

# Surgical Technique

## **HERBERT SCREW (HEX HEAD)**

**3.0/3.9mm Cannulated Compression Screw** (Hand & Foot Surgery)

# about us

Auxein Medical is an integrated, research based, orthopaedic Implants & instruments manufacturing company, producing a wide range of quality, affordable generic implants, trusted by healthcare professionals and patients across geographies. It is the Company's constant endeavor to provide a wide basket of generic and our innovator products that exceed the highest expectations of customers in term of quality and safety. The company has world-class manufacturing unit established in india and serves customers in over 75 countries worldwide.

## Our Achievements



# Guidelines

This publication sets forth detailed recommended procedures for using Auxein Medical devices and instruments.

It offers guidance that needs to be heeded. However, with any such technical guide, each surgeon must consider the unique needs of each patient and make appropriate adjustments when and as required.

A workshop training under DAIS Academy by Auxein will provide assistance prior to first surgery. It is vital to know that all non-sterile devices must be cleaned and sterilized before use.

Moreover, multi-component instruments must be disassembled for cleaning. The surgeon must discuss all relevant risks, including the finite lifetime of the device, with the patient, when necessary.

**Please NOTE** that all the bone screws referenced in this document here are not approved for screw attachment or fixation in the areas not mentioned in this publication.

**Warning:**

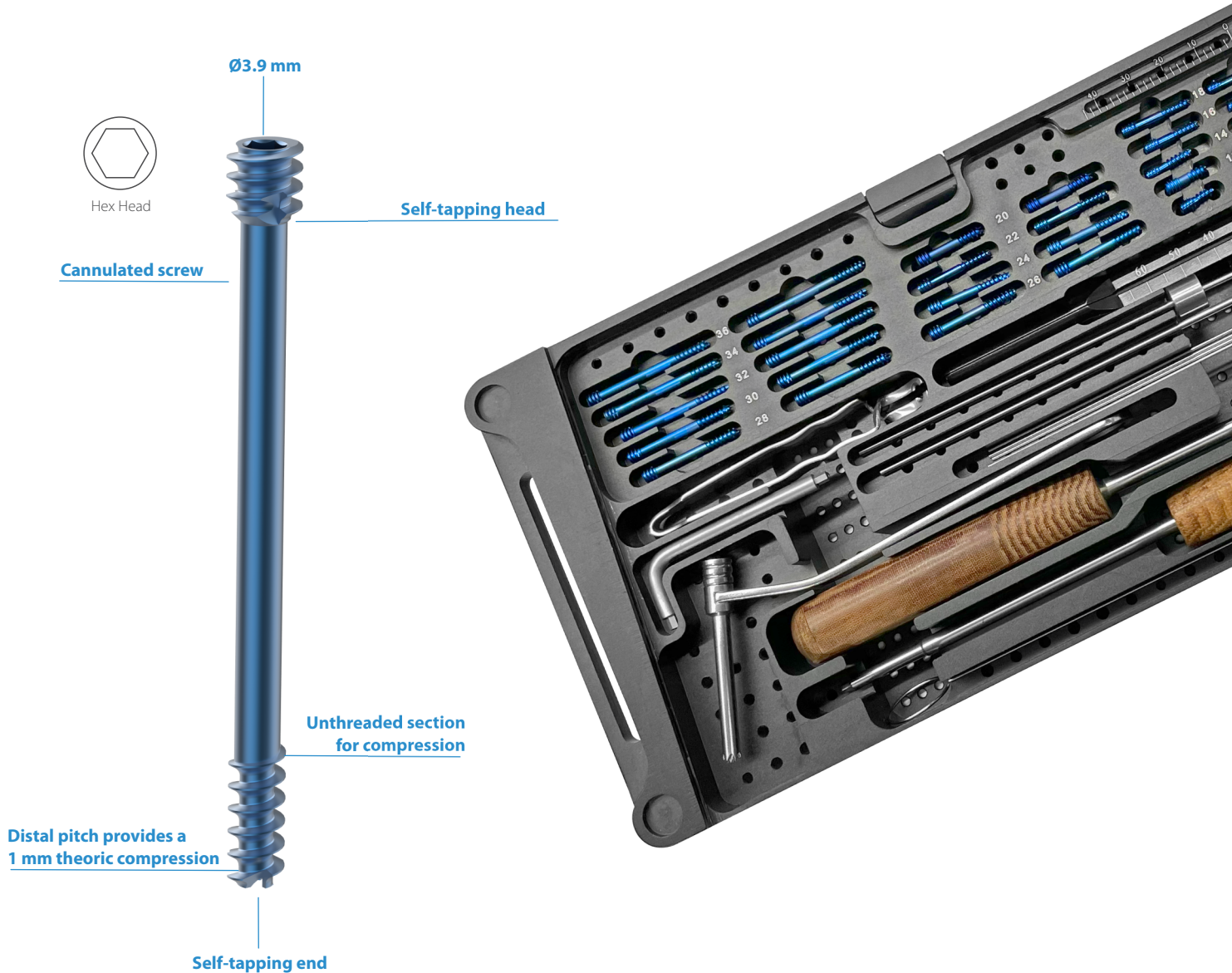
This description is not sufficient for immediate application of the instrumentation. Instruction by a surgeon experienced in handling this instrumentation is highly recommended.



## DOUBLE THREADING FOR OPTIMAL COMPRESSION

### Design Rationale and Main Features

The Compression Screw is easy to insert (over a guide wire) and provides efficient compression (through two separate threadings with different pitches, and an intermediate unthreaded section), thus ensuring quick, dependable internal fixation.



### INDICATIONS

- Distal and proximal metatarsal osteotomies • SCARF osteotomy
- Uni and biocortical internal fixation (ex.: scaphoid) • Small bone fusion

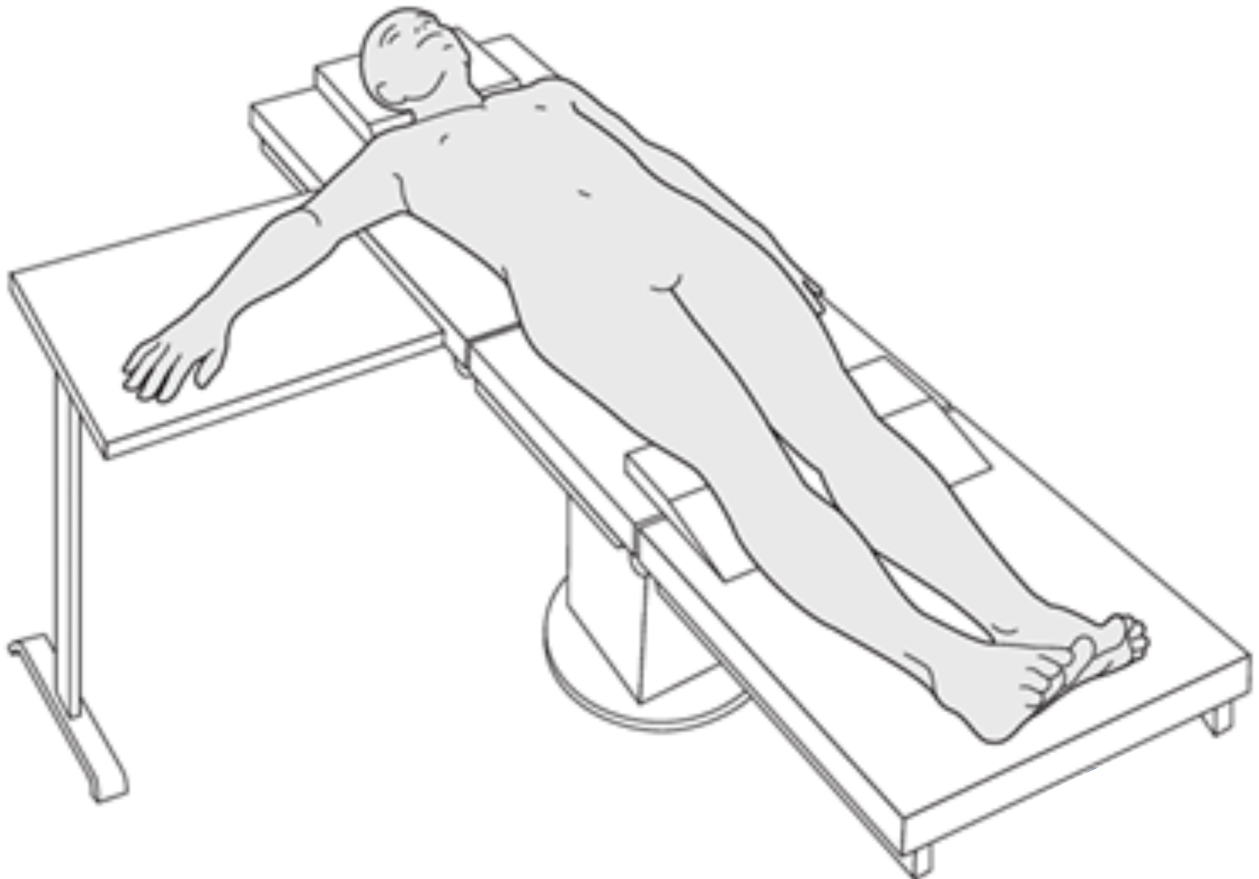


**Anesthesia:**

The patient is typically placed under regional anesthesia, such as a brachial plexus block, to numb the hand and forearm. In some cases, general anesthesia may be used.

**Patient positioning:**

The patient's hand and forearm are positioned appropriately to provide optimal access to the metacarpal bone.



**Incision:**

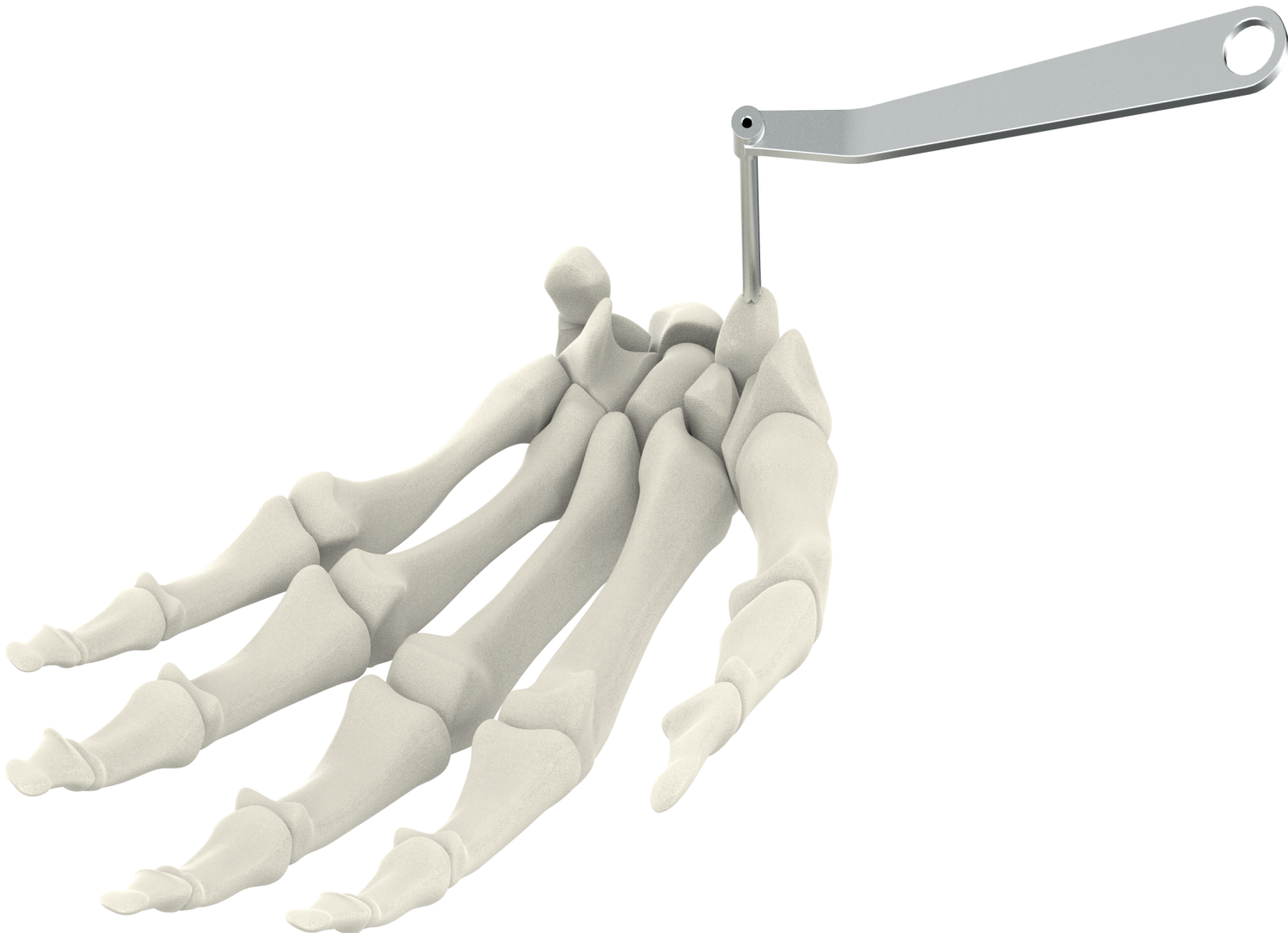
The surgeon makes a small incision over the affected metacarpal bone. The length and placement of the incision depend on the specific fracture or condition being treated.

**Fracture reduction:**

If a fracture is present, the surgeon carefully manipulates the bone fragments to align them in the proper position. This step aims to restore normal anatomy and optimize healing.

**Protection Sleeve:**

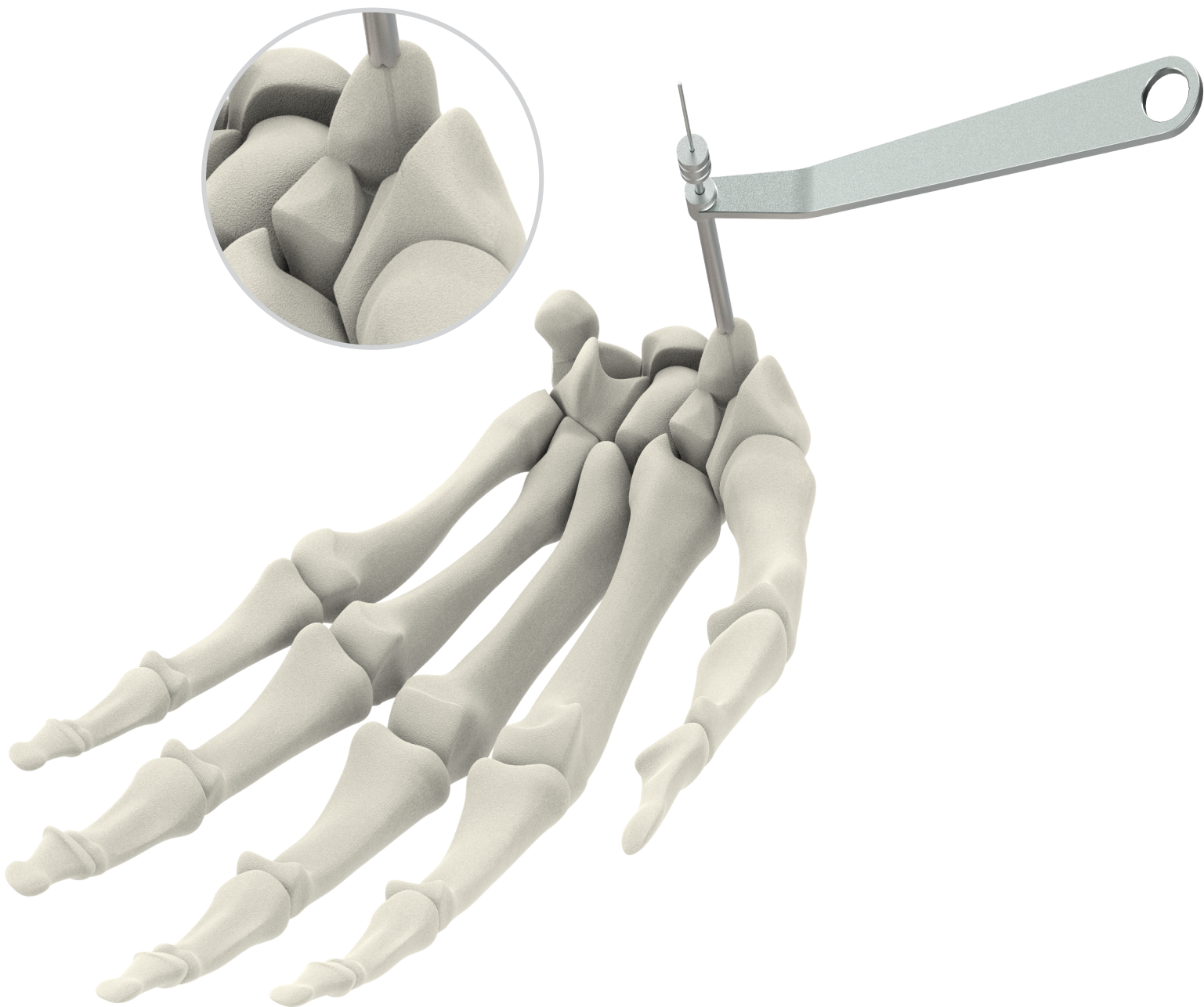
A protective sleeve, often made of plastic or metal, is placed over the injured finger or metacarpal bone. The sleeve provides support and shields the finger from accidental injury during the surgical procedure.



**K- wire placement:**

K-wire is inserted through a cannula or a pre-drilled hole in the metacarpal bone. This guide wire serves as a pathway for subsequent screw placement and ensures accurate alignment.

In this step, the surgeon carefully inserts one or more K-wires through the skin and into the fractured metacarpal bone. The wires help stabilize the bone fragments and maintain proper alignment during the healing process.



**Depth Measurement:**

Before proceeding further, the surgeon typically measures the depth of the fracture site using specialized instruments. This measurement ensures that the subsequent drilling and screw insertion steps are performed accurately, considering the unique anatomy of the patient.

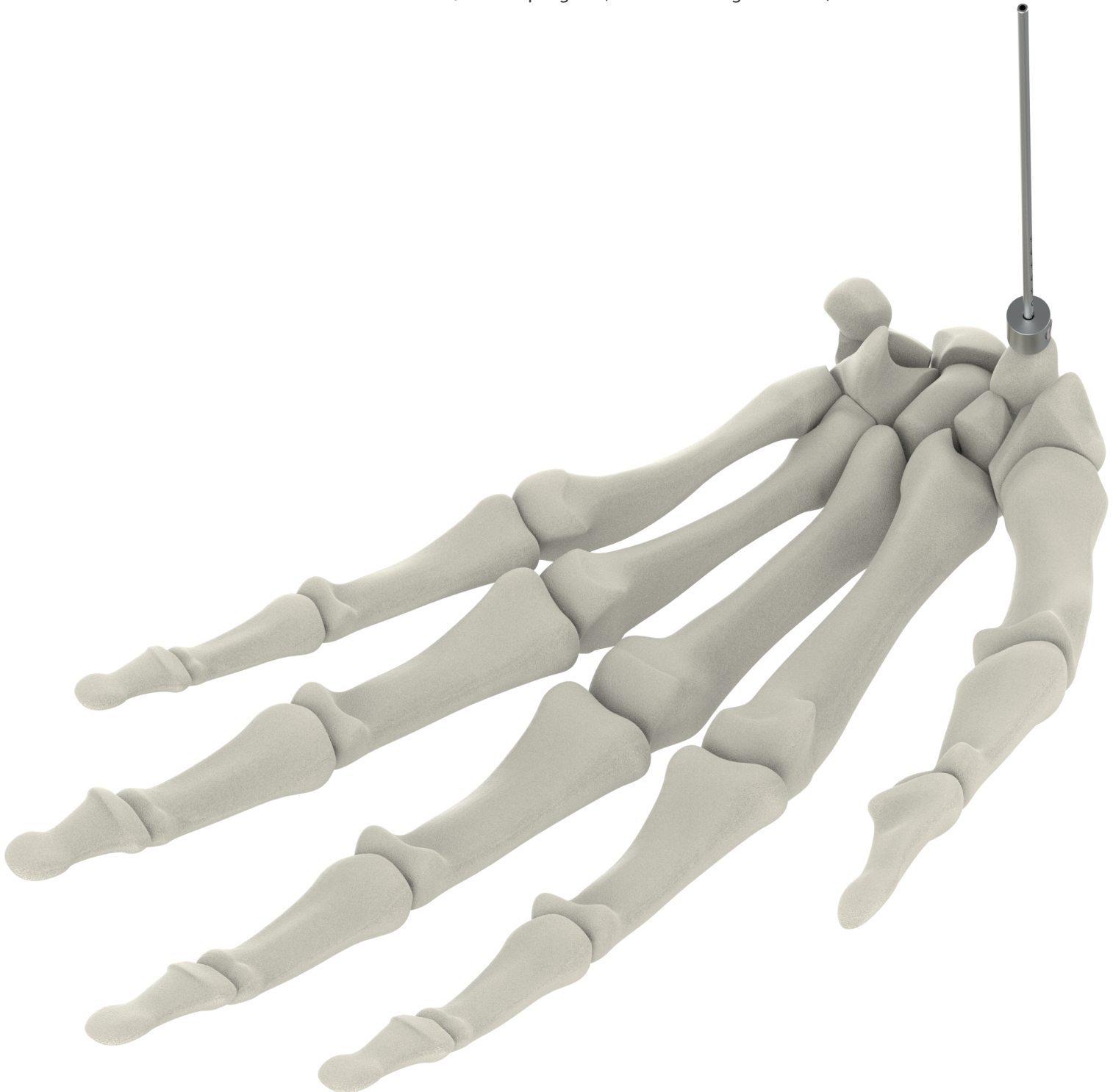




**Drilling:**

With the depth measurement in mind, the surgeon proceeds to drill holes into the bone fragments using a surgical drill. The drilling process creates pathways for the subsequent screw insertion, facilitating stable fixation of the fracture. The diameter of the drill bit is typically chosen based on the size of the screws being used.

INSTRUMENT USE: Cannulated Drill Bit with Quick Coupling End, Ø2.0mm x Length 150mm, for Herbert Screw



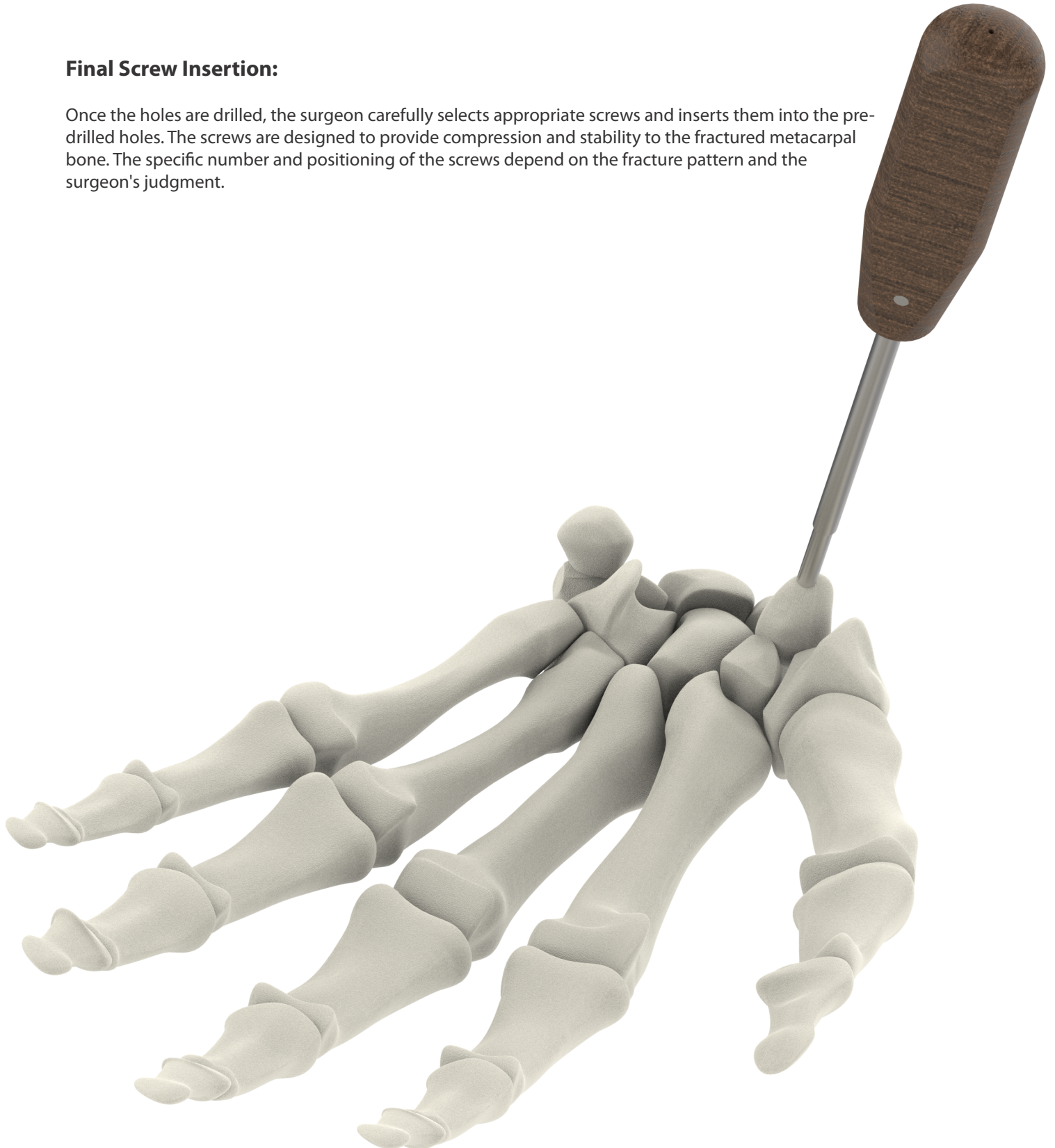


**Screw insertion:**

The Herbert cannulated screw is advanced over the K- wire, penetrating the bone and achieving compression across the fracture site. The screw is carefully placed to avoid damage to surrounding structures, such as tendons or nerves.

**Final Screw Insertion:**

Once the holes are drilled, the surgeon carefully selects appropriate screws and inserts them into the pre-drilled holes. The screws are designed to provide compression and stability to the fractured metacarpal bone. The specific number and positioning of the screws depend on the fracture pattern and the surgeon's judgment.

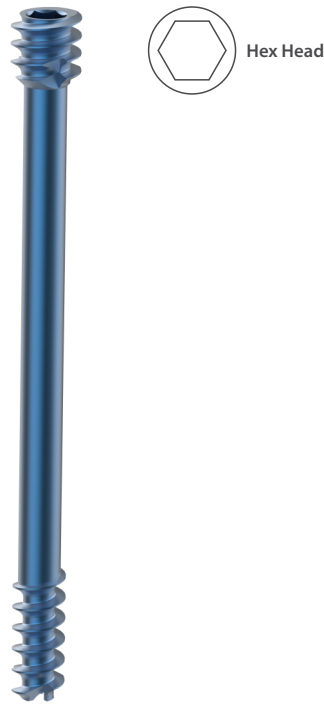


**Screw fixation:**

Once the screw is fully inserted, the surgeon verifies its proper position using fluoroscopy or X-ray imaging. The screw is then tightened to achieve stable fixation. In some cases, multiple screws may be used to provide additional stability, especially for complex fractures.

**NOTE:**

After the completion of the surgical procedure, the surgeon may confirm the alignment and stability of the fracture using X-rays or fluoroscopy. Following the surgery, appropriate postoperative care, including immobilization, wound care, pain management, and rehabilitation exercises, will be prescribed to aid in the healing process and restore hand functionality. It's important to note that the exact sequence and techniques used in metacarpal surgery can vary depending on the specific fracture pattern, patient factors, and the surgeon's preference and experience.



**HERBERT SCREW (HEX HEAD),  
3.0/3.9mm Cannulated Compression Screw**

Code	Length
<b>TI-HC3.0/3.9.10</b>	10mm, Titanium
<b>TI-HC3.0/3.9.12</b>	12mm, Titanium
<b>TI-HC3.0/3.9.14</b>	14mm, Titanium
<b>TI-HC3.0/3.9.16</b>	16mm, Titanium
<b>TI-HC3.0/3.9.18</b>	18mm, Titanium
<b>TI-HC3.0/3.9.20</b>	20mm, Titanium
<b>TI-HC3.0/3.9.22</b>	22mm, Titanium
<b>TI-HC3.0/3.9.24</b>	24mm, Titanium
<b>TI-HC3.0/3.9.26</b>	26mm, Titanium
<b>TI-HC3.0/3.9.28</b>	28mm, Titanium
<b>TI-HC3.0/3.9.30</b>	30mm, Titanium
<b>TI-HC3.0/3.9.32</b>	32mm, Titanium
<b>TI-HC3.0/3.9.34</b>	34mm, Titanium
<b>TI-HC3.0/3.9.36</b>	36mm, Titanium
<b>TI-HC3.0/3.9.38</b>	38mm, Titanium
<b>TI-HC3.0/3.9.40</b>	40mm, Titanium

7-042-01

Stylet Ø1.0mm



7-042-02

Protection Sleeve Ø2.2mm



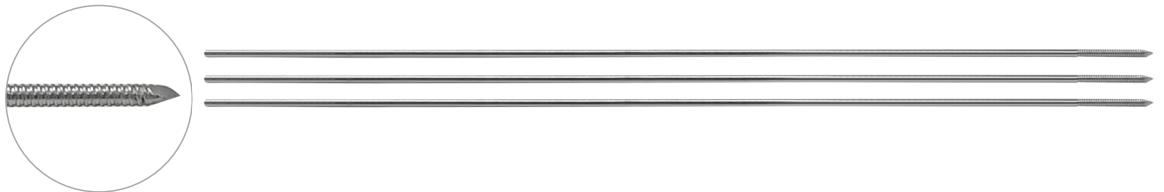
7-042-03

Wire Sleeve Ø2.1/1.1mm



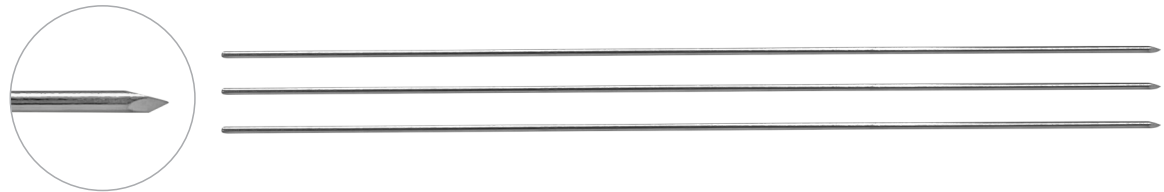
7-042-04

Guide Wire with Threaded Tip, Ø1.0mm x Thread Length 10mm x Length 120mm



7-042-05

Guide Wire, Ø1.1mm x Length 120mm



7-042-06

Cannulated Drill Bit Stop, Ø2.2mm x Length 150mm



**7-042-07** Cannulated Drill Bit with Stopper, Ø2.2mm x Length 150mm



**7-042-08** Allen Key, Hex 2.5mm for Herbert Hex Screw



**7-042-09** Screw Holding Forcep for Herbert Hex Screw



**7-042-10** Measuring sleeve for Guide Wire upto 60mm



**7-042-11** Cannulated Screwdriver, Hex 2.0mm



**7-042-12** Screwdriver, Hex 2.0mm for Hebert Hex Screw





## 7-042 Herbert Hex Screw Implant & Instrument Set



Code	Set Consisting of	Units
7-042-01	Stylet Ø1.0mm	1
7-042-02	Protection Sleeve Ø2.2mm	1
7-042-03	Wire Sleeve Ø2.1/1.1mm	1
7-042-04	Guide Wire with Threaded Tip, Ø1.0mm x Thread Length 10mm x Length 120mm	3
7-042-05	Guide Wire, Ø1.1mm x Length 120mm	3
7-042-06	Cannulated Drill Bit Stop, Ø2.2mm x Length 150mm	1
7-042-07	Cannulated Drill Bit with Stopper, Ø2.2mm x Length 150mm	1
7-042-08	Allen Key, Hex 2.5mm for Herbert Hex Screw	1
7-042-09	Screw Holding Forcep for Herbert Hex Screw	1
7-042-10	Measuring sleeve for Guide Wire upto 60mm	1
7-042-11	Cannulated Screwdriver, Hex 2.0mm	1
7-042-12	Screwdriver, Hex 2.0mm for Hebert Hex Screw	1
7-042-13	Container for Herbert Hex Screw Implant & Instrument Set	1



**USA**

Auxein Inc.  
1500 Nw 89th Court, Suite 107-108  
Doral, Florida 33172  
Tel: +1 305 395 6062  
E Fax: +1 305 395 6262  
Email: USoffice@auxein.com

**MEXICO**

Auxein México, S.A. de C.V.  
Tepic 139 int 801, Colonia Roma Sur,  
Alcaldía Cuauhtémoc, CDMX,  
México, C.P. 06760  
Tel: +521 55 7261 0318  
Email: info@auxein.mx

**INDIA**

Auxein Medical Pvt. Ltd.  
Plot No. 168-169-170, Phase-4,  
Kundli Industrial Area,  
HSIIDC, Sector-57, Sonapat - 131028, Haryana  
Tel: +91 99106 43638 | Fax: +91 86077 70197  
Email: info@auxein.com