



DARCO™

3.2mm and 4.3mm Headless Compression Screw



SURGICAL TECHNIQUE

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DARCO™

3.2mm and 4.3mm Headless Compression Screws

SURGICAL TECHNIQUE

Surgical Technique as described by:

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Proper surgical procedures and techniques are the responsibility of the medical professional. The following guidelines are furnished for information purposes only. Each surgeon must evaluate the appropriateness of the procedures based on his or her personal medical training and experience. Prior to use of the system, the surgeon should refer to the product package insert for complete warnings, precautions, indications, contraindications and adverse effects. Package inserts are also available by contacting Wright Medical Technology, Inc. Contact information can be found on the back of this surgical technique and the package insert is available on the website listed.

Please contact your local Wright representative for product availability.



Product Information

The DARCO™ Headless Compression Screw is a cannulated, headless design that is appropriate for certain osteotomies and fusions of the forefoot and midfoot. The screws are excellent for talonavicular fusions, midfoot fusions, and Hallux interphalangeal fusions.

Design Features

The DARCO™ Headless Compression Screw obtains compression between two bony fragments via a differing thread pitch at the leading and trailing ends of the screw. In addition, its spiral-fluted cutting design allows the screw to be self-tapping and self-drilling in most bone. The 3.2mm screws are particularly suited to fixation of 1st metatarsal osteotomies and for small joint periarticular fixation.

Surgical Goals

- To provide maximum compression across the fusion site of two adjacent bones.
- To obtain maximum thread engagement in the distal fragment for maximum compression.
- To ensure that the head of the screw is completely countersunk, so profile-related issues may be avoided.

System Basics

- All DARCO™ Headless Compression Screw implant components are manufactured from surgical grade Titanium.
- The 3.2mm diameter screw comes in 10-32mm lengths in 2mm increments.
- The 4.3mm diameter screw comes in 14-50mm lengths in 2mm increments, with additional 55mm and 60mm screws.
- The 4.3mm diameter screws from 36-60mm have a "long thread" version, which is threaded over half of its length, and a "short thread" version, which is threaded over one-third of its length.
- The 3.2mm screw is cannulated to work over a 1mm single-tip K-Wire, which is included in the set.
- The 4.3mm screw is cannulated to work over a 1.6mm single-tip K-Wire, which is included in the set.
- Cannulated Drills for the 3.2 and 4.3mm screws are included for use in hard cortical bone, an oblique approach, or when bicortical fixation is desired.
- Cannulated countersinks for the 3.2 and 4.3mm screws are included for countersinking the screw heads in hard cortical bone. These should also be used if the head will be placed in a thin, delicate section of bone.

Indications for DARCO™ 3.2mm Headless Screw

The DARCO™ 3.2mm Headless Screw is to be used on indications that are common for currently marketed compression screws. The primary indication for use is the fixation and stabilization of fractures and non-unions of small bones and small bone arthrodeses including but not limited to intra-articular fractures of the tarsals, metatarsals, carpals and metacarpals, bunionectomies and osteotomies, and arthrodeses of small joints (i.e. phalanges).

Indications for DARCO™ 4.3mm Headless Screw

The DARCO™ 4.3mm Headless Screw is offered in various diameters and lengths. It is offered in short and long thread lengths and has self drilling and self tapping features on both distal and proximal threads. All screws are manufactured from titanium.

The DARCO™ 4.3mm Headless Screw is indicated for fixation of bone fractures or for bone reconstruction. Examples include:

- Mono or Bi-Cortical osteotomies in the foot or hand
- Distal or Proximal metatarsal or metacarpal osteotomies
- Weil osteotomy
- Fusion of the first metatarsophalangeal joint and interphalangeal joint
- Fixation of osteotomies for Hallux Valgus treatment (such as Scarf, Chevron, etc.)
- Akin type osteotomy
- Arthrodesis base first metatarsal cuneiform joint to reposition and stabilize metatarsus varus primus
- Calcaneus / cuboid arthrodesis
- Talar / navicular arthrodesis

Contraindications

No product specific contraindications.

Prior to use of the system, the surgeon should refer to the product package insert for complete warnings, precautions, indications, contraindications and adverse effects. Package inserts are also available by contacting the manufacturer. Contact information can be found on the back of this surgical technique and the package insert is available on the website listed.

TALONAVICULAR FUSION

Exposure/Joint Preparation

One or two of the DARCO™ 4.3mm Headless Compression Screw will be used for this procedure. Expose the talonavicular joint using a standard medial approach. Distract the joint with a lamina spreader, and sharply debride the articular cartilage to expose bleeding subchondral bone. A powered drill can also be used to further penetrate the subchondral bone to ensure that bleeding bony surfaces are in apposition prior to screw insertion.

K-wire placement

Use a powered driver to place a 1.6mm K-Wire through the medial cortex of the navicular. The K-Wire is directed from plantar medial to dorsal lateral through the talonavicular joint and advanced until it contacts (but does not penetrate) the lateral cortex of the talus. | **figure 1** Verify the position of the wire fluoroscopically.

Screw Length Determination

Use the Cannulated Depth Gauge over the K-Wire to measure the correct length for the 4.3mm screw. | **figure 2**

Long or short thread length is most easily determined radiographically. If more than half of the K-Wire length is on the far side of the joint (in the talus), choose a DARCO™ Long Thread Screw. If not, choose a DARCO™ Short Thread Screw.



FIGURE 1 |



FIGURE 2 |

Head Preparation

The DARCO™ Headless Compression Screw is designed to be self-tapping and self-drilling. However, in extremely dense cortical bone, it may be difficult to install the screw. Included are: 2.0mm drill and 3.2mm head drill for the 3.2mm screws; 3.0mm drill; and 4.3mm head drill for the 4.3mm screws.

Use the drill and then the head drill over the K-Wire prior to screw insertion to prepare the bone.

Screw Placement

Load the 3mm Cannulated Hex Driver into the Cannulated AO Driver Handle. Use the driver to advance the chosen 4.3mm screw over the K-Wire. | **figure 3** Advance the screw until the head is completely countersunk within the bone. | **figure 4**

Depending on the stability of the first screw and patient related factors (obesity, post-operative compliance issues), a second screw may be used for additional fixation.

Surgical closure is then performed in the normal fashion.

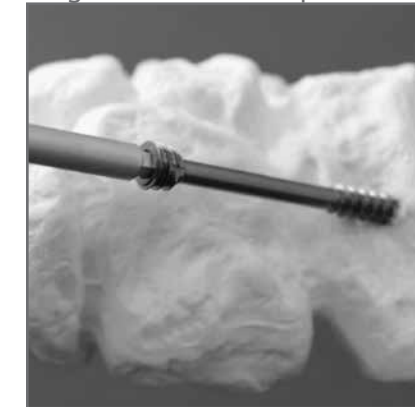


FIGURE 3 |



FIGURE 4 |

Explant Information

If the removal of the implant is required due to revision or failure of the device, the surgeon should contact the manufacturer using the contact information located on the back cover of this surgical technique to receive instructions for returning the explanted device to the manufacturer for investigation.

Postoperative Care

Postoperative care is the responsibility of the medical professional

Ordering Information



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4.3mm Screw

NON-STERILE #	STERILE #	DESCRIPTION
DC004314	DCS04314	4.3MMX14MM SHORT
DC004316	DCS04316	4.3MMX16MM SHORT
DC004318	DCS04318	4.3MMX18MM SHORT
DC004320	DCS04320	4.3MMX20MM SHORT
DC004322	DCS04322	4.3MMX22MM SHORT
DC004324	DCS04324	4.3MMX24MM SHORT
DC004326	DCS04326	4.3MMX26MM SHORT
DC004328	DCS04328	4.3MMX28MM SHORT
DC004330	DCS04330	4.3MMX30MM SHORT
DC004332	DCS04332	4.3MMX32MM SHORT
DC004334	DCS04334	4.3MMX34MM SHORT
DC004336	DCS04336	4.3MMX36MM SHORT
DC004338	DCS04338	4.3MMX38MM SHORT
DC004340	DCS04340	4.3MMX40MM SHORT
DC004342	DCS04342	4.3MMX42MM SHORT
DC004344	DCS04344	4.3MMX44MM SHORT
DC004346	DCS04346	4.3MMX46MM SHORT
DC004348	DCS04348	4.3MMX48MM SHORT
DC004350	DCS04350	4.3MMX50MM SHORT
DC014336	DCS14336	4.3MMX36MM LONG
DC014338	DCS14338	4.3MMX38MM LONG
DC014340	DCS14340	4.3MMX40MM LONG
DC014342	DCS14342	4.3MMX42MM LONG
DC014344	DCS14344	4.3MMX44MM LONG
DC014346	DCS14346	4.3MMX46MM LONG
DC014348	DCS14348	4.3MMX48MM LONG
DC014350	DCS14350	4.3MMX50MM LONG
DC014355	DCS14355	4.3MMX55MM LONG
DC014360	DCS14360	4.3MMX60MM LONG

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3.2mm Screw

NON-STERILE #	STERILE #	DESCRIPTION
DC4110	DCS4110	3.2MM X 10MM
DC4112	DCS4112	3.2MM X 12MM
DC4114	DCS4114	3.2MM X 14MM
DC4116	DCS4116	3.2MM X 16MM
DC4118	DCS4118	3.2MM X 18MM
DC4120	DCS4120	3.2MM X 20MM
DC4122	DCS4122	3.2MM X 22MM
DC4124	DCS4124	3.2MM X 24MM
DC4126	DCS4126	3.2MM X 26MM
DC4128	DCS4128	3.2MM X 28MM
DC4130	DCS4130	3.2MM X 30MM
DC4132	DCS4132	3.2MM X 32MM

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Instruments

NON-STERILE #	DESCRIPTION
44112000	Single Trocar Wire (1.0mm x 150mm)
44112008	Single Trocar Wire (1.6mm x 1)
44112007	3MM CANN HEX DRIVER
44112011	CANN. HEAD DRILL FOR 4.3MM SCREW
44112004	CANN. DRILL, 3.0MM SCREW
44112003	CANN. DRILL, 4.3MM SCREW
44112001	2MM CANN HEX DRIVER
44112009	AO DRIVER HANDLE
41112017	AO QUICK CONNECT, CANNULATED
44112002	DEPTH GAUGE (CANN.)
MT 10160	Drill Bit 15mm (RED)
MT 10020	Drill Bit 24mm (BLUE)
MT 10010	Drill Bit 33mm (GOLD)

Notes

Notes



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