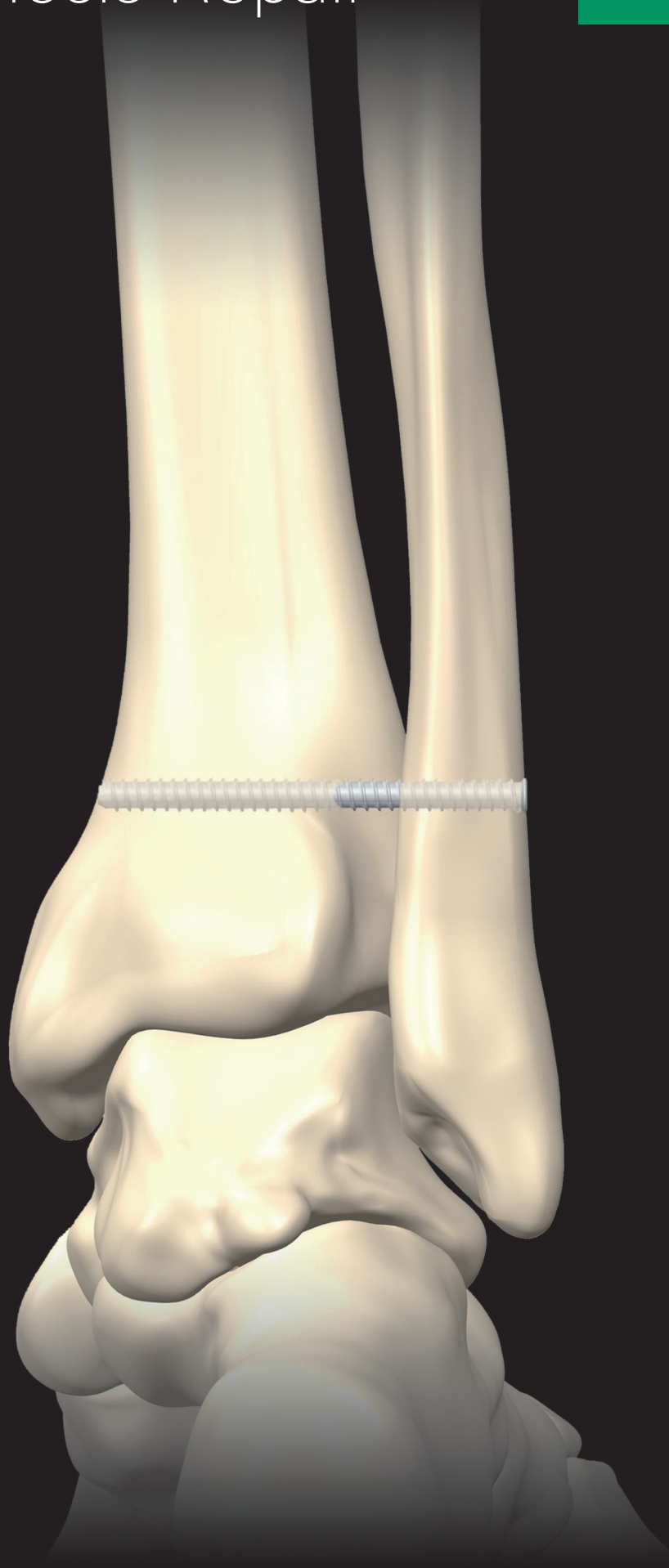


Inion FreedomScrew™ Syndesmosis Repair

INION

Biodegradable Fixation System



Inion FreedomScrew™ for Syndesmosis Repair

Inion FreedomScrew™ is a strong and versatile resorbable screw for orthopaedic fixations. Because of its unique manufacturing method and intelligent technical properties, Inion FreedomScrew™ offers many clear benefits for the operating surgeon who appreciates implants that are reliable, modifiable, and easy to use.

Inion FreedomScrew™ – Benefits

- Good bite! High strength properties of the material and the screw profile with improved pull-out strength meet the challenges of demanding orthopaedic fixations.
- Low screw head profile, which can be shaped smoother by a temperature cautery, for reduced palpability and tissue irritation.
- Memory effect – possibility to create a new screw head at a chosen point of the screw shaft by a Low temperature cautery.
- Screws are delivered with a disposable metallic adapter to allow insertion with a standard 3.5 mm hex screwdriver.
- Compatible with most of the universal instrumentation used in hospitals around the world: ISO, ASIF, AO.
- Screws can be cut to any desired length intraoperatively.
- Screws interlock with the plate when used in conjunction with the biodegradable Inion FreedomPlate™ and a Low temperature cautery.
- Implants are radiolucent – no imaging interference.
- Versatile screw allows for low inventory levels.

Inion FreedomScrew™ – Indications

The Inion FreedomScrew™ is intended for maintenance of alignment and fixation of bone fractures, comminuted fractures, osteotomies,

arthrodesis or bone grafts (i.e., autografts or allografts) in the presence of appropriate additional immobilization (e.g., rigid fixation implants, cast or brace).

In addition, the Inion FreedomScrew™ 3.5/4.0/4.5 mm products are specifically intended for use in following indications:

- General indications: maintenance of reduction and fixation of cancellous bone fractures, osteotomies or arthrodesis of the upper extremity, ankle and foot in the presence of appropriate brace and/or immobilization.
- Specific indications: fractures and osteotomies of the malleoli, and ankle fractures.

Inion FreedomScrew™ for Syndesmosis Repair

Approximately 23% of all ankle fractures involve trauma to the distal tibiofibular syndesmosis. While very subtle, the fibular motion at the syndesmosis is essential for maintaining ankle congruity. Metallic syndesmotic screws are typically left in place for 6–12 weeks to allow for ligamentous healing and then removed. However, Schepers et al. have demonstrated a 22.4% complication rate following routine removal of metallic syndesmotic screws, including infection in 9.2%.

Inion FreedomScrew™ offers a strong biodegradable screw for syndesmosis repair along with associated instrumentation.

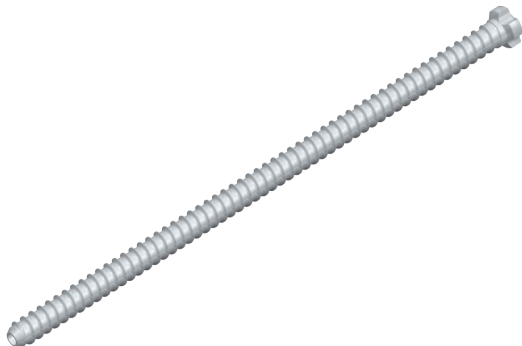
- The purpose of the syndesmotic screw is to maintain the position of the fibula and tibia after an injury to the ligamentous syndesmosis.
- The degradation profile of the screw has been carefully selected to maintain reduction during

Inion FreedomScrew™ for Syndesmosis Repair

healing (with additional external immobilization).

After removal of external immobilization, the screw will start weakening due to the progressive load to the bone approximately 6–10 weeks postoperatively, and will eventually break under full load bearing and thereafter allow normal motion of the ankle joint.

- Inion FreedomScrew™ products do not have to be removed; this saves money and time, as well as prevents additional patient trauma.
- There is no interference with imaging when using biodegradable implants. The position of the syndesmotic screw can still be confirmed intraoperatively utilizing the cannulated design of the products by placing a K-wire inside the screw during imaging.



References

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Purvis GD. Displaced, unstable ankle fractures: classification, incidence, and management of a consecutive series. *Clin Orthop Relat Res*. 1982;165:91–98.

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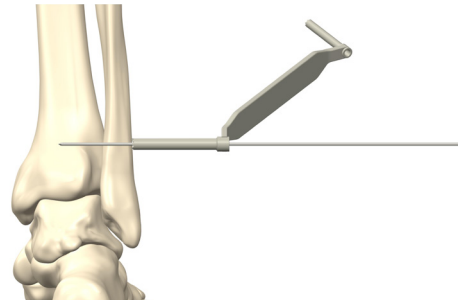
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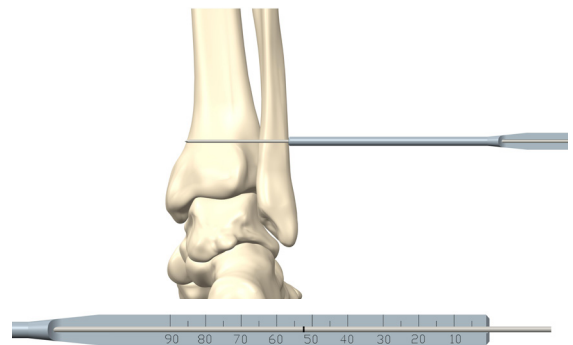
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Surgical Technique

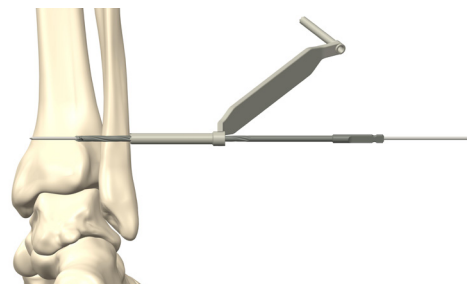
1. Drill the K-wire (IFS-9043) through all four cortices of fibula and tibia. The Drill sleeve (IFS-9024) can be used to protect surrounding soft tissues during drilling. Use irrigation. Leave the K-wire in place. An X-ray check of the location of the K-wire is recommended.



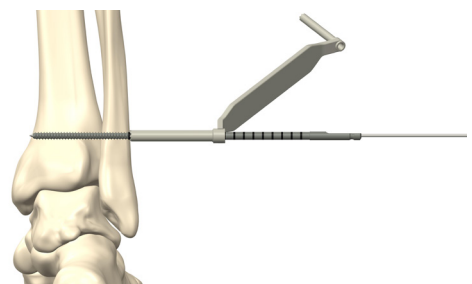
2. Measure the drill hole depth using the Depth gauge (IFS-9042) over the K-wire. The hole depth can be read from the Depth gauge utilizing the marking on the K-wire.



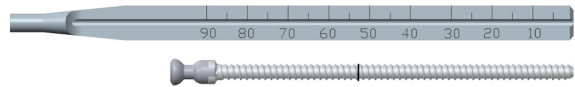
3. Drill through all four cortices over the K-wire using the cannulated Drill bit (IFS-4003) attached to a slow-speed drill. Use the Drill sleeve (IFS-9024) to prevent drill-wobble and to protect surrounding soft tissues during drilling.



4. Tap manually through all four cortices over the K-wire using the cannulated Bone tap (IFS-4004) and the small or large Handle (INS-9093/INS-9120). When the bone tap is used with the Drill sleeve (IFS-9024), the depth of the channel can be confirmed by following the depth markings on the Bone tap with 5 mm increments. An X-ray check of the location of the Bone tap is recommended to confirm appropriate screw length.



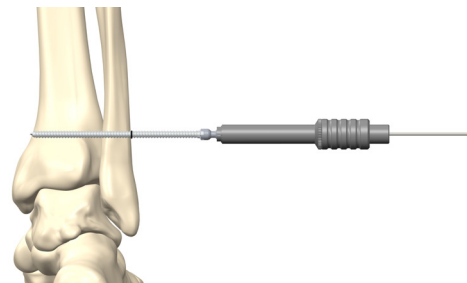
5. Mark the desired length measured from the tip of the screw (i.e. the length of the drill hole) on the screw shaft (OSC-4090) with a sterile marker.



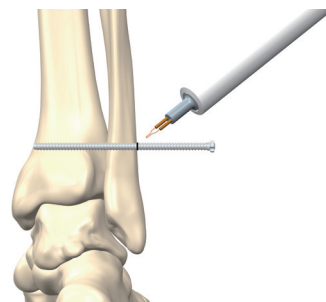
6. Attach the Screwdriver shaft (IFS-9002) to the Handle, and then slide the Holding sleeve (IFS-9012) over the shaft, and connect the sleeve with the insertion adapter of the screw by sliding the sleeve towards the screw.



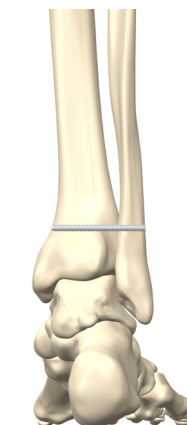
7. Insert the cannulated screw into the drill hole over the K-wire until the mark on the screw shaft reaches the bone/plate surface.



8. Remove the K-wire and detach the metallic insertion adapter from the screw head by pulling it out parallel to the long axis of the screw.









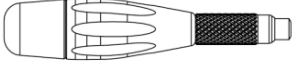
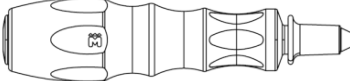



9. Cut the screw by using the Low temperature cautery (HTC-0000) 1–2 mm above the bone/plate surface, or alternatively using surgical scissors or saw at the bone/plate level.



As with any surgical procedure, careful postoperative management is important for optimal healing. Provide the patient with detailed instructions for postoperative care (e.g. regarding immobilization and hygiene maintenance).



Ordering Information

OSC-4090	Inion FreedomScrew™ 4.0 x 90 mm, cannulated	
IFS-9043	K-wire 1.6 mm	
IFS-9024	Drill sleeve 3.2–4.5 mm	
IFS-9042	Depth gauge, large, for 2.7–4.5 mm screws	
IFS-4003	Drill bit 3.2 mm, cannulated	
IFS-4004	Bone tap 4.0 mm, cannulated	
INS-9093	Small handle, cannulated	
INS-9120	Large handle, cannulated	
IFS-9002	Screwdriver shaft, hex 3.5 mm, cannulated	
IFS-9012	Holding sleeve, large	
HTC-0000	Low temperature cautery (10 pcs)	

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