



SMALL CANNULATED SCREW SYSTEM with QFX[◇] Screws

Surgical technique

Table of Contents

Product overview

Introduction	2
Indications	2
Design features and benefits.....	3

Surgical technique

2.5mm and 3.0mm Cannulated Screw.....	4
3.0mm Headless Compression Screw	6
2.0mm QFX Screw	8

Catalog information	10
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Nota Bene

The technique description herein is made available to the healthcare professional to illustrate the author's suggested treatment for the uncomplicated procedure. In the final analysis, the preferred treatment is that which addresses the needs of the specific patient.

Product overview

Introduction

The Smith & Nephew SMALL CANNULATED SCREW SYSTEM includes four implant options designed to address a wide variety of indications related to small bone anatomy.

- 2.5mm Cannulated Screw
- 3.0mm Cannulated Screw
- 3.0mm Headless Compression Screw
- 2.0mm QFX[®] Screw

Indications

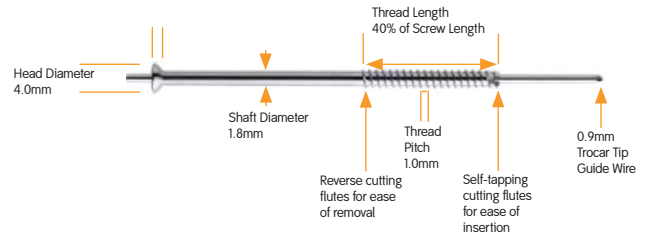
The Smith & Nephew 2.5mm, 3.0mm Cannulated and 3.0mm Headless Compression Screws are intended for fixation of intraarticular and extra-articular fractures and non-unions of small bones and small bone fragments; arthrodeses of small joints; bunionectomies and osteotomies; scaphoid and other carpal bones, metacarpals, tarsals, metatarsals, patella, ulnar styloid, capitellum, radial head and radial styloid.

The Smith & Nephew 2.0mm QFX Screw is indicated for osteotomies of the lesser metatarsals, such as Weil osteotomies. Osteotomies, fusions and fractures of the phalanges, metacarpals and carpals of the hand.

Design features and benefits

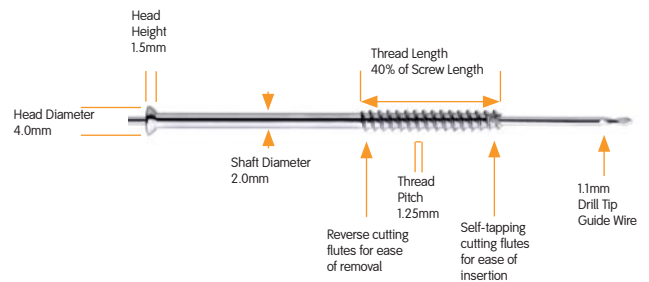
2.5mm Cannulated Screw

- Partially threaded for interfragmentary compression
- Low profile head for reduced soft tissue irritation
- Constructed of 316L stainless steel
- Self-drilling and self-tapping for ease of insertion
- Cobalt Chrome 0.9mm Trocar Tip Guide Wire for enhanced stiffness and reduced skiving in hard bone
- Available in lengths from 8mm–50mm



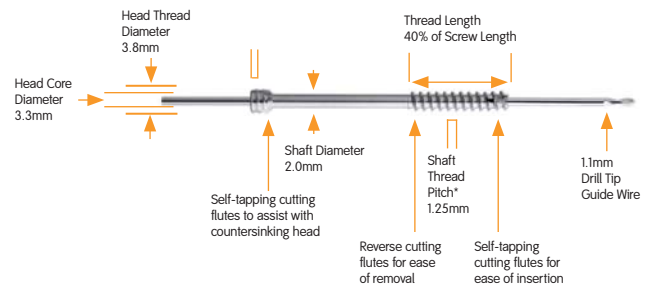
3.0mm Cannulated Screw

- Partially threaded for interfragmentary compression
- Low profile head for reduced soft tissue irritation
- Constructed of 316L Stainless Steel
- Self-drilling and self-tapping for ease of insertion
- Cobalt Chrome 1.1mm Drill Tip Guide Wire for ease of insertion, enhanced stiffness and reduced skiving in hard bone
- Available in lengths from 8mm–50mm



3.0mm Headless Compression Screw

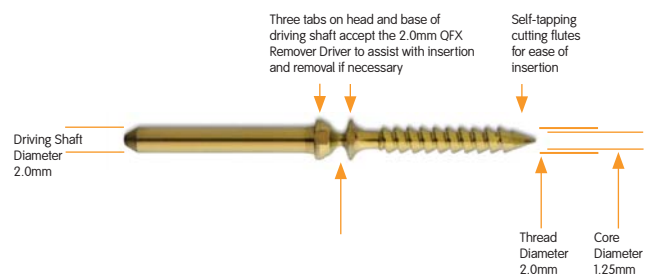
- Smaller thread pitch on head allows for 1mm of built-in compression
- Threaded head will countersink itself upon insertion and can be buried in subchondral bone for intra articular fixation
- Constructed of 316L stainless steel
- Self-drilling and self-tapping for ease of insertion
- Cobalt Chrome 1.1mm Drill Tip Guide Wire for ease of insertion, enhanced stiffness and reduced skiving in hard bone
- Available in lengths from 8mm–40mm



*Different thread pitch between the head and shaft provides 1.0mm of auto-compression upon final seating

2.0mm QFX[®] Screw

- Built in driver allows for quick insertion
- Constructed of Ti 6Al-4V
- Self-drilling and self-tapping for ease of insertion
- Available in lengths from 8mm–18mm



Surgical technique

2.5mm/3.0mm Cannulated Screw

Guide wire insertion

Once reduction is achieved, a guide wire may be placed at the entry point of the screw. Select guide wire according to the size of the screw required. The 0.9mm Trocar Tip wire (7110-1521) will be used for the 2.5mm screw and the 1.1mm Drill Tip wire (7110-1413) for the 3.0mm screw.

Using the 0.9mm/1.1mm x 1.8mm/2.0mm Drill Guide (7117-7111), insert the appropriate sized guide wire into the bone to the desired depth. Confirm positioning under fluoroscopy.



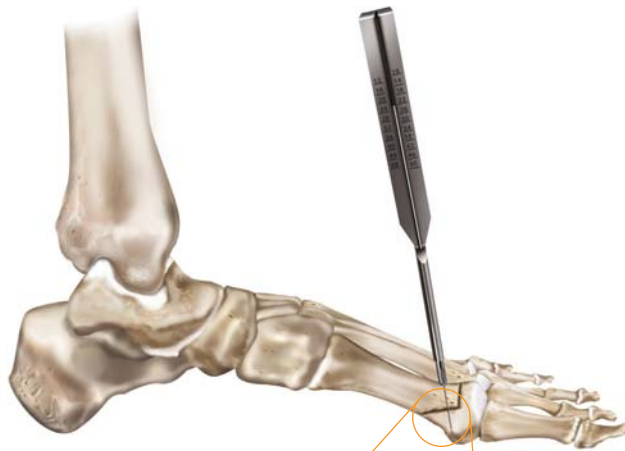
Measure and countersink

If countersinking is required, the 2.5mm/3.0mm Cannulated Direct Measuring Device with Countersink (7110-1529) allows you to measure and countersink with the same instrument.

Place the device over the guide wire until the near cortex is reached. If countersinking is not desired, the screw length can be determined at this point by reading the measurement off of the measuring device.

If countersinking is desired, prepare the bone by turning the instrument clockwise. Determine appropriate screw length by reading the measurement off of the measuring device.

A 2.5mm/3.0mm Countersink with Quick Connect (7117-7118) is also included.



Drill (optional)

Due to the self-drilling nature of these screws, it is not necessary to drill prior to insertion. In areas of increased bone density, pre-drilling may be desired. The 1.8mm Cannulated Drill Bit (7110-1525) should be used with the 2.5mm Cannulated Screw and the 2.0mm Cannulated Drill Bit (7117-7110) should be used with the 3.0mm Cannulated Screws.

First place the 0.9mm/1.1mm x 1.8mm/2.0mm Drill Guide (7117-7111) over the guide wire. Then place the appropriately sized cannulated drill bit over the guide wire and drill through the drill guide. Drill to desired depth under fluoroscopy.

Washers (optional)

In areas of poor bone quality or thin cortical bone, the use of a washer will distribute the load across a larger area. Washers are to be placed under the head of the screw prior to insertion. Please note that if the use of a washer is desired, countersinking must not be performed.

Screw insertion

Using the Screw Forceps (7117-0002), remove the appropriate length screw from the screw caddy and place over the guide wire. Optionally the 2.5mm/3.0mm Holding Sleeve (7117-7119) may be used in conjunction with the Cannulated T10 Screwdriver to remove the screws from the screw caddy.

Insert the screw using the Cannulated T10 Screwdriver. This can be done manually with the Cannulated T10 Handle Assembly (7117-7149) or on power using the Cannulated T10 Screwdriver shaft (7117-7150) with Quick Connect (7117-3528). It is recommended that if screw insertion is performed using power, then final seating should be completed by hand.

After final insertion, remove the screwdriver and confirm position under fluoroscopy. If desired position has been achieved, remove and discard guide wire.

Note: In the event that a damaged 2.5mm or 3.0mm Cannulated Screw must be removed, an easy out extractor is available for order (7111-7084).

This extractor engages with the screw such that 8.7mm of extractor extends into the screw. Care should be taken when using the extractor with an 8mm screw, when the screw tip is within 0.7mm of an articulating surface.

An Obturator (7117-7104) and Cleaning Brush (7117-7102) are included in the instrumentation. These can be used to assist in the cleaning of the cannulated instruments.



3.0mm Headless Compression Screw

The 3.0mm Headless Compression Screw is designed to achieve compression upon insertion. These screws are cannulated so that a guide wire can be used to achieve accurate screw positioning.

Guide wire Insertion

Once reduction is achieved, a guide wire may be placed at the entry point of the screw placement.

Using the 0.9mm/1.1mm x 1.8mm/2.0mm Drill Guide (7117-7111), insert a 1.1mm Drill Tip Guide Wire (7110-1413) into the bone to the desired depth. Confirm depth and reduction under fluoroscopy.

Please note that compression can only be achieved if all of the screw shaft threads cross the fracture site.



Measuring for screw length

Place the 2.5mm/3.0mm Cannulated Direct Measuring Device with Countersink (7110-1529) over the guide wire until the near cortex is reached. When measuring for a headless screw, do not use the countersink feature of this instrument as it has a 4.0mm diameter and will over drill the screw head, eliminating the compression feature of the screw. Instead, if pre-drilling for the head of the screw is desired, use the 3.3mm drill (7117-7136) to prepare the near cortex. Measure the screw length by reading calibrations on the measuring device and subtract 1mm to account for the built-in compression and to ensure that the screw will be fully buried in the bone.



Drill (optional)

Due to the self-drilling nature of the 3.0mm Headless Compression Screw, it may not be necessary to drill prior to screw insertion. In areas of increased bone density, pre-drilling may be desired.

First place the 0.9mm/1.1mm x 1.8mm/2.0mm Drill Guide (7117-7111) over the guide wire. Then place the 2.0mm Cannulated Drill Bit (7117-7110) over the guide wire and drill through the drill guide. Drill to the desired depth under fluoroscopy.

To ensure the head of the screw will be fully engaged and buried in the near cortex, use the 3.3mm Cannulated Drill Bit (7117-7136) and drill just past the near cortex.

Screw insertion

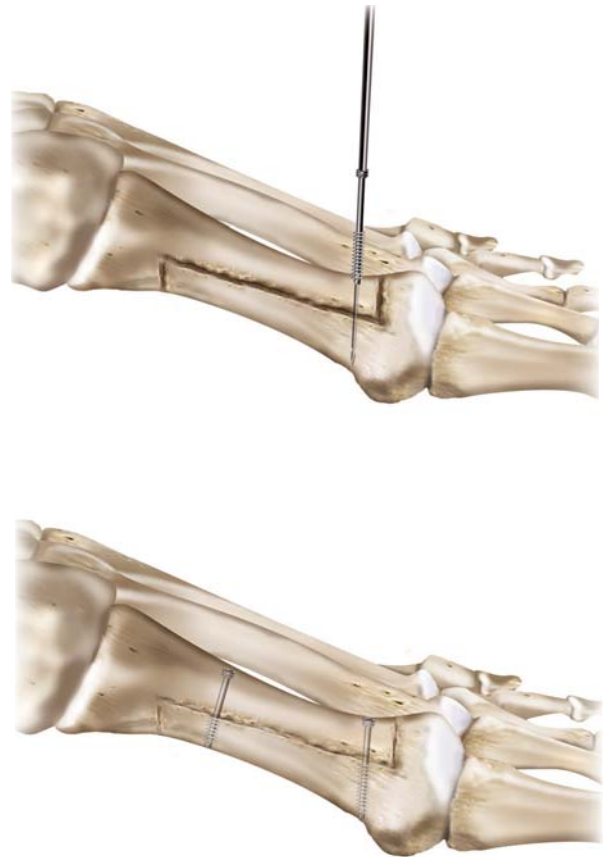
Using the Screw Forceps, remove the appropriate length screw from the screw caddy and place over the guide wire.

Insert the screw using the Cannulated T10 Screwdriver. This can be done manually with the Cannulated T10 Handle Assembly (7117-7149) or on power using the Cannulated T10 Screwdriver Shaft (7117-7150) with Quick Connect (7117-3528). It is recommended that if screw insertion is performed using power, then final seating should be completed by hand.

After final insertion, remove the screwdriver and confirm position under fluoroscopy. If desired position has been achieved, remove and discard guide wire.

Note: In the event that a 3.0mm Headless Cannulated Screw must be removed, an easy out extractor is available for order (7111-7084).

This extractor engages with the screw such that 8.7mm of extractor extends into the screw. Care should be taken when using the extractor with an 8mm screw, when the screw tip is within 0.7mm of an articulating surface.



2.0mm QFX[®] Screw

The 2.0mm QFX Screw was designed to reduce the number of required steps to achieve fixation during the surgical procedure. This screw has a built-in driver that bends off once the screw has been inserted.



Drill and measure (optional)

Due to the design of the 2.0mm QFX Screw, it is not necessary to drill prior to screw insertion. In areas of increased bone density, a 1.1mm Drill Tip Wire (7110-1413) may be used to pre-drill a pilot hole.

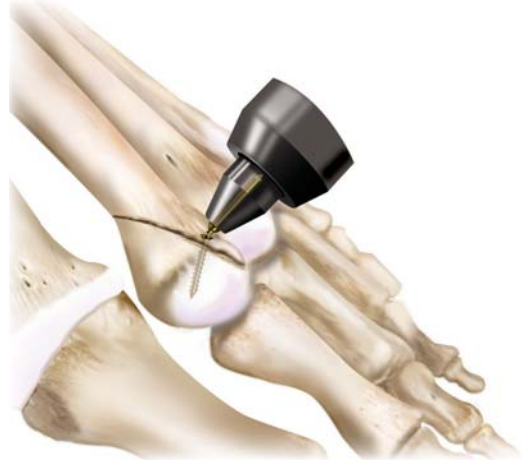
Using the 0.90mm/1.1mm X 1.8mm/2.0mm drill guide (7117-7111), insert a 1.1mm Drill Tip Wire into the bone to the desired depth. Confirm positioning under fluoroscopy.

Place the 2.5mm/3.0mm Cannulated Direct Measuring Device with Countersink (7110-1529) over the guide wire until the near cortex is reached. The screw length can be determined at this point by reading the measurement off of the measuring device.

Remove and discard the wire.

Screw insertion

Insert the smooth driving shaft of the 2.0mm QFX[®] Screw into a pin driver. Insert the screw until the screw head is seated on the near cortex. Tilt the pin driver forward to detach the driver shaft. If applicable, further insertion can be performed using the 2.0mm QFX Screw Removal Driver (7117-7169).



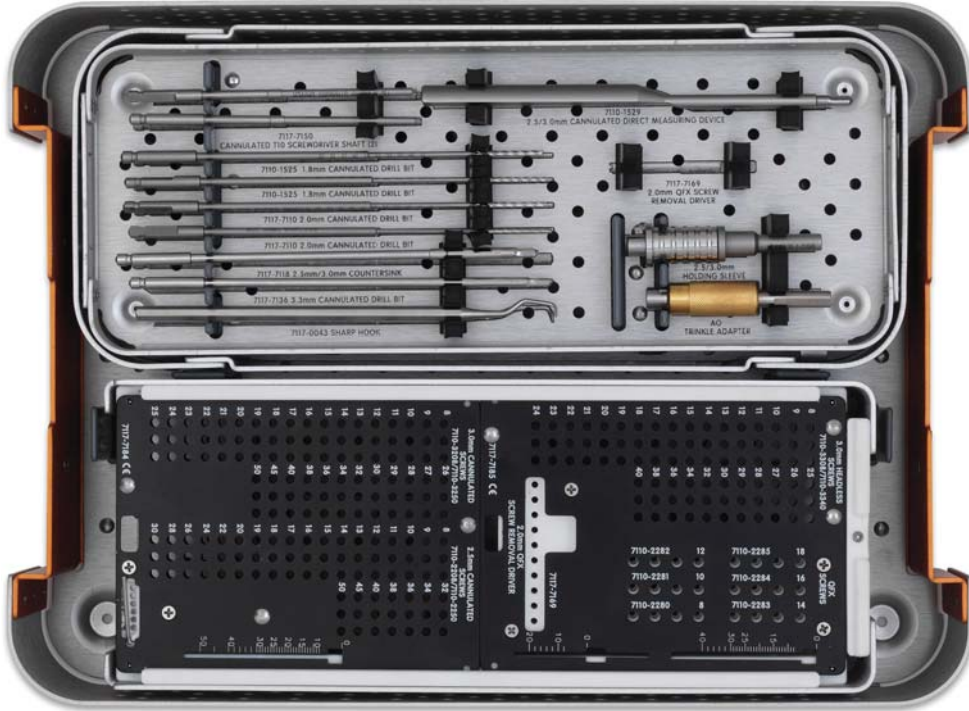
2.0mm QFX Screw Removal Driver

Connect the 2.0mm QFX Screw Removal Driver to the Small Cannulated Handle with Quick Connect. Engage the three tabs on the tip of the screw remover with the three slots on the screw head. Continue insertion until final seating has been achieved.

Please note that this device can also assist with implant removal.



Catalog information



SMALL CANNULATED SCREW Instrument Set

Set No 7117-7500

Instruments

Cat No	Description	Qty	Cat No	Description	Qty
7110-1413	1.1mm Drill Tip Wire 150mm	6	7117-0043	Sharp Hook	1
7110-1521	0.9mm Trocar Tip Wire 150mm	6	7110-1530	Freer Elevator	1
7117-7110	2.0mm Cannulated Drill Bit w/QC	2	7110-1528	Small Cannulated Handle w/QC	1
7110-1525	1.8mm Cannulated Drill Bit w/QC	2	7117-0002	Screw Forceps	1
7117-7136	3.3mm Cannulated Drill Bit w/QC	1	7117-3528	Cannulated AO to Trinkle Adaptor	1
7117-7111	0.90mm/1.1mm x 1.8mm/2.0mm Drill Guide	1	7117-7169	2.0mm QFX Screw Removal Driver	2
7117-7129	3.3mm x 4.0mm Drill Guide	1	7117-7184	2.5mm/3.0mm Cannulated Screw Caddy Drop-In	1
7117-7149	Cannulated T10 Screwdriver Handle Assembly	1	7117-7185	3.0mm Headless/2.0mm QFX° Screw Caddy Drop-In	1
7117-7150	Cannulated T10 Screwdriver Shaft w/AO	2	7117-7186	Small Cannulated Screw Instrument Tray	1
7117-7119	2.5mm/3.0mm Holding Sleeve	1	7117-7187	Small Cannulated Screw Instrument Lid	1
7117-7118	2.5mm/3.0mm Countersink w/QC	1	7110-1538	Small Cannulated Screw Instrument Inner Tray	1
7110-1529	2.5mm/3.0mm Cannulated Direct Measuring Device w/ CSK	1	7117-7181	Small Cannulated Screw System Tray	1
7117-7104	2.5mm/3.0mm Obturator	1	7117-7180	Small Cannulated Screw System Lid	1
7117-7102	2.5mm/3.0mm Cleaning Brush	1	7117-7182	Small Cannulated Screw Caddy	1
			7117-7183	Small Cannulated Screw Caddy Lid	1

2.5mm/3.0mm Cannulated Screw Implant Set

Set No 7110-2300

2.5mm Cannulated Screws

Cat No	Description	Qty	Cat No	Description	Qty
7110-2208S	8mm	3	7110-2222S	22mm	3
7110-2209S	9mm	3	7110-2224S	24mm	3
7110-2210S	10mm	3	7110-2226S	26mm	3
7110-2211S	11mm	3	7110-2228S	28mm	3
7110-2212S	12mm	3	7110-2230S	30mm	3
7110-2213S	13mm	3	7110-2232S	32mm	3
7110-2214S	14mm	3	7110-2234S	34mm	3
7110-2215S	15mm	3	7110-2236S	36mm	3
7110-2216S	16mm	3	7110-2238S	38mm	3
7110-2217S	17mm	3	7110-2240S	40mm	3
7110-2218S	18mm	3	7110-2245S	45mm	3
7110-2219S	19mm	3	7110-2250S	50mm	3
7110-2220S	20mm	3			



3.0mm Cannulated Screws

Cat No	Description	Qty	Cat No	Description	Qty
7110-3208S	8mm	3	7110-3223S	23mm	3
7110-3209S	9mm	3	7110-3224S	24mm	3
7110-3210S	10mm	3	7110-3225S	25mm	3
7110-3211S	11mm	3	7110-3226S	26mm	3
7110-3212S	12mm	3	7110-3227S	27mm	3
7110-3213S	13mm	3	7110-3228S	28mm	3
7110-3214S	14mm	3	7110-3229S	29mm	3
7110-3215S	15mm	3	7110-3230S	30mm	3
7110-3216S	16mm	3	7110-3232S	32mm	3
7110-3217S	17mm	3	7110-3234S	34mm	3
7110-3218S	18mm	3	7110-3236S	36mm	3
7110-3219S	19mm	3	7110-3238S	38mm	3
7110-3220S	20mm	3	7110-3240S	40mm	3
7110-3221S	21mm	3	7110-3245S	45mm	3
7110-3222S	22mm	3	7110-3250S	50mm	3



6mm Outer Diameter Washer

Cat No	Qty
7110-1545S	6

3.0mm Headless/2.0mm QFX[◇] Screw Implant Set

Set No. 7110-3305

3.0mm Headless Compression Screws

Cat No	Description	Qty	Cat No	Description	Qty
7110-3308S	8mm	3	7110-3322S	22mm	3
7110-3309S	9mm	3	7110-3323S	23mm	3
7110-3310S	10mm	3	7110-3324S	24mm	3
7110-3311S	11mm	3	7110-3325S	25mm	3
7110-3312S	12mm	3	7110-3326S	26mm	3
7110-3313S	13mm	3	7110-3327S	27mm	3
7110-3314S	14mm	3	7110-3328S	28mm	3
7110-3315S	15mm	3	7110-3329S	29mm	3
7110-3316S	16mm	3	7110-3330S	30mm	3
7110-3317S	17mm	3	7110-3332S	32mm	3
7110-3318S	18mm	3	7110-3334S	34mm	3
7110-3319S	19mm	3	7110-3336S	36mm	3
7110-3320S	20mm	3	7110-3338S	38mm	3
7110-3321S	21mm	3	7110-3340S	40mm	3



2.0mm QFX Screws

Cat No	Description	Qty	Cat No	Description	Qty
7110-2280S	8mm	2	7110-2283S	14mm	2
7110-2281S	10mm	2	7110-2284S	16mm	2
7110-2282S	12mm	2	7110-2285S	18mm	2





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USA

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Information: 1-800-821-5700
Orders/Inquiries: 1-800-238-7538