

SURGICAL TECHNIQUE

# Proximal femoral nail anti-rotation **ELIX**



**TRAUFIX**  
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## IMPLANT CHARACTERISTICS

The Proximal femoral nail anti-rotation ELIX, made of titanium alloy (Ti6Al4V ELI), has an innovative locking system that offers high rotational and angular stability with a single element, as well as a set of steering arms that allow static or dynamic locking of the short ELIX nails (standard, small and extra small).

The long ELIX nail also allows secondary dinamization.

The ELIX nail has a mediolateral angle of 6°. This angle allows its insertion at the tip of the greater trochanter, therefore the anatomical design guarantees an optimal fit in the femur.

### ELIX Nails

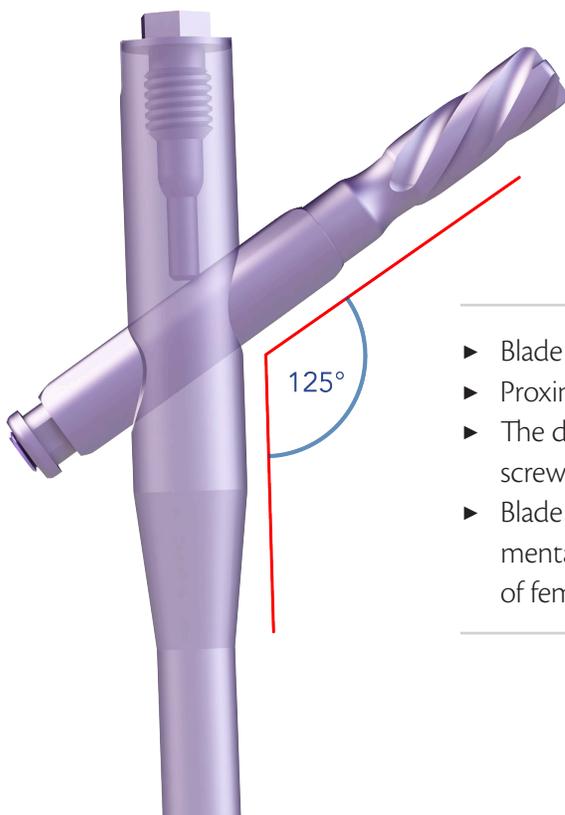
The nails are manufactured in 2 different lengths and 4 different diameters for short nails; 3 different diameters for long nails

#### ELIX Shorts

170mm, 200mm and 240mm Lengths.  
9mm, 10mm, 11mm and 12mm Diameters.

#### ELIX Long

Lengths from 320mm to 400mm in 20mm increments.  
Diameters 9mm, 10mm, 11mm.



- ▶ Blade hole with 125° of angulation.
- ▶ Proximal orifice with ovoid design to prevent rotation.
- ▶ The design of the end cap allows locking of the subtrochanteric screw sleeve, preventing subsequent slippage .
- ▶ Blade with 5mm movement through the sleeve allows interfragmentary compression with a more dynamic locking at the time of femur reduction



### Indications and Contraindications

Short ELIX nail (length: 170 to 240mm)

#### Indications

- Pertrochanteric Fractures (31-A1 and 31-A2)
- Intertrochanteric fractures (31-A3)
- High subtrochanteric fractures (32-A1)

#### Contraindications:

- Low subtrochanteric fractures.
- Fractures of the femoral diaphysis
- Isolated or combined fractures of the medial portion of the femoral neck.



### Indications and Contraindications

Long ELIX nail (length: 320 to 400mm)

#### Indications

- Low and prolonged subtrochanteric fractures
- Homolateral trochanteric fractures
- Combined fractures (of the proximal femur)
- Spontaneous fractures (pathological)

#### Contraindications:

- Isolated or combined fractures of the medial portion of the femoral neck.



## DESCRIPTION OF THE SURGICAL TECHNIQUE

### Patient position

Place the patient in the supine position on a traction table or a radiolucent operating room table. Place the healthy extremity in maximum abduction and supported on a stand that allows free-fluoroscopic exploration.

Check it before starting the intervention.

To facilitate access to the medullary cavity, tilt the trunk  $10^{\circ}$  to  $15^{\circ}$  towards the healthy side (or place the affected limb in adduction  $10^{\circ}$  to  $15^{\circ}$ ) and reduce the fracture.

Perform a closed reduction of the fracture under radiological control with the image intensifier. If the result is not satisfactory, proceed with open reduction.

### Approach

Palpate the greater trochanter. Make an incision 5 cm proximal to the tip of the greater trochanter. Make an incision parallel to the gluteus medius fascia, and divide the gluteus medius muscle along its fibers

#### 1. Determination of the insertion point

In the AP image, the insertion point of the ELIX nail is located over the tip of the greater trochanter or slightly lateral to it, in curved prolongation of the medullary cavity, since the lateral median angle of the ELIX nail is  $6^{\circ}$ . In the lateral image, the insertion point is in line with the longitudinal axis of the medullary cavity.

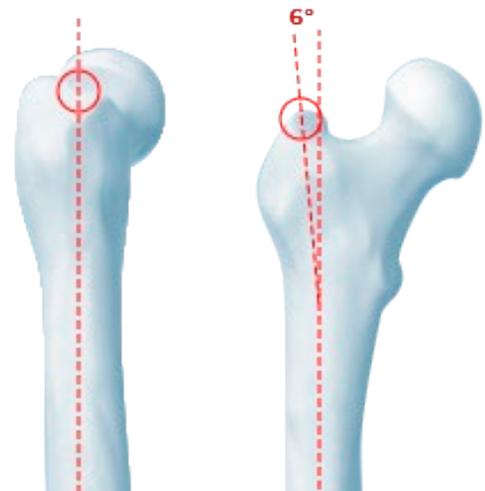
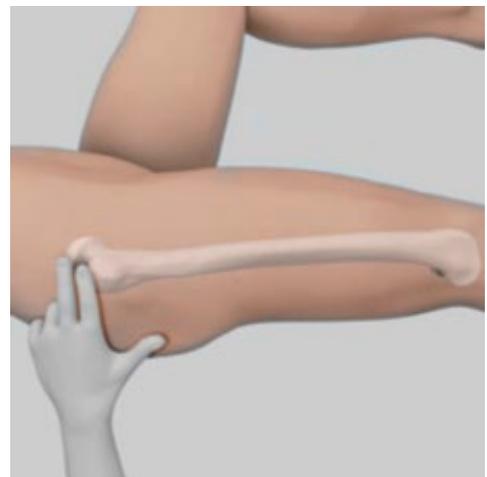
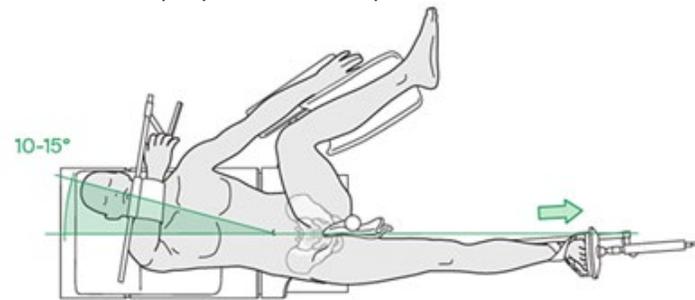
#### 2. Guide wire insertion

Attach the guide wire to the surgical motor. Alternatively, use the universal mandrel with T-handle to insert the guide wire by hand. Place the the hyaline protection sheath and drill guide at the insertion point. Insert the guide wire through the sheath and drill guide assembly

Remove the surgical motor and drill guide.

### Warning

This technique is proposed to describe the use of instruments and TRAUFIX implants, without the intention of interfering with the experience and decisions of the orthopedic surgeon, since the vast clinical and surgical experience supports him to determine which is the best proposal for each particular



### 3. Starter punch

Once the guide wire is in place, use the starter punch, it is introduced by making gentle turns in a half circle in order to drill the bone and open the canal, up to where the helix of the PUNCH is hidden (up to where the triangle is hidden).

### 4. Femur opening

Slide the cannulated drill bit between the hystat protection sleeve and the guide wire and drill with it up to the top of the protection sleeve. Remove the drill bit, the cystic sheath and the guide wire. It is recommended to open the femur with a motor at high speed or carefully by hand. To avoid the risk of dislocation of the fracture fragments, avoid excessive lateral movements or compression forces.

If necessary, widen the femoral cavity to the desired diameter with the medullary reamer.

Check fracture reduction with the image intensifier.

### Inserting the milling guide

Insert the drill guide into the medullary cavity to the desired insertion depth. The tip of the reaming guide must be correctly positioned in the medullary cavity, as it determines the final distal position of the long ELIX nail.

### Milling

Starting with the 8.5 mm milling head, proceed milling to a diameter 0.5 to 1.0 mm larger than the nail diameter, in 0.5 mm increments and advancing the milling cutter by constant application of moderate pressure. Do not force the drill. Repeatedly pull the reamer partially out to clear the medullary cavity of debris. Use the reaming TONGS to hold the reamer guide during this process to prevent it from turning during reaming.



## 5. Assembly of ELIX instrument

Slide the connecting screw through the insertion handle, and fix the desired ELIX nail to the insertion handle with the hexagonal ball-head screwdriver.

Make sure that the connection between the ELIX nail and the insertion handle is tight (retighten if necessary), to avoid deviations when inserting the ELIX blade through the insertion handle. Do not mount the directional arm yet.



## Implant placement

### 1. ELIX nail insertion

Insertion of the ELIX nail should be done under radiological control with the image intensifier. Carefully insert the ELIX nail by hand, with gentle bi-directional turns of the insertion handle, as deeply as possible into the femoral opening. If the ELIX nail cannot be inserted, select a smaller diameter nail or ream the medullary cavity so that its diameter is at least 1 mm larger than that of the selected nail.

The correct insertion depth of the ELIX nail is achieved when the hole of the projected ELIX blade is located in the center of the femoral head. Care should be taken to avoid positioning the ELIX nail too cranially or too caudally, as this may result in malpositioning of the blade.

Anteroversion can be determined by inserting a guide wire into the femoral head, anterior to the femoral neck. In the mid-lateral projection, place the insertion handle parallel to the guide wire, to align the correct rotation of the ELIX nail. Remove all guide wires and do not reuse them. Discard the guide wires

### 2. Proximal locking

#### Selecting the directional arm for inserting the ELIX blade

Using the ball-head hex screwdriver, confirm that the screw connecting the insertion handle to the ELIX nail is tightened properly.

Mount the directional arm and fix it firmly to the insertion handle.

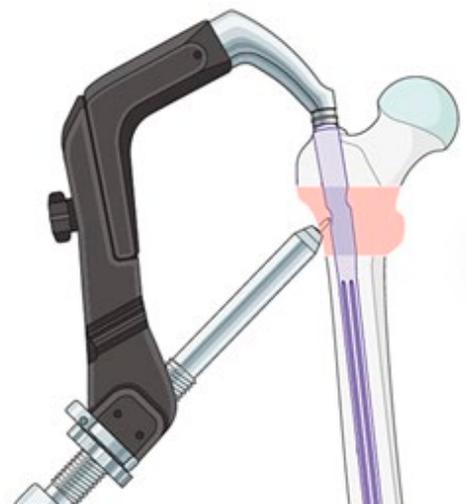
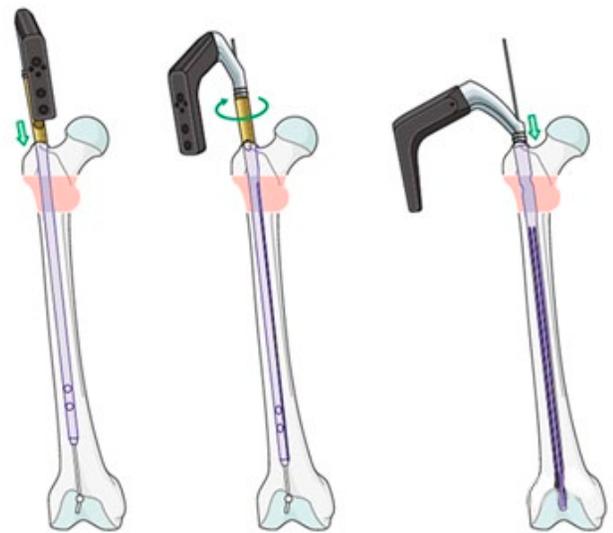
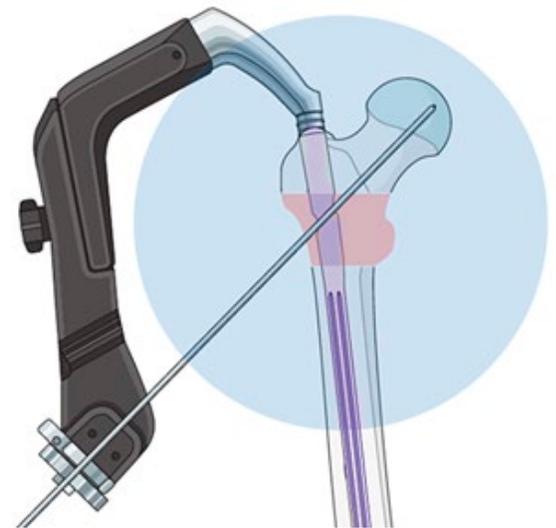
#### -Preparing to insert the guide wire

Screw the holding nut onto the gold-plated protective sheath for the ELIX blade. Make sure that the "LATERAL SIDE" marking faces the head of the protective sleeve.

Continue screwing the holding nut to the mark on the protective sleeve. Insert the plated drill guide and plated trocar through the hystomy sheath.

Through the directional arm, advance the entire trocar assembly for the ELIX blade to the skin until it clicks into place in the directional arm. Adjust the position of the holding nut, if necessary.

Make sure that the trocar assembly clicks into the directional arm, otherwise the exact position of the ELIX blade is not guaranteed.

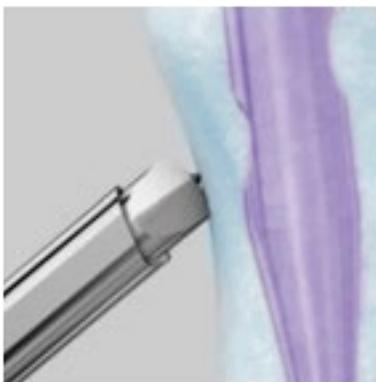
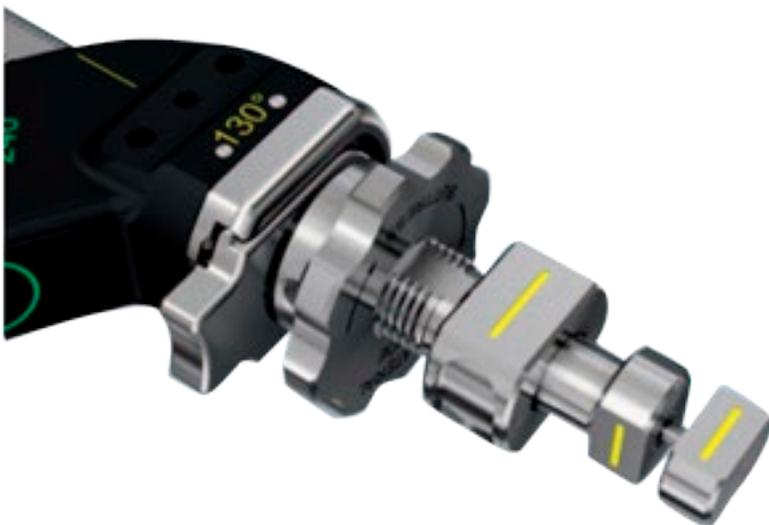


### -Guide wire insertion

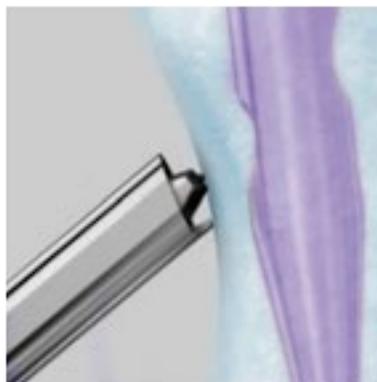
Make a small incision next to the tip of the trocar. Advance the trocar assembly through the soft tissue into the lateral cortex.

Insert the trocar assembly into the lateral cortex. Advance the cystic sheath to the lateral cortex by gently turning the retaining nut clockwise to the right. Prepare the sheath passage by turning the gold-colored internal drill guide.

The trocar assembly must be in contact with the bone during the entire blade implantation. Do not overtighten the holding nut, as this may alter the precision of the insertion handle and the trocar assembly.



Incorrect Position



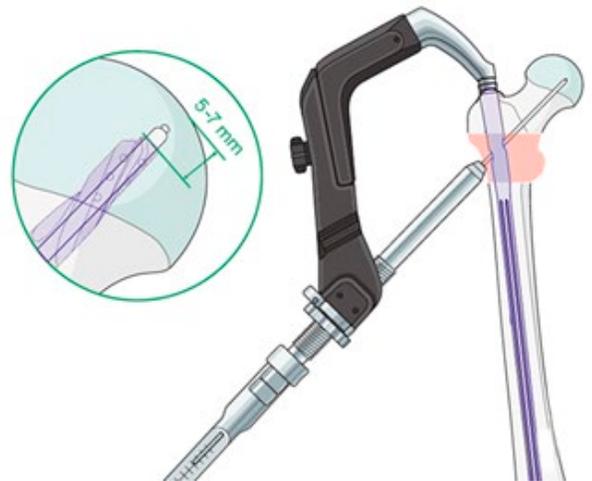
Correct Position

### -Determining the length of the ELIX blade

Before measuring the length, check the position of the guide wire in AP and lateral projection.

Slide the depth gauge over the guide wire. Advance the depth gauge up to the bone protection sleeve, and measure the ideal length of the ELIX blade. The depth gauge indicates the exact length of the guide wire inserted into the bone.

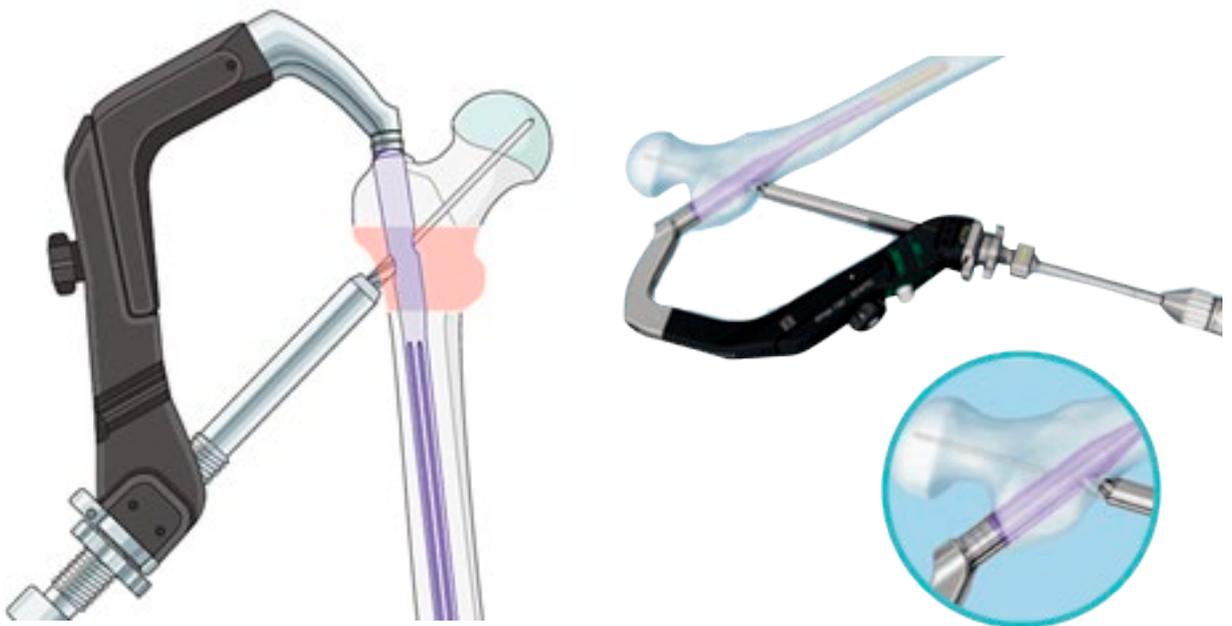
In the AP and lateral images, the correct position of the ELIX blade is 10 mm below the joint line (minimum distance: 5 mm). If the guide wire position is subchondral, subtract 10 mm to correctly measure the ELIX blade length. Remove the depth gauge. Carefully remove the gold drill guide without removing the guide wire.



### -Opening the lateral cortex to insert the ELIX blade

Advance the cannulated drill bit over the 3.2mm guide wire. Proceed to drill with the drill bit until the stop is reached. This opens the lateral cortex.

If the guide wire is slightly bent during insertion, guide the drill bit over it with gentle alternating forward and backward movements. If the guide wire is bent to a greater degree, reinsert it or replace it with a new guide wire. Otherwise, there is a risk that the guide wire will advance to the point where it crosses the joint line



## -Drilling of the inlet hole for the ELIX blade

Use the drill only in case of good bone quality.

Set the chosen length for the ELIX blade on the cannulated cutter by simply placing the clamping sleeve in the correct position. Read the correct length on the side of the clamping sleeve facing the drill tip. Advance the drill over the guide wire. Monitor the drilling with the image intensifier. Drill until the stop is reached. The clamping sleeve prevents overdrilling.

Do not use the drill without first opening the lateral cortex. If the guide wire is slightly bent during insertion, guide the drill over it with gentle alternating forward and backward movements. If the guide wire is bent to a greater degree, reinsert it or replace it with a new guide wire. Otherwise there is a risk that the guide wire will advance to the point where it crosses the joint line



## -Mounting of the ELIX blade on the impactor

The ELIX blade is supplied locked. When mounting the ELIX blade on the impactor, screw the impactor onto the end of the ELIX blade, turning it to the left (arrow and "UNLOCK" mark on the impactor handle), to unlock the blade. When mounting the ELIX blade, press it gently against the impactor. Do not overtighten.

The tip of the ELIX blade must be ABLE to rotate freely after the blade has been mounted in the impactor. This is essential for the implantation of the ELIX blade. If not, remove the blade and discard it. Do not overtighten the connection between the impactor and the ELIX blade.



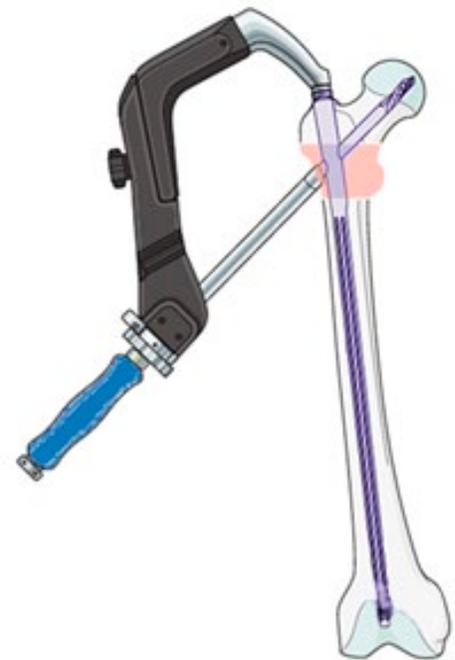
### -Insertion of the ELIX blade

Slide the blade and impactor assembly over the guide wire. Action the button on the sheath guard, align the ELIX blade (sheath guard marking) and advance the blade and impactor assembly through the sheath guard. Insert the ELIX blade over the guide wire by hand, advancing it as far as possible into the femoral head.



Monitor the insertion of the ELIX blade with the image intensifier. Insert the ELIX blade as far as it will go, tapping gently with the hammer.

It is important to insert the blade as far as it will go, as the impactor should click into the sheath. Do not use unnecessary force to insert the ELIX blade.



### -ELIX blade lockout

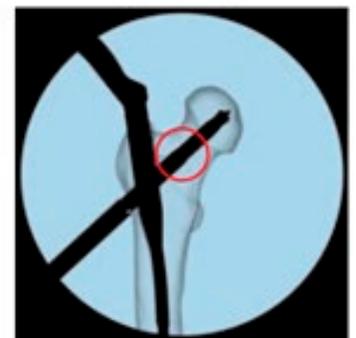
To lock the ELIX blade, turn the impactor clockwise (arrow and "LOCK" mark on the handle) and tighten the blade. Check intraoperatively that the ELIX blade is locked.

The ELIX blade is locked if no gaps are visible

The SLIDING OF the ELIX blade is GUARANTEED. If it is not possible to lock the ELIX blade, remove it and replace it with a new blade.

To remove the impactor, action the button on the sheath protection. Remove and discard the guide wire.

After proximal locking has been completed, operate the jaw device button on the directional arm to release and remove the protective sleeve with the holding nut if proceeding with distal locking, or leave them in place if proceeding with intraoperative compression application.

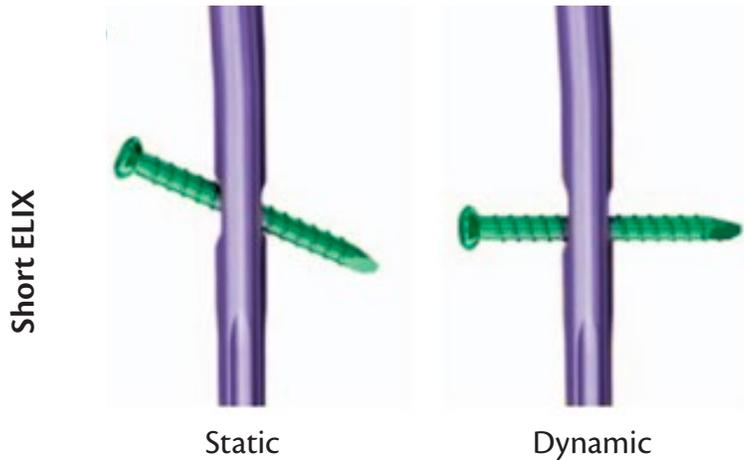


### 3. Distal Locking

#### For Short Nails

#### -Choice of directional arm for distal blocking

Distal locking of short ELIX nails (length 170- 240 mm)



Choice of directional arm for distal blocking.

The distal locking of the short ELIX nails is performed through the directional arm.

Choose the appropriate directional arm based on the type of blocking you wish to perform.

#### Option A: Static distal locking of a short ELIX nail

With the Ball Head Screwdriver, confirm the tightness of the Screw Connecting the Insertion Handle to the ELIX Nail. Insert the three-piece trocar assembly (sheath, drill guide and trocar) through the hole in the directional arm corresponding to the length of the nail, make a small skin incision, and insert the trocar down to the bone. Remove the trocar.

#### Option B: Dynamic Distal Locking of a Short ELIX Nail

Using the Ball Head Hex Driver, confirm that the screw connecting the insertion handle to the ELIX nail is tightened securely. Remove the ELIX Blade Directional Arm. Mount the Dynamic Locking Directional Arm and secure it firmly to the Insertion Handle. Insert the three-piece trocar assembly (cystic protection sleeve, drill guide and trocar) through the hole in the directional arm corresponding to the length of the nail, make a small skin incision, and insert the trocar down to the bone. Remove the trocar.



### -Drilling

Proceed to drill bicortically with the drill bit. The tip of the drill bit should protrude between 2 and 4mm.

Immediately after drilling both cortices, confirm the position of the drill bit.

Make sure that the drill guide sits firmly on the first cortex, and read the measurement indicated by the calibrated drill bit on the back of the drill guide. This measurement corresponds to the proper length of the locking screw. Remove the drill bit and drill guide

Before proceeding with the distal block, always make sure that no intra-operative diastasis has occurred. The presence of diastasis could delay bone healing. Always make sure that the connection between ELIX nail, insertion handle and directional arm is good, otherwise the ELIX nail could be damaged during drilling for distal locking.

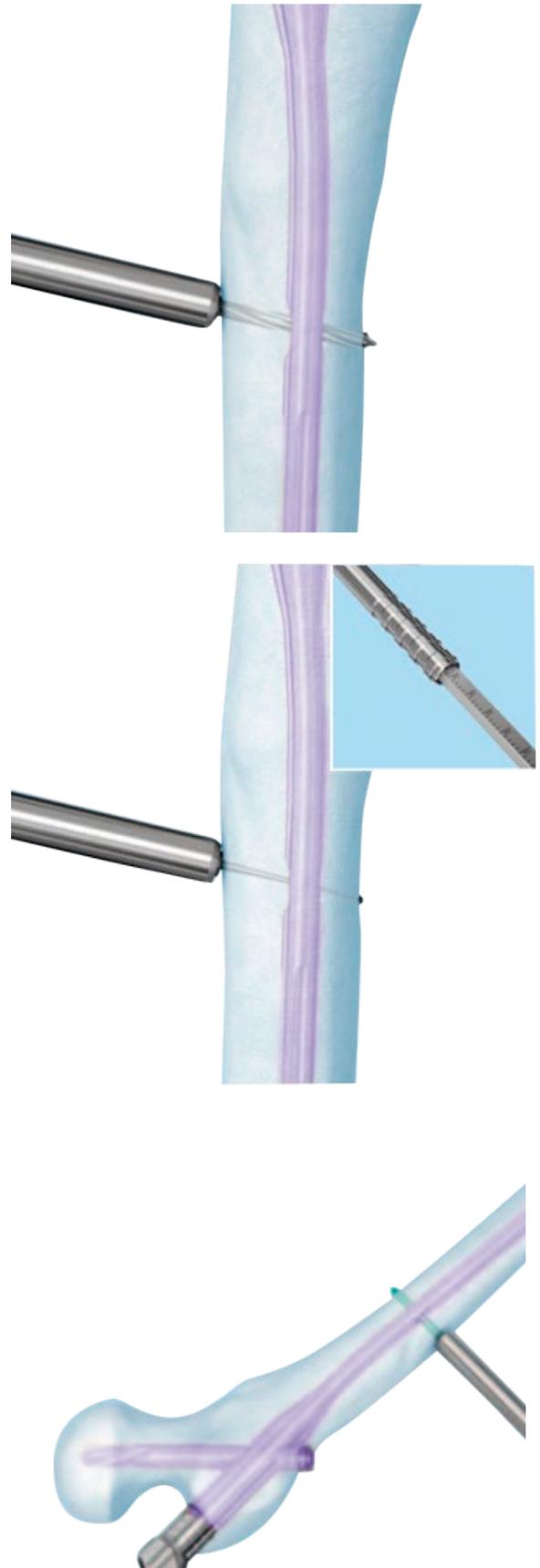
### -After drilling both cortices, remove the drill bit and drill guide.

Through the depth gauge, advance the depth gauge bicortically. Pull the hook back until it engages the opposite cortex. Read the figure on the depth gauge and add 2 to 4 mm to the measured length to ensure that the locking screw engages the opposite cortex.

### -Locking screw insertion

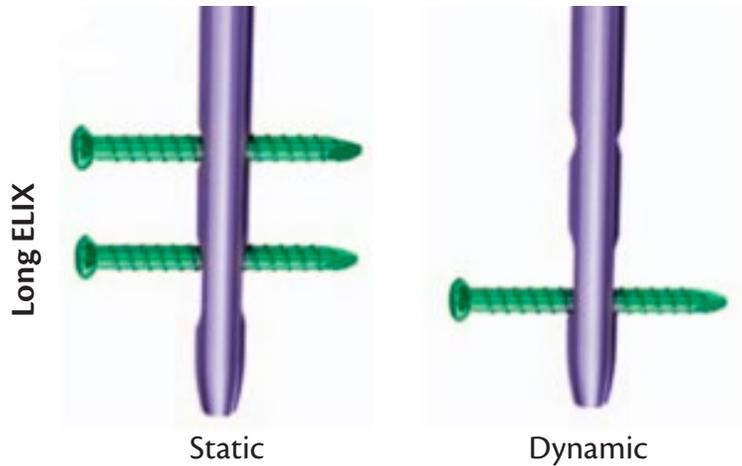
Insert a locking screw of the measured length through the sheath, using the 3.5mm hex screwdriver, until the head of the screw is seated on the first cortex. The tip of the locking screw should not protrude more than 1 to 2 mm from the opposite cortex.

Remove the screwdriver and the sheath of the hystat protection.



## For long ELIX Nails

Distal locking of long ELIX nails (length 300- 420 mm)



For locking the distal holes of the ELIX nail, mount the distal strip and fix it firmly to the insertion handle, mount the long distal strip together with the lateral guide and the assembled feeler. Insert the three-piece trocar assembly (Healing Sleeve, Drill Guide and trocar) through the hole in the directional arm corresponding to the length of the nail, make a slight skin incision, and insert the trocar to the bone. Remove the trocar

### -Drilling

Proceed to drill bicortically with the drill bit. The tip of the drill bit should protrude between 2 and 4mm.

Immediately after drilling both cortices, confirm the position of the drill bit.

Make sure that the drill guide sits firmly on the first cortex, and read the measurement indicated by the calibrated drill bit on the back of the drill guide. This measurement corresponds to the proper length of the locking screw. Remove the drill bit and drill guide.

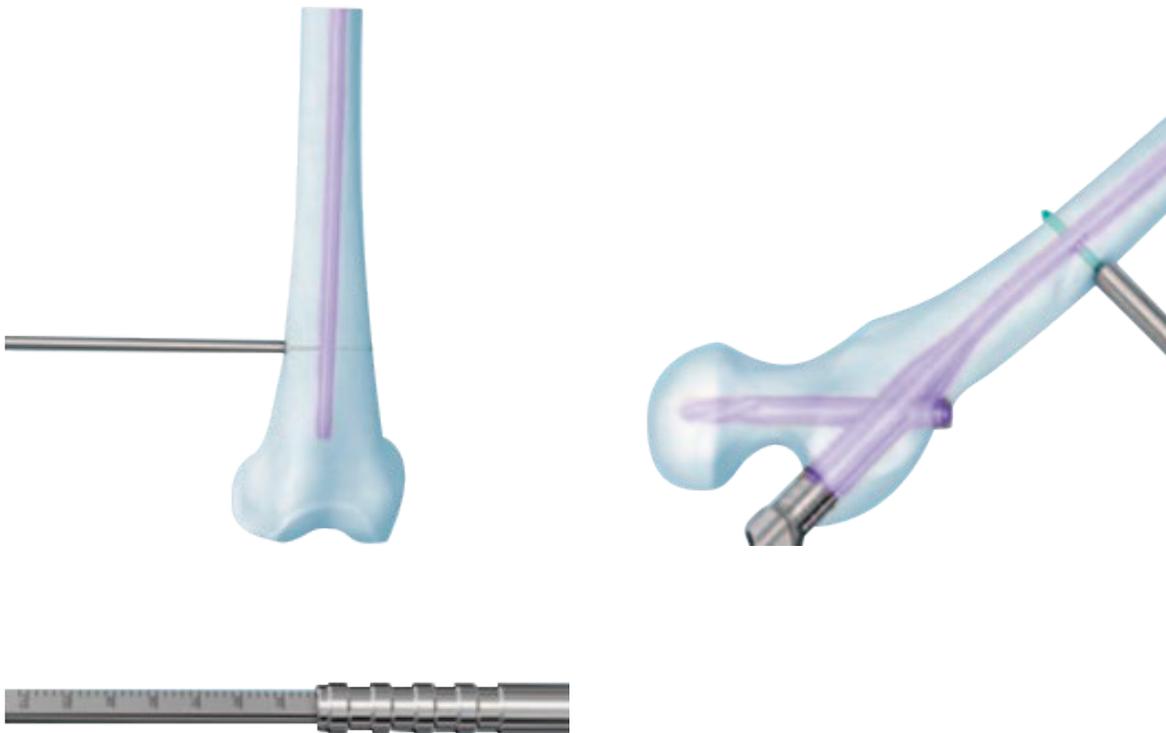
Before proceeding with the distal locking, always make sure that no intra-operative diastasis has occurred. The presence of diastasis could delay bone healing. Always make sure that the connection between ELIX nail, insertion handle and directional arm is good, otherwise the ELIX nail could be damaged during drilling for distal locking.

After drilling both cortices, remove the drill bit and drill guide. Through the depth gauge, advance the depth gauge bicortically. Pull the hook back until it engages the opposite cortex. Read the figure on the depth gauge and add 2 to 4 mm to the measured length to ensure that the locking screw engages the opposite cortex.

**-Insertion of the locking screw**

Insert a locking screw of the measured length through the sheath, using the 3.5mm hex screwdriver, until the head of the screw is seated on the first cortex. The tip of the locking screw should not protrude more than 1 to 2 mm from the opposite cortex.

Remove the screwdriver and the hystat protection sheath.



#### 4. Insertion of the ELIX end cap

##### -Disassembly of ELIX instruments

Remove the directional arm. Loosen the connection screw using the ball head hexagonal screwdriver. Remove the connection screw and the insertion handle.

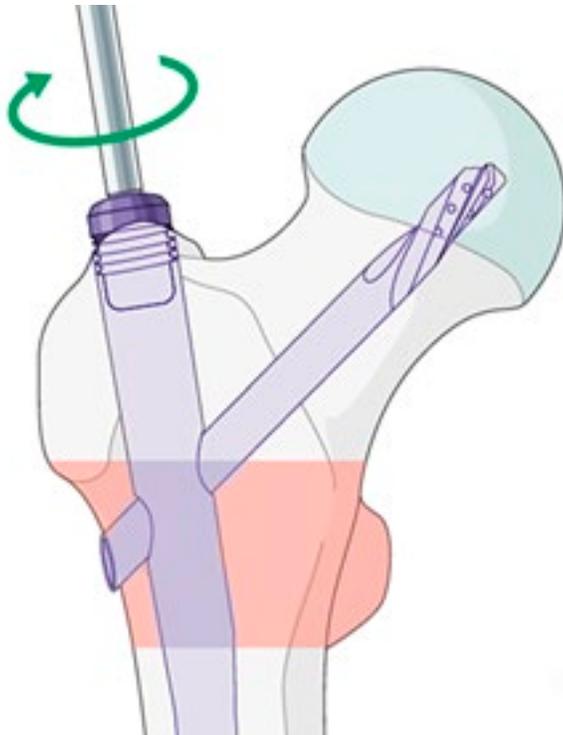
##### -Placement of the end cap

Use the end cap with 0 mm extension if the proximal end of the nail is at the level of the upper edge of the greater trochanter.

Use the end cap with 5 to 10 mm extension to extend the proximal end of the nail. Place the end cap using the hexagonal screwdriver.

The end cap is automatically retained as soon as the connection is established with the screwdriver. Screw the end cap into the proximal end of the nail, and tighten it securely.

Remove the screwdriver



## Implant removal

### 1. Removal of the ELIX blade

Make an incision through the old scars, and locate the ELIX blade by palpation or with the aid of the image intensifier.

Insert the guide wire through the cannulated ELIX blade. Slide the removal screw over the guide wire and apply gentle pressure to screw it counterclockwise into the ELIX blade (arrow and "UNLOCK" mark on the shank of the removal screw). Remove the PFNA blade by tapping gently with the hammer

- If removal of the ELIX blade is difficult, remove the locking screw and end cap, screw the sliding guide onto the ELIX nail and mobilize the femoral nail to loosen the nail/blade connection.

- To dislodge the blade from the bone tissue, tap gently with the hammer, in order to slightly introduce the blade before proceeding with its removal.

### 2. Removal of the end cap

Remove the locking screw with the combination wrench.

### 3. Removal of locking screw and nail

Before removing the locking screw, screw the sliding guide onto the ELIX nail and tighten it securely.

Remove the locking screw with the hexagonal screwdriver. To facilitate the removal of the locking screw, mount the large clamping sleeve on the hexagonal SCREWDRIVER.

Remove the nail by tapping gently with the hammer.

Remove the locking screw after the Sliding Guide has been screwed into the ELIX Nail. This prevents the ELIX Nail from turning in the bone.



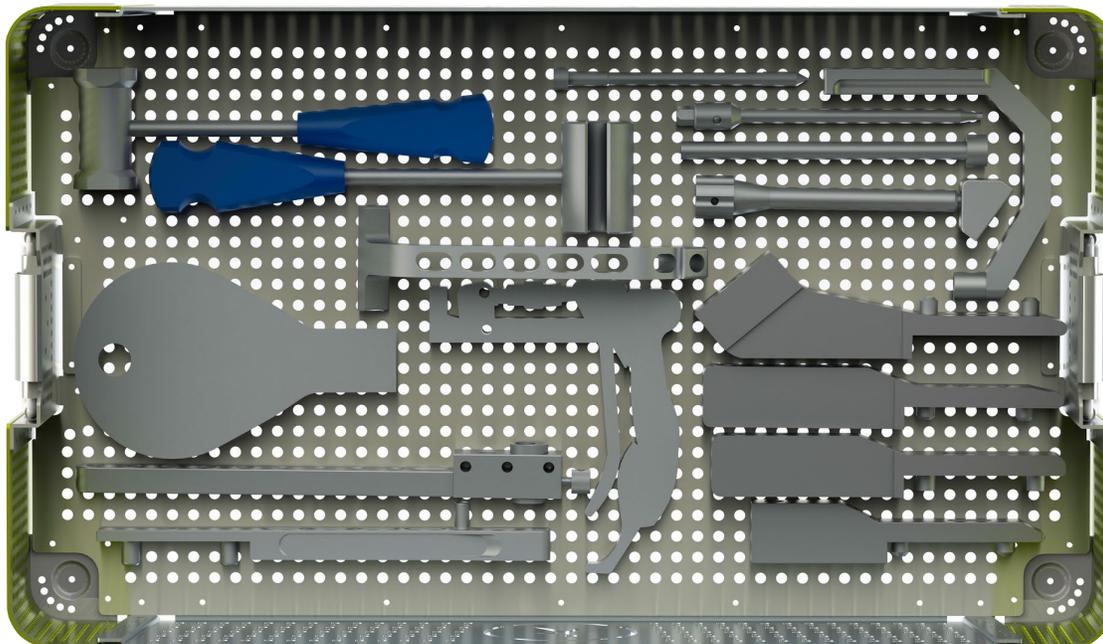
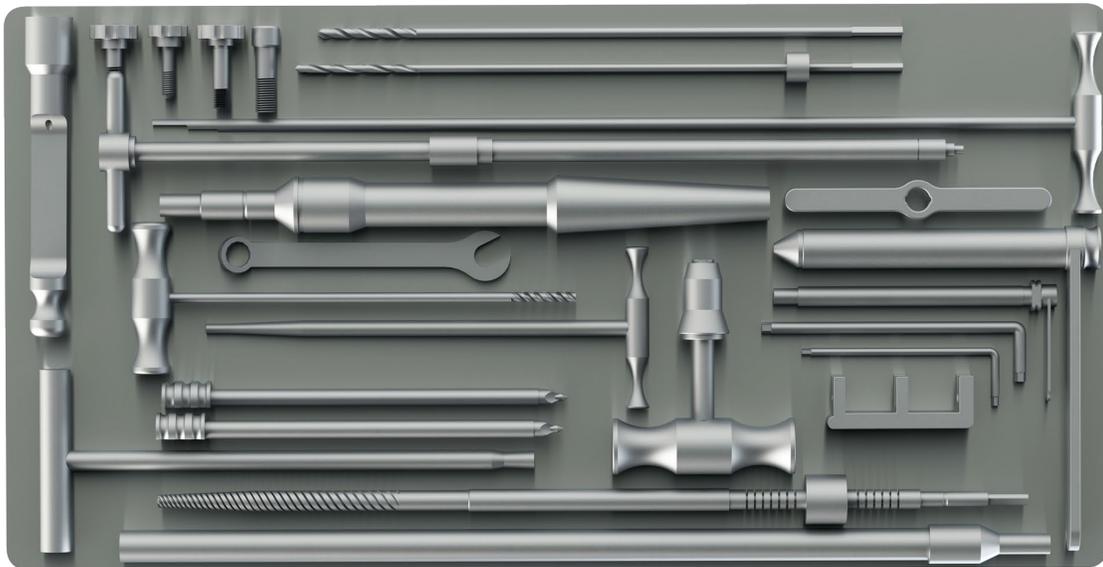
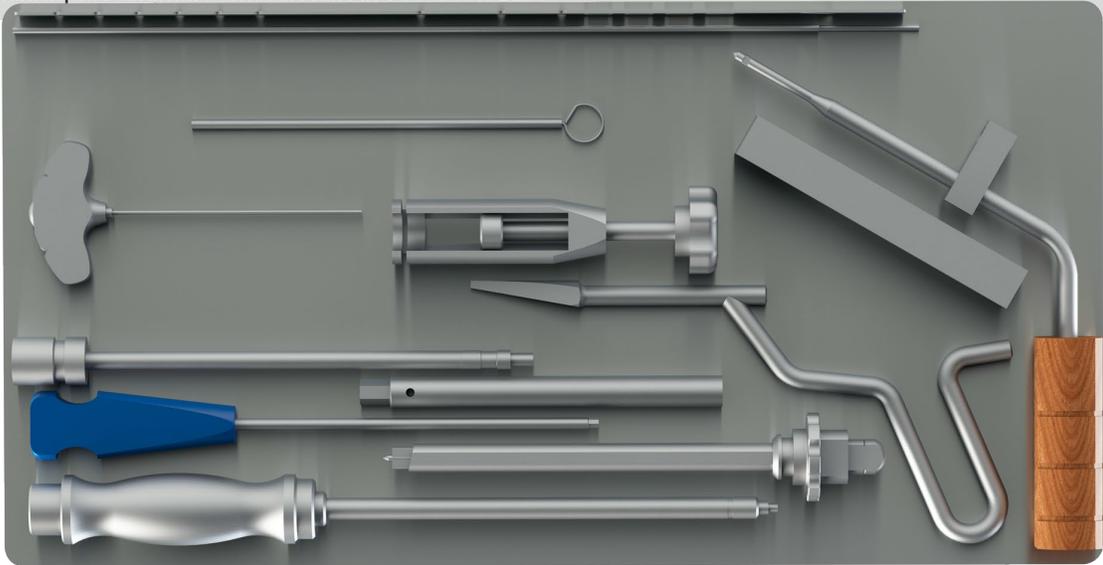
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**ELIX**

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**QTY. EQUIPMENT**

1	Drill bit without anchor Ø 4.3 mm	1	Depth gauge 0-90 mm
1	Drill bit without anchor with stop Ø 4.3 mm	1	End cap guide
1	Cannulated reduction rod with T-handle	1	Flexible Shaft Ø 8.0
1	Wrench	1	Inner sleeve Ø 5.2 mm
1	Proximal cannulated reamer drill	1	Proximal guidance device
1	Guide sleeve	1	Distal guiding device 240
1	Spanish wrench SW11	1	Distal guiding device 90° 170/200
1	Drill bit with T-handle Ø 5.2 mm	1	Distal guiding device 170
1	Probe with T-handle	1	Main pin impactor
1	Depth gauge 70-120 mm	1	Tissue dilator
1	Quick coupling T-handle	1	Connector
1	Inner sleeve for drill bit Ø 5.2 mm	1	Cannulated screwdriver Ø 4.0 mm
1	Under shirt with punch	1	U-shaped strip
1	Hexagonal screwdriver with T-handle Ø 8.0 mm	1	Sliding hammer
1	Proximal cannulated drill tip with stop 60-140 Ø 11.2 mm	1	Solid hammer 500 grams
1	Nail extraction guide	1	Distal locking strip
1	Locking for distal probe	1	Guide wire positioner
1	Small Allen wrench SW 3.0	1	Tissue protector
1	Large Allen wrench SW 5.0	1	Distal strip for long nail 320-440
1	Blade Screw Device Ø 4.5 mm	1	Long distal nail strip for long nails
1	Nail fastener screw	1	Olive tip guide wire
1	Small screw	1	Cannulated reamer tip Ø 9.0 mm
1	Long screw	1	Cannulated reamer tip Ø 9.5 mm
1	Thick screw	1	Cannulated reamer tip Ø 10.0 mm
1	Graduated strip 170-440 (Ø 9, Ø 10, Ø 11, Ø 12/130°)	1	Cannulated reamer tip Ø 10.5 mm
4	Threaded tip guide wire	1	Cannulated reamer tip Ø 11.0 mm
1	Base for reamer bits	1	Cannulated reamer tip Ø 11.5 mm
1	Starter punch	1	Cannulated reamer tip Ø 12.0 mm
1	Cannulated tip screwdriver	1	Cannulated reamer tip Ø 12.5 mm
1	1 Hexagonal screwdriver SW 3.5 mm	1	Cannulated reamer tip Ø 13.0 mm
1	Sleeve guide	1	Cannulated reamer tip Ø 13.0 mm
1	Cannulated saw blade screwdriver	1	Cannulated reamer tip Ø 13.5 mm



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## ELIX implants | LONG NAILS

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### Proximal femoral nail anti-rotation left 9mm

- 282.320 Proximal femoral nail anti-rotation left 9mmx320mm
- 282.340 Proximal femoral nail anti-rotation left 9mmx340mm
- 282.360 Proximal femoral nail anti-rotation left 9mmx360mm
- 282.380 Proximal femoral nail anti-rotation left 9mmx380mm
- 282.400 Proximal femoral nail anti-rotation left 9mmx400mm

### Proximal femoral nail anti-rotation left 10mm

- 284.320 Proximal femoral nail anti-rotation left 10mmx320mm
- 284.340 Proximal femoral nail anti-rotation left 10mmx340mm
- 284.360 Proximal femoral nail anti-rotation left 10mmx360mm
- 284.380 Proximal femoral nail anti-rotation left 10mmx380mm
- 284.400 Proximal femoral nail anti-rotation left 10mmx400mm

### Proximal femoral nail anti-rotation left 11mm

- 286.320 Proximal femoral nail anti-rotation left 11mmx320mm
- 286.340 Proximal femoral nail anti-rotation left 11mmx340mm
- 286.360 Proximal femoral nail anti-rotation left 11mmx360mm
- 286.380 Proximal femoral nail anti-rotation left 11mmx380mm
- 286.400 Proximal femoral nail anti-rotation left 11mmx400mm

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### Proximal femoral nail anti-rotation right 9mm

- 283.320 Proximal femoral nail anti-rotation right 9mmx320mm
- 283.340 Proximal femoral nail anti-rotation right 9mmx340mm
- 283.360 Proximal femoral nail anti-rotation right 9mmx360mm
- 283.380 Proximal femoral nail anti-rotation right 9mmx380mm
- 283.400 Proximal femoral nail anti-rotation right 9mmx400mm

### Proximal femoral nail anti-rotation right 10mm

- 285.320 Proximal femoral nail anti-rotation right 10mmx320mm
- 285.340 Proximal femoral nail anti-rotation right 10mmx340mm
- 285.360 Proximal femoral nail anti-rotation right 10mmx360mm
- 285.380 Proximal femoral nail anti-rotation right 10mmx380mm
- 285.400 Proximal femoral nail anti-rotation right 10mmx400mm

### Proximal femoral nail anti-rotation right 11mm

- 287.320 Proximal femoral nail anti-rotation right 11mmx320mm
- 287.340 Proximal femoral nail anti-rotation right 11mmx340mm
- 287.360 Proximal femoral nail anti-rotation right 11mmx360mm
- 287.380 Proximal femoral nail anti-rotation right 11mmx380mm
- 287.400 Proximal femoral nail anti-rotation right 11mmx400mm

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## ELIX implants | SHORT NAILS

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### Short proximal femoral nail anti-rotation 9mm

- 277.170 Short proximal femoral nail anti-rotation 9mmx170mm
- 277.200 Short proximal femoral nail anti-rotation 9mmx200mm
- 277.240 Short proximal femoral nail anti-rotation 9mmx240mm

### Short proximal femoral nail anti-rotation 10mm

- 278.170 Short proximal femoral nail anti-rotation 10mmx170mm
- 278.200 Short proximal femoral nail anti-rotation 10mmx200mm
- 278.240 Short proximal femoral nail anti-rotation 10mmx240mm

### Short proximal femoral nail anti-rotation 11mm

- 279.170 Short proximal femoral nail anti-rotation 11mmx170mm
- 279.200 Short proximal femoral nail anti-rotation 11mmx200mm
- 279.240 Short proximal femoral nail anti-rotation 11mmx240mm

### Short proximal femoral nail anti-rotation 12mm

- 280.170 Short proximal femoral nail anti-rotation 12mmx170mm
- 280.200 Short proximal femoral nail anti-rotation 12mmx200mm
- 280.240 Short proximal femoral nail anti-rotation 12mmx240mm

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## ELIX blades

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- 293.75 10.5mm Spiral blade for proximal femoral nail anti-rotation 75mm
- 293.80 10.5mm Spiral blade for proximal femoral nail anti-rotation 80mm
- 293.85 10.5mm Spiral blade for proximal femoral nail anti-rotation x 85mm
- 293.90 10.5mm Spiral blade for proximal femoral nail anti-rotation x 90mm
- 293.95 10.5mm Spiral blade for proximal femoral nail anti-rotation x 95mm
- 293.100 10.5mm Spiral blade for proximal femoral nail anti-rotation x 100mm
- 293.105 10.5mm Spiral blade for proximal femoral nail anti-rotation x 105mm
- 293.110 10.5mm Spiral blade for proximal femoral nail anti-rotation x 110mm
- 293.115 10.5mm Spiral blade for proximal femoral nail anti-rotation x 115mm
- 293.120 10.5mm Spiral blade for proximal femoral nail anti-rotation x 120mm

- 432.75 10.5mm Threaded blade for proximal femoral nail anti-rotation x 75mm
- 432.80 10.5mm Threaded blade for proximal femoral nail anti-rotation x 80mm
- 432.85 10.5mm Threaded blade for proximal femoral nail anti-rotation x 85mm
- 432.90 10.5mm Threaded blade for proximal femoral nail anti-rotation x 90mm
- 432.95 10.5mm Threaded blade for proximal femoral nail anti-rotation x 95mm
- 432.100 10.5mm Threaded blade for proximal femoral nail anti-rotation x 100mm
- 432.105 10.5mm Threaded blade for proximal femoral nail anti-rotation x 105mm
- 432.110 10.5mm Threaded blade for proximal femoral nail anti-rotation x 110mm
- 432.115 10.5mm Threaded blade for proximal femoral nail anti-rotation x 115mm
- 432.120 10.5mm Threaded blade for proximal femoral nail anti-rotation x 120mm

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### ELIX locking screw

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- 166.25 4.5 mm Locking screw for intramedullary nail 25 mm
- 166.30 4.5 mm Locking screw for intramedullary nail 30 mm
- 166.35 4.5 mm Locking screw for intramedullary nail 35 mm
- 166.40 4.5 mm Locking screw for intramedullary nail 40 mm
- 166.45 4.5 mm Locking screw for intramedullary nail 45 mm
- 166.50 4.5 mm Locking screw for intramedullary nail 50 mm
- 166.55 4.5 mm Locking screw for intramedullary nail 55 mm
- 166.60 4.5 mm Locking screw for intramedullary nail 60 mm
- 166.65 4.5 mm Locking screw for intramedullary nail 65 mm
- 166.70 4.5 mm Locking screw for intramedullary nail 70 mm
- 166.75 4.5 mm Locking screw for intramedullary nail 75 mm
- 166.80 4.5 mm Locking screw for intramedullary nail 80 mm

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### ELIX locking screw

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- 292.00 End cap for proximal femoral nail anti-rotation extension 0mm
  - 292.05 End cap for proximal femoral nail anti-rotation extension 5mm
  - 292.10 End cap for proximal femoral nail anti-rotation extension 10mm
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