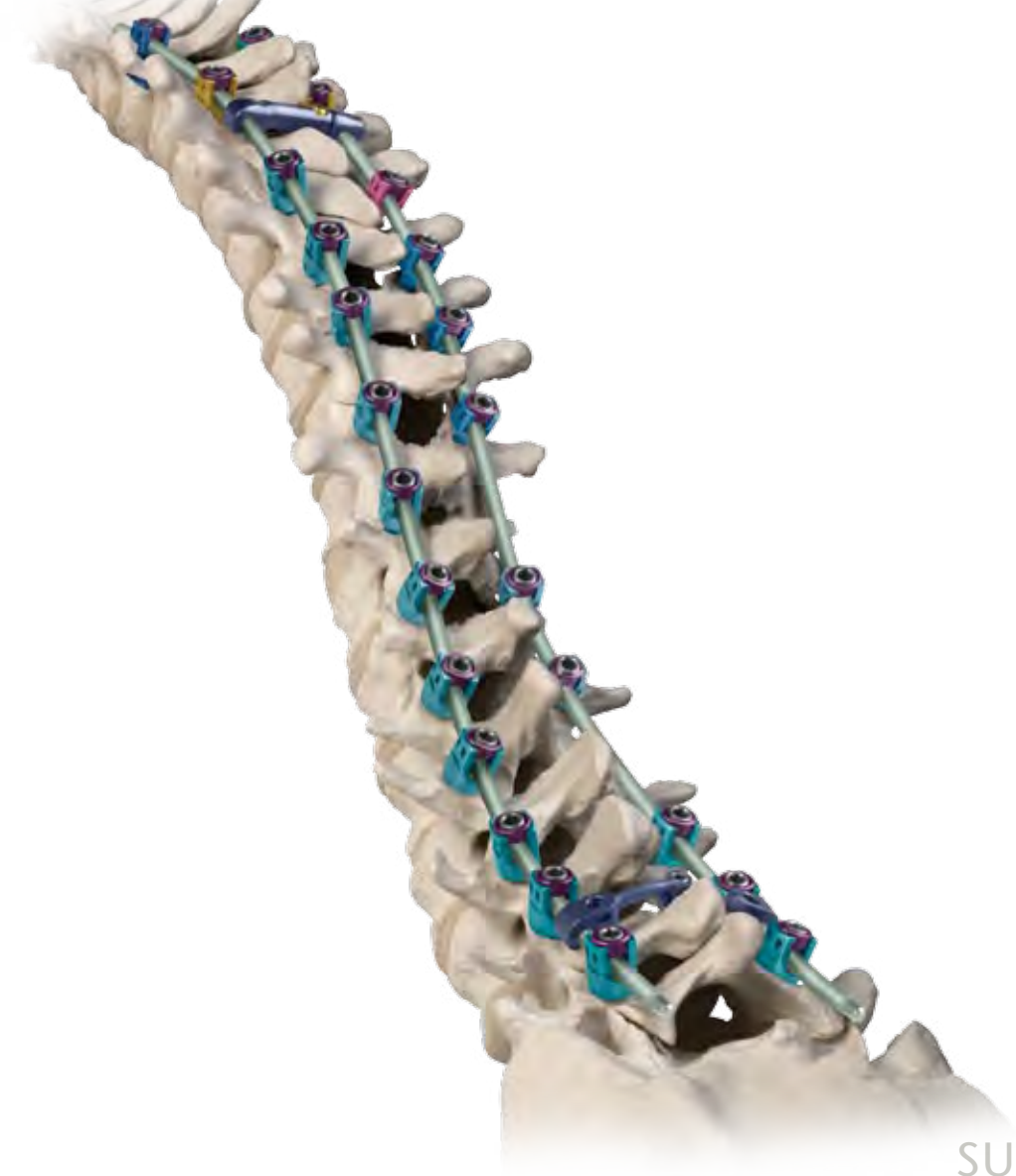
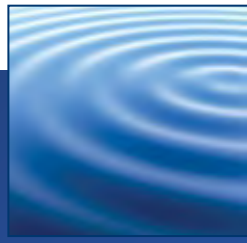
Life moves us



SURGICAL TECHNIQUE



REVERE® 4.5

Stabilization System

GLOBUS MEDICAL

Life moves us

At Globus, we move with a sense of urgency to deliver innovations that improve the quality of life for patients with spinal disorders. We are inspired by the needs of these patients and also the needs of the surgeons and health care providers who treat them.

This passion combined with Globus' world class engineering transforms clinical insights into tangible spine care solutions. We are driven to provide the highest quality products to improve the techniques and outcomes of spine surgery so patients can resume their lives as quickly as possible. We extend our reach beyond our world class implants, instrumentation, and service by partnering with researchers and educators to advance the science and knowledge of spine care.

The energy and enthusiasm each of us bring everyday to Globus is palpable. We are constantly in the pursuit of better patient care and understand that speed is critical because life cannot wait.

GLOBUS
MEDICAL

www.globusmedical.com

REVERE® 4.5
Stabilization System

The REVERE® 4.5 Stabilization System provides the implants and instruments necessary to address complex spinal deformities in the pediatric and small stature patient population. A wide selection of screw options, along with various in-line and offset connectors and multiple hook profiles, gives the deformity surgeon a myriad of implant options.

Ergonomically designed innovative instruments complete the system, providing intuitive ease of use and various reduction and curve manipulation options. This comprehensive deformity system allows the surgeon to address the needs of the patient and achieve the surgical goal of providing long term spinal balance and stability.

WARNING: The safety and effectiveness of this device has not been established for use as part of a growing rod construct. This device is only intended to be used when definitive fusion is being performed at all instrumented levels.

REVERE® 4.5 Stabilization System

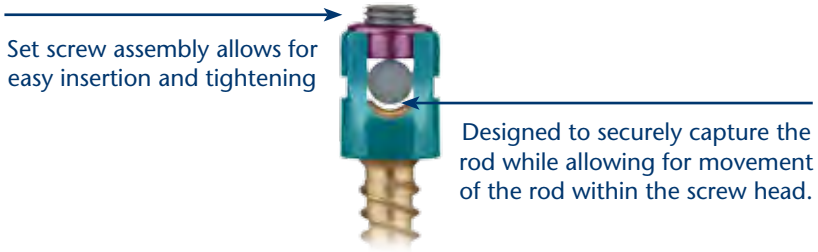
SMALL PATIENTS, BIG CHALLENGES, RIGHT SOLUTION

This premier deformity system was developed to treat spinal deformities in a challenging patient population. The REVERE® 4.5 portfolio of products includes monoaxial, polyaxial, uniplanar, and dual outer diameter screws, in addition to various types of hooks, cross connectors, lateral and in-line connectors, revision and sacral fixation components.

While maintaining the reliability and ease of use that is expected from Globus products, this new system offers multiple options to address complex, multi-level deformity cases and accommodate varying patient anatomy in the small stature and pediatric patient population. The REVERE® 4.5 Stabilization System is a 4.5mm rod-based system based on a proven non-threaded locking cap design that captures the rod with a 90° rotation.

System highlights include:

REVERE® 4.5 Non-Threaded Locking Cap



90° rotation of locking cap captures the rod

Non-threaded design eliminates cross-threading

Various Connector Options for Complex Cases

REVERE® 4.5 In-Line, Offset, and Parallel Connectors

Multiple Options for Reduction and Deformity Correction Cases

REVERE® 4.5 *In Situ* Benders and Reduction Tower

CONTENTS

The Surgical Technique shown is for illustrative purposes only. The technique(s) actually employed in each case always depends on the medical judgment of the surgeon exercised before and during surgery as to the best mode of treatment for each patient. Additionally, as instruments may occasionally be updated, the instruments depicted in this Surgical Technique may not be exactly the same as the instruments currently available. Please consult with your sales representative or contact Globus directly for more information.

IMPLANT OVERVIEW

REVERE® 4.5 Non-Threaded Locking Cap

- Non-threaded design eliminates cross-threading
- 90° rotation securely captures the rod
- Rod can be rotated within screw head before final tightening, allowing for better manipulation for curve correction

REVERE® 4.5 Polyaxial Screws

- ± 30° angulation
- Double lead thread for rapid insertion
- Blunt tip
- Constant outer diameter
- Available sizes:
  - 4.0mm diameter, 20–45mm length
  - 4.5mm diameter, 20–55mm length
  - 5.0mm diameter, 20–60mm length
  - 5.5mm diameter, 20–70mm length
  - 6.5mm diameter, 25–70mm length
  - 7.5mm diameter, 25–90mm length

IMPLANT OVERVIEW

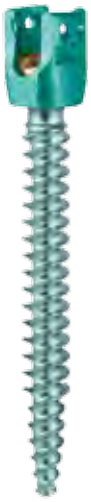
REVERE® 4.5 Uniplanar Screws

- Useful for deformity correction
- Combines the versatility of a polyaxial screw with correction capability of a monoaxial screw
- Medial/lateral rigidity with cranial/caudal adjustability
- Low profile
- Double lead thread for rapid insertion
- ±20° angulation in cranial/caudal direction
- Available sizes:
  - 4.0mm diameter, 20–55mm length
  - 4.5mm diameter, 20–55mm length
  - 5.0mm diameter, 20–55mm length
  - 5.5mm diameter, 20–55mm length

REVERE® 4.5 Monoaxial Screws

- Low-profile top-loading screw design
- Instrument-screw connection avoids interference with bony anatomy
- Blunt tip for bicortical purchase
- Constant outer diameter
- Double lead thread for rapid insertion
- Multiple sizes to accommodate patient anatomy
- Available sizes:
  - 4.0mm diameter, 20–40mm length
  - 4.5mm diameter, 20–45mm length
  - 5.0mm diameter, 20–55mm length
  - 5.5mm diameter, 25–65mm length
  - 6.5mm diameter, 25–65mm length

REVERE® 4.5 Dual Outer Diameter Screws



- Open head for greater versatility
- Constant core diameter for optimal screw positioning
- Available sizes:
  - 5.5/7.0mm diameter, 30–60mm length
  - 6.0/7.5mm diameter, 30–60mm length
  - 6.5/8.0mm diameter, 30–60mm length

IMPLANT OVERVIEW

REVERE® 4.5 Hooks

- Low-profile top-loading hook design
- 28 different hook configurations for the lamina, pedicle or transverse process
- Unique lamina hooks for thoracic or lumbar applications
- Hooks available in small, medium and large profiles
- Narrow, standard, and wide blade widths available
- Serrations on hook blades to aid in positioning

Multiple Profiles:

Pedicle Hook | Lamina Hook | Thoracic Lamina Hook | Angled Lamina Hook | Upgoing Lamina Hook | Transverse Process Hook | Offset Hook

Small, Medium and Large

Small | Medium | Large

Narrow, Standard, and Wide Blade Widths

Narrow | Standard | Wide

See pages 42-43 for all hook dimensions

REVERE® 4.5 Hex Ended Rods

- 4.5mm diameter
- 3.5mm hex on both ends
- Manufactured in titanium alloy (TAV) and cobalt chrome alloy (CoCr)
- TAV available in lengths of 100, 125, 150, 200, 300, 400, 500 and 600mm
- CoCr available in lengths of 100, 150, 200, 300, 400, 500 and 600mm

TAV Rod

CoCr Rod

IMPLANT OVERVIEW

REVERE® 4.5 Low-Profile Cross Connectors

- Ideal for use in the thoracic spine to reduce prominence
- Five overlapping sizes:
  - 20–22mm
  - 21.5–25mm
  - 24.5–31mm
  - 30.5–43mm
  - 42.5–67mm

REVERE® 4.5 Top-Loading Cross Connectors

- Top loading for easier placement
- Seven overlapping sizes:
  - 23–28mm
  - 27–35mm
  - 34–46mm
  - 45–57mm
  - 56–68mm
  - 67–79mm
  - 78–90mm

REVERE® 4.5 Fixed Low-Profile Cross Connectors

- One piece main body, providing a lower profile and a more rigid connection
- Four sizes to accommodate patient anatomy:
  - 20mm
  - 30mm
  - 40mm
  - 50mm

REVERE® 4.5 Adjustable Cross Connectors

- Greater adjustability for more challenging anatomy
- Seven overlapping sizes:
  - 29–33mm
  - 32–40mm
  - 38–50mm
  - 44–60mm
  - 50–70mm
  - 54–80mm
  - 60–90mm

IMPLANT OVERVIEW

REVERE® 4.5 Connectors

In-Line

- Available in 30, 50, 70, 90, 110, and 120mm lengths to meet various anatomical and surgical conditions
- Sizes 50mm and longer have slotted opening on top of implant
- Opening allows for better visualization

Offset

- Open, closed and REVERE® 4.5 head options
- Available in 15, 20, 25, 30, 35, 40, 45, 100, 120, and 150mm lengths

Trans-iliac Connector

- Open and closed options
- Three sizes to accommodate patient anatomy and surgical conditions

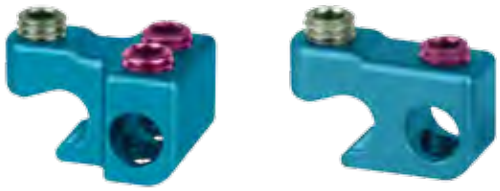
IMPLANT OVERVIEW

Parallel Connectors

Three styles:

- Parallel Connectors (closed-closed)
  - 7.5, 10, and 15mm widths
  - Single and double set screw options

- Parallel Connector Clamps (open-closed)
  - 7.5, 10, and 15mm widths
  - Single and double set screw options



- Rod-to-Rod, Parallel Clamps (open-open)
  - 7.5, 10, and 15mm widths
  - Single and double set screw options

Options to connect to various rod sizes

- 4.5mm to 5.5mm
- 4.5mm to 6.0mm–6.5mm

For all connector dimensions, please see page 44

INSTRUMENT OVERVIEW

Pedicle Preparation Instruments

Pedicle Awl 602.104

Pedicle Probe, Small, Straight 624.111

Pedicle Probe, Small, Curved 624.112

Pedicle Probe, Thoracic, Curved, 4.0mm 6041.0109

Pedicle Probe, Thoracic, Straight, 4.0mm 6041.0110

Ball Tip Probe 682.115

Ball Tip Probe, Curved 6041.0106

Pedicle Preparation Instruments (Cont'd)

4.0 Tap 624.213

4.5 Tap 624.214

5.0 Tap 624.212

5.5 Tap 624.215

6.5 Tap 624.216

Screw Insertion Instruments

4.5mm Polyaxial/Uniplanar/Dual Outer Diameter Screwdriver 6041.0740

4.5mm Rigid Monoaxial Screwdriver 6041.0320

Quick Connect Ratcheting Handle 630.407

4.5mm Rigid Monoaxial Screwdriver 6041.0320
Quick Connect, 1/4" Ratcheting Handle 630.407 *(Assembled)*

Screw Insertion Instruments (Cont'd)

Quick Connect, 1/4" Non-Ratcheting, Large Sport Handle 634.406

3.5mm Hex Screwdriver Shaft, 1/4" Connection 6041.0405

3.5mm Hex Screwdriver, Self-Retaining, 1/4" Connection, Shaft 6041.0408

3.5mm Hex Screwdriver 1/4" Connection, Long 6041.0706

4.5mm External Head Positioner 6041.0325

4.5mm Internal Screw Head Positioner 6041.0402

Rod Manipulation and Insertion Instruments

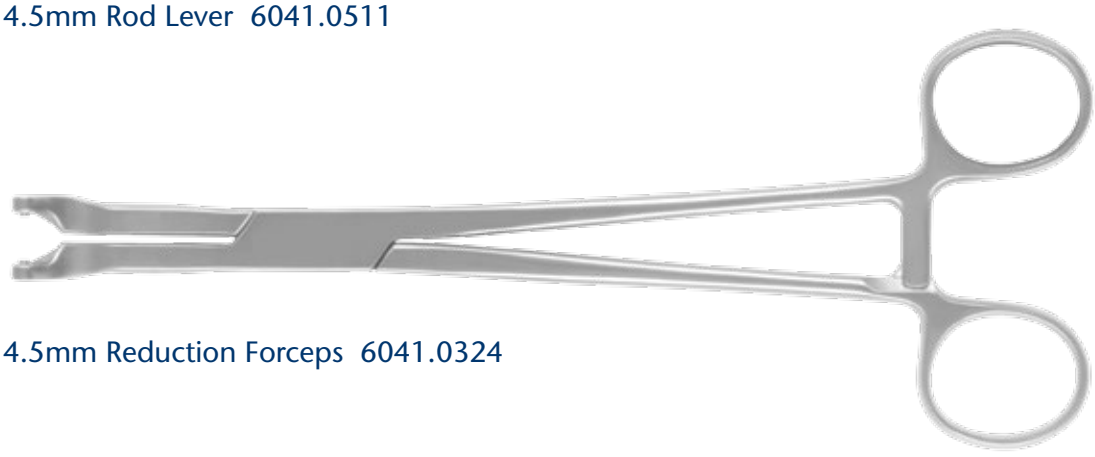
4.5mm Rod Template, 500mm 6041.0519

4.5mm Power Bender 6041.0506

Rod Holder, 4.5mm Rod 6041.0510

4.5mm Rod Pusher 6041.0513

4.5mm Rod Lever 6041.0511



4.5mm Reduction Forceps 6041.0324

Rod Manipulation and Insertion Instruments (Cont'd)

4.5mm Tower Reducer 6041.0800

Tower Reducer Handle 624.801

4.5mm Locking Cap Driver 6041.0601

4.5mm Locking Cap Driver, Long 6041.0157

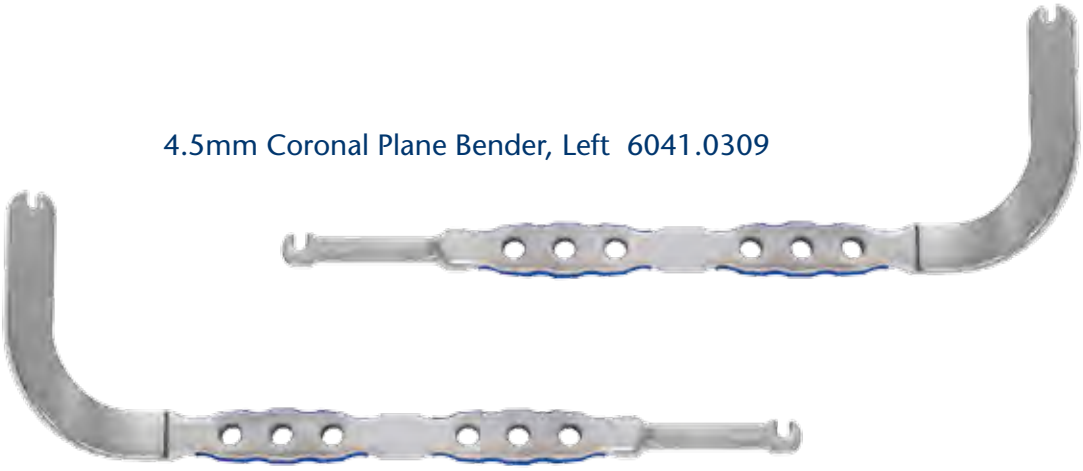
4.5mm Locking Cap Guide 6041.0602

Correction Instruments

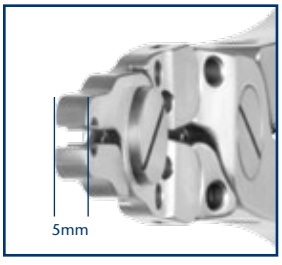
4.5mm *In Situ* Bender, Left 6041.0303

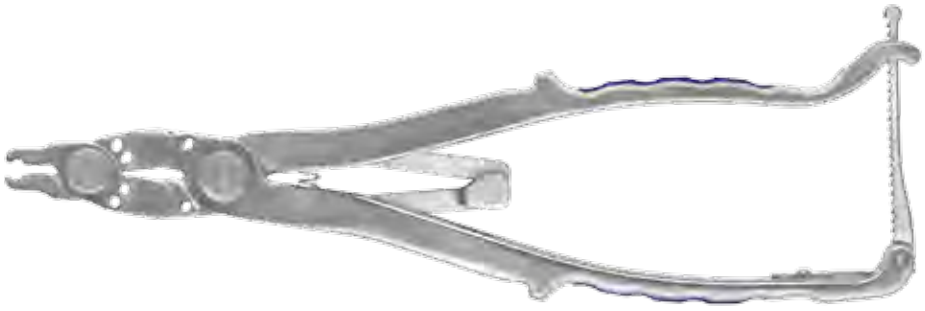
4.5mm *In Situ* Bender, Right 6041.0304

4.5mm Coronal Plane Bender, Left 6041.0309



4.5mm Coronal Plane Bender, Right 6041.0310

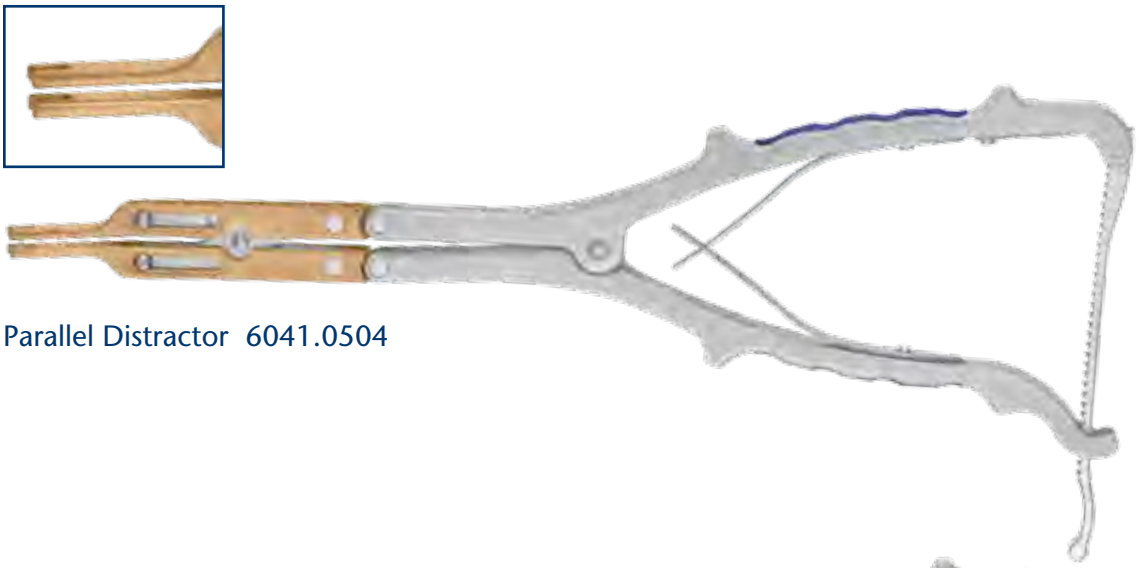




Rod Gripper 4.5 Rod, Narrow 6041.0525

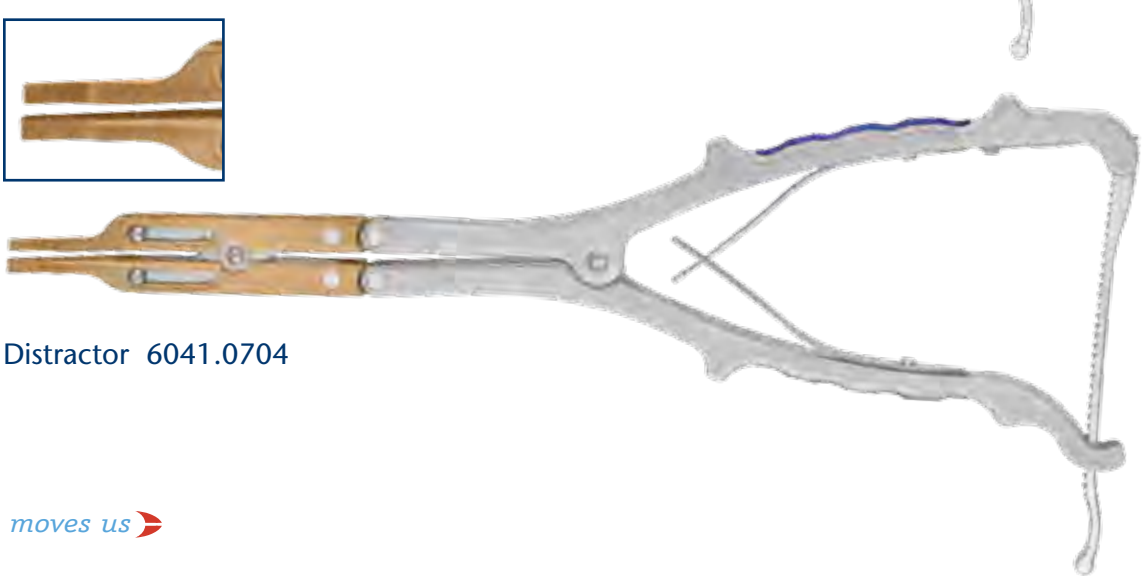
Correction Instruments (Cont'd)

4.5mm Hex Rod Wrench 6041.0316



Parallel Distractor 6041.0504

Parallel Compressor 6041.0503



Distractor 6041.0704

Final Assembly Instruments

4.5mm Final Tightening
Counter Torque 6041.0603

3.5mm Torque Limiting Driver 6041.0604

Cross Connector Template 6041.0605

Screwdriver, Shaft, 2.5mm Hex 682.210

Torque-Limiting Quick Connect Handle, 1.5Nm 682.212

Screwdriver, Shaft, 2.5mm Hex 682.210
Torque-Limiting Quick Connect Handle, 1.5Nm 682.212
(Assembled)

Hook Instruments

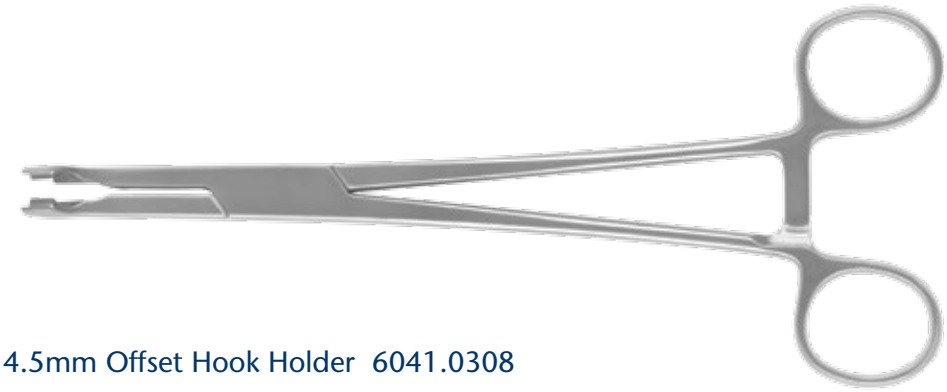
4.5mm Small Lamina Finder 6041.0299

4.5mm Small Pedicle Finder 6041.0301

4.5mm Hook Holder 6041.0305

4.5mm Lateral Hook Holder 6041.0307

Hook Instruments (Cont'd)



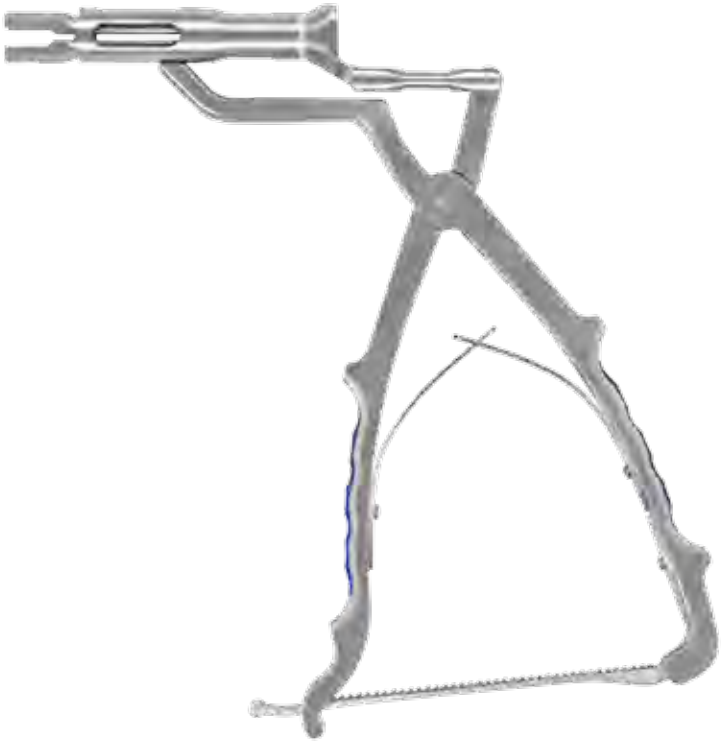
4.5mm Offset Hook Holder 6041.0308

4.5mm Hook Positioner 6041.0306

Additionally Available Instruments

4.5mm Locking Cap Driver, Double-Ended 6041.0322

Additionally Available Instruments (Cont'd)



4.5mm Reducer, Ratcheting 6041.0505

4.5 Self-Retaining Monoaxial Screwdriver ("Stab 'n Grab") 6041.0313

3.5mm Hex Driver, 1/4" Connect, Medium 6041.0703

Additionally Available Instruments (Cont'd)

Rod Gripper 4.5 Rod, Wide 6041.0522

Large Lamina Finder 6041.0300

Large Pedicle Finder 6041.0302

Step 1 Approach

A preoperative plan should be developed to determine the optimum approach and implant construct. The appropriate hooks and screws should be selected based on patient anatomy, deformity type and method of correction.

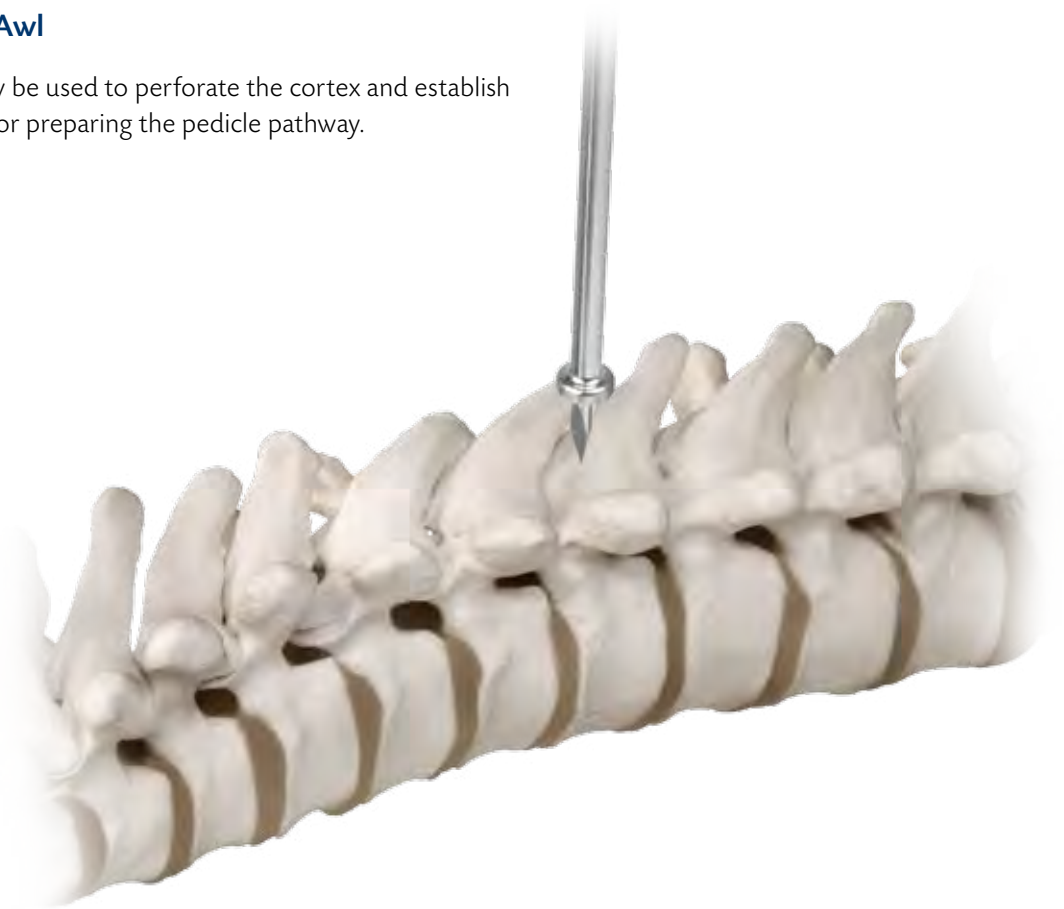
Before the procedure, the patient is placed under general anesthesia and positioned prone. The operative area is carefully cleaned and an incision is made at the appropriate levels. Lateral C-arm fluoroscopy or other radiographic methods may be utilized throughout surgery to ensure correct implant placement.

Please refer to the product insert, which is printed in the back of this surgical technique, for complete description, indications, contraindications and warnings.

Step 2 Pedicle Preparation

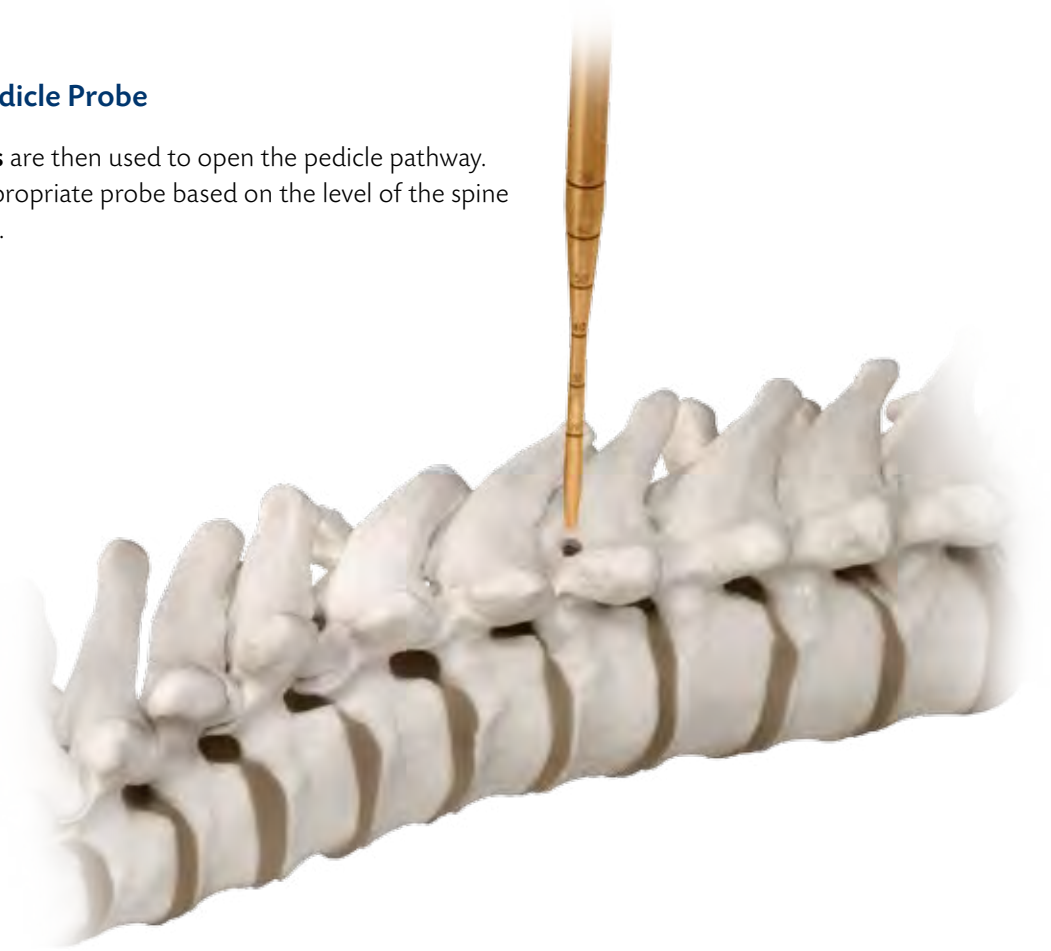
Using the Awl

The **Awl** may be used to perforate the cortex and establish a pilot hole for preparing the pedicle pathway.



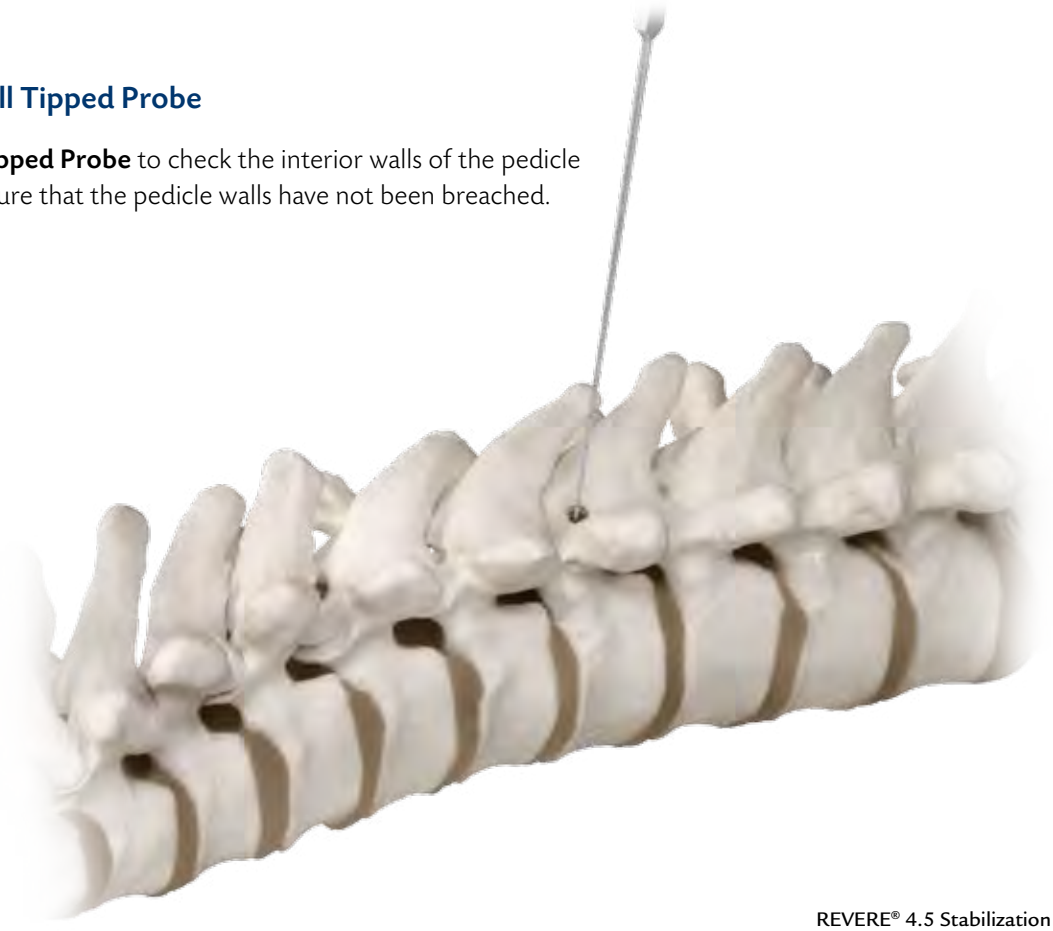
Using the Pedicle Probe

Pedicle Probes are then used to open the pedicle pathway. Choose the appropriate probe based on the level of the spine being prepared.



Using the Ball Tipped Probe

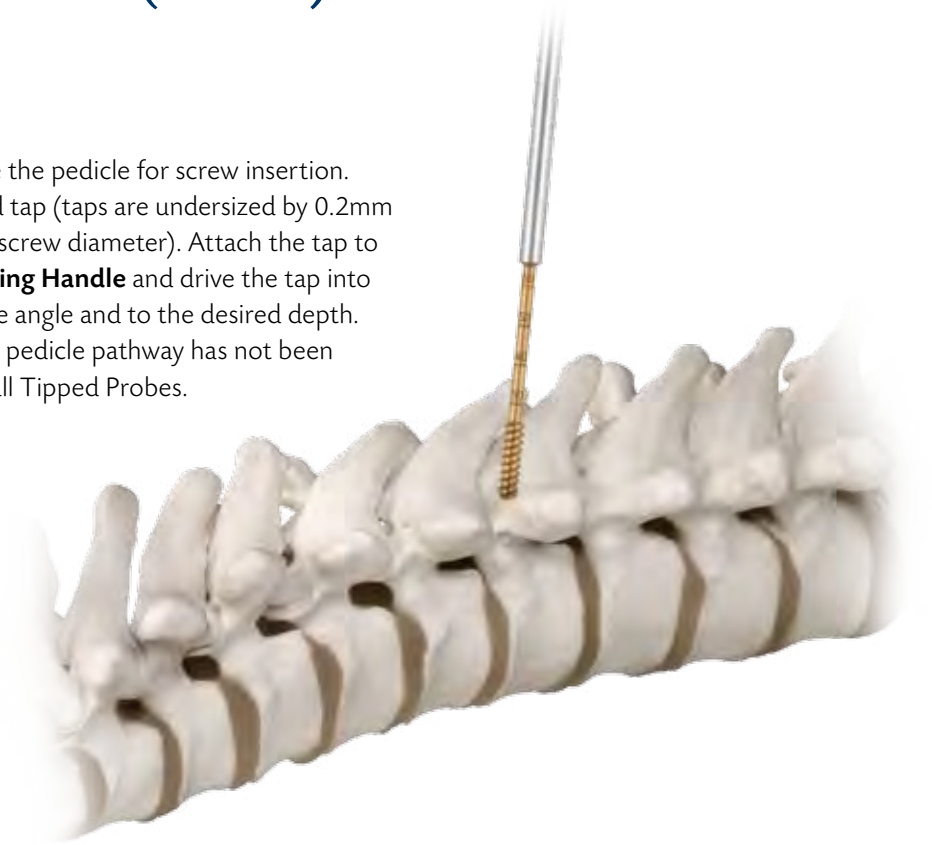
Use the **Ball Tipped Probe** to check the interior walls of the pedicle pathway to ensure that the pedicle walls have not been breached.



Pedicle Preparation (Cont'd)

Using the Tap

Taps may be used to prepare the pedicle for screw insertion. Choose the appropriate sized tap (taps are undersized by 0.2mm compared to the referenced screw diameter). Attach the tap to the **Quick Connect Ratcheting Handle** and drive the tap into the pedicle at the appropriate angle and to the desired depth. After tapping, check that the pedicle pathway has not been breached using one of the Ball Tipped Probes.



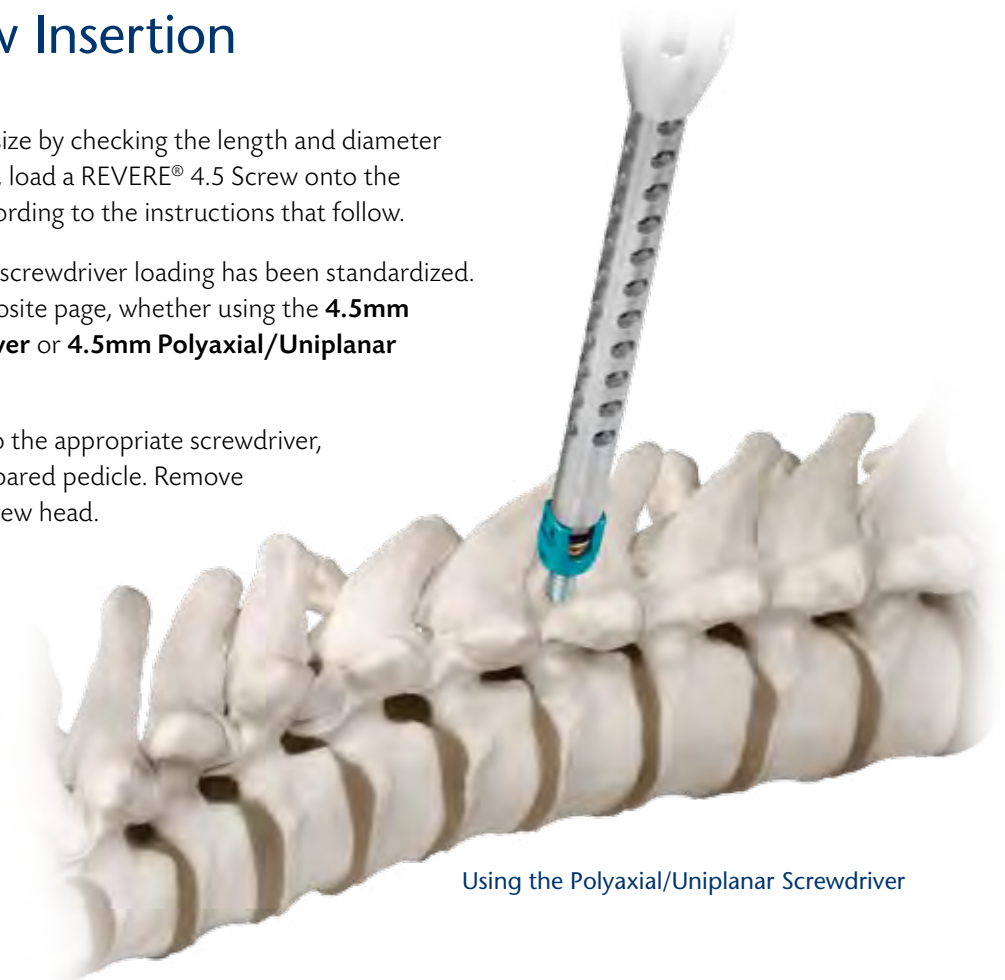
Step 3 Screw Insertion

After confirming the screw size by checking the length and diameter markings on the screw head, load a REVERE® 4.5 Screw onto the appropriate screwdriver according to the instructions that follow.

In the REVERE® 4.5 System, screwdriver loading has been standardized. Follow the steps on the opposite page, whether using the **4.5mm Rigid Monoaxial Screwdriver** or **4.5mm Polyaxial/Uniplanar Screwdriver.**

After loading the screw onto the appropriate screwdriver, drive the screw into the prepared pedicle. Remove the screwdriver from the screw head.

Repeat for each screw.

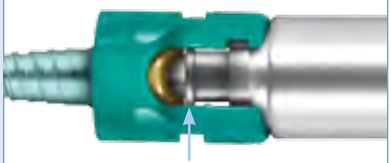
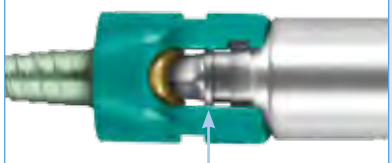


Using the Polyaxial/Uniplanar Screwdriver

Loading a REVERE® 4.5 System Screwdriver

Select the appropriate screw diameter and length. Follow the steps below to load the screwdriver.

Polyaxial/Uniplanar Screwdriver	Instructions	Monoaxial Screwdriver
	Before loading the screwdriver, ensure that the knurled knob on the screwdriver is rotated completely counterclockwise	
	The distal end of the screwdriver appears as shown when ready to use	
	Align the screwdriver with the screw. Press the screw onto the tabs on the end of the screwdriver	
	Rotate the handle clockwise	
	This engages the tabs into the top of the screw head	
	Rotate the knurled knob clockwise until tight	
 Polyaxial screw loaded onto screwdriver	The screw is now loaded onto the screwdriver	 Monoaxial screw loaded onto screwdriver
		
To disengage the screwdriver from the screw, rotate the knurled knob counterclockwise until it hits the stop, then rotate the handle counterclockwise.		

 Polyaxial screw loaded	*Note: Once the knurled knob is in the locked position, the distal tab will sit flush on a polyaxial screw but will not sit flush on a uniplanar screw.*	 Uniplanar screw loaded

Step 4 Hook Placement

Preparing the Pedicle for Hook Placement

The **4.5mm Small Pedicle Finder** is used to prepare the pedicle for hook placement. Use the finder to open the facet capsule and locate the pedicle. If necessary, a portion of the inferior facet process may be removed to aid in pedicle hook insertion.

Preparing the Lamina

The **4.5mm Small Lamina Finder** may be used to separate the ligamentum flavum from the lamina.

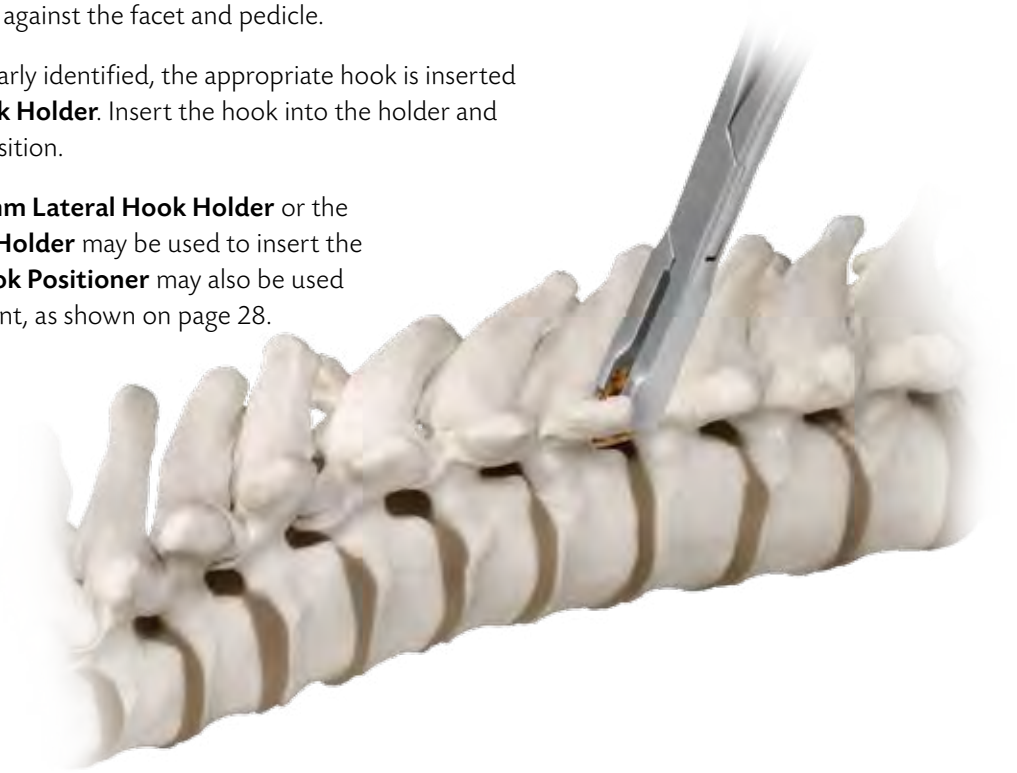
The finder may also be used to locate and prepare the transverse process.

Pedicle Hook Placement

A pedicle hook is typically used at the T10 level and above. The hook blade is placed up-going and sits flush against the facet and pedicle.

Once the pedicle is clearly identified, the appropriate hook is inserted using the **4.5mm Hook Holder**. Insert the hook into the holder and place in the desired position.

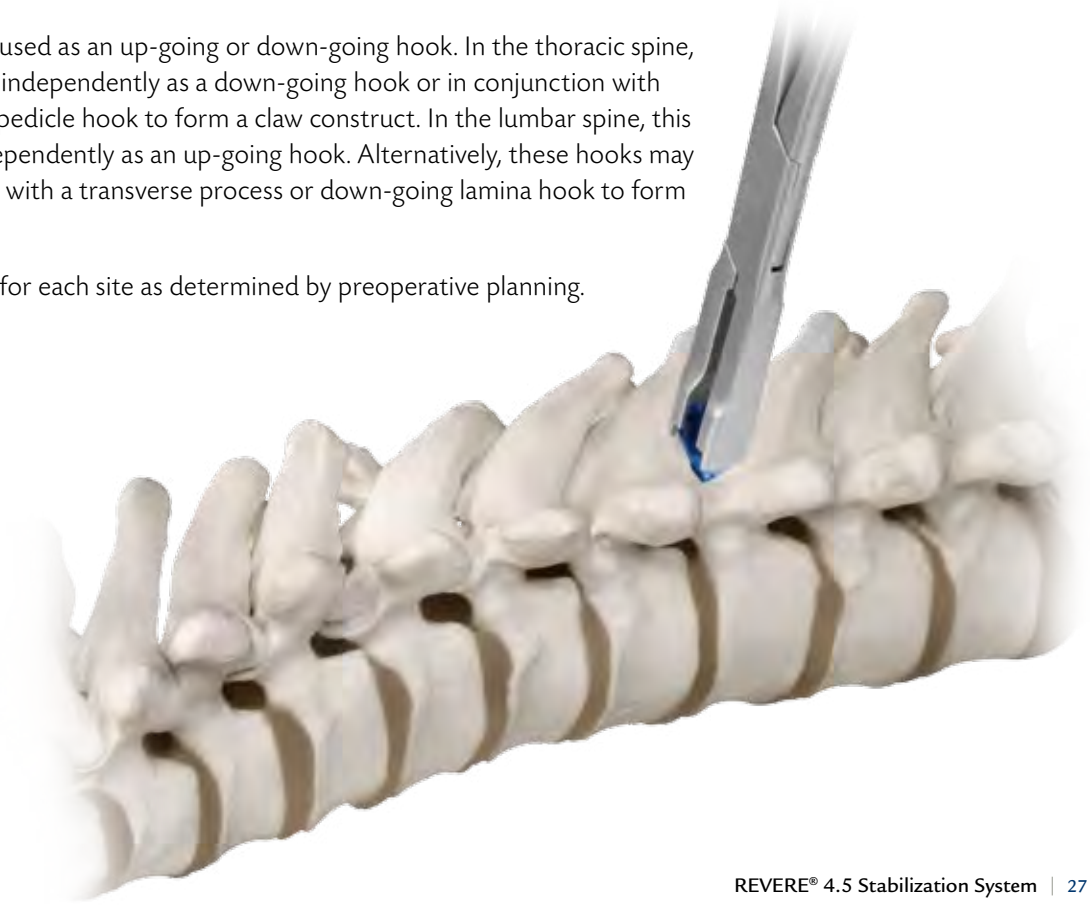
Alternatively, the **4.5mm Lateral Hook Holder** or the **4.5mm Offset Hook Holder** may be used to insert the hook. The **4.5mm Hook Positioner** may also be used to aid in hook placement, as shown on page 28.



Lamina Hook Placement

A lamina hook may be used as an up-going or down-going hook. In the thoracic spine, this hook may be used independently as a down-going hook or in conjunction with an up-going lamina or pedicle hook to form a claw construct. In the lumbar spine, this hook may be used independently as an up-going hook. Alternatively, these hooks may be used in conjunction with a transverse process or down-going lamina hook to form a claw construct.

Repeat hook insertion for each site as determined by preoperative planning.



Hook Placement (Cont'd)

Transverse Process Hook Placement

A transverse process hook is usually placed down-going. Typically it is used at the top of a construct. Transverse process hooks may be used with an up-going pedicle hook to form a claw construct, either at the same level or one level superior. Insert the appropriate transverse process hook into the hook holder and place the hook in the desired location. Use the 4.5mm Hook Positioner to seat the hook.

Repeat hook insertion for each site as determined by preoperative planning.

Note: Hook position should be checked frequently, to ensure that the hooks remain in the correct position throughout the procedure.

Using Hook Holders

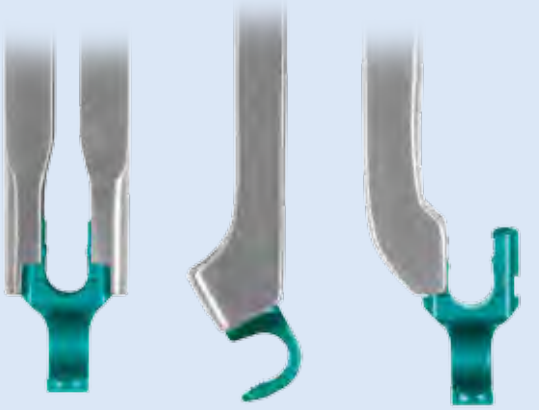
The REVERE® 4.5 Stabilization System has several instruments to aid in hook placement.

The 4.5mm Hook Holder and the 4.5mm Offset Hook Holder engage into the reduction slots on the side of the implant. The 4.5mm Hook Positioner may be used with the standard hook holder to facilitate hook insertion.

The 4.5mm Offset Hook Holder allows for introduction of a cap without disengaging the instrument.

Alternatively, the 4.5mm Lateral Hook Holder may be used for insertion. This holder engages into the slots on the cranial and caudal sides of the hook, and allows for introduction of the rod and cap without disengaging the instrument.

A 4.5mm Hook Positioner may be used to aid in inserting and positioning the hooks as shown.



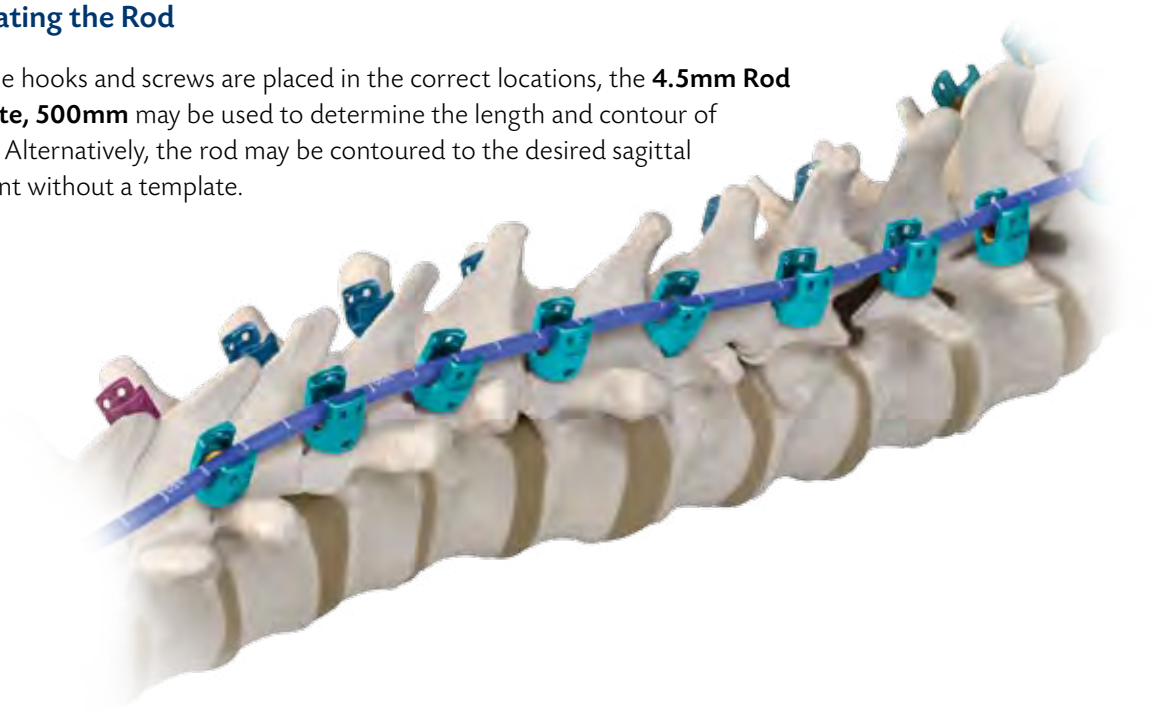
Hook Holder | Offset Hook Holder | Lateral Hook Holder

Using the hook positioner

Step 5 Rod Insertion

Templating the Rod

Once the hooks and screws are placed in the correct locations, the **4.5mm Rod Template, 500mm** may be used to determine the length and contour of the rod. Alternatively, the rod may be contoured to the desired sagittal alignment without a template.

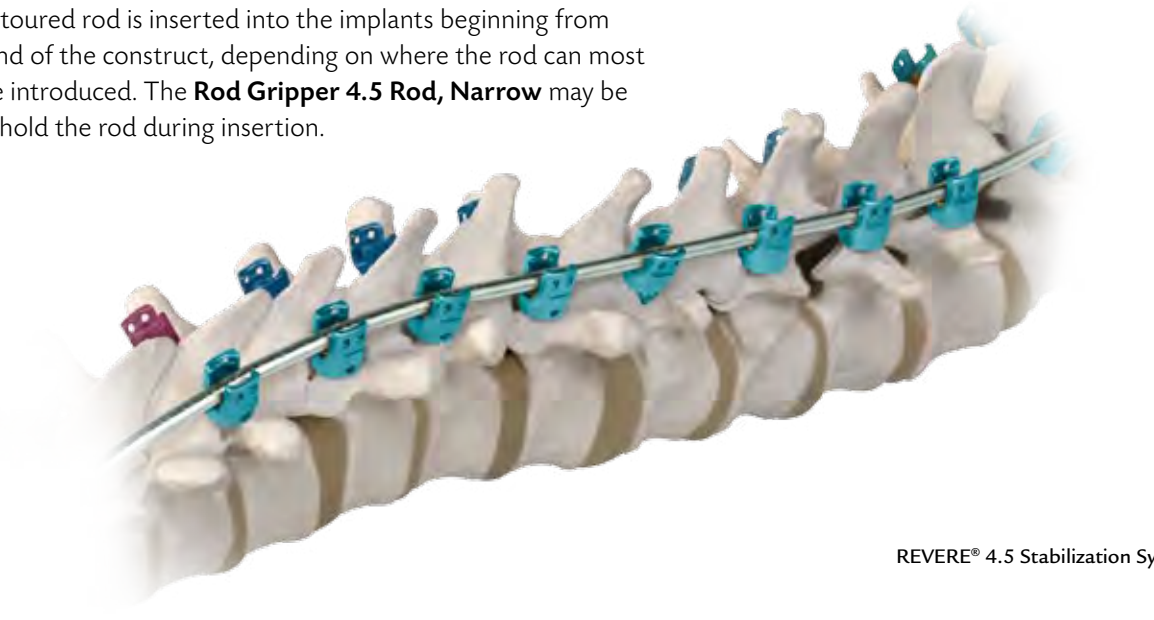


Contouring the Rod

Select the appropriate rod length. If the rod needs to be cut, the Rod Cutter may be used to modify rod length.

The rod is contoured to match the rod template using the **4.5mm Rod Bender.** To achieve the correct contour, the rod should be bent in small incremental steps so as not to damage the rod. The rods have orientation lines to assist in maintaining same plane positioning during contouring.

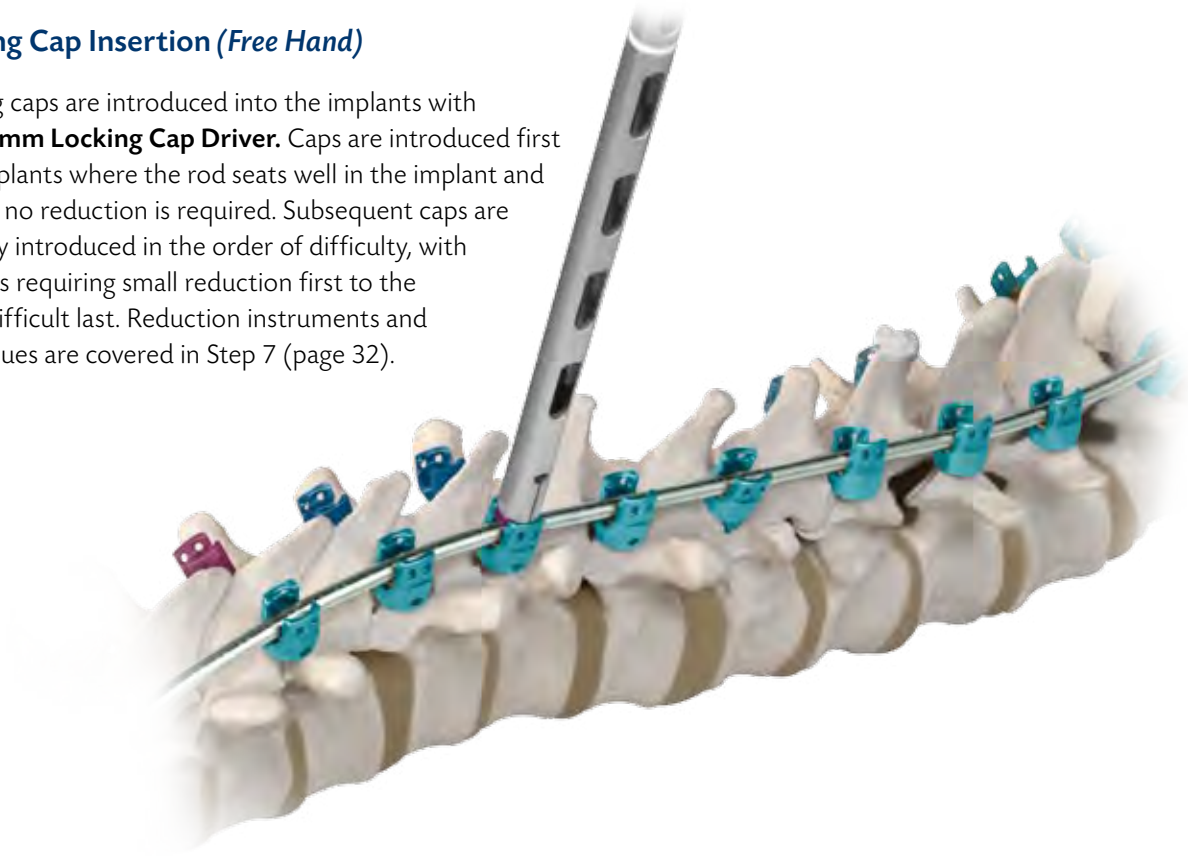
The contoured rod is inserted into the implants beginning from either end of the construct, depending on where the rod can most easily be introduced. The **Rod Gripper 4.5 Rod, Narrow** may be used to hold the rod during insertion.



Step 6 Rod Capture and Locking Cap Insertion

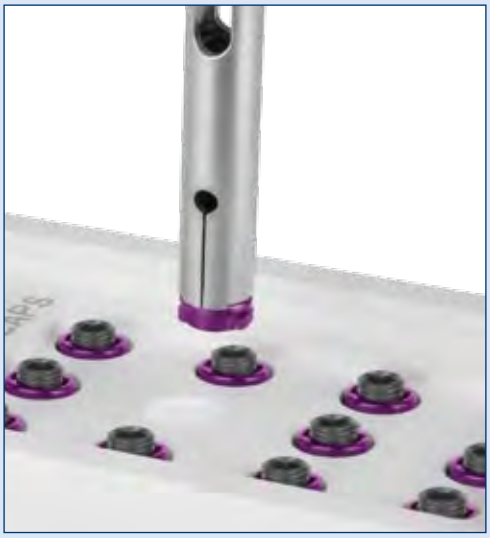
Locking Cap Insertion *(Free Hand)*

Locking caps are introduced into the implants with the **4.5mm Locking Cap Driver.** Caps are introduced first into implants where the rod seats well in the implant and little to no reduction is required. Subsequent caps are typically introduced in the order of difficulty, with the caps requiring small reduction first to the more difficult last. Reduction instruments and techniques are covered in Step 7 (page 32).



Loading the Locking Cap Driver

Press the cap driver down over the locking cap until fully seated.



Locking Cap Insertion

With a loaded 4.5mm Locking Cap Driver, insert the locking cap into the screw head and rotate the cap driver clockwise 90° to capture the rod.

Note: Locking cap insertion requires minimal effort. If the locking cap is difficult to turn, the rod may not be seated properly and further rod reduction or rod contouring is required.

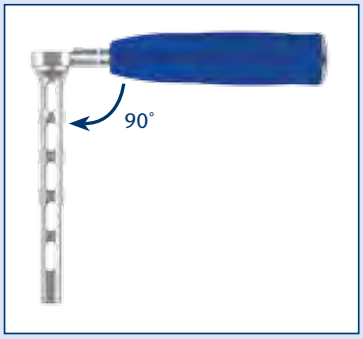
Locking Cap Insertion *(Using the Locking Cap Guide)*

The **4.5mm Locking Cap Guide** acts as a guide for the locking cap driver and is used to aid in small adjustments of the rod into the implant head. Place the guide over the rod and implant head and apply downward pressure. The guide may be changed into a parallel locking cap guide, as shown at right.

Once the rod is well seated within the implant, insert the loaded locking cap driver into the locking cap guide and install the locking cap. Repeat for all implants.

Adjusting the Locking Cap Guide

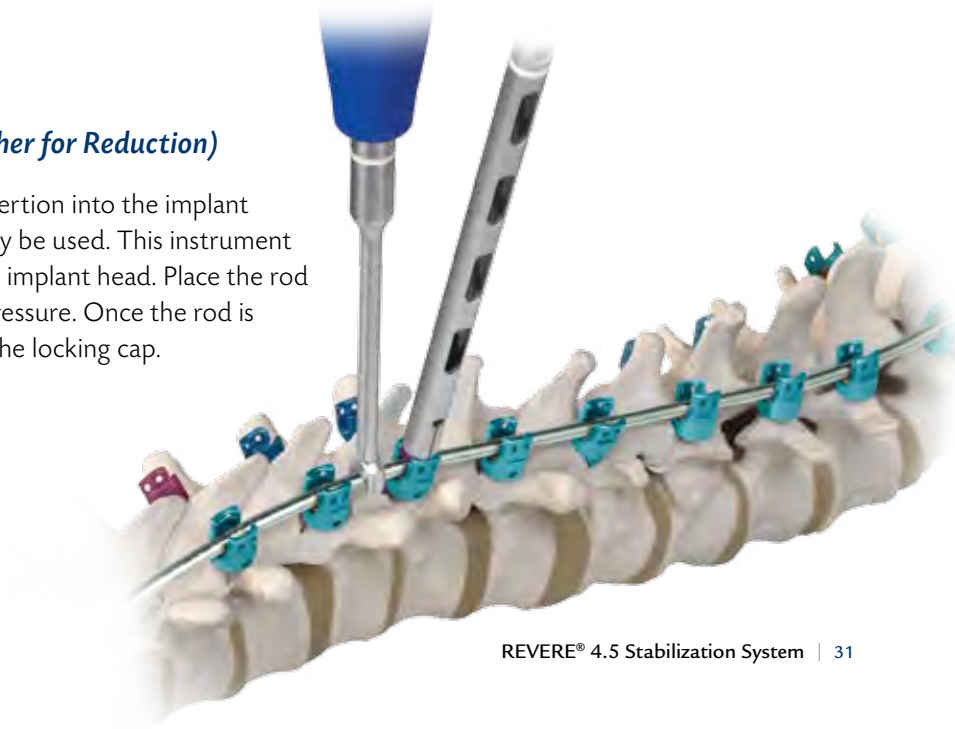
To change the locking cap guide into a parallel locking cap guide, remove the set screw on the side of the handle and rotate the handle 90°. Secure the handle by re-inserting and tightening the set screw.



Locking Cap Insertion *(Free Hand Insertion Using the Rod Pusher for Reduction)*

If greater visualization of the locking cap insertion into the implant head is desired, the **4.5mm Rod Pusher** may be used. This instrument aids in small adjustments of the rod into the implant head. Place the rod pusher over the rod and apply downward pressure. Once the rod is well seated within the implant head, install the locking cap.

The construct is not completely locked until final tightening.

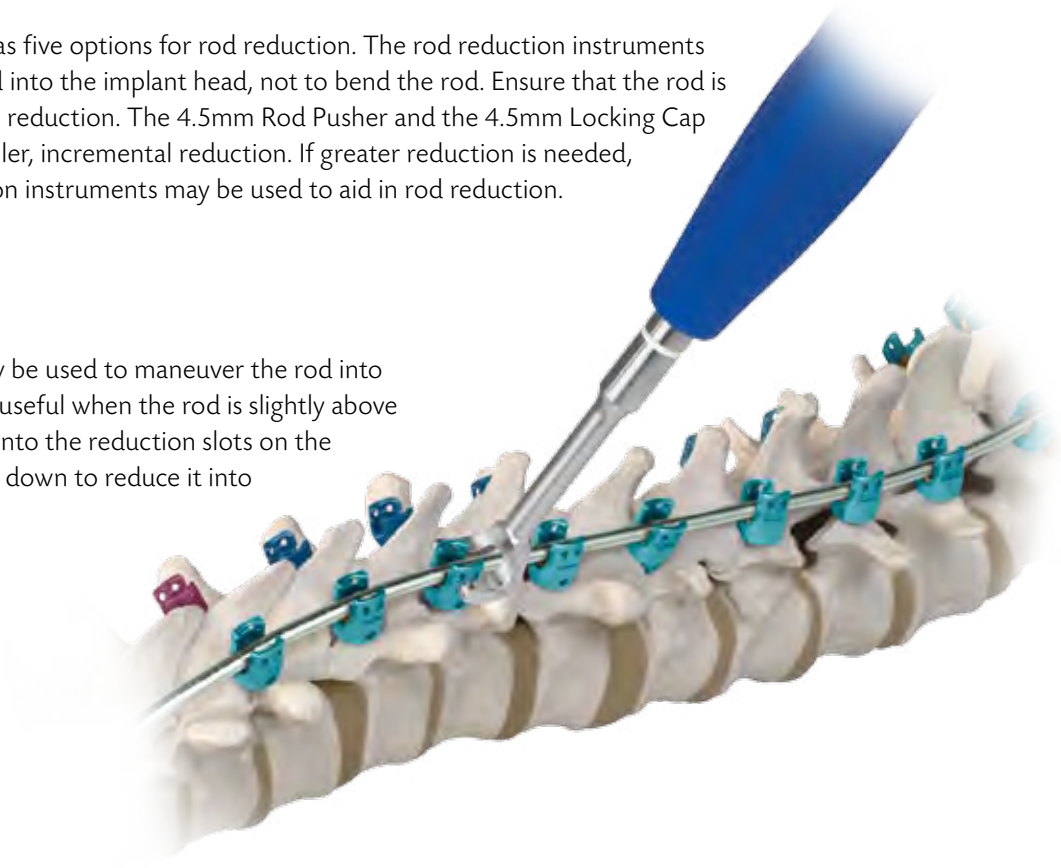


Step 7 Rod Reduction

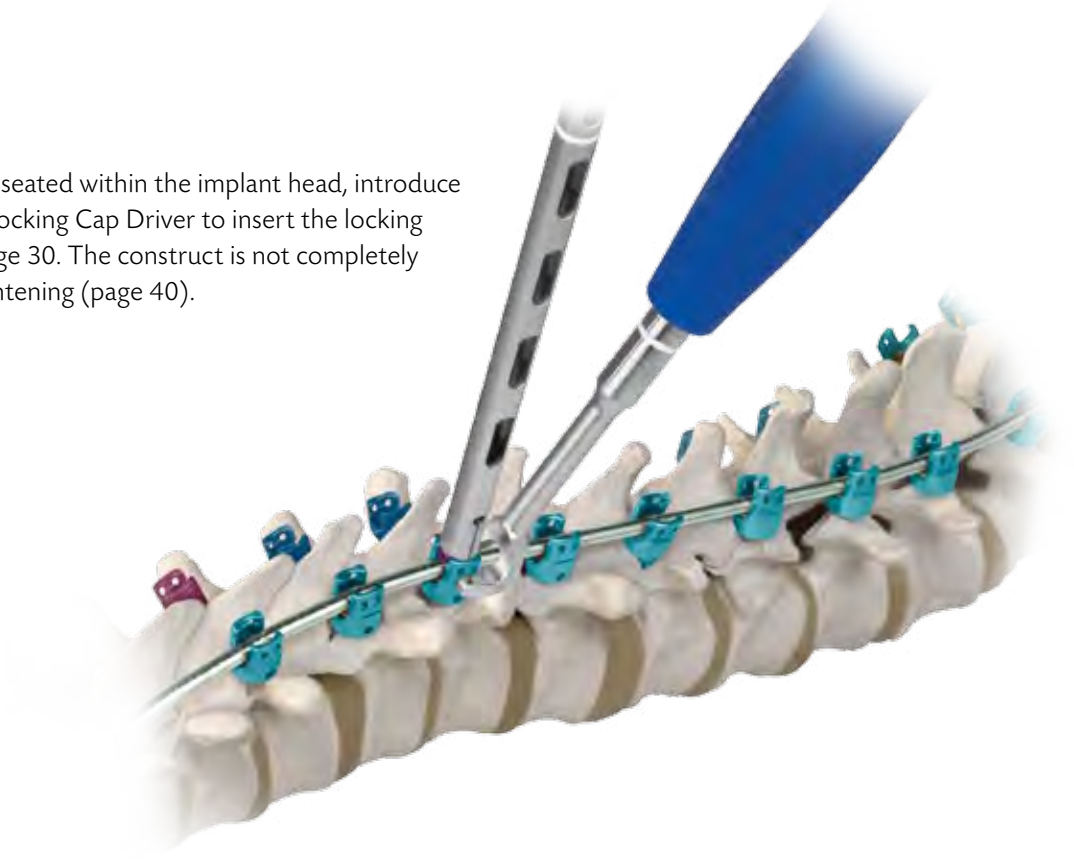
The REVERE® 4.5 System has five options for rod reduction. The rod reduction instruments are designed to seat the rod into the implant head, not to bend the rod. Ensure that the rod is properly contoured prior to reduction. The 4.5mm Rod Pusher and the 4.5mm Locking Cap Guide may be used for smaller, incremental reduction. If greater reduction is needed, the following three reduction instruments may be used to aid in rod reduction.

Using the Rod Lever

The **4.5mm Rod Lever** may be used to maneuver the rod into position. This instrument is useful when the rod is slightly above the implant. Slide the lever into the reduction slots on the implant head. Lever the rod down to reduce it into the implant head.

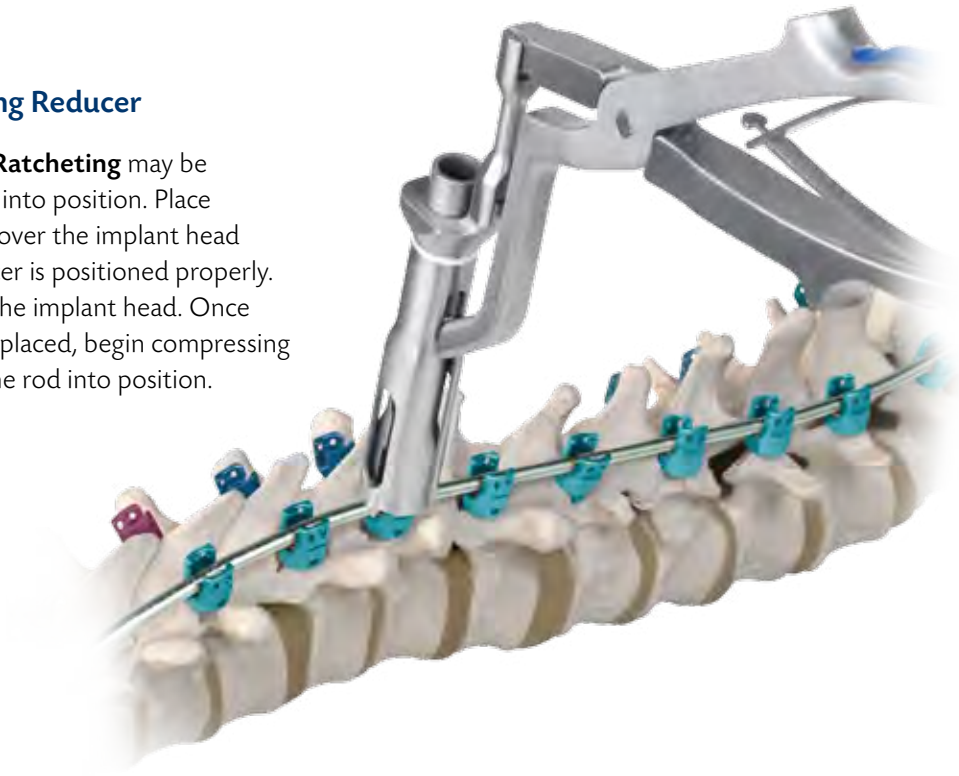


Once the rod is well seated within the implant head, introduce the loaded 4.5mm Locking Cap Driver to insert the locking cap, as shown on page 30. The construct is not completely locked until final tightening (page 40).



Using the Ratcheting Reducer

The **4.5mm Reducer, Ratcheting** may be used to reduce the rod into position. Place the ratcheting reducer over the implant head ensuring that the reducer is positioned properly. Press downward onto the implant head. Once the reducer is properly placed, begin compressing the handle to reduce the rod into position.



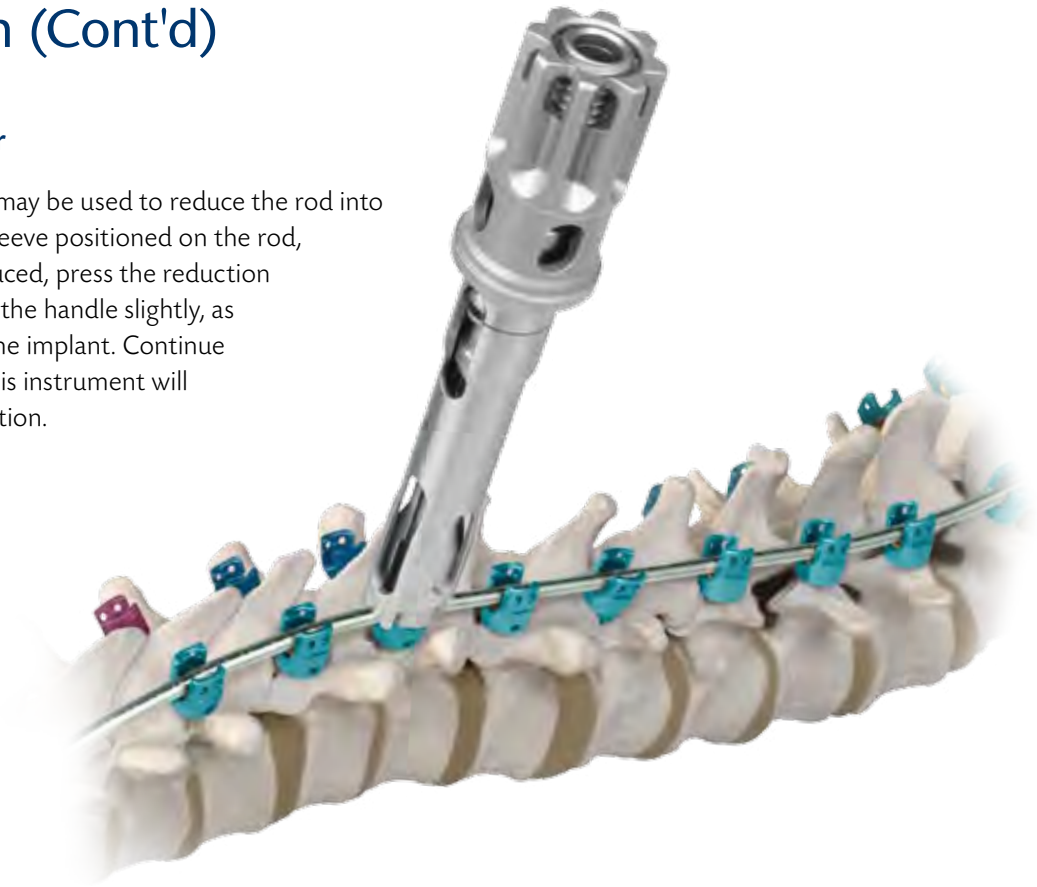
Once the rod is fully reduced, place a loaded 4.5mm Locking Cap Driver into the top of the 4.5mm Reducer, Ratcheting and position the locking cap, as described on page 30.

After the locking cap is in place, remove the locking cap driver from the reducer. Remove the instrument by disengaging the Caspar handle, which will disengage the instrument from the implant head. Pull up to remove the instrument. The construct is not completely locked until final tightening (page 40).

Rod Reduction (Cont'd)

Using the Tower Reducer

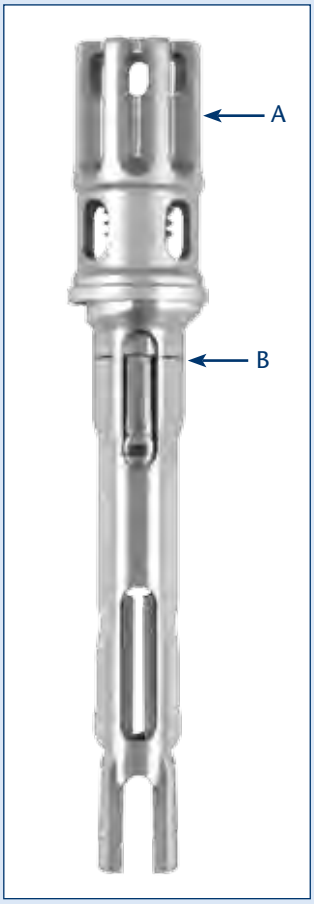
The **4.5mm Tower Reducer** may be used to reduce the rod into position. With the retaining sleeve positioned on the rod, around the implant to be reduced, press the reduction tabs onto the implant. Rotate the handle slightly, as described below, to capture the implant. Continue rotating to reduce the rod. This instrument will provide up to 20mm of reduction.



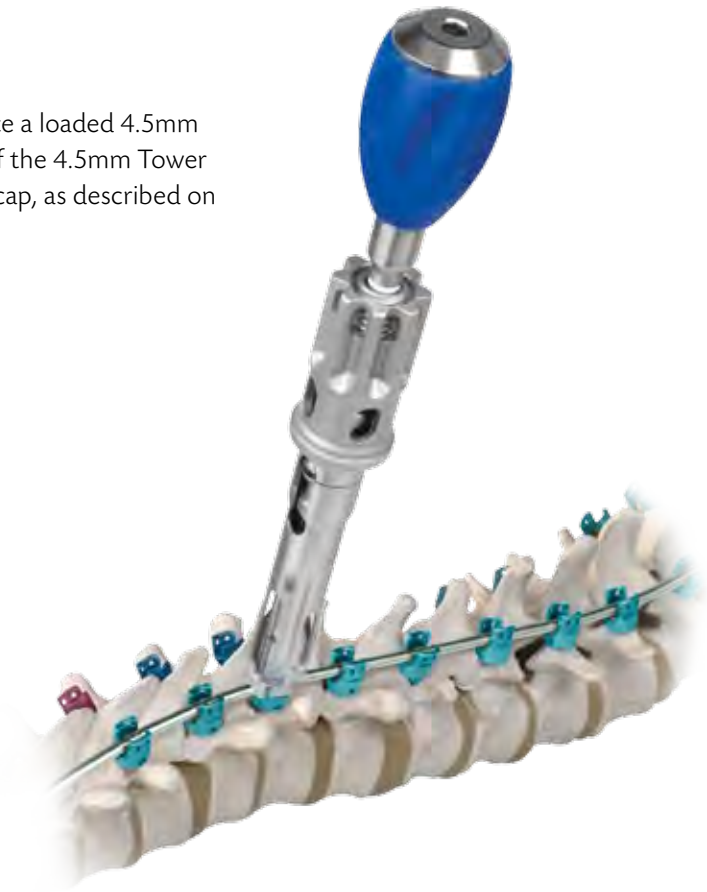
Using the Tower Reducer

Ensure that the 4.5mm Tower Reducer is in the "open" position such that the threaded top cannot be rotated any further in the counterclockwise direction. Place the reducer over the top of the screw head and push downward onto the screw head. Begin rotating the threaded portion (A) of the reducer clockwise. The instrument is now engaged with the screw head. Reduce the rod by slowly rotating the threaded portion of the reducer clockwise. The rod is fully reduced when the black etched lines on the instrument line up (B).

*Note: Use the **Tower Reducer Handle** when more control and/or power is desired.*



Once the rod is fully reduced, place a loaded 4.5mm Locking Cap Driver into the top of the 4.5mm Tower Reducer and position the locking cap, as described on page 30.



Provisionally tighten the set screws utilizing the **3.5mm Hex Screwdriver Shaft**. If there is a need to hold the correction at the level involved, use the **3.5mm Torque Limiting Driver**.

The construct is not completely locked until final tightening (page 40).

After the locking cap is in place, remove the 4.5mm Locking Cap Driver from the 4.5mm Tower Reducer. Remove the reducer by rotating the threaded portion counterclockwise until it is disengaged from the screw head.

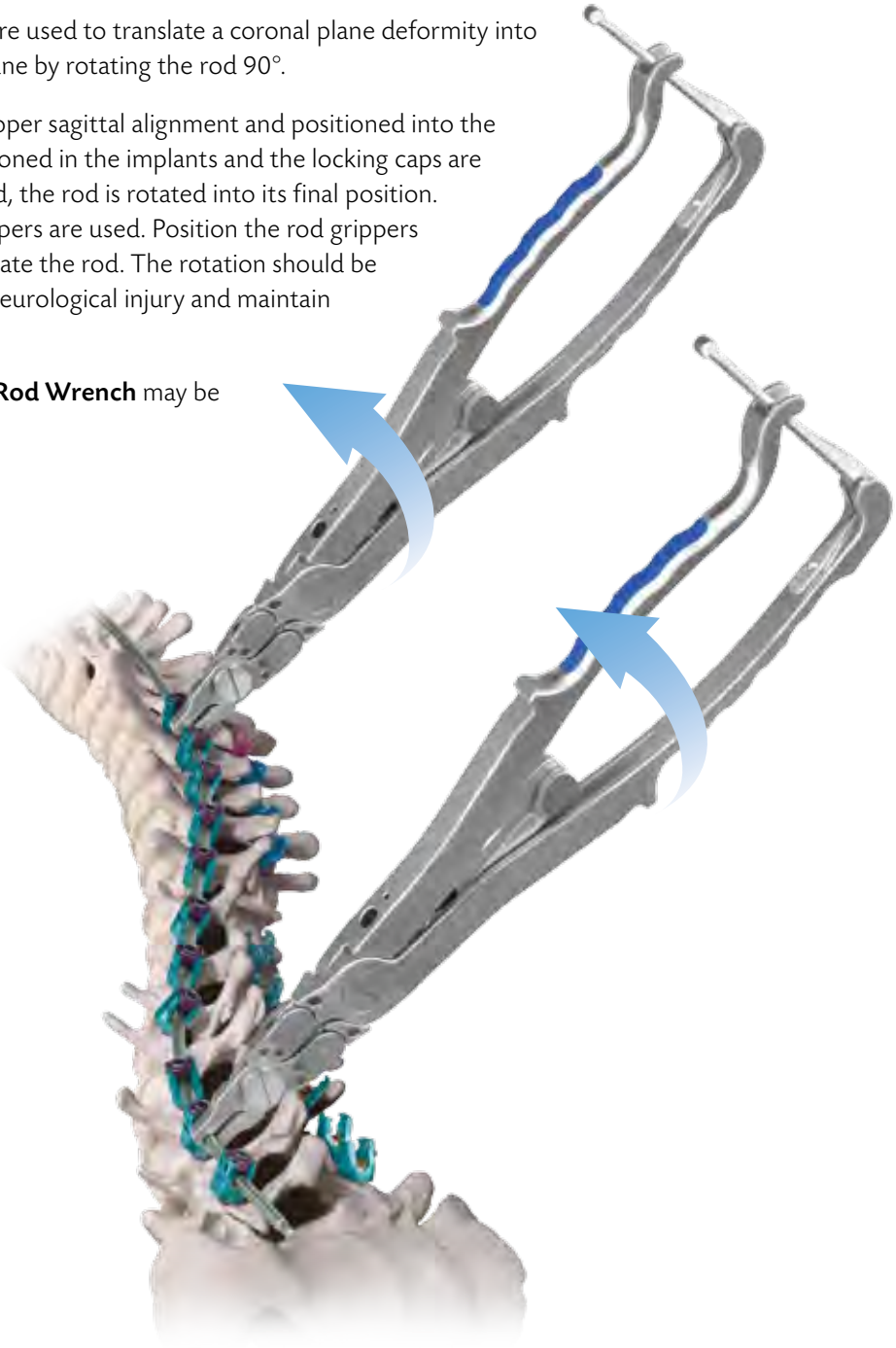
Step 8 Deformity Correction Maneuver

Global (Rod) Derotation

Global derotation maneuvers are used to translate a coronal plane deformity into the naturally curved sagittal plane by rotating the rod 90°.

The rod is contoured to the proper sagittal alignment and positioned into the implants. After the rod is positioned in the implants and the locking caps are inserted, but not final tightened, the rod is rotated into its final position. To rotate the rod, two rod grippers are used. Position the rod grippers at the desired locations and rotate the rod. The rotation should be performed gradually to avoid neurological injury and maintain proper rod placement.

Alternatively, the **4.5mm Hex Rod Wrench** may be used to aid in rod rotation.



4.5mm Hex Rod Wrench

It is important to monitor the position of the hooks during the rotation process to verify that they have not been displaced. Once the rod is rotated into its final position, the set screws are provisionally tightened to maintain rod positioning.

After the first rod is secured in its final position, compression and/or distraction may be performed as outlined on page 39. A second rod is then inserted to stabilize the construct, as described on page 39. Further compression and/or distraction may be performed if necessary. Verify the hook positions and make necessary adjustments, then final tighten the set screws to completely lock the construct as described on page 40.

Step 9 *In Situ* Bending

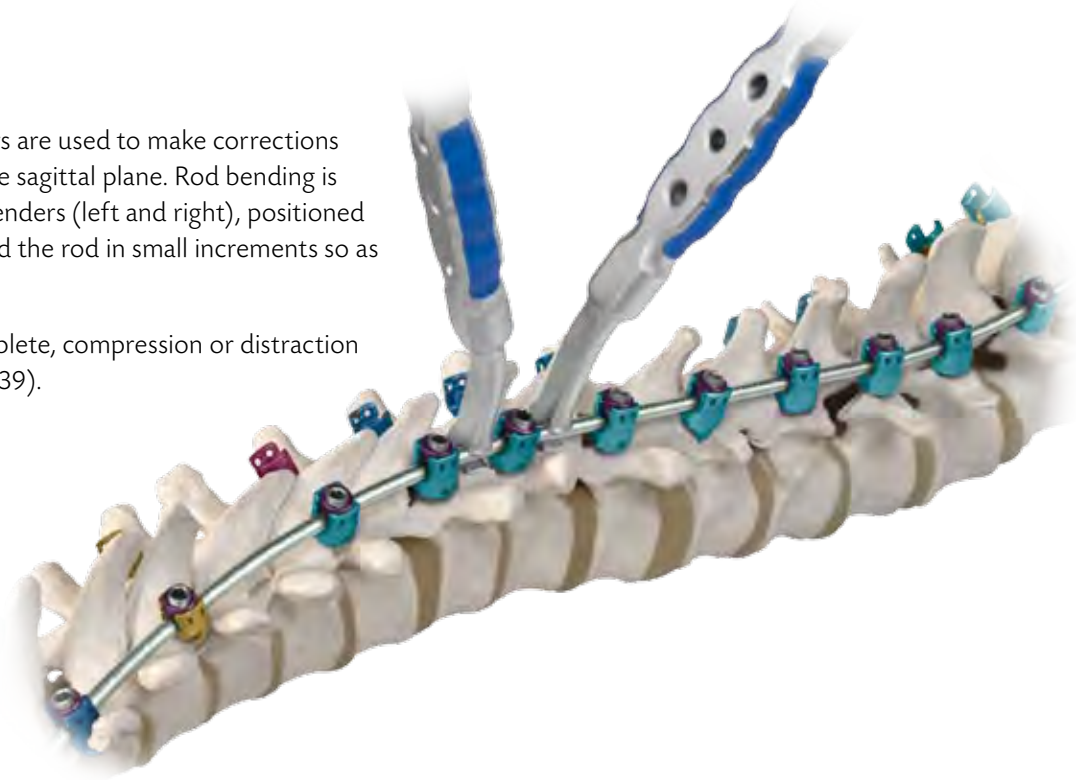
In situ rod bending may be accomplished using **4.5mm *In Situ* Benders** or **Coronal Plane Benders**. Rod bending is performed after the rod is fully seated into the implants and the locking caps are inserted.

Note: In Situ and Coronal Plane Benders are powerful instruments. Carefully perform any bending, and ensure that implant fixation is not disrupted.

In Situ Rod Bending

The 4.5mm *In Situ* Benders are used to make corrections to the rod curvature in the sagittal plane. Rod bending is accomplished with two benders (left and right), positioned close to one another. Bend the rod in small increments so as not to cause damage.

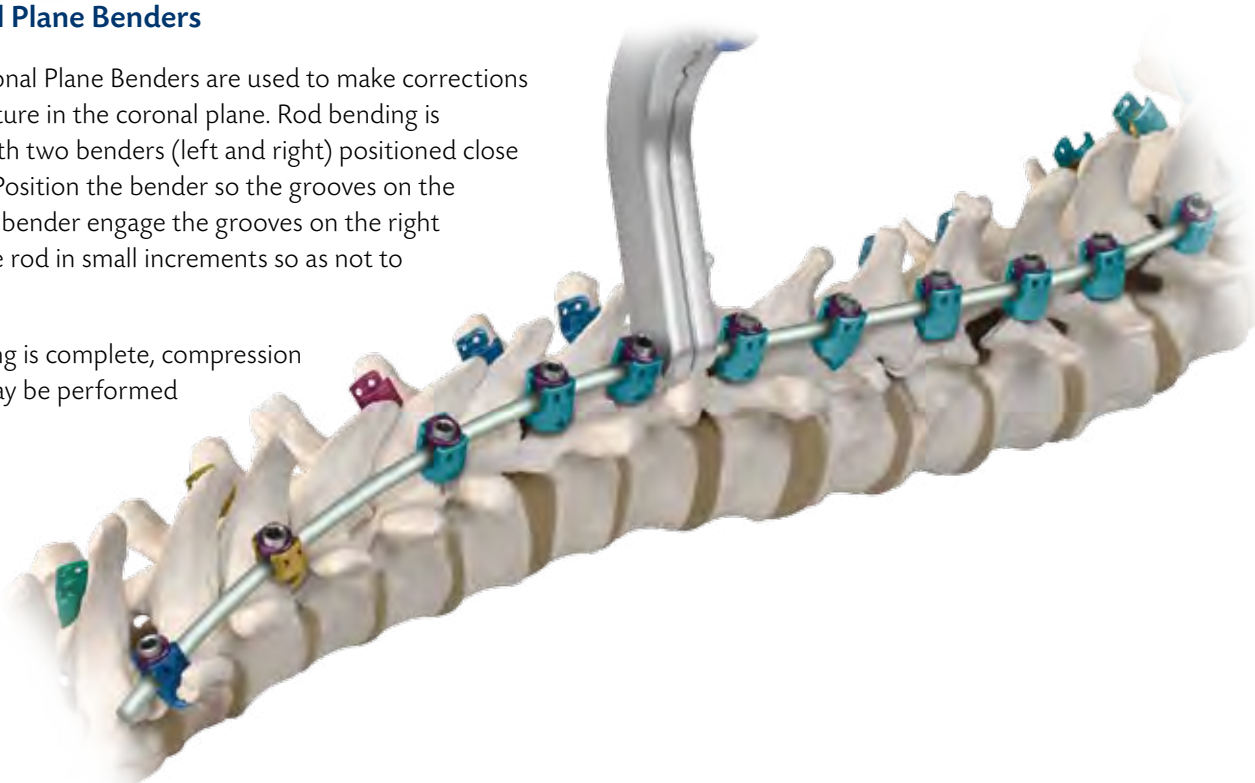
Once rod bending is complete, compression or distraction may be performed (page 39).



Using Coronal Plane Benders

The 4.5mm Coronal Plane Benders are used to make corrections to the rod curvature in the coronal plane. Rod bending is accomplished with two benders (left and right) positioned close to one another. Position the bender so the grooves on the inside of the left bender engage the grooves on the right bender. Bend the rod in small increments so as not to cause damage.

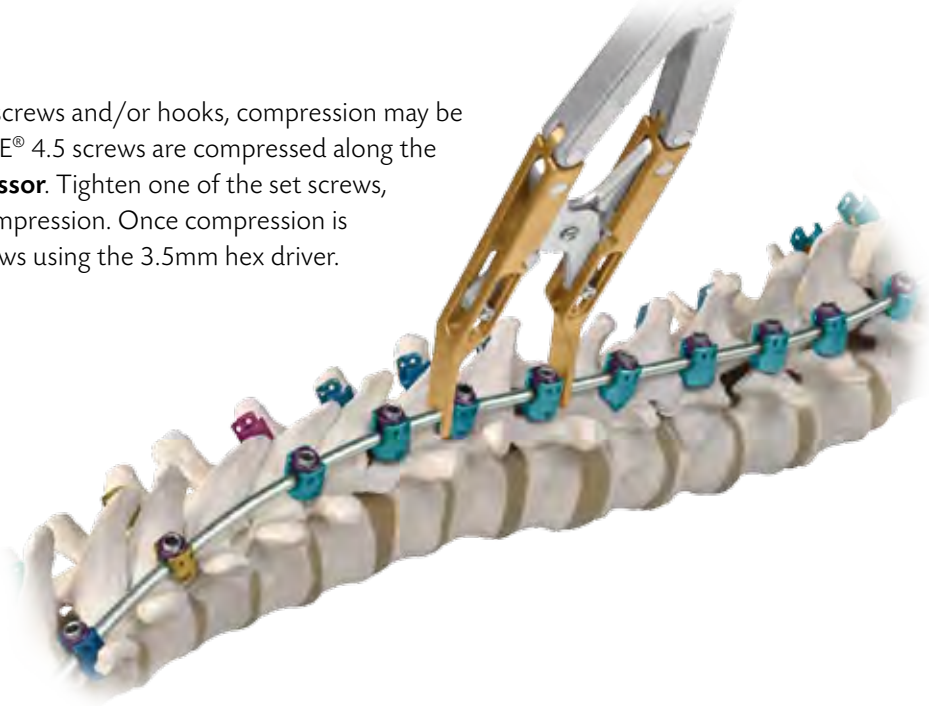
Once rod bending is complete, compression or distraction may be performed (page 39).



Step 10 Compression and Distraction

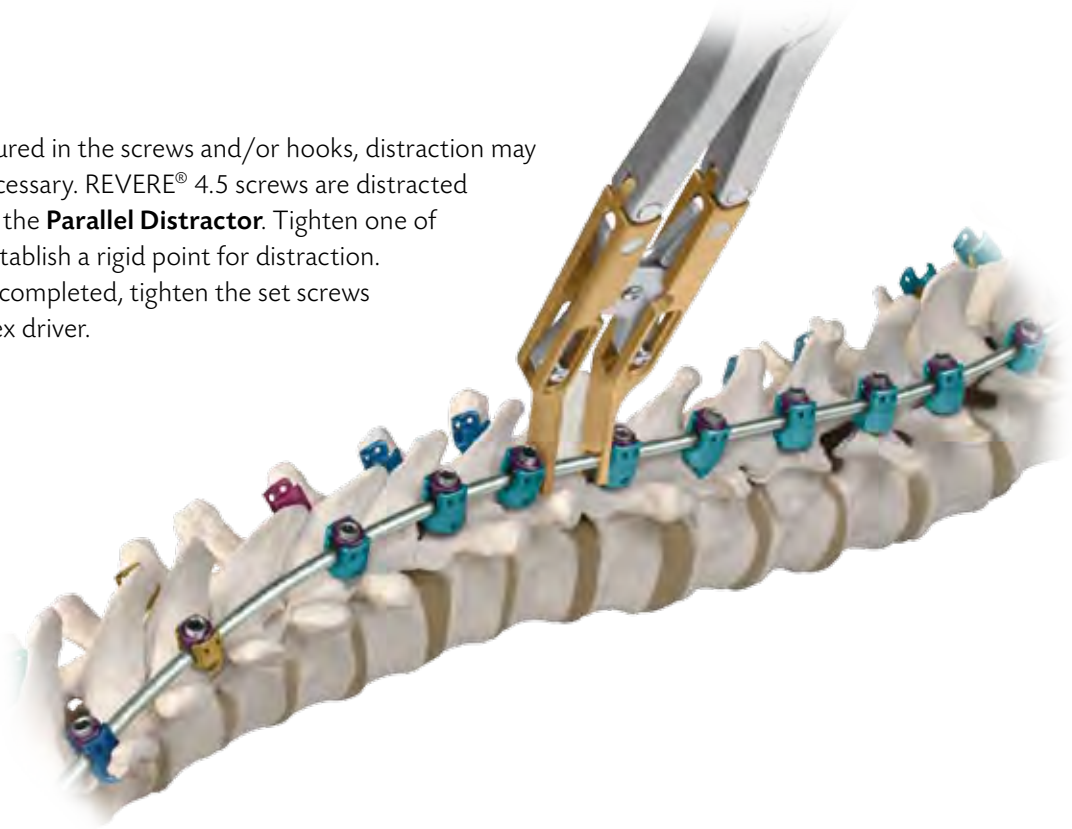
Compression

After the rod is secured in the screws and/or hooks, compression may be performed if necessary. REVERE® 4.5 screws are compressed along the rod using the **Parallel Compressor**. Tighten one of the set screws, to establish a rigid point for compression. Once compression is completed, tighten the set screws using the 3.5mm hex driver.



Distraction

After the rod is secured in the screws and/or hooks, distraction may be performed if necessary. REVERE® 4.5 screws are distracted along the rod using the **Parallel Distractor**. Tighten one of the set screws to establish a rigid point for distraction. Once distraction is completed, tighten the set screws using the 3.5mm hex driver.



Step 11 Stabilizing the Construct

Upon completion of the deformity correction and placement of the first rod, select a stabilizing rod and ensure the rod length is appropriate. After determining rod length, contour the rod to match the curvature of the spine. Insert the rod into the screws and/or hooks and provisionally tighten the set screws. After the rod has been secured, compression and/or distraction may be performed as outlined in step 10.

The construct can now be final tightened.

Step 12 Final Tightening

Final tightening of the set screws is necessary to secure the construct and is accomplished using the 3.5mm Torque Limiting Driver and the **4.5mm Final Tightening Counter Torque.**

While holding the counter torque in one hand, insert the driver through the top.

Engage the tip of the driver into the set screw and ensure that it is properly engaged. Slide the counter torque over the screw head and begin to rotate the driver until it reaches the torque limit (5.5 Nm). Repeat for all locking caps.

The counter torque in the REVERE® 4.5 set may be adjusted to have either a parallel or perpendicular orientation to the rod (see the instructions below).

Adjusting the 4.5mm Final Tightening Counter Torque

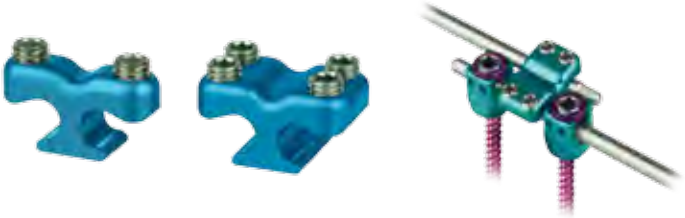
To change the orientation of the counter torque, press and hold the button on the top of the instrument to rotate the handle by increments of 45°. Secure the handle by releasing the button.

Optional Technique: Rod Connectors

The REVERE® 4.5 Stabilization System offers many options for rod-to-rod connection. Below are several examples of how these options may be utilized for sacral or pelvic fixation, to attach laterally or to extend a construct.

Parallel connectors are closed on both sides of the implant and may be used for lateral connection. They are also available in options that allow for connecting rods of various diameters such as: 4.5mm to 3.75mm, 4.5mm to 5.5mm, 4.5mm to 6.35mm.

Rod-to-rod connector clamps are open on both sides and may be used in the same manner as the parallel connectors.



Parallel connector clamps are open on one side and closed on the other and may also be used in the same manner as previously described connectors.

REVERE® 4.5 head connectors are offset connectors with an integrated REVERE® head. The REVERE® 4.5 Non-Threaded Locking Cap is used to secure this implant.

Offset connectors are available in open and closed versions and may be used to connect the construct to sacral or pelvic fixation anchors. Both versions are available in lengths from 15mm to 45mm (in 5mm increments) and 100, 120, and 150mm.

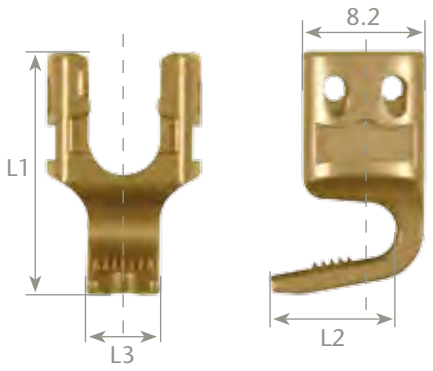
In-line connectors may be used to extend a construct. They are available in lengths of 30, 50, 70, 90, 110, and 120mm.

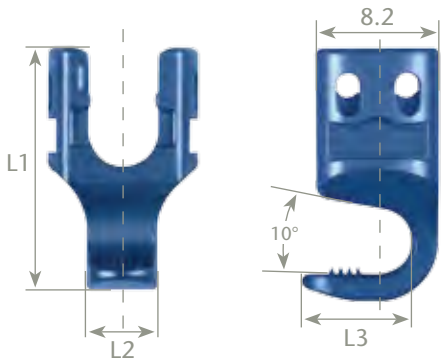
Implant Dimensions

Hook Dimensions

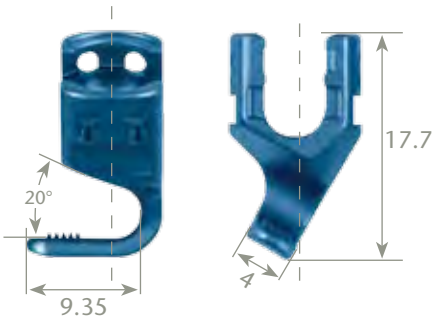
All dimensions are in mm unless otherwise noted.

Pedicle Hooks			
Part	L1 (mm)	L2 (mm)	L3 (mm)
1041.9927	16.3	8.6	5.0
1041.9928	17.1	9.1	6.0
1041.9929	17.9	9.6	7.0

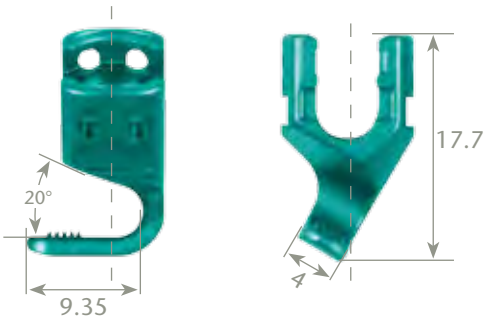




Lamina Hooks			
Part	L1 (mm)	L2 (mm)	L3 (mm)
1041.9940	16.8	3.5	7.4
1041.9941	17.8	4.0	8.1
1041.9942	18.8	4.5	8.9
1041.9944	16.8	5.0	7.4
1041.9945	17.8	5.5	8.1
1041.9946	18.8	6.0	8.9
1041.9948	16.8	6.5	7.4
1041.9949	17.8	7.0	8.1
1041.9950	18.8	7.5	8.9
1041.9952	17.8	5.0	7.4
1041.9953	19.8	5.5	8.1
1041.9954	21.8	6.0	8.9



Transverse Process Hook, Left
1041.9925

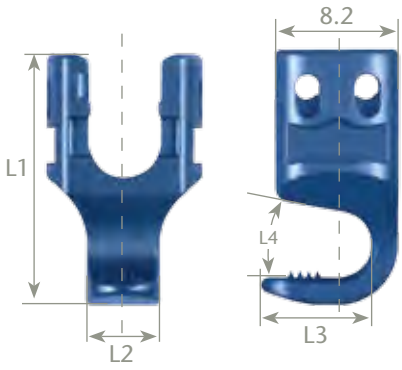


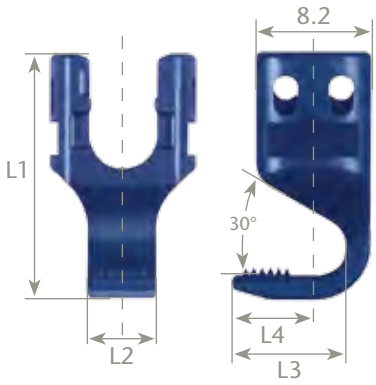
Transverse Process Hook, Right
1041.9924

Hook Dimensions

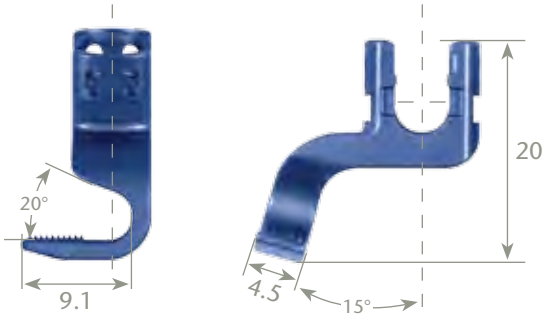
All dimensions are in mm unless otherwise noted.

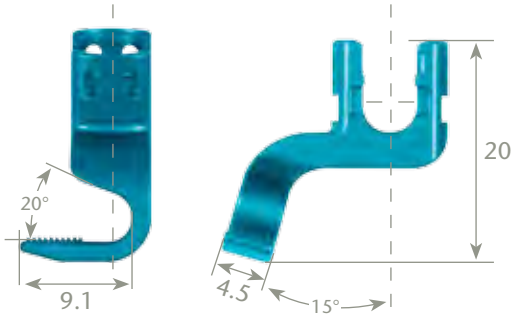
Angled Lamina Hooks				
Part	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)
1041.9955	17.3	4.0	7.1	17°
1041.9956	18.3	4.5	7.6	18°
1041.9957	19.4	5.0	8.6	20°





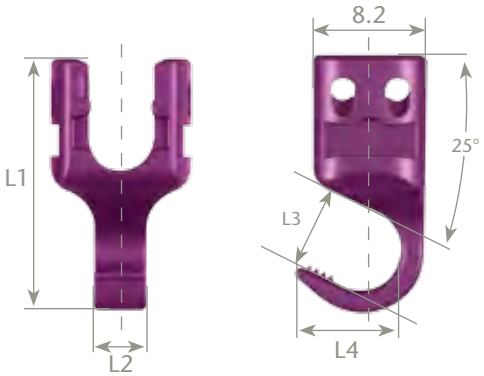
Thoracic Lamina Hooks				
Part	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)
1041.9901	17.5	3.5	8.1	5.8
1041.9902	18.5	4.0	8.9	6.5
1041.9904	17.5	5.0	8.1	5.8
1041.9905	18.5	5.5	8.9	6.5





Extra Offset Lamina Hook, Left
1041.9980

Extra Offset Lamina Hook, Right
1041.9983



Upgoing Lamina Hooks				
Part	L1 (mm)	L2 (mm)	L3 (mm)	L4 (mm)
1041.9907	18.8	4.0	6.0	6.5
1041.9908	19.6	5.0	7.0	7.0

Implant Dimensions (Cont'd)

In-Line and Offset Connector Dimensions

Part Number	Description	Usable Length	Overall Length
1041.9200	4.5mm In-Line Connector, 30mm	30mm	40mm
1041.9201	4.5mm In-Line Connector, 50mm	50mm	60mm
1041.9202	4.5mm In-Line Connector, 70mm	70mm	80mm
1041.9203	4.5mm In-Line Connector, 90mm	90mm	100mm
1041.9204	4.5mm In-Line Connector, 110mm	110mm	120mm
1041.9205	4.5mm In-Line Connector, 120mm	120mm	130mm

Part Number	Description	Overall Height	Run on Rod	Height above Rod
1041.9300	4.5mm Offset Connector Clamp, 15mm	9.9mm	8.5mm	3.7mm
1041.9301	4.5mm Offset Connector Clamp, 20mm			
1041.9302	4.5mm Offset Connector Clamp, 25mm			
1041.9303	4.5mm Offset Connector Clamp, 30mm			
1041.9304	4.5mm Offset Connector Clamp, 35mm			
1041.9305	4.5mm Offset Connector Clamp, 40mm			
1041.9306	4.5mm Offset Connector Clamp, 45mm			
1041.9310	4.5mm Offset Connector Clamp, 100mm			
1041.9312	4.5mm Offset Connector Clamp, 120mm			
1041.9314	4.5mm Offset Connector Clamp, 150mm			

Part Number	Description	Overall Height	Run on Rod	Height above Rod
1041.9320	4.5mm Closed Offset Connector, 15mm	10.5mm	9mm	4.2mm
1041.9321	4.5mm Closed Offset Connector, 20mm			
1041.9322	4.5mm Closed Offset Connector, 25mm			
1041.9323	4.5mm Closed Offset Connector, 30mm			
1041.9324	4.5mm Closed Offset Connector, 35mm			
1041.9325	4.5mm Closed Offset Connector, 40mm			
1041.9326	4.5mm Closed Offset Connector, 45mm			
1041.9330	4.5mm Closed Offset Connector, 100mm			
1041.9332	4.5mm Closed Offset Connector, 120mm			
1041.9334	4.5mm Closed Offset Connector, 150mm			

In-Line and Offset Connector Dimensions (Cont'd)

Part Number	Description	Overall Height	Run On Rod	Height Above Rod	
1041.9350	REVERE® 4.5mm Head, Offset Connector Clamp, 15mm	11.7mm	8.2mm	2.8mm	
1041.9351	REVERE® 4.5mm Head, Offset Connector Clamp, 20mm				
1041.9352	REVERE® 4.5mm Head, Offset Connector Clamp, 25mm				
1041.9353	REVERE® 4.5mm Head, Offset Connector Clamp, 30mm				
1041.9354	REVERE® 4.5mm Head, Offset Connector Clamp, 35mm				
1041.9355	REVERE® 4.5mm Head, Offset Connector Clamp, 40mm				
1041.9356	REVERE® 4.5mm Head, Offset Connector Clamp, 45mm				
1041.9360	REVERE® 4.5mm Head, Offset Connector Clamp, 100mm				
1041.9362	REVERE® 4.5mm Head, Offset Connector Clamp, 120mm				
1041.9364	REVERE® 4.5mm Head, Offset Connector Clamp, 150mm				

Parallel Connector Dimensions

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9800	Parallel, Closed/Closed	4.5mm to 4.5mm	Single	7.5mm	9.5mm	7mm	
1041.9801	Parallel, Closed/Closed	4.5mm to 4.5mm	Single	10mm			
1041.9802	Parallel, Closed/Closed	4.5mm to 4.5mm	Single	15mm			
1041.9803	Parallel, Closed/Closed	4.5mm to 5.5–6.5mm	Single	7.5mm	11.4mm		
1041.9804	Parallel, Closed/Closed	4.5mm to 5.5–6.5mm	Single	10mm			
1041.9805	Parallel, Closed/Closed	4.5mm to 5.5–6.5mm	Single	15mm			

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9810	Parallel, Closed/Closed	4.5mm to 4.5mm	Double	7.5mm	9.5mm	12.5mm	
1041.9811	Parallel, Closed/Closed	4.5mm to 4.5mm	Double	10mm			
1041.9812	Parallel, Closed/Closed	4.5mm to 4.5mm	Double	15mm			
1041.9813	Parallel, Closed/Closed	4.5mm to 5.5–6.5mm	Double	7.5mm	11.4mm	13.5mm	
1041.9814	Parallel, Closed/Closed	4.5mm to 5.5–6.5mm	Double	10mm			
1041.9815	Parallel, Closed/Closed	4.5mm to 5.5–6.5mm	Double	15mm			

Implant Dimensions (Cont'd)

Parallel Connector Dimensions (Cont'd)

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run on Rod	
1041.9830	Parallel, Open/Open	4.5mm to 4.5mm	Single	7.5mm	10.4mm	6.6mm	
1041.9831	Parallel, Open/Open	4.5mm to 4.5mm	Single	10mm			
1041.9832	Parallel, Open/Open	4.5mm to 4.5mm	Single	15mm			

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9833	Parallel, Open/Open	4.5mm to 4.5mm	Double	7.5mm	10.4mm	12.6mm	
1041.9834	Parallel, Open/Open	4.5mm to 4.5mm	Double	10mm			
1041.9835	Parallel, Open/Open	4.5mm to 4.5mm	Double	15mm			

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9836	Parallel, Open/Open	4.5mm to 5.5–6.5mm	Single	7.5mm	12.0mm	6.6mm	
1041.9837	Parallel, Open/Open	4.5mm to 5.5–6.5mm	Single	10mm			
1041.9838	Parallel, Open/Open	4.5mm to 5.5–6.5mm	Single	15mm			

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9839	Parallel, Open/Open	4.5mm to 5.5–6.5mm	Double	7.5mm	12.0mm	12.6mm	
1041.9840	Parallel, Open/Open	4.5mm to 5.5–6.5mm	Double	10mm			
1041.9841	Parallel, Open/Open	4.5mm to 5.5–6.5mm	Double	15mm			

Parallel Connector Dimensions (Cont'd)

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9842	Parallel, Open/Closed	4.5mm to 4.5mm	Single	7.5mm	10.4mm	6.8mm	
1041.9843	Parallel, Open/Closed	4.5mm to 4.5mm	Single	10mm			
1041.9844	Parallel, Open/Closed	4.5mm to 4.5mm	Single	15mm			

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9845	Parallel, Open/Closed	4.5mm to 4.5mm	Double	7.5mm	10.4mm	12.6mm	
1041.9846	Parallel, Open/Closed	4.5mm to 4.5mm	Double	10mm			
1041.9847	Parallel, Open/Closed	4.5mm to 4.5mm	Double	15mm			

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9848	Parallel, Open/Closed	4.5mm to 5.5–6.5mm	Single	7.5mm	11.2mm	6.8mm	
1041.9849	Parallel, Open/Closed	4.5mm to 5.5–6.5mm	Single	10mm			
1041.9850	Parallel, Open/Closed	4.5mm to 4.5mm	Single	15mm			

Part Number	Type	Rod Connection	Set Screw	Distance Between Rods	Overall Height	Run On Rod	
1041.9851	Parallel, Open/Closed	4.5mm to 5.5–6.5mm	Double	7.5mm	11.2mm	12.6mm	
1041.9852	Parallel, Open/Closed	4.5mm to 5.5–6.5mm	Double	10mm			
1041.9853	Parallel, Open/Closed	4.5mm to 5.5–6.5mm	Double	15mm			

Implant Dimensions (Cont'd)

Low-Profile Cross Connectors

Part Number	Description	Minimal Length	Maximum Length	Overall Height	Height Above Rod
1041.9022	4.5 Low-Profile Cross Connector, 20mm–22mm	20mm	22mm	11.5mm	6mm
1041.9025	4.5 Low-Profile Cross Connector, 21.5mm–25mm	21.5mm	25mm		
1041.9031	4.5 Low-Profile Cross Connector, 24.5mm–31mm	24.5mm	31mm		
1041.9043	4.5 Low-Profile Cross Connector, 30.5mm–43mm	30.5mm	43mm		
1041.9067	4.5 Low-Profile Cross Connector, 42.5mm–67mm	42.5mm	67mm		

Note: Minimum and maximum length for Cross Connectors is the dimension for rod center to rod center

Top-Loading Cross Connectors

Part Number	Description	Minimal Length	Maximum Length	Overall Height	Height Above Rod
1041.9128	4.5 Top-Loading Cross Connector, 23mm–28mm	23mm	28mm	13.9mm	9.9mm
1041.9135	4.5 Top-Loading Cross Connector, 27mm–35mm	27mm	35mm		
1041.9146	4.5 Top-Loading Cross Connector, 34mm–46mm	34mm	46mm		
1041.9157	4.5 Top-Loading Cross Connector, 45mm–57mm	45mm	57mm		
1041.9168	4.5 Top-Loading Cross Connector, 56mm–68mm	56mm	68mm		
1041.9179	4.5 Top-Loading Cross Connector, 67mm–79mm	67mm	79mm		
1041.9190	4.5 Top-Loading Cross Connector, 78mm–90mm	78mm	90mm		

Note: Minimum and maximum length for Cross Connectors is the dimension for rod center to rod center

Adjustable Cross Connectors

Part Number	Description	Minimal Length	Maximum Length	Overall Height	Height Above Rod
1041.9191	4.5 Adjustable Cross Connector, 29mm–33mm	29mm	33mm	13.4mm	7.7mm
1041.9192	4.5 Adjustable Cross Connector, 32mm–40mm	32mm	40mm		
1041.9193	4.5 Adjustable Cross Connector, 38mm–50mm	38mm	50mm		
1041.9194	4.5 Adjustable Cross Connector, 48mm–60mm	48mm	60mm		
1041.9195	4.5 Adjustable Cross Connector, 58mm–70mm	58mm	70mm		
1041.9196	4.5 Adjustable Cross Connector, 68mm–80mm	68mm	80mm		
1041.9197	4.5 Adjustable Cross Connector, 78mm–90mm	78mm	90mm		

Note: Minimum and maximum length for Cross Connectors is the dimension for rod center to rod center

Fixed Low-Profile Cross Connectors

Part Number	Description	Usable Length	Overall Length	Overall Height	Height Above Rod
1041.9002	4.5 Fixed Low-Profile Cross Connector, 20mm	20mm	33.5mm	10mm	4.4mm
1041.9003	4.5 Fixed Low-Profile Cross Connector, 30mm	30mm	43.5mm		
1041.9004	4.5 Fixed Low-Profile Cross Connector, 40mm	40mm	53.5mm		
1041.9005	4.5 Fixed Low-Profile Cross Connector, 50mm	50mm	63.5mm		

Note: Minimum and maximum length for Cross Connectors is the dimension for rod center to rod center

REVERE® 4.5 STABILIZATION SYSTEM IMPLANT I SET

REVERE® 4.5 Stabilization System Implant I Set 9041.9001

Ø4.0mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3400	20mm	2
1041.3401	25mm	4
1041.3402	30mm	4
1041.3403	35mm	4
1041.3404	40mm	4

Ø4.5mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3420	20mm	2
1041.3425	25mm	4
1041.3430	30mm	6
1041.3435	35mm	6
1041.3440	40mm	6
1041.3445	45mm	4

Ø5.0mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3501	25mm	2
1041.3502	30mm	4
1041.3503	35mm	6
1041.3504	40mm	6
1041.3505	45mm	6
1041.3506	50mm	4

Ø5.5mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3525	25mm	2
1041.3530	30mm	4
1041.3535	35mm	4
1041.3540	40mm	4
1041.3545	45mm	4
1041.3550	50mm	2

Ø6.5mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3630	30mm	2
1041.3635	35mm	2
1041.3640	40mm	4
1041.3645	45mm	2
1041.3650	50mm	2

Ø4.5mm Straight Rod, Hex-Ended, Titanium Alloy

Part Number	Size	Qty
1041.1200	200mm	2
1041.1300	300mm	2
1041.1500	500mm	2

Ø4.5mm Straight Rod, Hex-Ended, CoCr

Part Number	Size	Qty
7041.1200	200mm	2
7041.1300	300mm	2
7041.1500	500mm	2

Ø4.0mm REVERE® 4.5 Uniplanar Screw

Part Number	Size	Qty
1041.4400	20mm	2
1041.4401	25mm	4
1041.4402	30mm	4
1041.4403	35mm	2

Ø4.5mm REVERE® 4.5 Uniplanar Screw

Part Number	Size	Qty
1041.4425	25mm	2
1041.4430	30mm	4
1041.4435	35mm	4
1041.4440	40mm	2

Ø5.0mm REVERE® 4.5 Uniplanar Screw

Part Number	Size	Qty
1041.4501	25mm	2
1041.4502	30mm	4
1041.4503	35mm	4
1041.4504	40mm	4

Ø5.5mm REVERE® 4.5 Uniplanar Screw

Part Number	Size	Qty
1041.4530	30mm	2
1041.4535	35mm	4
1041.4540	40mm	4
1041.4545	45mm	2

REVERE® 4.5 STABILIZATION SYSTEM IMPLANT I SET

REVERE® 4.5 Stabilization System Implant I Set 9041.9001 (Cont'd)

Ø4.0mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5400	20mm	2
1041.5402	25mm	4
1041.5404	30mm	4
1041.5406	35mm	4

Ø4.5mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5420	20mm	2
1041.5425	25mm	4
1041.5430	30mm	4
1041.5435	35mm	4
1041.5440	40mm	4

Ø5.0mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5502	25mm	4
1041.5504	30mm	4
1041.5506	35mm	4
1041.5508	40mm	4
1041.5509	45mm	2

Ø5.5mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5530	30mm	2
1041.5535	35mm	4
1041.5540	40mm	4
1041.5545	45mm	4

Ø5.5mm/Ø7.0mm REVERE® 4.5 Dual Outer Diameter Screw

Part Number	Size	Qty
1041.8535	35mm	2
1041.8540	40mm	2
1041.8545	45mm	2
1041.8550	50mm	2
1041.8555	55mm	2
1041.8560	60mm	2

Ø6.0mm/Ø7.5mm REVERE® 4.5 Dual Outer Diameter Screw

Part Number	Size	Qty
1041.8603	35mm	2
1041.8604	40mm	2
1041.8605	45mm	2
1041.8606	50mm	2
1041.8607	55mm	2
1041.8608	60mm	2

Implant		Qty
1041.0000	REVERE® Ø4.5mm Locking Cap	24

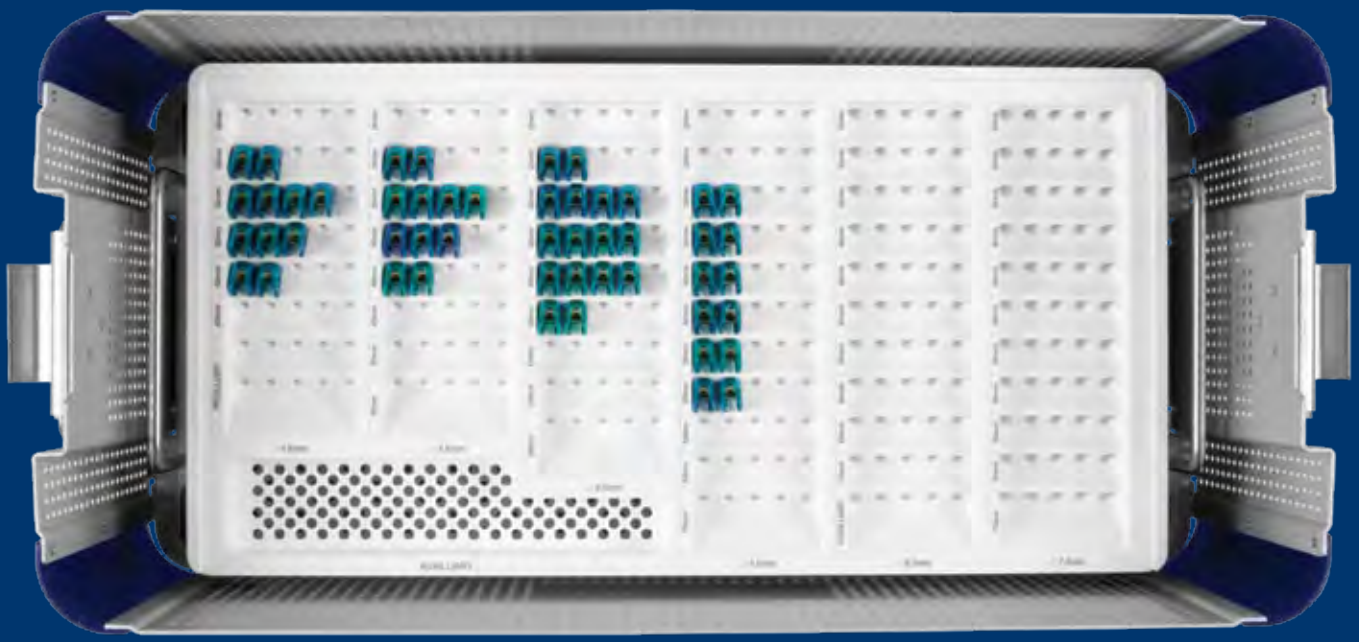
REVERE® 4.5 STABILIZATION SYSTEM IMPLANT II SET

REVERE® 4.5 Stabilization System Implant II Set 9041.9002

Implants		Qty
1041.9022	4.5 Low-Profile Cross Connector, 20mm–22mm	2
1041.9025	4.5 Low-Profile Cross Connector, 21.5mm–25mm	2
1041.9031	4.5 Low-Profile Cross Connector, 24.5mm–31mm	2
1041.9043	4.5 Low-Profile Cross Connector, 30.5mm–43mm	2
1041.9128	4.5 Top-Loading Cross Connector, 23mm–28mm	2
1041.9135	4.5 Top-Loading Cross Connector, 27mm–35mm	2
1041.9146	4.5 Top-Loading Cross Connector, 34mm–46mm	2
1041.9157	4.5 Top-Loading Cross Connector, 45mm–57mm	2
1041.9200	4.5mm In-Line Connector, 30mm	2
1041.9202	4.5mm In-Line Connector, 70mm	2
1041.9204	4.5mm In-Line Connector, 110mm	2
1041.9300	4.5mm Offset Connector Clamp, 15mm	2
1041.9302	4.5mm Offset Connector Clamp, 25mm	2
1041.9304	4.5mm Offset Connector Clamp, 35mm	2
1041.9320	4.5mm Closed Offset Connector, 15mm	2
1041.9322	4.5mm Closed Offset Connector, 25mm	2
1041.9324	4.5mm Closed Offset Connector, 35mm	2
1041.9350	REVERE® 4.5mm Head, Offset Connector Clamp, 15mm	2
1041.9352	REVERE® 4.5mm Head, Offset Connector Clamp, 25mm	2
1041.9354	REVERE® 4.5mm Head, Offset Connector Clamp, 35mm	2
1041.9800	Parallel Connector, 4.5mm to 4.5mm, 7.5mm Width	2
1041.9801	Parallel Connector, 4.5mm to 4.5mm, 10mm Width	2
1041.9803	Parallel Connector, 4.5mm to 5.5-6.5mm, 7.5mm Width	2
1041.9804	Parallel Connector, 4.5mm to 5.5-6.5mm, 10mm Width	2

Implants		Qty
1041.9810	Parallel Connector, Double, 4.5mm to 4.5mm, 7.5mm Width	2
1041.9811	Parallel Connector, Double, 4.5mm to 4.5mm, 10mm Width	2
1041.9813	Parallel Connector, Double, 4.5mm to 5.5-6.5mm, 7.5mm Width	2
1041.9814	Parallel Connector, Double, 4.5mm to 5.5-6.5mm, 10mm Width	2
1041.9830	Rod to Rod Clamp, 4.5mm to 4.5mm, 7.5mm Width	2
1041.9831	Rod to Rod Clamp, 4.5mm to 4.5mm, 10mm Width	2
1041.9833	Rod to Rod Clamp, Double, 4.5mm to 4.5mm, 7.5mm Width	2
1041.9834	Rod to Rod Clamp, Double, 4.5mm to 4.5mm, 10mm Width	2
1041.9836	Rod to Rod Clamp, 4.5mm to 5.5-6.5mm, 7.5mm Width	2
1041.9837	Rod to Rod Clamp, 4.5mm to 5.5-6.5mm, 10mm Width	2
1041.9839	Rod to Rod Clamp, Double, 4.5mm to 5.5-6.5mm, 7.5mm Width	2
1041.9840	Rod to Rod Clamp, Double, 4.5mm to 5.5-6.5mm, 10mm Width	2
1041.9842	Parallel Connector Clamp, 4.5mm to 4.5mm, 7.5mm Width	2
1041.9843	Parallel Connector Clamp, 4.5mm to 4.5mm, 10mm Width	2
1041.9845	Parallel Connector Clamp, Double, 4.5mm to 4.5mm, 7.5mm Width	2
1041.9846	Parallel Connector Clamp, Double, 4.5mm to 4.5mm, 10mm Width	2
1041.9848	Parallel Connector Clamp, 4.5mm to 5.5-6.5mm, 7.5mm Width	2
1041.9849	Parallel Connector Clamp, 4.5mm to 5.5-6.5mm, 10mm Width	2
1041.9851	Parallel Connector Clamp, Double, 4.5mm to 5.5-6.5mm, 7.5mm Width	2
1041.9852	Parallel Connector Clamp, Double, 4.5mm to 5.5-6.5mm, 10mm Width	2

REVERE® 4.5 STABILIZATION SYSTEM
IMPLANT III (AUX) SET



REVERE® 4.5 Stabilization System Implant III (Aux) Set 9041.9003

Ø4.0mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3401	25mm	2
1041.3402	30mm	4
1041.3403	35mm	4
1041.3404	40mm	2

Ø4.0mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5404	30mm	2
1041.5406	35mm	2
1041.5408	40mm	4

Ø4.5mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3425	25mm	2
1041.3430	30mm	4
1041.3435	35mm	4
1041.3440	40mm	2

Ø4.5mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5425	25mm	2
1041.5430	30mm	4
1041.5435	35mm	2
1041.5445	45mm	4

Ø5.0mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3501	25mm	2
1041.3502	30mm	4
1041.3503	35mm	4
1041.3504	40mm	4
1041.3505	45mm	2

Ø5.0mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5500	20mm	2
1041.5504	30mm	4
1041.5506	35mm	4
1041.5508	40mm	2
1041.5509	45mm	2
1041.5510	50mm	4

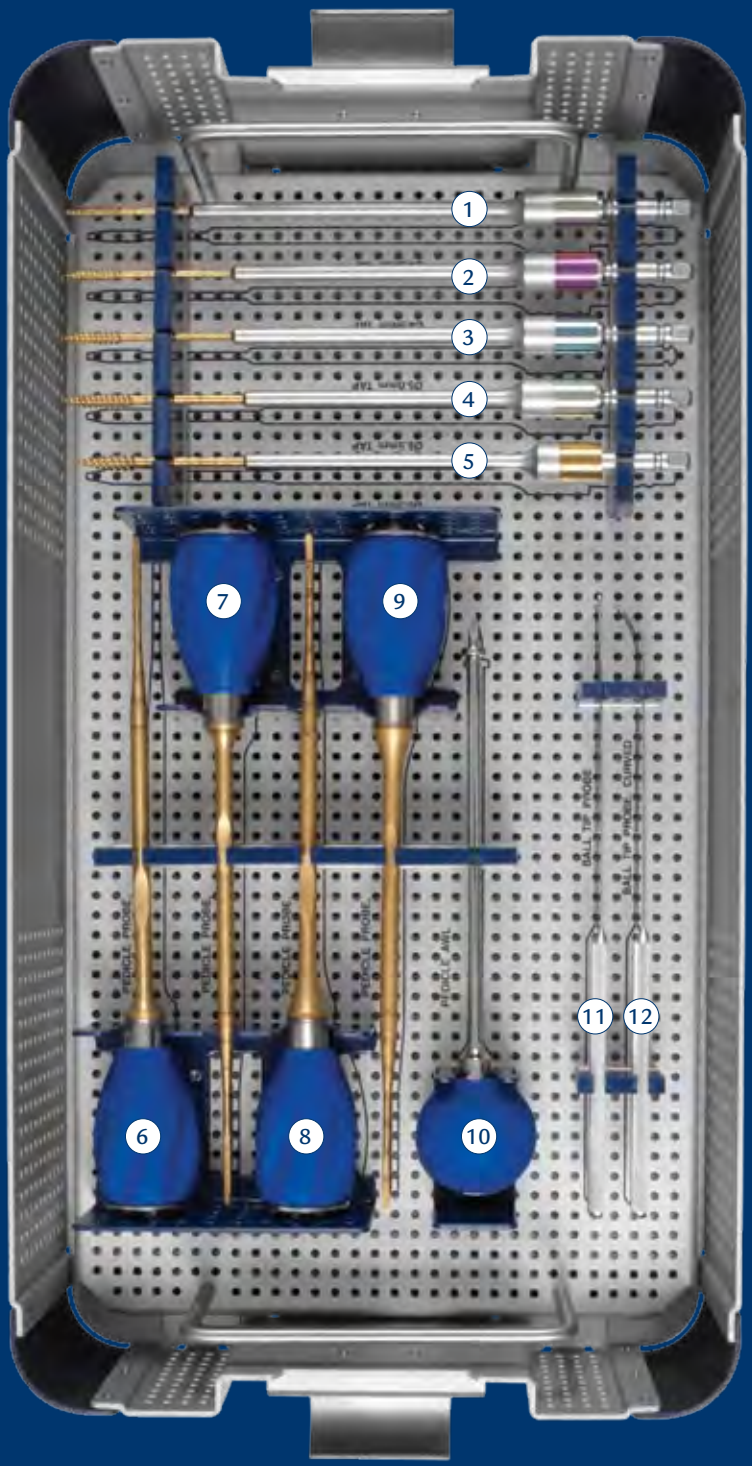
Ø5.5mm REVERE® 4.5 Polyaxial Screw

Part Number	Size	Qty
1041.3530	30mm	2
1041.3535	35mm	2
1041.3540	40mm	2
1041.3545	45mm	2
1041.3550	50mm	2
1041.3555	55mm	2

Ø5.5mm REVERE® 4.5 Monoaxial Screw

Part Number	Size	Qty
1041.5525	25mm	2
1041.5530	30mm	2
1041.5540	40mm	4
1041.5545	45mm	4
1041.5550	50mm	4

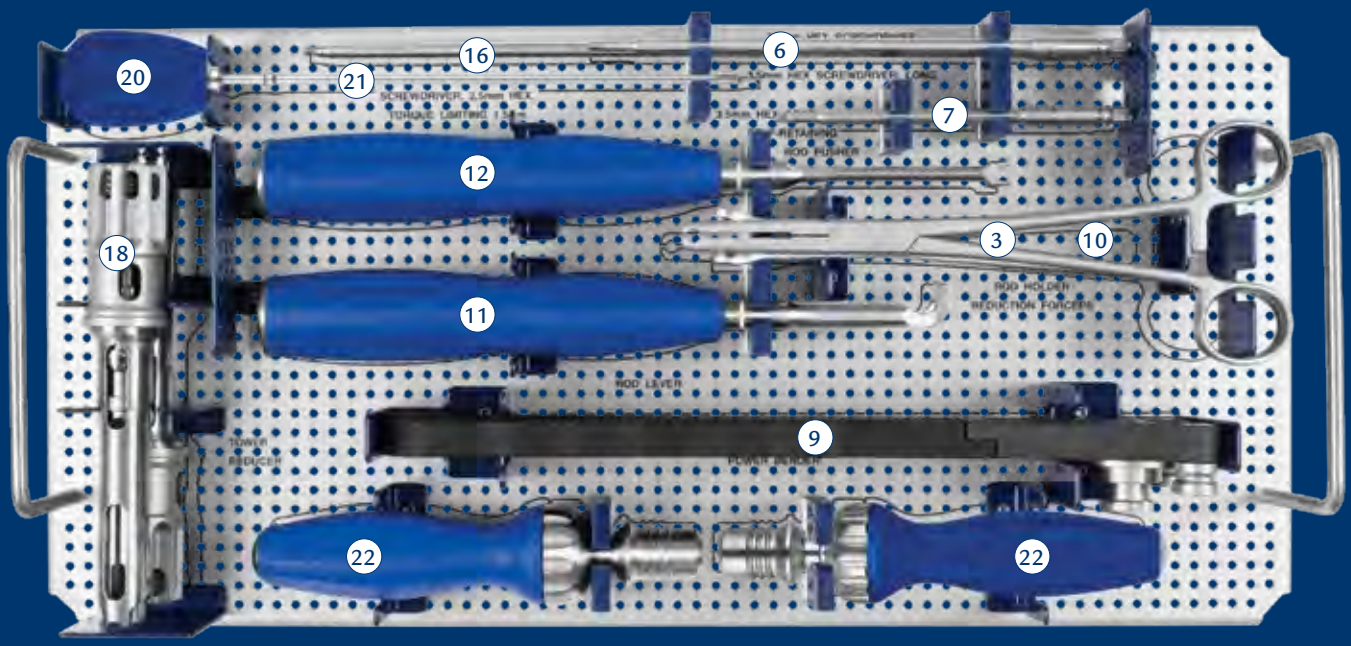
REVERE® 4.5 STABILIZATION SYSTEM INSTRUMENT SET

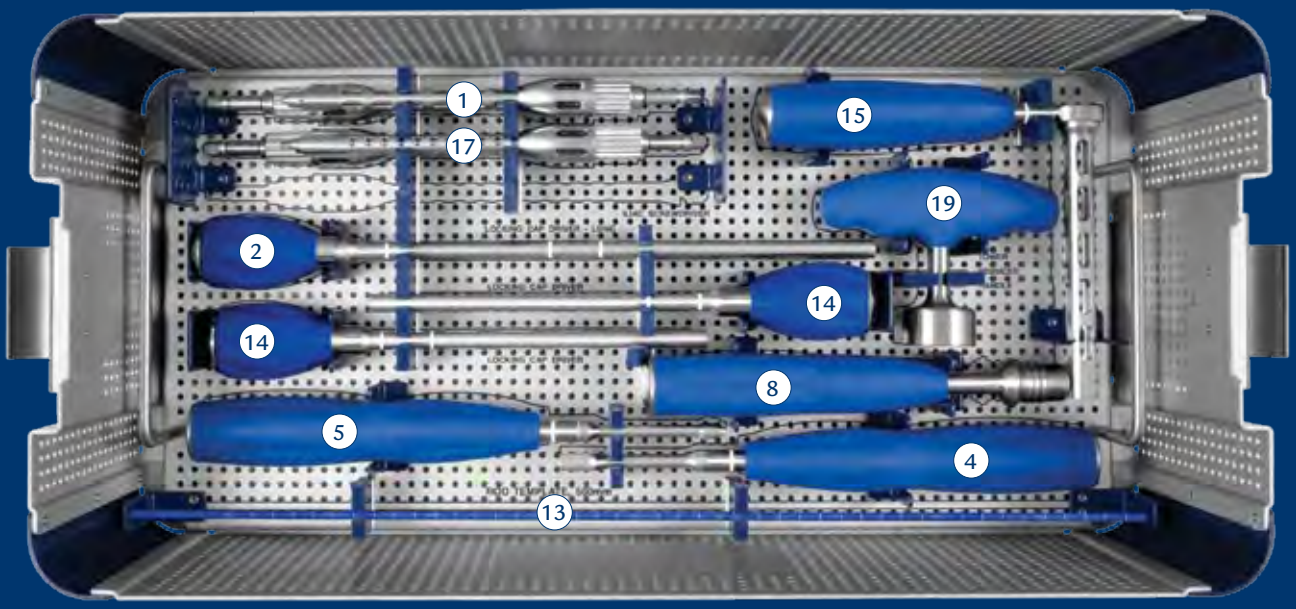


REVERE® 4.5 Stabilization System Instrument I Set 9041.9004

	Instruments		Qty
1	6041.0213	Ø4.0mm Tap	1
2	6041.0214	Ø4.5mm Tap	1
3	6041.0215	Ø5.0mm Tap	1
4	6041.0216	Ø5.5mm Tap	1
5	6041.0217	Ø6.5mm Tap	1
6	624.111	Pedicle Probe – Straight	1
7	624.112	Pedicle Probe – Curved	1
8	6041.0109	Pedicle Probe, Thoracic, Curved, 4.0mm	1
9	6041.0110	Pedicle Probe, Thoracic, Straight, 4.0mm	1
10	602.104	Pedicle Awl	1
11	682.115	Ball Tip Probe (from Ellipse)	1
12	6041.0106	Ball Tip Probe, Curved	1
	9041.0004	REVERE® 4.5 Stabilization System Instrument 1 Graphic Case	1

REVERE® 4.5 STABILIZATION SYSTEM INSTRUMENT II SET

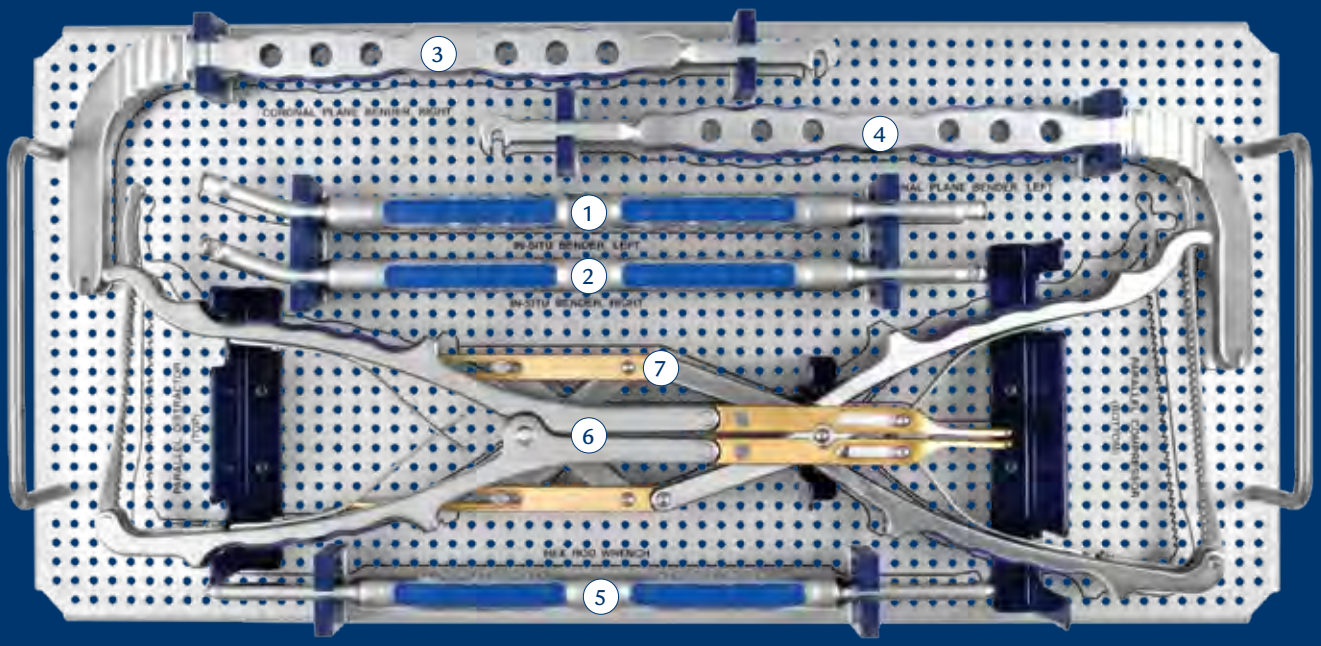


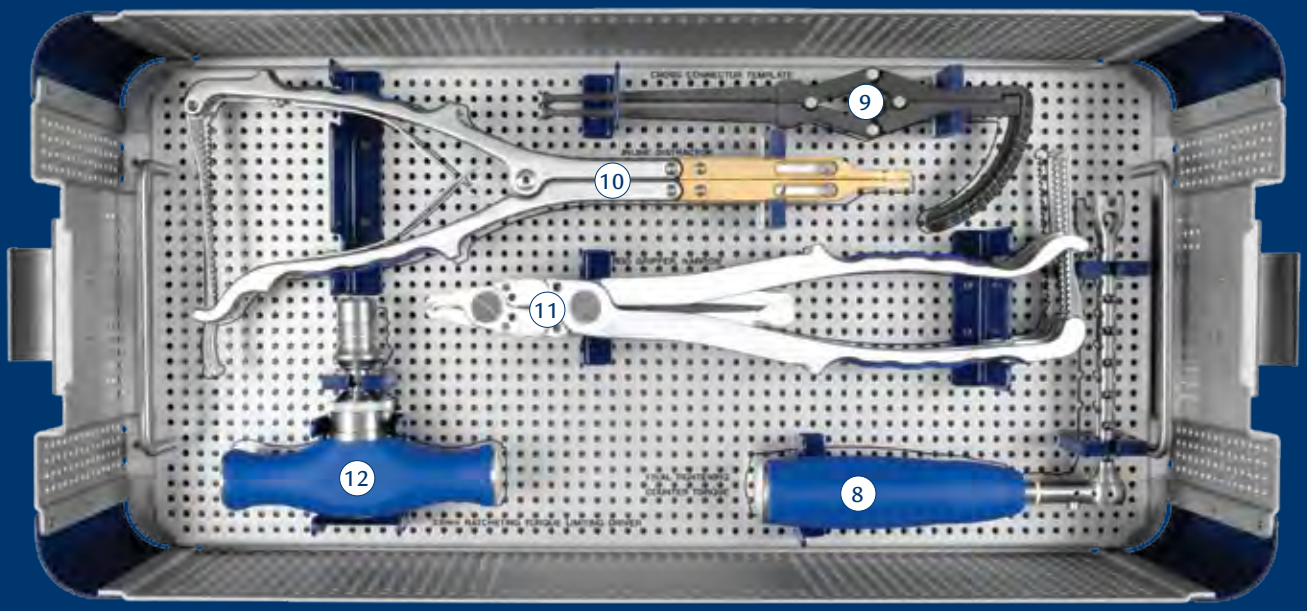


REVERE® 4.5 Stabilization System Instrument II Set 9041.9005

	Instruments		Qty
1	6041.0320	4.5mm Rigid Monoaxial Screwdriver	2
2	6041.0157	Locking Cap Driver, Long	1
3	6041.0324	Reduction Forceps	1
4	6041.0325	External Head Positioner	1
5	6041.0402	4.5mm Internal Screw Head Positioner	1
6	6041.0405	3.5mm Hex Screwdriver Shaft, 1/4" Connection	1
7	6041.0408	3.5mm Hex Screwdriver, Self-Retaining, 1/4" Connection, Shaft	1
8	634.406	Quick Connect, 1/4" Non-Ratcheting, Large Sport Handle	1
9	6041.0506	Power Bender	1
10	6041.0510	Rod Holder, 4.5mm Rod	1
11	6041.0511	4.5mm Rod Lever	1
12	6041.0513	4.5mm Rod Pusher	1
13	6041.0519	Rod Template, 500mm	1
14	6041.0601	4.5mm Locking Cap Driver	2
15	6041.0602	4.5mm Locking Cap Guide	1
16	6041.0706	3.5mm Hex Driver, 1/4" Connect, Long	1
17	6041.0740	4.5mm Polyaxial Screwdriver	2
18	6041.0800	4.5mm Tower Reducer	2
19	624.801	Tower Reducer Handle	1
20	682.212	Torque-Limiting Quick Connect Handle, 1.5Nm	1
21	682.210	Screwdriver, Shaft, 2.5mm Hex	1
22	630.407	Quick Release 1/4 inch Ratchet, Straight Handle	2

REVERE® 4.5 STABILIZATION SYSTEM INSTRUMENT III SET

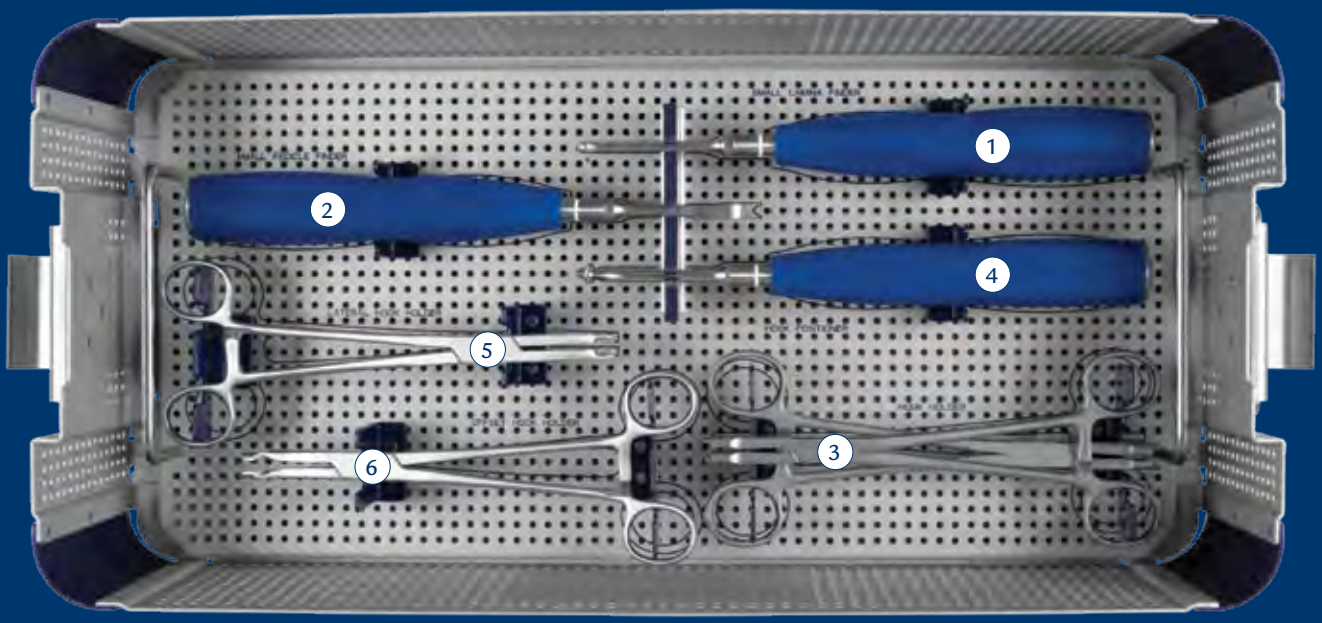




REVERE® 4.5 Stabilization System Instrument III Set 9041.9006

	Instruments		Qty
1	6041.0303	*In Situ* Bender, Left	1
2	6041.0304	*In Situ* Bender, Right	1
3	6041.0309	Coronal Plane Bender, Left	1
4	6041.0310	Coronal Plane Bender, Right	1
5	6041.0316	Hex Rod Wrench, 4.5mm	1
6	6041.0503	Parallel Compressor	1
7	6041.0504	Parallel Distractor	1
8	6041.0603	4.5mm Final Tightening Counter Torque	1
9	6041.0605	Cross Connector Template	1
10	6041.0704	Distractor	1
11	6041.0525	Rod Gripper 4.5 Rod, Narrow	2
12	6041.0604	3.5mm Torque Limiting Driver	1

REVERE® 4.5 STABILIZATION SYSTEM HOOKS AND HOOK INSTRUMENTS SET



REVERE® 4.5 Stabilization System
Hooks and Hook Instruments Set 9041.9007

Hooks		Qty
1041.9901	REVERE® 4.5 Thoracic Lamina Hook, Narrow, Small	2
1041.9902	REVERE® 4.5 Thoracic Lamina Hook, Narrow, Medium	2
1041.9904	REVERE® 4.5 Thoracic Lamina Hook, Small	2
1041.9905	REVERE® 4.5 Thoracic Lamina Hook, Medium	2
1041.9907	REVERE® 4.5 Lamina Hook, Upgoing, Medium	2
1041.9908	REVERE® 4.5 Lamina Hook, Upgoing, Large	2
1041.9924	REVERE® 4.5 Transverse Process Hook, Right	2
1041.9925	REVERE® 4.5 Transverse Process Hook, Left	2
1041.9927	REVERE® 4.5 Pedicle Hook, Small	2
1041.9928	REVERE® 4.5 Pedicle Hook, Medium	6
1041.9929	REVERE® 4.5 Pedicle Hook, Large	2
1041.9940	REVERE® 4.5 Lamina Hook, Narrow, Small	2
1041.9941	REVERE® 4.5 Lamina Hook, Narrow, Medium	2
1041.9942	REVERE® 4.5 Lamina Hook, Narrow, Large	2
1041.9944	REVERE® 4.5 Lamina Hook, Small	4
1041.9945	REVERE® 4.5 Lamina Hook, Medium	8
1041.9946	REVERE® 4.5 Lamina Hook, Large	4
1041.9948	REVERE® 4.5 Lamina Hook, Wide, Small	2
1041.9949	REVERE® 4.5 Lamina Hook, Wide, Medium	2
1041.9950	REVERE® 4.5 Lamina Hook, Wide, Large	2
1041.9952	REVERE® 4.5 Lamina Hook, Tall Body, Small	2
1041.9953	REVERE® 4.5 Lamina Hook, Tall Body, Medium	2
1041.9954	REVERE® 4.5 Lamina Hook, Tall Body, Large	2
1041.9955	REVERE® 4.5 Angled Lamina Hook, Small	2
1041.9956	REVERE® 4.5 Angled Lamina Hook, Medium	4
1041.9957	REVERE® 4.5 Angled Lamina Hook, Large	2
1041.9980	REVERE® 4.5 Extra Offset Lamina Hook, Right	2
1041.9983	REVERE® 4.5 Extra Offset Lamina Hook, Left	2

	Instruments		Qty
1	6041.0299	Small Lamina Finder	1
2	6041.0301	Small Pedicle Finder	1
3	6041.0305	Hook Holder	2
4	6041.0306	Hook Positioner	1
5	6041.0307	Lateral Hook Holder	1
6	6041.0308	Offset Hook Holder	1

Additionally Available Implants

Implants

1041.3405	Ø4.0mm REVERE® 4.5 Polyaxial Screw 45mm
1041.3450	Ø4.5mm REVERE® 4.5 Polyaxial Screw 50mm
1041.3455	Ø4.5mm REVERE® 4.5 Polyaxial Screw 55mm
1041.3500	Ø5.0mm REVERE® 4.5 Polyaxial Screw 20mm
1041.3507	Ø5.0mm REVERE® 4.5 Polyaxial Screw 55mm
1041.3508	Ø5.0mm REVERE® 4.5 Polyaxial Screw 60mm
1041.3520	Ø5.5mm REVERE® 4.5 Polyaxial Screw 20mm
1041.3555	Ø5.5mm REVERE® 4.5 Polyaxial Screw 55mm
1041.3560	Ø5.5mm REVERE® 4.5 Polyaxial Screw 60mm
1041.3565	Ø5.5mm REVERE® 4.5 Polyaxial Screw 65mm
1041.3570	Ø5.5mm REVERE® 4.5 Polyaxial Screw 70mm
1041.3625	Ø6.5mm REVERE® 4.5 Polyaxial Screw 25mm
1041.3655	Ø6.5mm REVERE® 4.5 Polyaxial Screw 55mm
1041.3660	Ø6.5mm REVERE® 4.5 Polyaxial Screw 60mm
1041.3665	Ø6.5mm REVERE® 4.5 Polyaxial Screw 65mm
1041.3670	Ø6.5mm REVERE® 4.5 Polyaxial Screw 70mm
1041.3725	Ø7.5mm REVERE® 4.5 Polyaxial Screw 25mm
1041.3730	Ø7.5mm REVERE® 4.5 Polyaxial Screw 30mm
1041.3735	Ø7.5mm REVERE® 4.5 Polyaxial Screw 35mm
1041.3740	Ø7.5mm REVERE® 4.5 Polyaxial Screw 40mm
1041.3745	Ø7.5mm REVERE® 4.5 Polyaxial Screw 45mm
1041.3750	Ø7.5mm REVERE® 4.5 Polyaxial Screw 50mm
1041.3755	Ø7.5mm REVERE® 4.5 Polyaxial Screw 55mm
1041.3760	Ø7.5mm REVERE® 4.5 Polyaxial Screw 60mm
1041.3765	Ø7.5mm REVERE® 4.5 Polyaxial Screw 65mm
1041.3770	Ø7.5mm REVERE® 4.5 Polyaxial Screw 70mm
1041.3775	Ø7.5mm REVERE® 4.5 Polyaxial Screw 75mm
1041.3780	Ø7.5mm REVERE® 4.5 Polyaxial Screw 80mm
1041.3785	Ø7.5mm REVERE® 4.5 Polyaxial Screw 85mm
1041.3790	Ø7.5mm REVERE® 4.5 Polyaxial Screw 90mm

Additionally Available Implants

Implants

1041.5408	Ø4.0mm REVERE® 4.5 Monoaxial Screw 40mm
1041.5445	Ø4.5mm REVERE® 4.5 Monoaxial Screw 45mm
1041.5500	Ø5.0mm REVERE® 4.5 Monoaxial Screw 20mm
1041.5510	Ø5.0mm REVERE® 4.5 Monoaxial Screw 50mm
1041.5511	Ø5.0mm REVERE® 4.5 Monoaxial Screw 55mm
1041.5525	Ø5.5mm REVERE® 4.5 Monoaxial Screw 25mm
1041.5550	Ø5.5mm REVERE® 4.5 Monoaxial Screw 50mm
1041.5555	Ø5.5mm REVERE® 4.5 Monoaxial Screw 55mm
1041.5560	Ø5.5mm REVERE® 4.5 Monoaxial Screw 60mm
1041.5565	Ø5.5mm REVERE® 4.5 Monoaxial Screw 65mm
1041.5625	Ø6.5mm REVERE® 4.5 Monoaxial Screw 25mm
1041.5630	Ø6.5mm REVERE® 4.5 Monoaxial Screw 30mm
1041.5635	Ø6.5mm REVERE® 4.5 Monoaxial Screw 35mm
1041.5640	Ø6.5mm REVERE® 4.5 Monoaxial Screw 40mm
1041.5645	Ø6.5mm REVERE® 4.5 Monoaxial Screw 45mm
1041.5650	Ø6.5mm REVERE® 4.5 Monoaxial Screw 50mm
1041.5655	Ø6.5mm REVERE® 4.5 Monoaxial Screw 55mm
1041.5660	Ø6.5mm REVERE® 4.5 Monoaxial Screw 60mm
1041.5665	Ø6.5mm REVERE® 4.5 Monoaxial Screw 65mm

1041.4404	Ø4.0mm REVERE® 4.5 Uniplanar Screw 40mm
1041.4405	Ø4.0mm REVERE® 4.5 Uniplanar Screw 45mm
1041.4406	Ø4.0mm REVERE® 4.5 Uniplanar Screw 50mm
1041.4407	Ø4.0mm REVERE® 4.5 Uniplanar Screw 55mm
1041.4420	Ø4.5mm REVERE® 4.5 Uniplanar Screw 20mm
1041.4445	Ø4.5mm REVERE® 4.5 Uniplanar Screw 45mm
1041.4450	Ø4.5mm REVERE® 4.5 Uniplanar Screw 50mm
1041.4455	Ø4.5mm REVERE® 4.5 Uniplanar Screw 55mm
1041.4500	Ø5.0mm REVERE® 4.5 Uniplanar Screw 20mm
1041.4505	Ø5.0mm REVERE® 4.5 Uniplanar Screw 45mm
1041.4506	Ø5.0mm REVERE® 4.5 Uniplanar Screw 50mm
1041.4507	Ø5.0mm REVERE® 4.5 Uniplanar Screw 55mm
1041.4520	Ø5.5mm REVERE® 4.5 Uniplanar Screw 20mm
1041.4525	Ø5.5mm REVERE® 4.5 Uniplanar Screw 25mm
1041.4550	Ø5.5mm REVERE® 4.5 Uniplanar Screw 50mm
1041.4555	Ø5.5mm REVERE® 4.5 Uniplanar Screw 55mm

Additionally Available Implants

Implants

1041.8530	Ø5.5mm/Ø7.0mm REVERE® 4.5 Dual Outer Diameter Screw, 30mm
1041.8602	Ø6.0mm/Ø7.5mm REVERE® 4.5 Dual Outer Diameter Screw, 30mm
1041.8630	Ø6.5mm/Ø8.0mm REVERE® 4.5 Dual Outer Diameter Screw, 30mm
1041.8635	Ø6.5mm/Ø8.0mm REVERE® 4.5 Dual Outer Diameter Screw, 35mm
1041.8640	Ø6.5mm/Ø8.0mm REVERE® 4.5 Dual Outer Diameter Screw, 40mm
1041.8645	Ø6.5mm/Ø8.0mm REVERE® 4.5 Dual Outer Diameter Screw, 45mm
1041.8650	Ø6.5mm/Ø8.0mm REVERE® 4.5 Dual Outer Diameter Screw, 50mm
1041.8655	Ø6.5mm/Ø8.0mm REVERE® 4.5 Dual Outer Diameter Screw, 55mm
1041.8660	Ø6.5mm/Ø8.0mm REVERE® 4.5 Dual Outer Diameter Screw, 60mm

1041.9067	4.5 Low Profile Cross Connector, 42.5mm–67mm
1041.9002	4.5 Fixed Low-Profile Cross Connector, 20mm
1041.9003	4.5 Fixed Low-Profile Cross Connector, 30mm
1041.9004	4.5 Fixed Low-Profile Cross Connector, 40mm
1041.9005	4.5 Fixed Low-Profile Cross Connector, 50mm
1041.9168	4.5 Top-Loading Cross Connector, 56mm–68mm
1041.9179	4.5 Top-Loading Cross Connector, 67mm–79mm
1041.9190	4.5 Top-Loading Cross Connector, 78mm–90mm
1041.9191	4.5 Adjustable Cross Connector, 29mm–33mm
1041.9192	4.5 Adjustable Cross Connector, 32mm–40mm
1041.9193	4.5 Adjustable Cross Connector, 38mm–50mm
1041.9194	4.5 Adjustable Cross Connector, 44mm–60mm
1041.9195	4.5 Adjustable Cross Connector, 50mm–70mm
1041.9196	4.5 Adjustable Cross Connector, 54mm–80mm
1041.9197	4.5 Adjustable Cross Connector, 60mm–90mm

Additionally Available Implants

Implants

1041.9201	4.5mm In-Line Connector, 50mm
1041.9203	4.5mm In-Line Connector, 90mm
1041.9205	4.5mm In-Line Connector, 120mm
1041.9301	4.5mm Offset Connector Clamp, 20mm
1041.9303	4.5mm Offset Connector Clamp, 30mm
1041.9305	4.5mm Offset Connector Clamp, 40mm
1041.9306	4.5mm Offset Connector Clamp, 45mm
1041.9310	4.5mm Offset Connector Clamp, 100mm
1041.9312	4.5mm Offset Connector Clamp, 120mm
1041.9314	4.5mm Offset Connector Clamp, 150mm
1041.9321	4.5mm Closed Offset Connector, 20mm
1041.9323	4.5mm Closed Offset Connector, 30mm
1041.9325	4.5mm Closed Offset Connector, 40mm
1041.9326	4.5mm Closed Offset Connector, 45mm
1041.9330	4.5mm Closed Offset Connector, 100mm
1041.9332	4.5mm Closed Offset Connector, 120mm
1041.9334	4.5mm Closed Offset Connector, 150mm
1041.9351	REVERE® 4.5mm Head, Offset Connector Clamp, 20mm
1041.9353	REVERE® 4.5mm Head, Offset Connector Clamp, 30mm
1041.9355	REVERE® 4.5mm Head, Offset Connector Clamp, 40mm
1041.9356	REVERE® 4.5mm Head, Offset Connector Clamp, 45mm
1041.9360	REVERE® 4.5mm Head, Offset Connector Clamp, 100mm
1041.9362	REVERE® 4.5mm Head, Offset Connector Clamp, 120mm
1041.9364	REVERE® 4.5mm Head, Offset Connector Clamp, 150mm
1041.9802	Parallel Connector, 4.5mm to 4.5mm, 15mm Width
1041.9805	Parallel Connector, 4.5mm to 5.5–6.5mm, 15mm Width
1041.9812	Parallel Connector, Double, 4.5mm to 4.5mm, 15mm Width
1041.9815	Parallel Connector, Double, 4.5mm to 5.5–6.5mm, 15mm Width
1041.9832	Rod to Rod Clamp, 4.5mm to 4.5mm, 15mm Width
1041.9835	Rod to Rod Clamp, Double, 4.5mm to 4.5mm, 15mm Width
1041.9838	Rod to Rod Clamp, 4.5mm to 5.5–6.5mm, 15mm Width
1041.9841	Rod to Rod Clamp, Double, 4.5mm to 5.5-6.5mm, 15mm Width
1041.9844	Parallel Connector Clamp, 4.5mm to 4.5mm, 15mm Width
1041.9847	Parallel Connector Clamp, Double, 4.5mm to 4.5mm, 15mm Width
1041.9850	Parallel Connector Clamp, 4.5mm to 5.5-6.5mm, 15mm Width
1041.9853	Parallel Connector Clamp, Double, 4.5mm to 5.5-6.5mm, 15mm Width

Additionally Available Implants

Implants

1041.1100	Ø4.5mm Straight Rod, Hex-Ended, Titanium Alloy, 100mm
1041.1125	Ø4.5mm Straight Rod, Hex-Ended, Titanium Alloy, 125mm
1041.1150	Ø4.5mm Straight Rod, Hex-Ended, Titanium Alloy, 150mm
1041.1400	Ø4.5mm Straight Rod, Hex-Ended, Titanium Alloy, 400mm
1041.1600	Ø4.5mm Straight Rod, Hex-Ended, Titanium Alloy, 600mm
7041.1100	Ø4.5mm Straight Rod, Hex-Ended, CoCr, 100mm
7041.1150	Ø4.5mm Straight Rod, Hex-Ended, CoCr, 150mm
7041.1400	Ø4.5mm Straight Rod, Hex-Ended, CoCr, 400mm
7041.1600	Ø4.5mm Straight Rod, Hex-Ended, CoCr, 600mm
1041.9500	Ø4.5mm S-Rod, Small, Right
1041.9501	Ø4.5mm S-Rod, Small, Left
1041.9502	Ø4.5mm S-Rod, Large, Right
1041.9503	Ø4.5mm S-Rod, Large, Left
1041.9510	Ø4.5mm Unit Rod, 250mm
1041.9511	Ø4.5mm Unit Rod, 275mm
1041.9512	Ø4.5mm Unit Rod, 300mm
1041.9513	Ø4.5mm Unit Rod, 325mm
1041.9514	Ø4.5mm Unit Rod, 350mm
1041.9515	Ø4.5mm Unit Rod, 375mm
1041.9516	Ø4.5mm Unit Rod, 400mm
1041.9517	Ø4.5mm Unit Rod, 425mm
1041.9518	Ø4.5mm Unit Rod, 450mm
1041.9519	Ø4.5mm Unit Rod, 475mm
1041.9520	Ø4.5mm Unit Rod, 500mm
1041.9550	Ø4.5mm Pre-Contoured Rod, 450mm
1041.0455	Ø4.5mm - 5.5mm Straight Tapered Rod, Titanium Alloy, 600mm
1041.0460	Ø4.5mm - 6.0mm Straight Tapered Rod, Titanium Alloy, 600mm
1041.0463	Ø4.5mm - 6.35mm Straight Tapered Rod, Titanium Alloy, 600mm
1041.0465	Ø4.5mm - 6.5mm Straight Tapered Rod, Titanium Alloy, 600mm
1041.9400	Trans-Illiac Connector, Small
1041.9401	Trans-Illiac Connector, Medium
1041.9402	Trans-Illiac Connector, Large
1041.9403	Open Trans-Illiac Connector, Small
1041.9404	Open Trans-Illiac Connector, Medium
1041.9405	Open Trans-Illiac Connector, Large

Additionally Available Instruments

Instruments

6041.0313	Self-Retaining Monoaxial Screwdriver ("Stab 'n Grab")
6041.0322	Locking Cap Driver, Double Ended
6041.0505	Rod Reducer, Ratcheted
6041.0703	3.5mm Hex Driver, 1/4" Connect, Medium
6041.0522	Rod Gripper, Wide
6041.0300	Large Lamina Finder
6041.0302	Large Pedicle Finder

IMPORTANT INFORMATION ON THE REVERE® 4.5 STABILIZATION SYSTEM

DESCRIPTION

The REVERE® 4.5 Stabilization System consists of rods, hooks, monoaxial screws, Uniplanar screws, polyaxial screws, reduction screws, locking caps, t-connectors, head offset connectors, trans-iliac connectors, staples, and associated manual surgical instruments. Screws are available in a variety of sizes to accommodate individual patient anatomy. REVERE® 4.5 implants mate with 4.5mm diameter rods. Implant components can be rigidly locked into a variety of configurations for the individual patient and surgical condition. Polyaxial screws, hooks, and t-connectors are intended for posterior use only. Staples are intended for anterior use only. Rods and monoaxial screws may be used anteriorly or posteriorly. Locking caps are used to connect screws or hooks to the rod and trans iliac connectors.

The most common use of this screw, hook, and rod system in the posterior thoracolumbar and sacral spine is two rods, each positioned and attached lateral to the spinous process via pedicle screws and/or lamina, pedicle or transverse process hooks.

The most common use of this screw, hook, and rod system in the anterior thoracolumbar spine is one rod, positioned and attached to the vertebral bodies via monoaxial screws through an appropriate size staple.

Screws and hooks attach to the rods using a locking cap with an inner set screw. The size and number of screws are dependent on the length and location of the rod. Screws are inserted into a pedicle of the thoracolumbar and/or sacral spine. The type and number of hooks are also dependent on the location in the spine needing correction and/or stabilization. Hooks are attached to the laminae, pedicles, or transverse process of the posterior spine.

T-connectors are modular components designed to connect the two rods of a construct and act as a structural cross member. The rod-clamping set screws secure the t-connectors to the rods. Additional set screws secure the adjustable cross members at the desired length. REVERE® 4.5 t-connectors may only be used with 4.5mm diameter rods. Additional connectors may be used to connect two rods, and are also secured using set screws.

REVERE® 4.5 Stabilization System S-rods and unit rods are specifically excluded for use in adolescent idiopathic scoliosis patients.

The rods are composed of titanium alloy, commercially pure titanium, cobalt chromium molybdenum alloy, or stainless steel, as specified in ASTM F136, F1295, F1472, F67, F1537 and F138. All other REVERE® 4.5 implants are composed of titanium alloy or stainless steel, as specified in ASTM F136, F1295, F67 and F138. Due to the risk of galvanic corrosion following implantation, stainless steel implants should not be connected to titanium, titanium alloy, or cobalt chromium-molybdenum alloy implants.

INDICATIONS

The REVERE® 4.5 Stabilization System implants are non-cervical spinal fixation devices intended for posterior pedicle screw fixation (T1-S2/ilium), posterior hook fixation (T1-L5), or anterolateral fixation (T8-L5). Pedicle screw fixation is indicated for skeletally mature patients (including small stature) and pediatric patients. These devices are indicated as an adjunct to fusion for all of the following indications: degenerative disc disease (defined as discogenic back pain with degeneration of the disc confirmed by history and radiographic studies), spondylolisthesis, trauma (i.e., fracture or dislocation), deformities or curvatures (i.e., scoliosis, kyphosis, and/or lordosis, Scheuermann's Disease), tumor, stenosis, and failed previous fusion (pseudoarthrosis).

When used for posterior non-cervical pedicle screw fixation in pediatric patients, the REVERE® 4.5 Stabilization System implants are indicated as an adjunct to fusion to treat adolescent idiopathic scoliosis. The REVERE® 4.5 Stabilization System is intended to be used with autograft and/or allograft. Pediatric pedicle screw fixation is limited to a posterior approach.

In order to achieve additional levels of fixation in skeletally mature patients, the REVERE® 4.5 Stabilization System rods may be connected to the REVERE® Stabilization System (5.5mm or 6.35mm rod) or ELLIPSE® Occipito-Cervico-Thoracic Spinal System (3.5mm rod) using corresponding connectors. Refer to the REVERE® or ELLIPSE® system package insert for instructions and indications of use.

WARNINGS

The safety and effectiveness of pedicle screw spinal systems have been established only for spinal conditions with significant mechanical instability or deformity requiring fusion with instrumentation. These conditions are significant mechanical instability or deformity of the thoracic, lumbar, and sacral spine secondary to degenerative disc disease, degenerative spondylolisthesis with objective evidence of neurologic impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor and failed previous fusion (pseudoarthrosis). The safety and effectiveness of these devices for any other conditions are unknown.

One of the potential risks identified with this system is death. Other potential risks which may require additional surgery, include:

- device component fracture,
- loss of fixation,
- non-union,
- fracture of the vertebrae,
- changes to spinal curvature,
- neurological injury, and
- vascular or visceral injury.

The safety and effectiveness of this device has not been established for use as part of a growing rod construct. This device is only intended to be used when definitive fusion is being performed at all instrumented levels.

Components of this system should not be used with components of any other manufacturer.

The components of this system are manufactured from titanium alloy, pure titanium, stainless steel and cobalt chromium-molybdenum alloy. Mixing of stainless steel implant components with different materials is not recommended for metallurgical, mechanical and functional reasons.

ADDITIONAL WARNINGS FOR PEDIATRIC PATIENTS

The use of pedicle screw fixation in the pediatric population may present additional risks when patients are of smaller stature and skeletally immature. Pediatric patients may have smaller spinal structures (pedicle diameter or length) that may preclude the use of pedicle screws or increase the risk of pedicle screw malpositioning and neurological or vascular injury. Patients not skeletally mature that undergo spinal fusion procedures may have reduced longitudinal spinal growth, or may be at risk for rotational spinal deformities ("crankshaft phenomenon") due to continued differential growth of the anterior spine.

Pediatric patients may be at increased risk for device-related injury because of their smaller stature.

PRECAUTIONS

The implantation of screw, hook and rod systems should be performed only by experienced spinal surgeons with specific training in the use of this system because this is a technically demanding procedure presenting a risk of serious injury to the patient. Preoperative planning and patient anatomy should be considered when selecting screw diameter and length, and hook size.

The REVERE® 4.5 Stabilization System includes 4.5 implants intended for use with a 4.5mm rod.

IMPORTANT INFORMATION ON THE REVERE® 4.5 STABILIZATION SYSTEM

Surgical implants are SINGLE USE ONLY and must never be reused. An explanted implant must never be reimplanted. Even though the device appears undamaged, it may have small defects and internal stress patterns which could lead to breakage.

The REVERE® 4.5 Stabilization System has not been evaluated for safety and compatibility in the MR environment. The REVERE® 4.5 Stabilization System has not been tested for heating or migration in the MR environment.

Based on fatigue testing results, when using the REVERE® 4.5 Stabilization System, the physicians/surgeon should consider the levels of implantation, patient weight, patient activity level, other patient conditions, etc., which may impact on the performance of this system.

ADDITIONAL PRECAUTIONS FOR PEDIATRIC PATIENTS

The implanting surgeon should consider carefully the size and type of implants most suitable for the pediatric patient's age, size, weight and skeletal maturity.

Since pediatric patients may have additional growth potential following implant surgery, the likelihood of a subsequent removal and/or revision surgery is greater than in adult patients.

CONTRAINDICATIONS

Certain degenerative diseases or underlying physiological conditions such as diabetes or rheumatoid arthritis may alter the healing process, thereby increasing the risk of implant breakage.

Mental or physical impairment which compromises a patient's ability to comply with necessary limitations or precautions may place that patient at a particular risk during postoperative rehabilitation.

Factors such as the patient's weight, activity level, and adherence to weight bearing or load bearing instructions have an effect on the stresses to which the implant is subjected.

CLEANING

The following cleaning methods should be observed when cleaning instruments after use or exposure to soil:

1. Disassemble all instruments that can be disassembled.
2. Rinse the instruments under running tap water to remove all visible soil. Flush the lumens a minimum of 3 times or until the lumens flush clean.
3. Prepare Enzol® (or a similar enzymatic detergent) per manufacturer's recommendations at 1 oz/gal using warm tap water.
4. Immerse the instruments in the detergent and allow them to soak for a maximum of 2 minutes.
5. Use a soft bristled brush to thoroughly clean the instruments. Use a pipe cleaner for any lumens. Pay close attention to hard to reach areas.
6. Using a sterile syringe, flush any lumens and hard to reach areas until no soil is seen exiting the area.
7. Remove the instruments from the detergent and rinse them in running cool tap water.
8. Prepare Enzol® (or a similar enzymatic detergent) per manufacturer's recommendations at 1 oz/gal using warm tap water in an ultrasonic cleaner.
9. Completely immerse the instruments in the ultrasonic cleaner and ensure detergent is in lumens by flushing the lumens. Sonicate for 3 minutes.
10. Remove the instruments from the detergent and rinse them in running cool tap water for at least 30 seconds.
11. Dry instruments using a clean soft cloth and filtered pressurized air.
12. Visually inspect each instrument for visible soil, and repeat cleaning if visible soil is present.

CONTACT INFORMATION

Globus Medical may be contacted at 1-866-GLOBUS1 (456-2871). A surgical technique manual may be obtained by contacting Globus Medical.

STERILIZATION

REVERE® 4.5 implants are provided non-sterile and REVERE® 4.5 instruments are provided sterile or non-sterile. Sterile instruments are sterilized by gamma radiation to ensure a Sterility Assurance Level (SAL) of 10^{-6}. The expiration date is provided in the package label. Instruments that are provided STERILE should be considered sterile unless the packaging has been opened or damaged.

Non-sterile REVERE® 4.5 implants and instruments have been validated to ensure a SAL of 10^{-6}. The use of an FDA cleared wrap is recommended, per the Association for the Advancement of Medical Instrumentation (AAMI) ST79, *Comprehensive Guide to Steam Sterilization and Sterility Assurance in Health Care Facilities.*

This sterilization cycle is not considered by the Food and Drug Administration to be a standard sterilization cycle. It is the end user's responsibility to use only sterilizers and accessories (such as sterilization wraps, sterilization pouches, chemical indicators, biological indicators, and sterilization cassettes) that have been cleared by the Food and Drug Administration for the selected sterilization cycle specifications (time and temperature).

Implants:

These devices may be supplied NONSTERILE. Sterilization is recommended as follows:

Method	Cycle	Temperature	Exposure Time	Drying Time
Steam	Pre-vacuum (Wrapped)	132° (270°)	4 Minutes	30 Minutes

Instruments:

These instruments may be supplied NONSTERILE. Sterilization is recommended as follows:

Method	Cycle	Temperature	Exposure Time	Drying Time
Steam	Pre-vacuum (Wrapped)	132° (270°)	15 Minutes	30 Minutes

CAUTION: Federal (USA) Law Restricts this Device to Sale by or on the order of a Physician.

REV A

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