Ready-for-Surgery[™] Surgical Technique Guide

Medium Headless and Cannulated Screws

FlowerCube[™] sterile-packaged orthopedic implants and instruments provide precise solutions for common foot and ankle procedures.

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Conventus Flower Orthopedics is the leader in Ready-for-Surgery bone fixation. We deliver efficiencies throughout the supply chain that reduce the overall cost of care.

Designed for specific surgical indications, the FlowerCube contains all the implants and instruments required for the case. All products are sterile-packaged, single-use, and always Ready-for-Surgery.



one FlowerCube

Decrease Infection Risk

Individually packaged instruments are always sterile, reducing infection potential

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Conventus Flower Foot and Ankle Solutions



Medium Headless and Cannulated Screws were cleared as part of the Flower Small and Medium Implants Set and the Flower Bone Screw Set.

Indications for Use:

The Conventus Flower Small and Medium Implants set is intended for use for internal fixation of fractures and reconstruction of bones including the scapula, olecranon, humerus, radius, ulna, pelvis, distal tibia, fibula, hand, and foot in adults and for use in long bones in adolescents (12-21) in whom the growth plates have fused. Examples of these internal fixations and reconstructions include compression fractures, intra-articular and extra-articular fractures, displaced fractures, osteotomies, non-unions, and mal-unions. This system can be used for palmar, ventral, dorsal, and orthogonal application.

The Conventus Flower Orthopedics Bone Screw set is intended to be used for the fixation of bone structures, fusion of joints of bone reconstruction.

1. Technical Specifications



2. System Features

Headless Compression Screw Design

- Made of strong, light-weight titanium (Ti6AI4V).
- Screw head has tapered design to facilitate fragment compression.
- Screw head sits flush in bone for decreased soft tissue irritation.
- Pitch differential between the leading and trailing thread maximizes and maintains compression.
- Screw threads are self-tapping to facilitate smooth insertion into dense cortical bone.

Partially Threaded Cannulated Screw Design

- Made of strong, light-weight titanium (Ti6AI4V).
- Low-profile head design to minimize soft tissue irritation.
- Partial thread design allows for maximum compression across fracture or osteotomy.
- Self-tapping flutes ease insertion into cortical bone.

Sterile-Packaged Instrumentation-Always "Ready-for-Surgery"

- Robust 1.1mm Cobalt Chrome (CoCr) smooth trocar-tipped guide wires are designed to stabilize bone fragments and accurately guide cannulated screws.
- Precision single-use instrumentation reduces surgical steps and improves efficiency.
- Easy-to-use universal instruments are designed to work with all medium cannulated screw families.

3. Surgical Technique

The Medium Cannulated Screw Cube contains Medium Cannulated Headless and Partially Threaded Screws.

Each screw diameter uses two different pilot hole drill bits: CDB 020 or CDB 220 = 3.0mm Screw CDB 024 or CDB 224 = 3.5mm Screw CDB 026 or CDB 226 = 4.0mm Screw CDB 030 or CDB 230 = 4.5mm Screw Use Guide Wire Kit EWK 201 for insertion.

Note: The CDB 2XX series drill bits are identical to the CDB 0XX series drill bits, except they are longer. Please refer to the chart on Page 7.

Step 1 – Osteotomy Preparation (MTP Arthrodesis Shown)

a. Take care to avoid the EHL tendon and neurovascular structures. Perform capsular release and expose the joint.

Step 2 - Reaming of the MTP Joint

Remove cartilage and osteophytes

- After the joint is exposed, remove osteophytes with a saw or rongeur to shape the metatarsal head and proximal phalanx contour.
- b. Expose the metatarsal head and place the guide wire provided in the Cannulated Reamer Kit (CRK 018, CRK 021, and CRK 024) down the center of the shaft of the metatarsal head. Use the cup-shaped reamer to shape the head, removing all cartilage and dense bone down to the cancellous bone.

Note: Three sizes of cannulated reamers are available (18mm, 21mm, and 24mm). A reamer trial (FIS 613) can be used to determine the appropriate reamer size.

c. Repeat Step 2b for the proximal phalanx by aiming the guide wire down the axis of the toe. Use the cone-shaped reamer in a similar fashion, exposing cancellous bone.

Fenestrate joint surface

a. Place small drill holes with the k-wire or 2.0mm Drill Bit (DBK 027/030/127/130) into joint surfaces to increase blood flow to arthrodesis site.





Surgical Technique



3. Surgical Technique (cont.)

Step 3 - Guide Wire Insertion

- a. After the fragments are in the desired position, insert a 1.1mm Guide Wire (EWK 201) to maintain the alignment.
- Insert the Guide Wires dorsal to plantar until they reach the far cortex. Confirm the position of the 1.1mm CoCr Guide Wire visually and on AP, oblique, and lateral x-rays.

Note: Additional guide wires may be used to temporarily fixate the bone fragments and provide stability during drilling and screw insertion. Extra guide wires are provided in GWK 111.

Step 4 – Measuring

- a. Countersinking might be required before measuring for the required screw length.
 - i. Countersinking is typically required for headed screws.
 - ii. Countersinking is not necessary for Headless Compression Screws.
- b. Place the sharp end of the Cannulated Depth Gauge (found in EWK 201) over the guide wire and firmly place against the bone.
- c. Read the required screw length from the end of the guide wire.





Current Cannulated Drill Bits			New Cannulated Drill Bits		
Product #	Diameter	Length	Product #	Diameter	Length
CDB 017	1.7mm	75mm	CDB 217	1.7mm	110mm
CDB 020	2.0mm	85mm	CDB 220	2.0mm	120mm
CDB 024	2.4mm	105mm	CDB 224	2.4mm	120mm
CDB 026	2.6mm	105mm	CDB 226	2.6mm	130mm
CDB 030	3.0mm	105mm	CDB 230	3.0mm	150mm
CDB 035	3.5mm	125mm	CDB 235	3.5mm	125mm
CDB 040	4.0mm	120mm	CDB 240	4.0mm	140mm
CDB 045	4.5mm	105mm	CDB 245	4.5mm	150mm
CDB 050	5.0mm	165mm	CDB 250	5.0mm	200mm
CDB 065	6.5mm	105mm	CDB 265	6.5mm	200mm

Reference Chart

3. Surgical Technique (cont.)

Step 5 - Drill Pilot Hole

- a. Use the appropriate sized drills bit for the following screws:
 CDB 020 or CDB 220 = 3.0mm Screw
 CDB 024 or CDB 224 = 3.5mm Screw
 CDB 026 or CDB 226 = 4.0mm Screw
 CDB 030 or CDB 230 = 4.5mm Screw
 When drilling the pilot holes, place the drill bit directly over the guide wire.
- b. IMPORTANT: For Headless Compression Screws only, the near cortex must be drilled with a 3.5mm Cannulated Drill Bit (CDB 035 or CDB 235). This allows the head of the screw to engage with the near cortex when the screw is inserted.

Note: The CDB 2XX series drill bits are identical to the CDB 0XX series drill bits, except they are longer. Please refer to the chart on Page 7.



Step 6 – Screw Insertion

a. Use the T15 Cannulated Screwdriver (found in EWK 201) to insert the 3.0mm Headless Compression Screws,
4.0mm Headless Compression Screws, 3.0mm, 3.5mm Partially Threaded Cannulated Screws, 4.0mm Partially Threaded Cannulated Screws and 4.5mm Partially Threaded Cannulated Screws.

For accuracy, all cannulated screws are to be inserted over the 1.1mm Guide Wire.

Note: Do not overtighten because this could lead to the lost of bone reduction.

Final Construct

The final construct shows the compression achieved and correct alignment of the first metatarsal for a Headless Compression Screw and a Partially Threaded Screw. Both screw options will eliminate the chance of soft tissue impingement or irritation.





Headless Compression Screw

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4. Sterile Implants



3.0mm Headless Compression Screws		
Product #	Product Description	
HCS 220	3.0mm x 20mm	
HCS 222	3.0mm x 22mm	
HCS 224	3.0mm x 24mm	
HCS 226	3.0mm x 26mm	
HCS 228	3.0mm x 28mm	
HCS 230	3.0mm x 30mm	
HCS 232	3.0mm x 32mm	
HCS 234	3.0mm x 34mm	
HCS 236	3.0mm x 36mm	
HCS 238	3.0mm x L8mm	
HCS 240	3.0mm x 40mm	
HCS 245	3.0mm x 45mm	
HCS 250	3.0mm x 50mm	

T	4.0mm Headle	ss Compression Screws
	Product #	Product Description
	HCS 414	4.0mm x 14mm
	HCS 416	4.0mm x 16mm
Ţ	HCS 418	4.0mm x 18mm
	HCS 420	4.0mm x 20mm
	HCS 422	4.0mm x 22mm
	HCS 424	4.0mm x 24mm
	HCS 426	4.0mm x 26mm
	HCS 428	4.0mm x 28mm
	HCS 430	4.0mm x 30mm
	HCS 432	4.0mm x 32mm
	HCS 434	4.0mm x 34mm
	HCS 436	4.0mm x 36mm
	HCS 438	4.0mm x 38mm
	HCS 440	4.0mm x 40mm
	HCS 445	4.0mm x 45mm
	HCS 450	4.0mm x 50mm
	HCS 455	4.0mm x 55mm
	HCS 460	4.0mm x 60mm

4. Sterile Implants (cont.)

Ĩ	3.0mm C Parti	annulated Screws ally Threaded
	Product #	Product Description
	CSP 210	3.0mm x 10mm
	CSP 212	3.0mm x 12mm
T	CSP 214	3.0mm x 14mm
	CSP 216	3.0mm x 16mm
	CSP 218	3.0mm x 18mm
	CSP 220	3.0mm x 20mm
	CSP 222	3.0mm x 22mm
	CSP 224	3.0mm x 24mm
	CSP 226	3.0mm x 26mm
	CSP 228	3.0mm x 28mm
	CSP 230	3.0mm x 30mm
	CSP 232	3.0mm x 32mm
	CSP 234	3.0mm x 34mm

4.0mm Cannulated Screws Partially Threaded			
Product #	Product Description		
CNP 416	4.0mm x 16mm		
CNP 418	4.0mm x 18mm		
CNP 420	4.0mm x 20mm		
CNP 422	4.0mm x 22mm		
CNP 424	4.0mm x 24mm		
CNP 426	4.0mm x 26mm		
CNP 428	4.0mm x 28mm		
CNP 430	4.0mm x 30mm		
CNP 432	4.0mm x 32mm		
CNP 434	4.0mm x 34mm		
CNP 436	4.0mm x 36mm		
CNP 438	4.0mm x 38mm		
CNP 440	4.0mm x 40mm		
CNP 445	4.0mm x 45mm		
CNP 450	4.0mm x 50mm		
CNP 455	4.0mm x 55mm		
CNP 460	4.0mm x 60mm		

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5. Single-Use Instruments Overview

Cannulated Drill Bit Kit		
Product #	Contents of Kit	
CDB 020 or	2.0mm Cannulated Drill Bit for	
CDB 220	3.0mm Screws	
CDB 024 or	2.4mm Cannulated Drill Bit for	
CDB 224	3.5mm Screws	
CDB 026 or	2.6mm Cannulated Drill Bit for	
CDB 226	4.0mm Screws	
CDB 030 or	3.0mm Cannulated Drill Bit for	
CDB 230	4.5mm Screws	

Note: The CDB 2XX series drill bits are identical to the CDB 0XX series drill bits, except they are longer. Please refer to the chart on Page 7.



Guide Wire Kit		
Product #	Contents of Kit	
EWK 201	T15 Cannulated Screwdriver Medium Cannulated Depth Gauge, Countersink, and Two Guide Wires 1.1mm x 140mm (CoCr)	

Power Driver G-Wire Kit		
Product #	Contents of Kit	
FIM 015	Power Driver G-Wire Kit, 3.0mm/4.0mm/3.5mm/4.5mm Screws	





NEW Ready-for-Surgery Cube Reconfiguration

FLOWER

The next generation of sterile-packaged orthopedic implants and instruments are now reconfigured for mix-and-match efficiency.

Conventus Flower Orthopedics pioneered the single-use sterile-packaged Ready-for-Surgery Cube System.

The Medium Cannulated Screws have been reconfigured in order to address more orthopedic surgical procedures.

Key Features

- Extremity-focused solutions
- New, more streamlined configurations
- Procedure-specific configurations
- Redundant instruments in system

Key Benefits*

- Easier and more efficient to use
- Practical for use in multiple cases
- Multiple implant solutions per procedure cube
- Minimal logistical management = time savings = cost savings

The right procedure. The right implants. The right solution.

FlowerCube sterile-packaged procedure solutions eliminate the need for hospital sterile processing, minimize infection risks to patients, and provide turnkey solutions for last-minute trauma and add-on cases.

*Data on file at Conventus Flower Orthopedics IRB approved, prospective, multi-center clinical trial

- Evaluating arthrodesis of first MPJ
- 71 patients at both hospital and ASC locations
- Primary outcome measure: Fusion rate 12 weeks post surgery
- · Secondary outcome measure: Cost and time efficiency

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Procedure-Specific Cube

Easier ordering Simpler packaging More options