ETHOS SPINE

ETHOS Polyaxial Pedicle Screw System

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ETHOS SPINE Polyaxial Pedicle Screw System

The Ethos Polyaxial Pedicle Screw System is a thoracolumbar system composed of pedicle screws, rods, locking caps and transverse cross connectors. All implants are manufactured from Titanium 6 Aluminum 4 Vanadium Extra Low Interstitial Alloy (Ti-6Al-4V ELI). A full compliment of instruments is supplied to meet a variety of anatomical challenges. All instruments are manufactured from medical grade Stainless Steel.

Lavender Green Platinum Blue

ETHOS SPINE Implant Features

Screw Head Design

Top loading for easy rod insertion

25 degree angulation about axis of screw

Provides maximum interface contact between the rod and screw head

Rods

Curved rods reduce the need to contour

Rods are 6mm in diameter for mechanical strength

Both straight and curved rods are provided in a variety of lengths from 40mm to 420mm

IMPLANT SIZES

Screw Diameter	Length (in 5mm increments)	Color
4.5mm	30-45mm	Lavender
5.5mm	30-55mm	Green
6.5mm	30-60mm	Platinum
7.5mm	30-60mm	Blue

Screw Thread Design

Double lead thread speeds insertion time

Self-tapping

Round tip for safe insertion

Tapered transition of minor diameter

Locking Cap

Buttress thread ensures proper clamp strength and resists backout

Rotating compression saddle allows correct alignment with the rod

ETHOS SPINE Instruments

Pedicle preparation

Includes awls, probes and taps for pedicle preparation with ergonomic quick-release handles for comfortable handling.

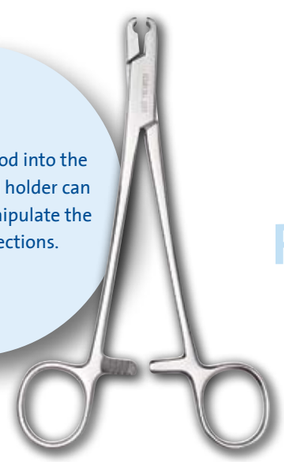
Screw insertion

The Universal Ratchet Handle can be set in a fixed, clockwise or counter-clockwise direction. The Pedicle Driver is used with the Universal Ratchet Handle and threads onto the screw for secure insertion.

Rod Preparation

Rod Holder for 6mm rods

Used to place the rod into the Ethos head. The rod holder can also be used to manipulate the rod during corrections.



Rod Bender with adjustable bend radius

Contour the rod by turning the knob to adjust the bend radius.

Construct Assembly

Starter Driver

The Starter Driver is used to insert the locking cap into the Ethos head. It is designed to hold the locking cap secure at the tip during insertion.

Anti Torque

The Anti Torque is used to restrict torsional motion during final tightening. It can also be used as a rod pusher to assist in rod insertion.

Finishing Driver

The Finishing Driver is used for final tightening of the locking cap. It is used with the Torque Limiting Handle.

Rod Pusher

The Rod Pusher is utilized to assist the insertion of the locking screw by applying a downward force to the rod, thus seating the rod into the screw head.

Torque Limiting Handle

Used in conjunction with the Finishing Driver for final tightening of the locking cap. The Torque Limiting Handle applies a maximum torque of 9Nm. (80in-lb.)

Compression and Distraction

Compression Plier

Used to apply compression across an Ethos assembly before final tightening.

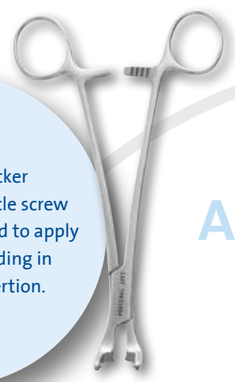
Distraction Plier

Used to apply distraction across an Ethos assembly before final tightening.

Additional Instruments

Implant Rocker

The Implant Rocker attaches to the pedicle screw driver body and is used to apply force to the rod, aiding in locking screw insertion.



Rod Power Grip

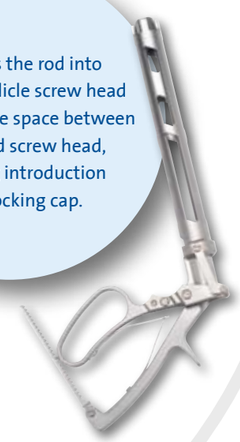
The Rod Power Grip is used to firmly grasp the rod for rotation during compression or distraction.

Rod Plier

Used to place the rod into the Ethos head. The Rod Plier can also be used to manipulate the rod during corrections.

Rod Persuader

Introduces the rod into the Ethos pedicle screw head by reducing the space between the rod and screw head, facilitating introduction of the locking cap.



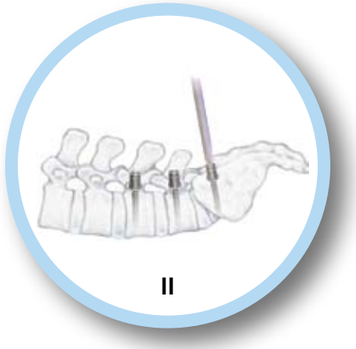
ETHOS SPINE Surgical Technique

I. Pedicle screw hole preparation

1. Mark the entrance to the pedicle using the Awl.
2. Insert the Probe into the prepared hole created with the Awl. Utilizing steady pressure, insert the Probe to the appropriate depth. Depth markings on the shaft of the probe can be used to confirm depth.
3. Confirm the integrity of the pedicle wall using the Probe.

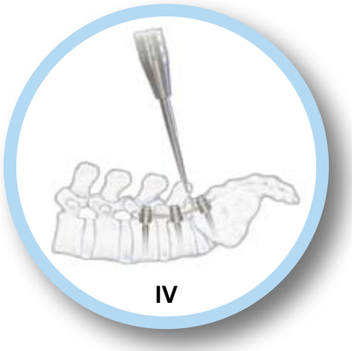
II. Screw insertion

4. Attach the Universal Ratchet Handle to the Pedicle Screw Driver. This is accomplished by first pulling back on the plunger of the handle and then inserting the fitting of the Pedicle Screw Driver into the handle. Release the plunger of the handle and confirm that the assembly is secure.
5. Confirm that the Pedicle Screw Driver is in the “Lock” position.
6. Screws can be loaded onto the Pedicle Screw Driver directly from the sterilization case or by hand.
7. With the driver in the “Lock” position, first insert the tip of the Pedicle Screw Driver into the recessed end of the Pedicle Screw.
8. Then, utilizing gentle pressure, push down and rotate until the screwdriver is locked onto the Pedicle Screw.
9. Advance the Pedicle Screw into the pedicle by turning the handle. The silver handle of the Pedicle Screw Driver rotates independently of the screw driver shaft to allow the user to hold the handle during insertion, which allows the user to better control the instrument.
10. Once the Pedicle Screw has been inserted to the appropriate depth, the Pedicle Screw Driver is removed.
11. All screws are inserted in the same manner as described in steps 7 through 10.



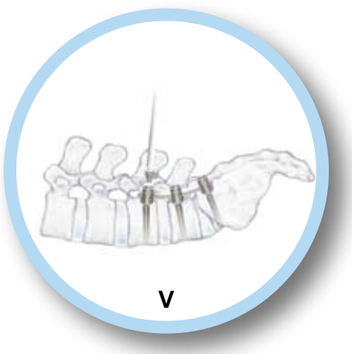
III. Rod preparation and insertion

12. Following Pedicle Screw insertion, the appropriate length rod size can be chosen either by trial or by utilizing the rod template.
13. If it is necessary to contour the rod, the rod template can be bent to provide a template of the curvature prior to utilizing the Rod Bender.
14. The Rod Holder is used to place the rod into the saddle of the Pedicle Screw head.



IV. Rod Pusher

15. The Rod Pusher is positioned on the rod so that the feet of the Rod Pusher securely straddle the rod.
16. Steady pressure is applied to push the rod into the saddle of the Pedicle Screw.

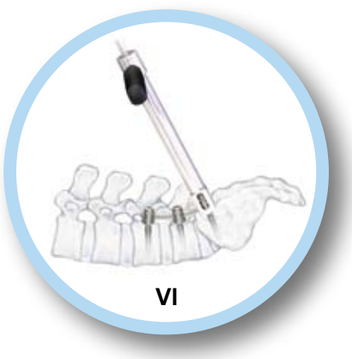


V. Cap insertion initial locking

17 . The Locking Caps can be loaded onto the Starter Driver directly from the locking cap case or by hand.

18 . The Locking Cap will now be securely fastened to the distal tip of the Starter Driver.

19. Place the Locking Cap into the Pedicle Screw head and rotate the Starter Driver clockwise until the Locking Cap is securely fastened. The Rod Holder can be utilized to prevent migration of the rod during Locking Cap insertion.



VI. Apply final tightening

20. Once the rod has been placed and the spine is fixed in a satisfactory position, the final tightening of the screws is done by using the Anti-Torque and the Torque Limiting Handle.

21 . The Torque Limiting Handle indicates the optimal force which must be applied to the implant for tightening. Turn the Torque Limiting Handle until it clicks at 9Nm.

NOTE: The Anti-Torque must be used for final tightening.

Compression/Distraction

1. The Compression Plier or Distraction Plier is appropriately positioned such that the grooved tips of the instrument securely straddle the rod and contact the pedicle screw head.

2 . Bringing together the handles of the instrument will apply the desired compression or distraction. In the event that further travel is desired, the Rod Holder can be applied on the rod, and the distal tips of the instrument can be positioned to apply the appropriate degree of compression or distraction of the distal portion of the Rod Holder.

3 . The instrument has a ratcheting lock at its proximal end such that the instrument can be locked after applying appropriate compression or distraction.

ETHOS SPINE Optional Surgical Technique

Cross Connector Design

Variable lengths from 30mm to 100mm

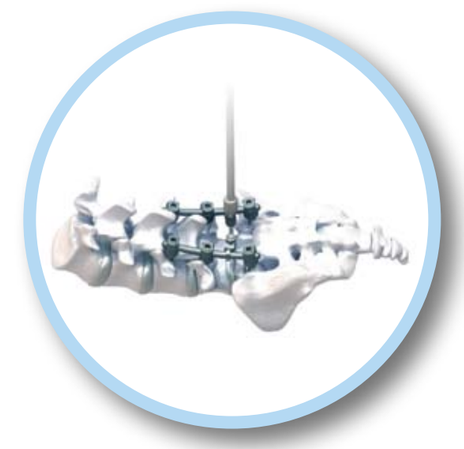
Positive snap aids insertion and ensures proper placement

Cross Connector rotates to accommodate rod variance

Adding Cross Connectors

The Ethos Cross Connector is designed to be used as a construct stabilizer to increase rotational stiffness.

Choose a Cross Connector of the appropriate length. Ensure that the locking nuts are loosened and the clamps are fully opened. Clamp the Cross Connector holder onto one side of the assembly and use it to snap the clamp onto the rod. Tighten the clamp to the rod using the Cross Connector driver. The process is repeated for the opposite side.



ETHOS SPINE Instrument Set

Part #	Description
SLS-010	Rod Holder
SLS-011	Rod Plier
SLS-012	Rod Power Grip
SLS-014	Rod Persuader
SLS-020	Rod Bender
SLS-025	Distractor Pliers
SLS-030	Compressor Pliers
SLS-040	Rod Pusher
SLS-041	Implant Rocker
SLS-050	Bone Awl
SLS-060	Straight Pedicle Probe
SLS-061	Curved Pedicle Probe
SLS-070	Straight Probe
SLS-071	Curved Probe

Part #	Description
SLS-124	Cross Connector Driver
SLS-126	Pedicle Driver
SLS-138	Starter Driver
SLS-139	Finishing Screwdriver
SLA-150	Universal Ratchet Handle
SLA-151	Universal Fixed Handle
SLA-171	Soft Tissue Shield
SLA-172	Anti-Torque
SLA-T100	Torque Limiting Handle
SLTDL-45	Tap 4.5mm
SLTDL-55	Tap 5.5mm
SLTDL-65	Tap 6.5mm
SLTDL-75	Tap 7.5mm

ETHOS SPINE Implant Set

4.5mm Ethos-P Screws	Length
ES-4525	25mm
ES-4530	30mm
ES-4535	35mm
ES-4540	40mm
ES-4545	45mm

5.5mm Ethos-P Screws	Length
ES-5530	30mm
ES-5535	35mm
ES-5540	40mm
ES-5545	45mm
ES-5550	50mm
ES-5555	55mm

6.5mm Ethos-P Screws	Length
ES-6530	30mm
ES-6535	35mm
ES-6540	40mm
ES-6545	45mm
ES-6550	50mm
ES-6555	55mm
ES-6560	60mm

7.5mm Ethos-P Screws	Length
ES-7530	30mm
ES-7535	35mm
ES-7540	40mm
ES-7545	45mm
ES-7550	50mm
ES-7555	55mm
ES-7560	60mm

Ethos–P Locking Screw	Description
ES-0001	Locking screw

Ethos–Pedicle Markers	Description
SLA-112	Pedicle Marker, Cylinder
SLA-113	Pedicle Marker, Cone

Ethos Cross Connectors	Length
ES-3040	30-40mm
ES-3050	40-50mm
ES-3060	50-60mm
ES-3070	60-70mm
ES-3080	70-80mm

Straight Rods (6mm)	Length
ES-SR6040	40mm
ES-SR6045	45mm
ES-SR6050	50mm
ES-SR6055	55mm
ES-SR6060	60mm
ES-SR6070	70mm
ES-SR6080	80mm
ES-SR6090	90mm
ES-SR6100	100mm
ES-SR6110	110mm
ES-SR6120	120mm
ES-SR6460	460mm

Bents Rods (6mm)	Length
ES-BR6045	45mm
ES-BR6055	55mm
ES-BR6065	65mm
ES-BR6075	75mm
ES-BR6085	85mm

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