Guidewire

(171-00001)

1.0mm Double Trocar Guidewire

(171-00011)

2.0mm Drill

(171-01020)

Countersink for 3.0mm Screws

(171-01030)

Countersink for 2.5mm Screws

(171-01025)

Reusable:

T7 Driver

(171-00070)

T8 Driver

(171-00080)

2.0mm Snap Off Driver

(171-00020)

Depth Gauge

(171-01050)

X-ray Screw Length Gauge

(171-01051)

Guidewire Holder - Single Sided Wires

(171-00021)

Guidewire Holder - Double Sided Wires

(171-00022)

AO Handle

(171-01060)

Indications for use

The MetaFore Small Screw System is intended for the fixation of bone fractures and for bone reconstruction in hand and forefoot surgery.

Instrument Utilization Guide

Refer to the table below to identify the compatible instruments (k-wire, drill, driver, countersink) to use based on the screw type.

Table 1: Instrument Utilization Guide

Screw Type	Appearance	K-wire	Drill	Driver	Countersink
2.0mm Snap Off Compression Screw		N/A	N/A	2.0mm Snap Off Driver	N/A
2.5mm Cannulated Partially Threaded Compression Screw		1.0mm	2.0mm Drill	T7	Countersink for 2.5mm Screws
2.5mm Cannulated Fully Threaded Screw		1.0mm	2.0mm Drill	T7	Countersink for 2.5mm Screws
3.0mm Cannulated Partially Threaded Compression Screw		1.0mm	2.0mm Drill	T8	Countersink for 3.0mm Screws
3.0mm Cannulated Fully Threaded Screw		1.0mm	2.0mm Drill	T8	Countersink for 3.0mm Screws

Surgical Technique Guide - Cannulated Screws

In this technique, a hammertoe correction procedure is demonstrated.

STEP 1: Exposure and Reduction

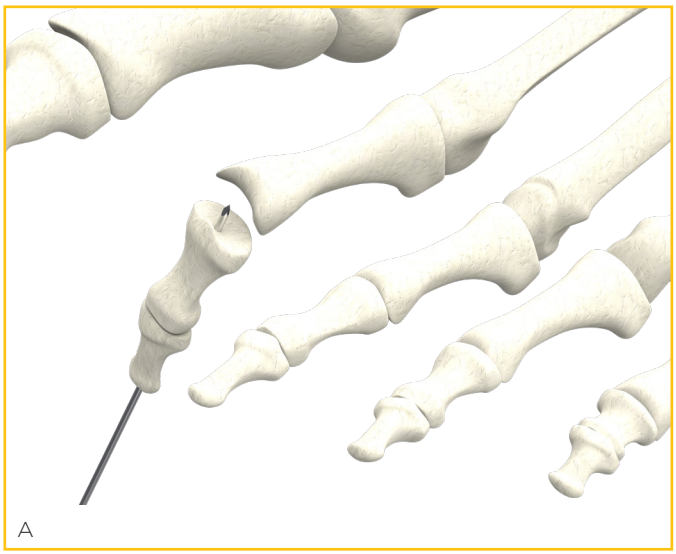
Make a surgical incision to expose the fusion or fracture site based on preoperative surgical planning and surgeon preference. In this example, an incision is made over the dorsal aspect of the proximal interphalangeal (PIP) joint.

Once exposed, reduce and prepare the site for fixation.

STEP 2: Guidewire Fixation

After preparing the articular surfaces of the proximal and middle phalanges, insert a 1.0mm Double Trocar Guidewire into the middle phalanx along its central axis. Advance the wire through the distal end of the toe.

Realign the PIP joint and drive the guidewire proximally through the head of the proximal phalanx. Use fluoroscopy in two planes to verify trajectory and confirm correct wire positioning. The wire trajectory and placement should indicate the intended screw path.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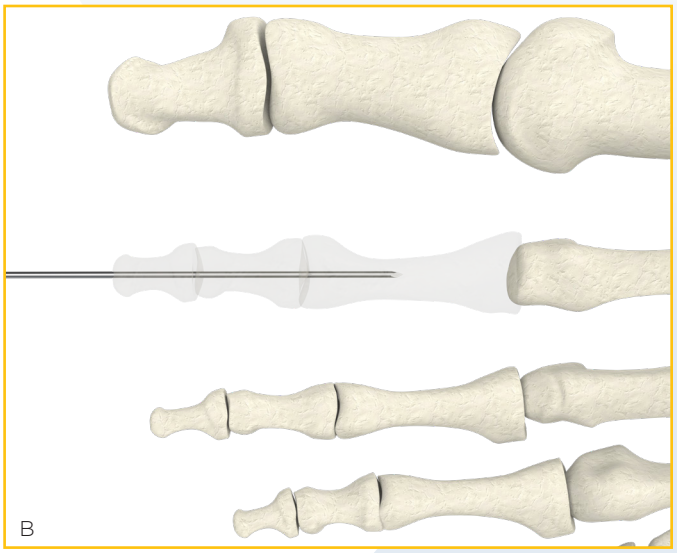
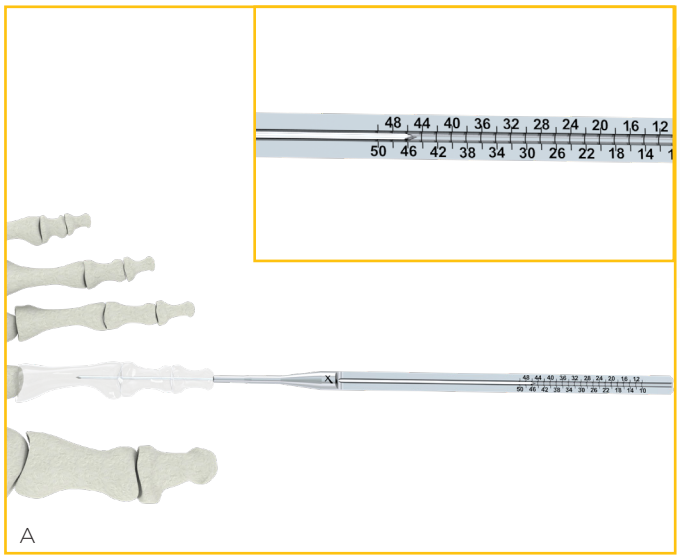

B

STEP 3: Screw Length Measurement

Slide the Depth Gauge over the guidewire to measure the appropriate drill depth. Use the X-Ray Screw Length Gauge to estimate screw size by overlaying it along the planned screw path prior to taking a fluoroscopic image.

Note: *If planned countersinking or compression is anticipated, reduce the length of the screw.*

In this example, a 24mm screw is utilized.



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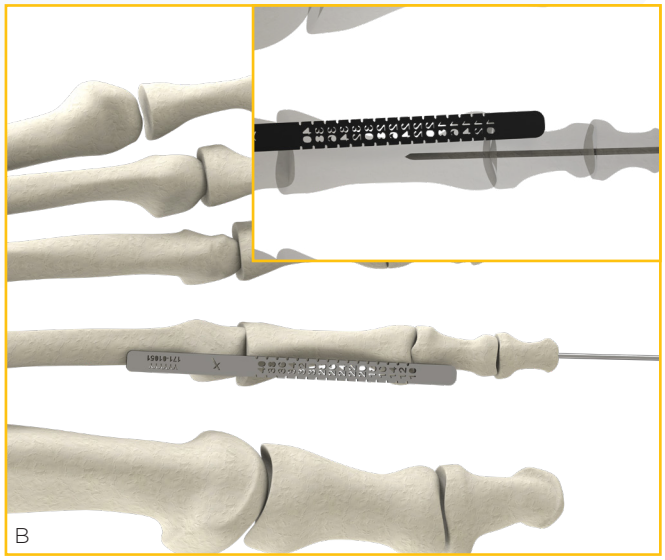
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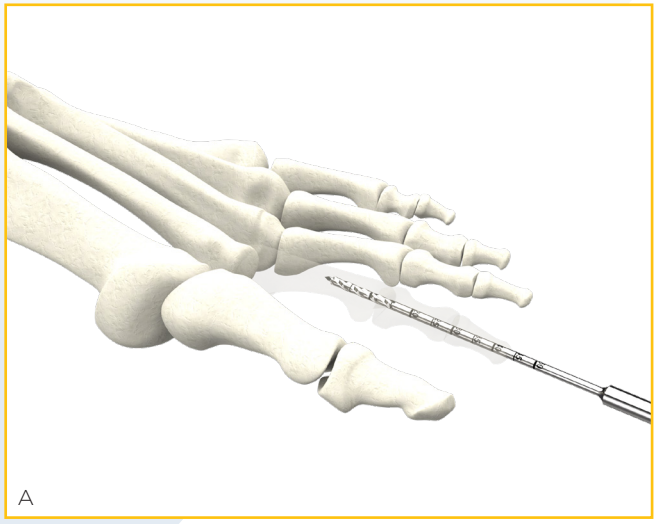
STEP 4: Drill and Countersink

Use the 2.0mm Drill to drill over the Guidewire to the measured depth.

Optional: Select the appropriate countersink based on the screw size (refer to table 2 below). Advance the countersink over the guidewire until the shoulder contacts the bone's cortex. In this example, countersinking is not required.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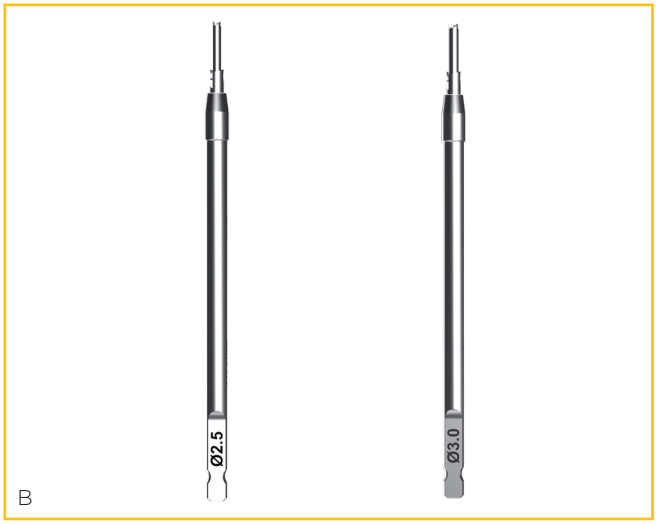


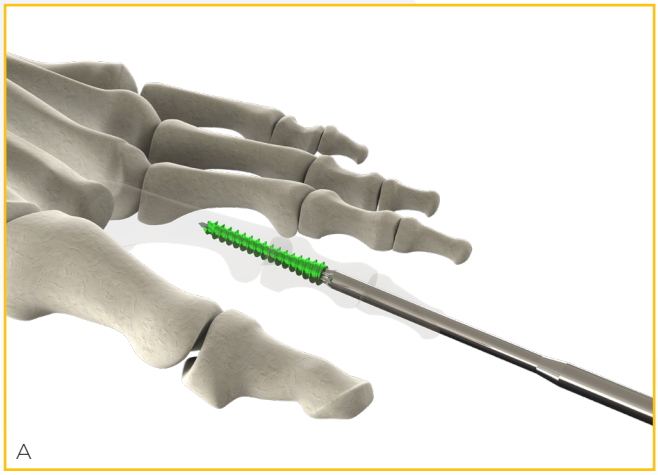
B

STEP 5: Screw Insertion

Select the appropriate Driver based on the desired screw size (refer to table 2 below). Insert the screw over the Guidewire and advance it until seated at the desired depth. Firmly stabilize the toe during insertion to maintain alignment.

Note: The MetaFore System includes a "skinny driver" to advance screws beyond the near cortext.

Once the screw is fully seated, remove the guidewire.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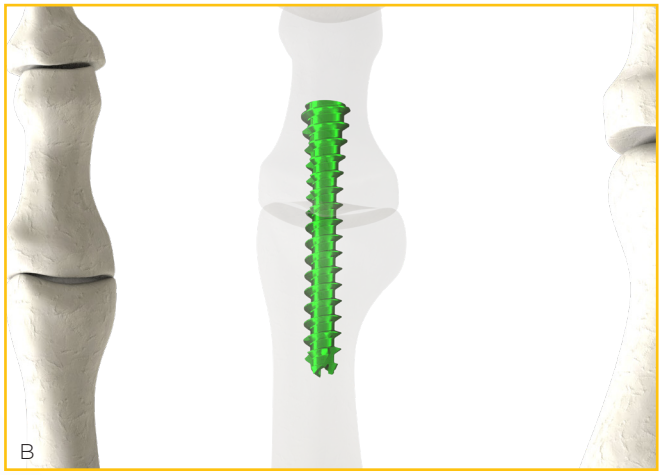

B

Table 2: Instrument Utilization Guide

Screw Type	Drill	Driver	Countersink
2.5mm Cannulated Partially Threaded Compression Screw	2.0mm Drill	T7	Countersink for 2.5mm Screws
2.5mm Cannulated Fully Threaded Screw	2.0mm Drill	T7	Countersink for 2.5mm Screws
3.0mm Cannulated Partially Threaded Compression Screw	2.0mm Drill	T8	Countersink for 3.0mm Screws
3.0mm Cannulated Fully Threaded Screw	2.0mm Drill	T8	Countersink for 3.0mm Screws

Surgical Technique Guide - Snap Off Screws

This example illustrates a Weil Osteotomy performed for hammertoe correction.

STEP 1: Exposure and Reduction

Create an incision to access the osteotomy site according to preoperative planning and surgical preference. Once exposed, reduce the fragment and prepare the site for fixation.

STEP 2: Osteotomy

Perform the osteotomy with the desired correction. Use fluoroscopy to confirm complete osteotomy and appropriate alignment.

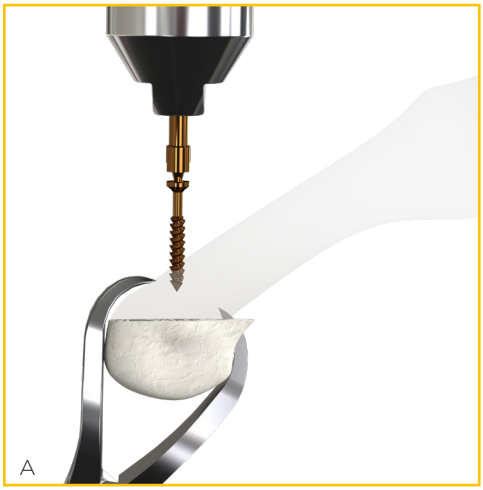
Screw length is based on preoperative planning and surgeon preference.


A


B

STEP 3: Screw Insertion

Attach the 2.0mm Snap Off Screw to the wire driver. Advance the screw until it sits flush with the cortical surface. When the screw contacts bone, it will automatically shear off at the designed breakpoint. If needed, use the 2.0mm Snap Off Driver (shown in image B) to fully seat the screw or if the screw shears off early.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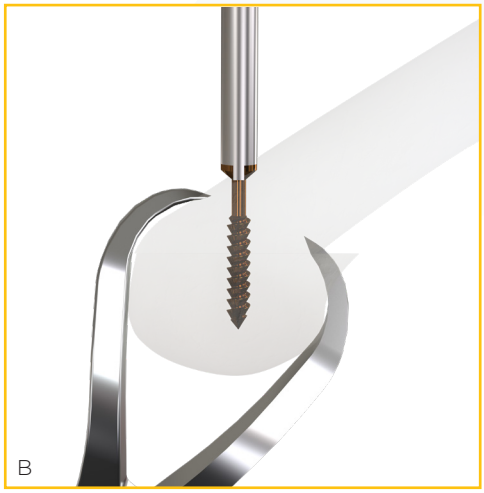
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C

Removal Instructions

If the screw(s) need to be removed, begin by making an incision over the surgical site. Clear any tissue ongrowth from the screw head to allow the driver to engage. Use the appropriate driver (refer to table below) to engage the head of the screw and rotate counterclockwise until the screw is removed.

Screw Type	Driver
2.0mm Snap Off Compression Screw	2.0mm Snap Off Driver
2.5mm Cannulated Partially Threaded Compression Screw	T7
2.5mm Cannulated Fully Threaded Screw	T7
3.0mm Cannulated Partially Threaded Compression Screw	T8
3.0mm Cannulated Fully Threaded Screw	T8

Part No.	Description
2.5mm Cannulated Fully Threaded Headless Screws	
171-25112-S	Fully Threaded Screw Ø2.5 X 12, Sterile
171-25114-S	Fully Threaded Screw Ø2.5 X 14, Sterile
171-25116-S	Fully Threaded Screw Ø2.5 X 16, Sterile
171-25118-S	Fully Threaded Screw Ø2.5 X 18, Sterile
171-25120-S	Fully Threaded Screw Ø2.5 X 20, Sterile
171-25122-S	Fully Threaded Screw Ø2.5 X 22, Sterile
171-25124-S	Fully Threaded Screw Ø2.5 X 24, Sterile
171-25126-S	Fully Threaded Screw Ø2.5 X 26, Sterile
171-25128-S	Fully Threaded Screw Ø2.5 X 28, Sterile
171-25130-S	Fully Threaded Screw Ø2.5 X 30, Sterile
171-25132-S	Fully Threaded Screw Ø2.5 X 32, Sterile
171-25134-S	Fully Threaded Screw Ø2.5 X 34, Sterile
171-25136-S	Fully Threaded Screw Ø2.5 X 36, Sterile
171-25138-S	Fully Threaded Screw Ø2.5 X 38, Sterile
171-25140-S	Fully Threaded Screw Ø2.5 X 40, Sterile
3.0mm Cannulated Fully Threaded Headless Screws	
171-30114-S	Fully Threaded Screw Ø3.0 X 14, Sterile
171-30116-S	Fully Threaded Screw Ø3.0 X 16, Sterile
171-30118-S	Fully Threaded Screw Ø3.0 X 18, Sterile
171-30120-S	Fully Threaded Screw Ø3.0 X 20, Sterile
171-30122-S	Fully Threaded Screw Ø3.0 X 22, Sterile
171-30124-S	Fully Threaded Screw Ø3.0 X 24, Sterile
171-30126-S	Fully Threaded Screw Ø3.0 X 26, Sterile
171-30128-S	Fully Threaded Screw Ø3.0 X 28, Sterile
171-30130-S	Fully Threaded Screw Ø3.0 X 30, Sterile
171-30132-S	Fully Threaded Screw Ø3.0 X 32, Sterile
171-30134-S	Fully Threaded Screw Ø3.0 X 34, Sterile
171-30136-S	Fully Threaded Screw Ø3.0 X 36, Sterile
171-30138-S	Fully Threaded Screw Ø3.0 X 38, Sterile
171-30140-S	Fully Threaded Screw Ø3.0 X 40, Sterile
Disposable Instruments	
171-00001	1.0mm Guidewire
171-00011	1.0mm Double Trocar Guidewire
171-01020	2.0mm Drill
171-01025	Countersink for 2.5mm Screws
171-01030	Countersink for 3.0mm Screws
Reusable Instruments	
171-00021	Guidewire Holder - Single Sided Wires
171-00022	Guidewire Holder - Double Sided Wires
171-00070	T7 Driver
171-00080	T8 Driver
171-00020	2.0mm Snap Off Driver
171-01050	Depth Gauge
171-01051	X-Ray Screw Length Gauge
171-01060	AO Handle

Part No.	Description
2.5mm Cannulated Partially Threaded Headless Compression Screws	
171-25012-S	Partially Threaded Compression Screw Ø2.5 X 12, Sterile
171-25014-S	Partially Threaded Compression Screw Ø2.5 X 14, Sterile
171-25016-S	Partially Threaded Compression Screw Ø2.5 X 16, Sterile
171-25018-S	Partially Threaded Compression Screw Ø2.5 X 18, Sterile
171-25020-S	Partially Threaded Compression Screw Ø2.5 X 20, Sterile
171-25022-S	Partially Threaded Compression Screw Ø2.5 X 22, Sterile
171-25024-S	Partially Threaded Compression Screw Ø2.5 X 24, Sterile
171-25026-S	Partially Threaded Compression Screw Ø2.5 X 26, Sterile
171-25028-S	Partially Threaded Compression Screw Ø2.5 X 28, Sterile
171-25030-S	Partially Threaded Compression Screw Ø2.5 X 30, Sterile
171-25032-S	Partially Threaded Compression Screw Ø2.5 X 32, Sterile
171-25034-S	Partially Threaded Compression Screw Ø2.5 X 34, Sterile
171-25036-S	Partially Threaded Compression Screw Ø2.5 X 36, Sterile
171-25038-S	Partially Threaded Compression Screw Ø2.5 X 38, Sterile
171-25040-S	Partially Threaded Compression Screw Ø2.5 X 40, Sterile
3.0mm Cannulated Partially Threaded Headless Compression Screws	
171-30014-S	Partially Threaded Compression Screw Ø3.0 X 14, Sterile
171-30016-S	Partially Threaded Compression Screw Ø3.0 X 16, Sterile
171-30018-S	Partially Threaded Compression Screw Ø3.0 X 18, Sterile
171-30020-S	Partially Threaded Compression Screw Ø3.0 X 20, Sterile
171-30022-S	Partially Threaded Compression Screw Ø3.0 X 22, Sterile
171-30024-S	Partially Threaded Compression Screw Ø3.0 X 24, Sterile
171-30026-S	Partially Threaded Compression Screw Ø3.0 X 26, Sterile
171-30028-S	Partially Threaded Compression Screw Ø3.0 X 28, Sterile
171-30030-S	Partially Threaded Compression Screw Ø3.0 X 30, Sterile
171-30032-S	Partially Threaded Compression Screw Ø3.0 X 32, Sterile
171-30034-S	Partially Threaded Compression Screw Ø3.0 X 34, Sterile
171-30036-S	Partially Threaded Compression Screw Ø3.0 X 36, Sterile
171-30038-S	Partially Threaded Compression Screw Ø3.0 X 38, Sterile
171-30040-S	Partially Threaded Compression Screw Ø3.0 X 40, Sterile
2.0mm Snap Off Compression Screws	
171-20011-S	Snap Off Compression Screw Ø2.0 X 11, Sterile
171-20012-S	Snap Off Compression Screw Ø2.0 X 12, Sterile
171-20013-S	Snap Off Compression Screw Ø2.0 X 13, Sterile
171-20014-S	Snap Off Compression Screw Ø2.0 X 14, Sterile

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NOTES:

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Extremity Medical
973.588.8980
ExtremityMedical.com
customerservice@ExtremityMedical.com

300 Interpace Parkway, Building A, Floor 2 | Parsippany, NJ 07054

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