stryker

Spine

Trio®+ Surgical Technique

Introduction

Trio+
Surgical Technique

The Trio+ Spinal System is a comprehensive system of implants and instruments used for the stabilization of the spine in the thoracic, lumbar, and sacral regions.

The goals of the design team were to develop a medialized rod spinal system with eight degrees of freedom to allow ultimate flexibility for construct placement, while increasing the construct strength and overall ease of use.

The unique thread of the Trio screw is designed to progressively compress surrounding bone to provide a firm anchor for the connector which, when tightened, secures anywhere along the smooth stem of the screw.

The ball-ring within the connector allows a 50 degree conical entry zone for the rod and a single-step locking mechanism, which helps Trio+ lead the Stryker Spine next generation of comprehensive medialized rod thoracolumbar spine systems.

Important

The Trio+ Spinal fixation system uses implants from the Trio Spinal Fixation System. The Trio+ Spinal fixation system uses instruments from Trio, Xia, and Diapason Spinal fixation systems. The Trio+ implants and instruments are designed and tested for use only with the Trio and Trio+ Spinal system. This surgical technique sets forth detailed, recommended procedures for using the Trio and Trio+ implants and instruments. It offers guidance that you should heed but, as with any such technical guide, each surgeon must consider the particular needs of each patient and make appropriate adjustments when necessary and as required.

Note: This is intended as a guide only. There are multiple techniques for the insertion of pedicle screws and, as with any surgical procedure, a surgeon should be thoroughly trained before proceeding.

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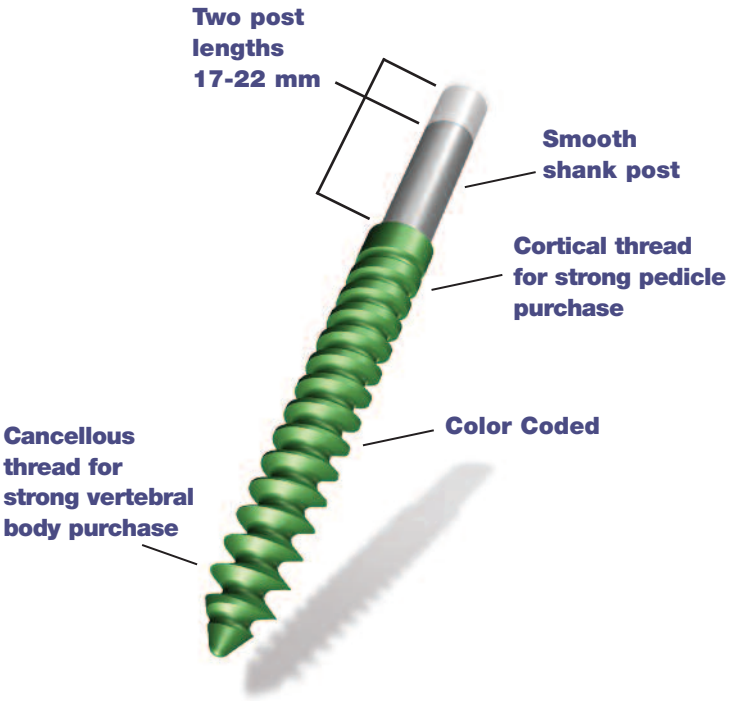
A. Key Design Features

Trio Screw
Smooth shank post

- Designed for easier decortication and maximizing graft volume.
- Allows placement of the connector anywhere on the screw post.

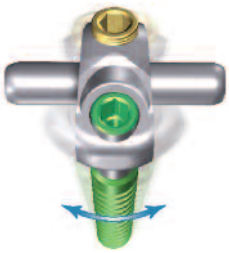


Xia Thread Technology

- Excellent purchase and enhanced strength* at bone-screw interface.

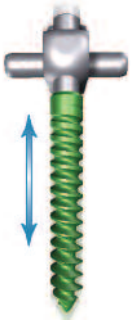
Trio+ Connectors
Ball Ring Technology

- Coronal variability
  Extra degree of freedom to avoid the facet joint and ease construct placement.



- Sagittal angulation
  Accommodates various screw positions and angles.

- Anterior / Posterior Adjustment
  Minimizes rod bending and aids in facet joint preservation.



- 360° circumferential locking
  Enhancing construct integrity.

Ease of Use

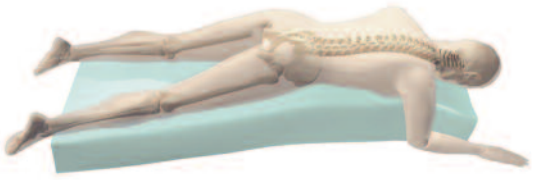
1. One Step Locking
  a. Less fiddle, no preloading set screws.

2. Biased angle connectors
  a. Greater variability for difficult constructs.

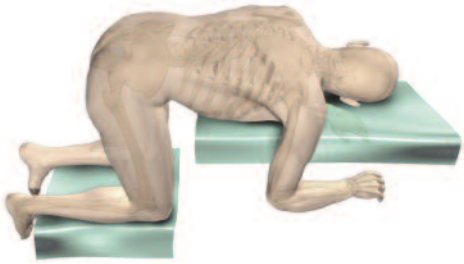
3. 6.0mm Pre-cut/Pre-bent Rods
  a. Short lengths with tight bend for single level fusions.
  b. Medium lengths with gradual bend.
  c. Longer lengths to accommodate multi-level fusions.

*Data on file at Stryker Spine

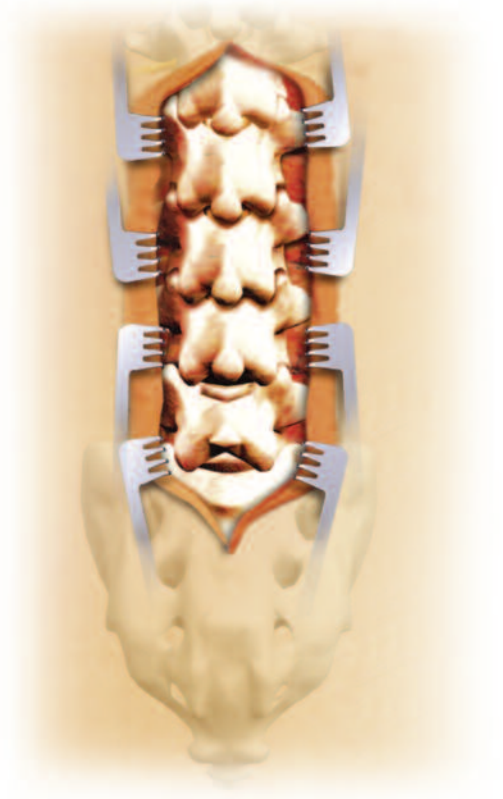
B. Patient Positioning



Diagnosis is based upon patient history, physical findings, preoperative radiographic assessments and the surgeon's clinical judgment.



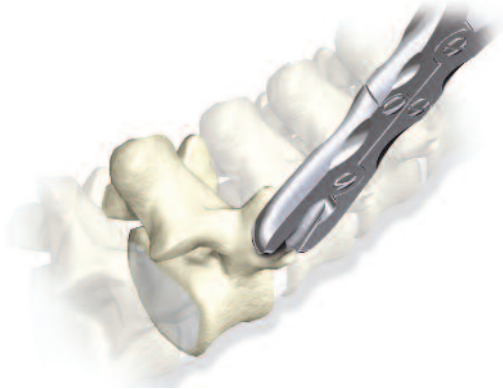
The patient should be positioned on the operative table in the prone position. Care should be taken to pad all bony prominences. To facilitate venous drainage, do not compress the abdomen.



Surgical levels may be verified clinically or radiographically. To ensure adequate exposure, the incision is made to extend just beyond the length of the intended fusion.

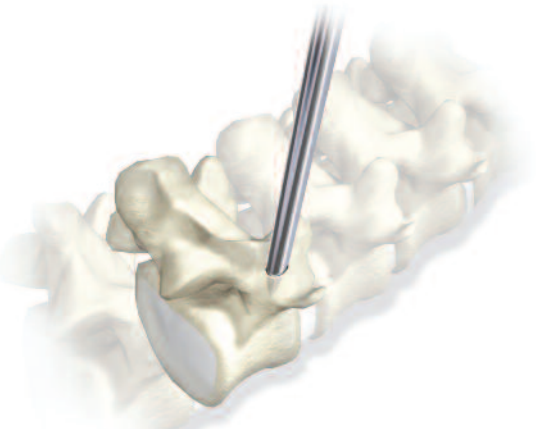
Use pre-surgical planning to define the most appropriate implants, as well as the optimal location of where the implants should be inserted.

C. Preparation of the Pedicle Canal

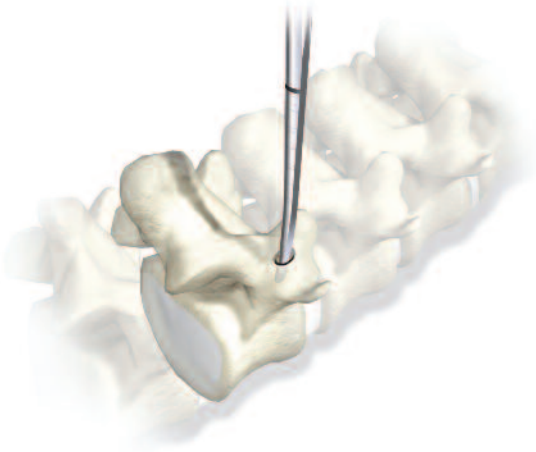


Preparing the Pathway

Remove the small cortical crest with a rongeur or power burr to expose the underlying cancellous bone.



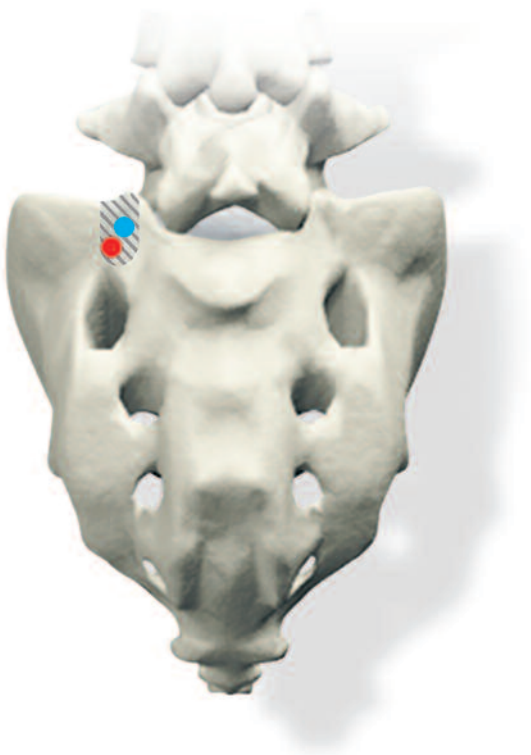
The pedicle entry point may be prepared with the Pedicle Square Awl (675021). The Pedicle Square Awl has a stop at 13mm depth to prevent over-plunging.



A pathway is created with the Bone Pedicle Probe (03807035). The Probe should be in contact with the bone at all times. The correct rotational insertion of the instrument will allow the probe to follow the path of least resistance without violating the pedicle walls. In the event that resistance is felt, the entry point and trajectory should be re-evaluated. The Bone Pedicle Probe is calibrated and laser etched in 5mm intervals to help indicate the depth in which the probe has been inserted as well as help determine the proper screw length.

The prepared pathway is checked with the Pedicle Feeler (675020) to verify that all walls of the pedicle have not been violated and that the cancellous bone is felt at the distal end of the path. The Pedicle Feeler is calibrated in the same manner as the pedicle probe.

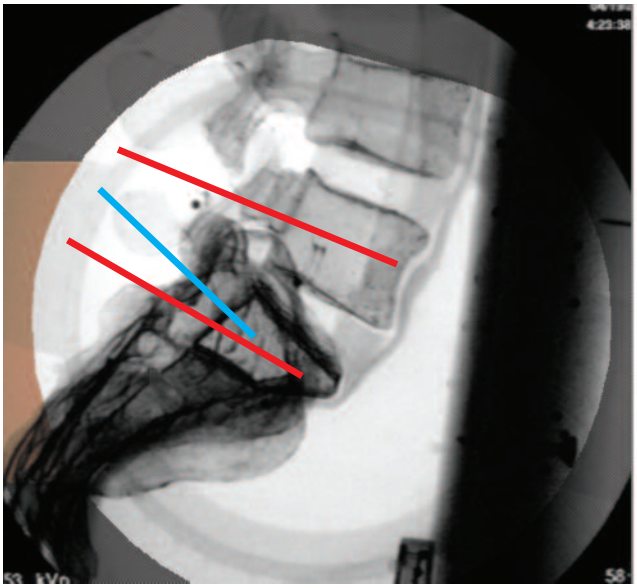
Note: As an option, the Xia Titanium 4.5 Tapered Ball Probe (48137059) can be used.



Surgeon's Tips
Screw placement

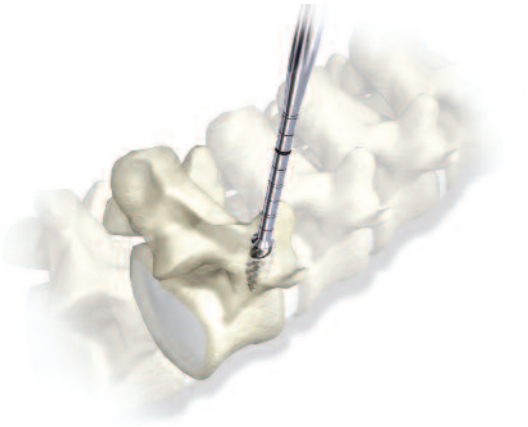
Due to the fact that the insertion area for L5 is smaller than S1, the L5 screw should be placed first. This allows the surgeon the opportunity to evaluate the screw placement at S1 to minimize the potential for the screw to cross at L5. The S1 screw can then be repositioned prior to committing to the screw path, and ensure proper placement at S1.

Assess the lordosis at L5-S1 before screw insertion. If it appears that they may touch posteriorly, choose a more distal entry site at S1 and drill the screw tract more horizontal. This can yield better S1 promontory purchase (tricortical).



In addition, ensure your rod is bent to achieve parallel alignment with the screws. The S1 sacral screw should be placed at the caudal portion of the S1 pedicle. The Bone Pedicle Probe is angled 25 – 30 degrees cephalad to direct the probe towards the sacral endplate. This sacral entry point will help ensure that the S1 screw will not interfere with the adjacent L5 screw.

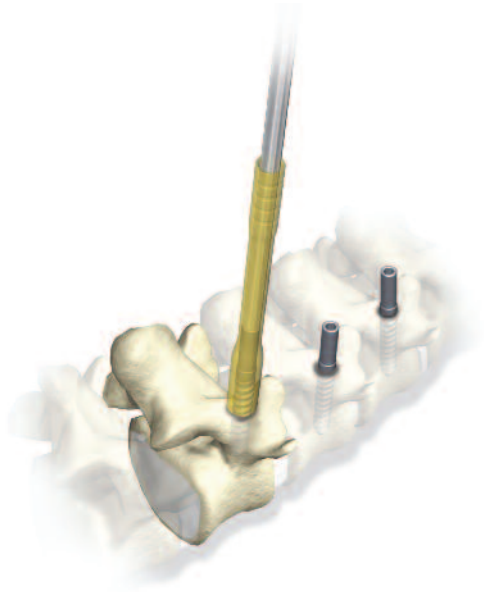
D. Screw Preparation and Insertion



Tapping the Pedicle

The tap may be used to prepare the pedicle canal. The modular tap size range is 4.5, 5.5, 6.5, 7.5, 8.5mm (48040154, 48040155, 48040156, 48040157, 48040158) and cannulated 5.5 and 6.5mm taps (48040165, 48040166).

The taps are calibrated in the same manner as the probe and feeler.

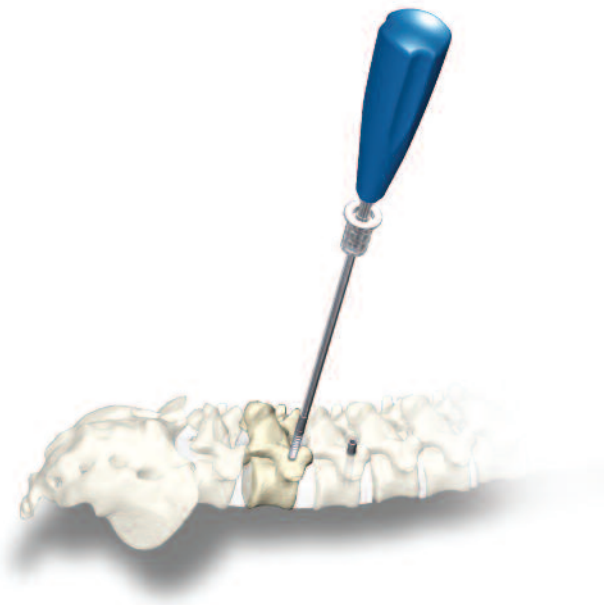


The Tissue Protection Sleeve for Tap (48905010) serves as a soft tissue protector while tapping the pedicle. Slide it over the Tap shaft prior to connecting the shaft to the handle.

With the pedicle pathways prepared and proper screw length and diameter determined, the screw is prepared for insertion.

Option 1: Combo Driver

While holding the quick release lever, insert Flexible Extender III (48905046) in the shaft of the handle, flexible end first. Release the quick release lever and rotate Flexible III until it locks into place. Load the screw onto the hex end of the Flexible III.



Option 2:
Pedicle Screwdriver

Assemble the Trio Self Holding Pedicular Screwdriver (48905022) with the chosen quick release handle. Load the screw onto the end of the screwdriver.

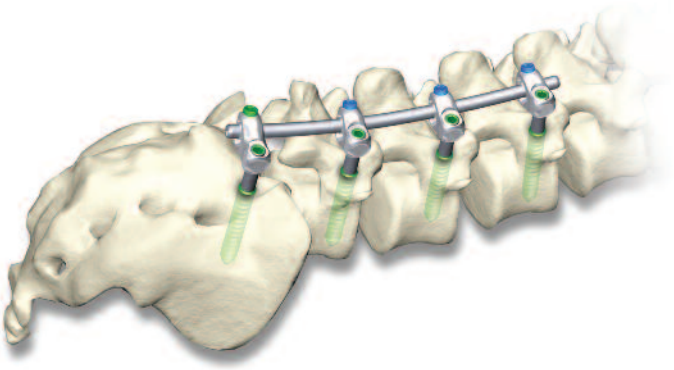
Once the screw is inserted, the Trio Pedicular Screwdriver is disengaged from the screw. (If using the Combined Screwdriver, pull the quick release lever while removing the handle to disengage from the Flexible III.)

Note: DO NOT use either screw driver options to tighten the connectors. They are for screw insertion only. For provisional tightening of the connectors, use the Connector 3.5mm Hex Tightener Shaft (48906050).

Surgeon's Tips
Screw type preoperative selection and insertion

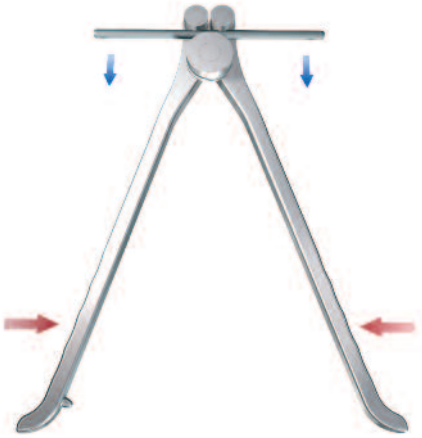
The Trio+ system features Standard Post and Long Post screws. The appropriate selection of the type of screws will facilitate the construct in-situ assembly. For example, in a L4-S1construct, Standard Post screws might be chosen in L4 and S1 while Long Post screws might be preferred in L5. A longer screw post will require a less precise rod bending in the sagittal plane and will facilitate the connectors' placement onto the screw posts.

E. Rod Contouring



The use of pre-cut rods facilitates the surgery by minimizing the time necessary to measure and cut a long rod to the appropriate length.

The rod does not have to be precisely bent for attachment to the pedicle screws given the connectors embedded range of variability, especially for a single-level construct. For a multi-level construct, the relevant choice of connectors according to the offset sizes reduces the need for rod bending in the medial / lateral plane.

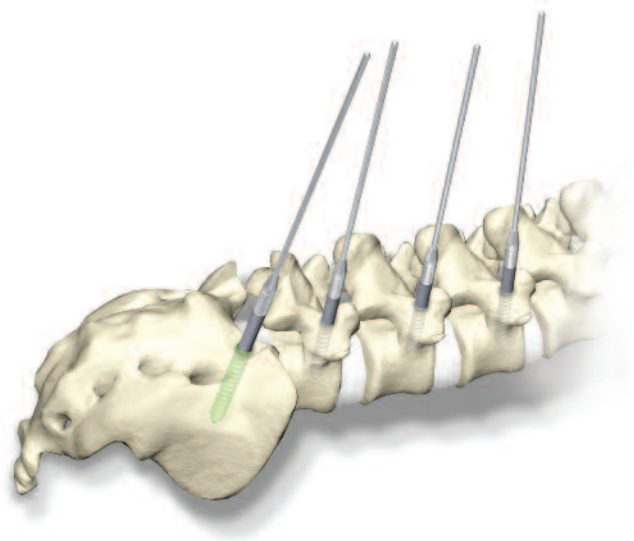


Perform the rod bending outside the operative field using the Rod Bender (48905050). This is best accomplished by a series of small adjustments, which will bend the rod gradually and help ensure even stress distribution due to bending.

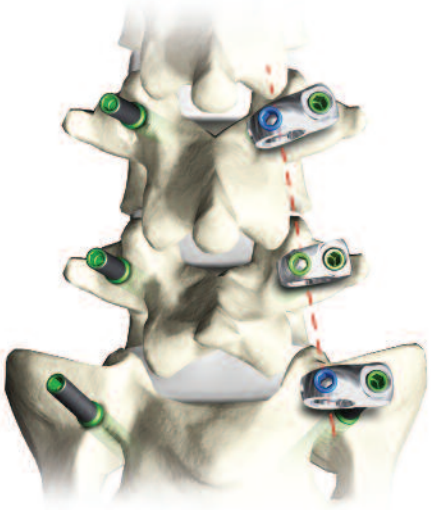
The surgeon can read the resulting curvature of the rod on the laser-etched protractor on the back of the rod bender. Note that this device measures the angle between the 2 rod segments delineated by the 2 Rod Bender rollers.

Note: Pre-bent, Pre-cut rods are also available for use with Trio+. These rods are not to be bent additional degrees.

F. Construct Assembly



Insert the Flexible Extender II (48905041) into the screw post (If using the Combo Driver, this step will not be needed). These malleable Extenders will help guide the connectors onto the screw posts and facilitate their placement onto the screws. When soft tissue is obstructing the placement of the Flexible Extended Screw Posts place the Flexible Extended Screw Post Inserter Tube (48905030) over the screw post. This will clear the pathway and allow the Flexible Extenders to be connected to the screws.

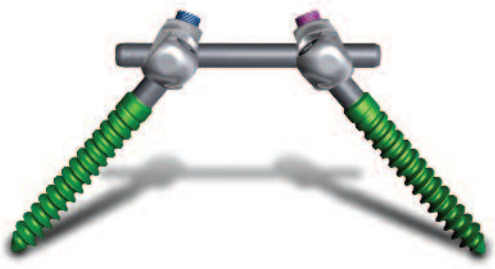


Connector Selection

Choose the appropriate offset connector to compensate for the medial-lateral pedicle screw post misalignment and respect of facets. This will greatly reduce the need for rod bending in the coronal plane.

There are 6 types of connectors:

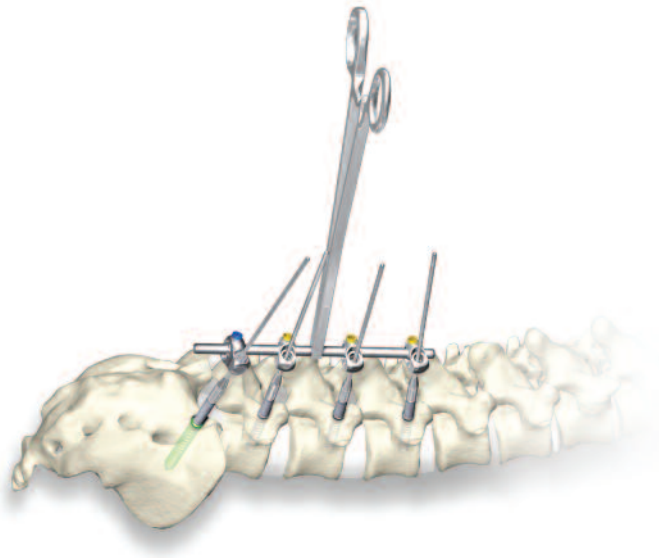
- Small Offset Connector
- Medium Offset Connector
- Large Offset Connector
- Right Biased Offset Connector
- Left Biased Offset Connector
- 2-Step Locking

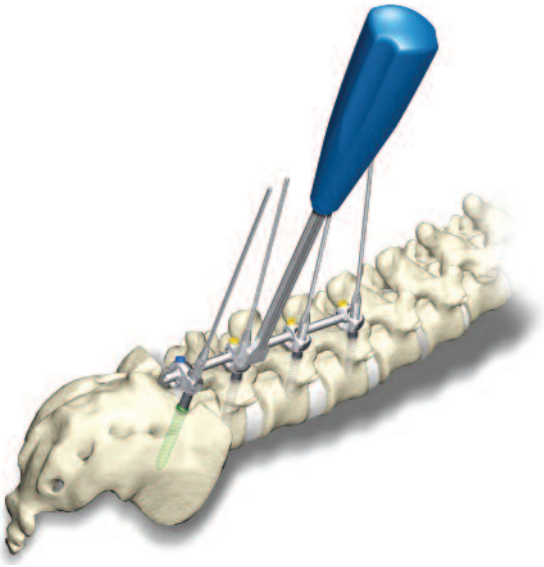


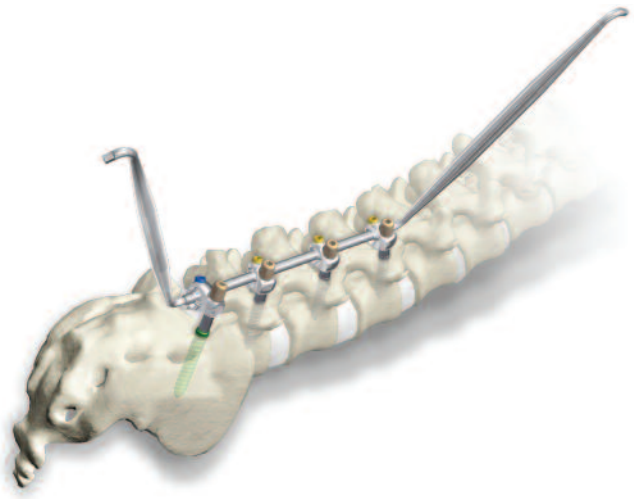
The Biased Angle connectors:

The Right Biased Angle connector is intended to be used as the most inferior connector on the Right side of the construct (i.e. S1), and the Left Biased Angle for the most inferior on the left side. When using the Right Biased Angle connector on the Left side, it is to be used as the most superior connector. The same is for the Left when used on the Right side.

F. Construct Assembly (cont)







Rod/Connectors Sub-assembly

Place the connectors on the prepared rod in the desired order.

Hold your construct (rod with Connectors) with the Rod Insertion Forceps (48040140) and insert the Flexible Extenders into the connectors' screw posthole. Slide the construct down along the Extenders until the connectors are fully inserted onto the screw posts.

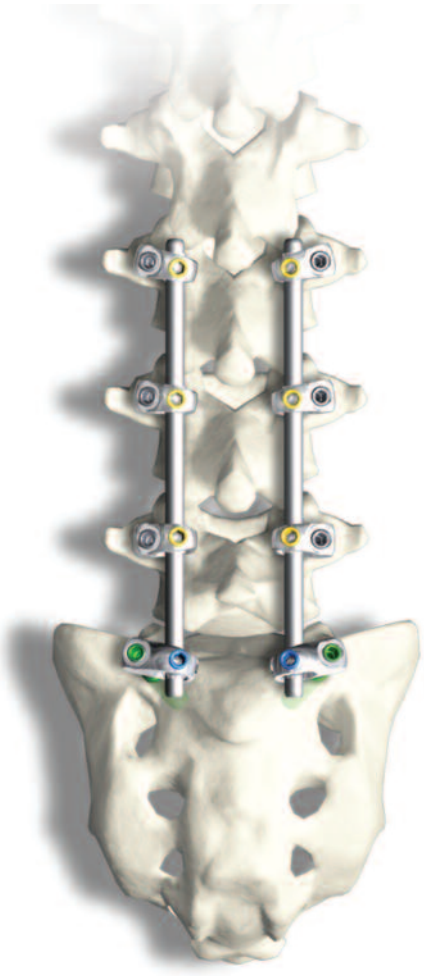
In order to properly seat the construct on the screw posts, we do not recommend pushing on the rod. Instead, we recommend pushing on the connectors. Slide the Connector Pusher (48906010) down the flexible Extended. You can use a mallet to tap the connectors into place.

You can also use the Connector Derotation Key (48906085) to push down the connectors and seat them on the screw posts. This cannulated instrument is also compatible with the Flexible Extenders.

Once the connectors are in place on the screw posts, remove the flexible Extended screw posts from the construct.

You can adjust the placement of the rod in your construct (slide it up or down) and rotate it (bending curve in the sagittal plane) by using the Derotation Wrench (48026200) that engage into the internal hex imprints at the ends of the rods.

To prevent any disengagement of the connectors from the screw posts when performing a rod derotation, you may use the Connector Derotation Caps (48906090). Unscrew them once the connectors are locked on the screws.



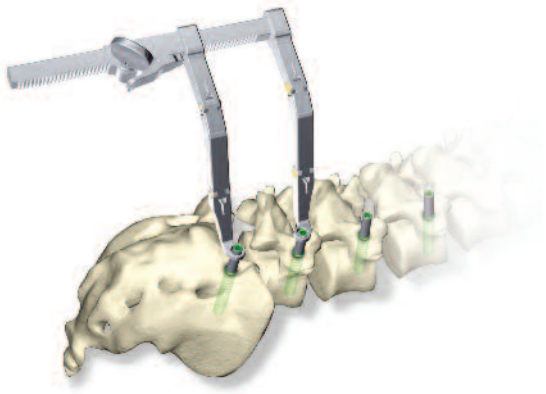
You can achieve superior facet preservation by orientating the cranial connector diagonally head down and thus stay away from the facets. The Connector Derotation Key (48906085) can be used for that purpose.

Before tightening, a lateral radiograph or fluoroscopy can be used to determine the sagittal contour obtained and to check the depth of the screws. You can use the 3.5mm Connector Tightener to advance the screw in the pedicle to reduce any dorsal prominence over the connector. The screws can then be driven deeper reducing the profile.

All adjustments can be made without removing the connectors or rods. The screw can be adjusted flush with the connector while keeping the exact same strength in the screw / connector connection.

Note: Do not use the Connector Anti-Torque Key (48906080) to correct the angle of the connectors. Ensure that the Connector Derotation Key (48906085) is used. As well, ensure that the all of the connectors are loose prior to making any angular adjustments.

G. Compression and Distraction

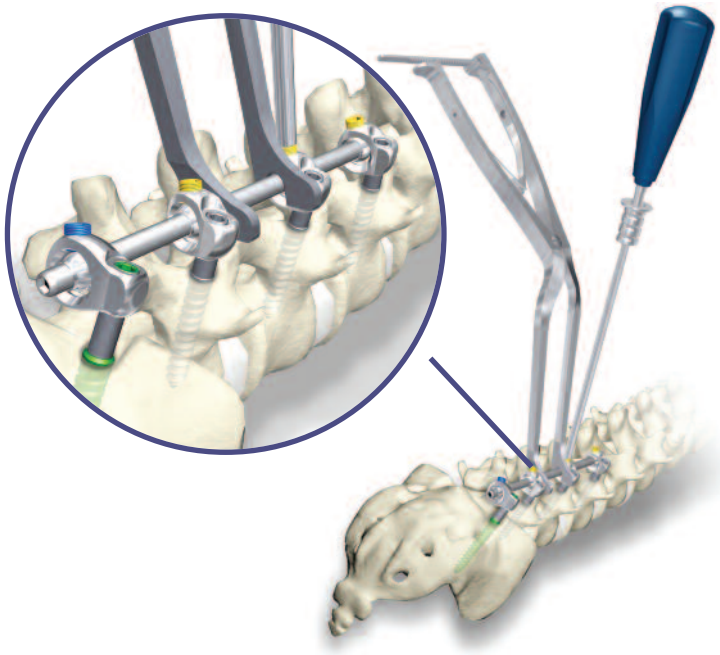


Performing Interbody Work

If performing a discectomy, decompression and/or other interbody work is desired, Parallel Distractors (48906041) can be used in a bilateral fashion.

After placement of the pedicle screws, place the distractor arms over the screw post holes (to ease placement, the Flexible Extenders can be used).

Once in place, turn the knob to provide the force required to achieve the level of distraction desired. After completing desired interbody work, decompression and/or discectomy, release the Parallel Distractor by pressing the release button. Remove from the screw posts and place your rod construct as indicated in the previous steps.



Frontal and Sagittal Plane Deformity Reduction

After the construct has been assembled, segmental distraction and compression may be carried out to reduce frontal plane or sagittal plane deformities.

Use the Connector 3.5mm Hex Tightener Shaft (48906050) with the chosen quick release handle to lock one connector in position when applying distraction or compression forces with the Rod Compression Forceps (48906030) or the Rod Distraction Forceps (48906040).

H. Final Tightening

Insert the torque wrench with the 3.5mm Hex Socket into the Anti-torque key II (48906081). Holding both components, place the tip of the 3.5mm Hex Socket into the setscrew of the connector. Make sure the Hex Socket is fully seated in the set-screw.

Once rigidly inserted, advance the Anti-Torque Key II down over the connector, ensuring that the connector is rigidly held. Holding the handle rigid for the Cannulated Anti-Torque Key II, perform a final tightening at the recommended torque. It is obtained when the 2 laser-etched arrows on the instrument line up. Repeat as necessary for each connector. Two laser-etched arrows indicate 10 Nm. More is not better and increases the risk of implant or instrument damage.

Note: Please do not rotate the Cannulated Anti-Torque Key II once engaged with the connector.

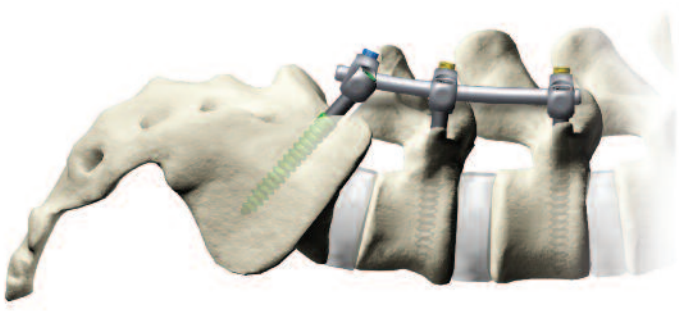
Ensure that the tapered end of the rod has completely exited the ball-ring (approximately 2.0mm) before and after final tightening.

Ensure that the connector is flush with the screw or lower.

Two Steps Locking Connector:

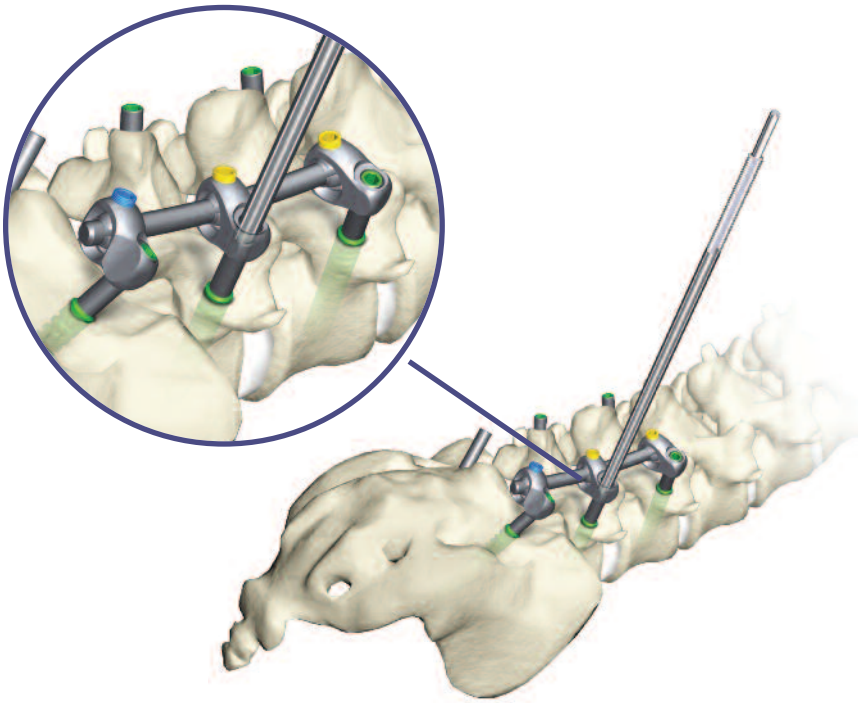
Connect the Connector 11.5mm Hex Socket for Torque Wrench (48906070) to the Torque Wrench to perform the screw/connector final locking.

I. Repositioning Technique
Spondylolisthesis



Fixation with No or Partial Reduction

Partial reduction of a degenerative spondylolisthesis can be obtained by proper patient positioning on the operative table. You can choose to implant a Long Post Pedicle Screw if you want to perform a fixation with no or limited reduction of the slipped vertebra. This screw is available in 6.5mm and 7.5mm diameter, and 40, 45 and 50mm lengths. It features an extended post length (+5mm) in comparison to the Standard Post Pedicle Screw. The long post screw will allow you to place the connector on the screw without achieving a complete reduction of the slippage.

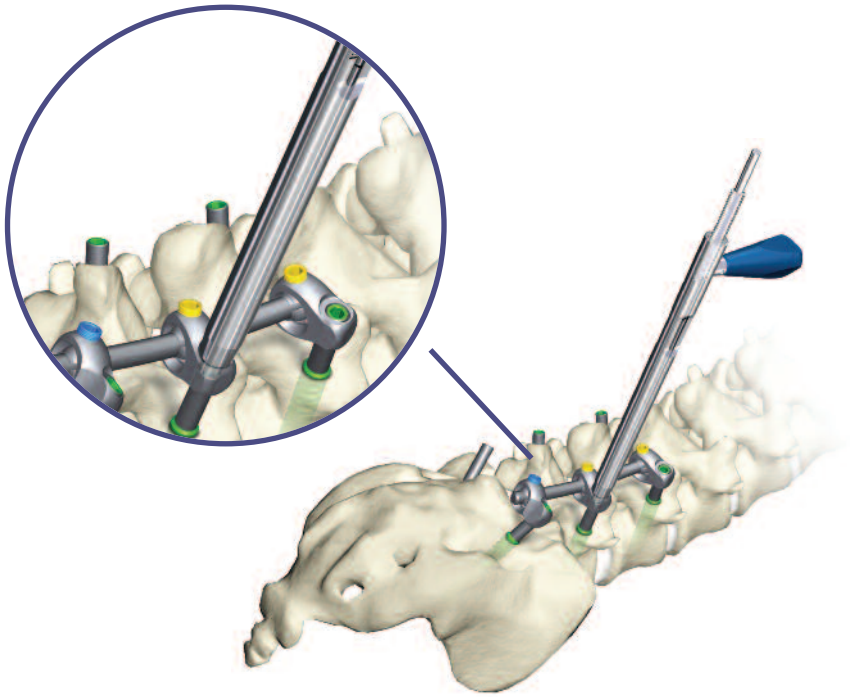


Fixation with Reduction

You can use the Trio Reduction Kit (48905115) if you want to achieve an intraoperative reduction of a spondylolisthesis.

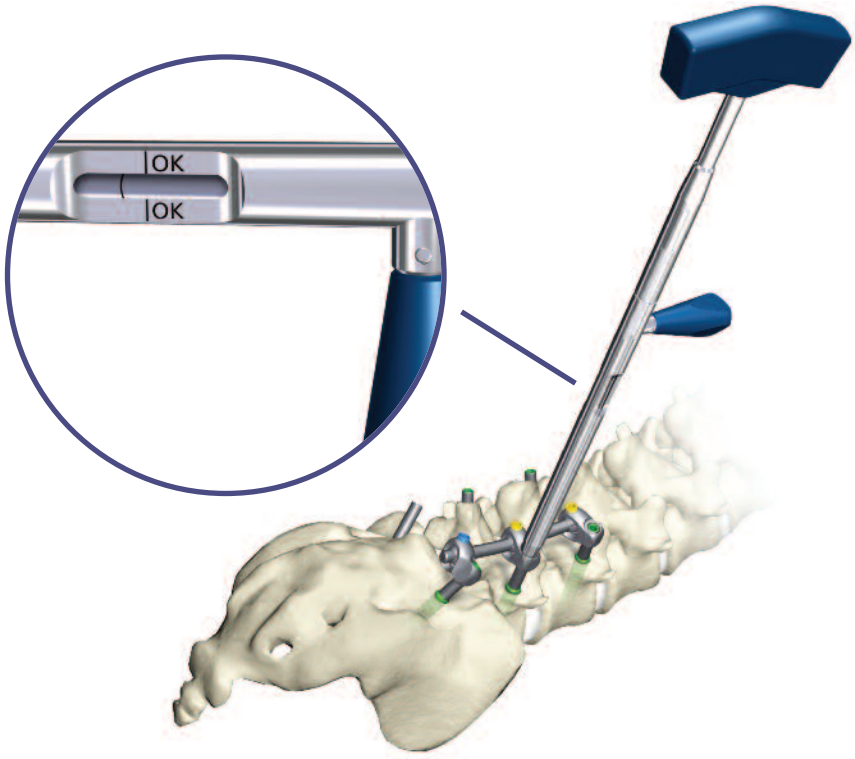
This procedure should be performed bilaterally at the same time, 2 sets of instruments are provided for that purpose. The illustration details the placement on one side, the same steps should be carried out simultaneously on the contra lateral side.

In the slipped vertebrae's screw post, replace the Flexible Extended II or III with the Rigid Threaded Extended Screw Post (by threading). Slide the construct down as described in section "Construct Assembly" and lock down the connectors above and below.



Insert the Connector Pusher Sleeve (48905112) over the Rigid Threaded Extended (48905116) and place it against the connector.

Once the 2 components are in contact, turn the Reduction Key to obtain an axial reduction. One turn corresponds to 1mm of reduction. Additionally, distraction and sagittal rotation can be performed.



A visual indicator on the reduction instrument helps you verify that you can safely lock the connector onto the screw post. As long as the laser marking on the Rigid Threaded Extended Screw Post is aligned with or on the “OK” side of the laser mark on the Connector Pusher Sleeve window, the connector is completely engaged on the screw post and can be locked.

Once the connector is properly connected to the screw post, lock the connector with the Connector 3.5mm Hex Tightener and remove the reduction kit.

If you need to perform distraction / compression maneuvers, leave the reduction kit in position and tighten the connector once the correction steps are completed.

Do not use this instrument with the two steps locking connector.

J. Implant Removal Procedure

In the event that the implants should require removal, the following technique should be followed following exposure of the surgical site and the implanted construct.

Using the Connector Anti Torque Key II (48906081) and Torque Wrench (48905070) with the Connector 3.5mm Hex Socket for Torque Wrench (48906075), loosen each connector. Using the Rod Insertion Forceps (48040140), grip the rod and remove the construct. An additional option is to slide the rod out of the connector and using general forceps remove the connector. Then slide the rod in the opposite direction and remove the other connector. This method can be repeated until all of the connectors are removed, along with the rod.

Once all of the connectors and rod have been removed, the screws are removed using the Connector 3.5mm Hex Tightener shaft (48906050). Insert the shaft in desired handle and rotate the screw counterclockwise until it is fully removed from the bone. Repeat this for all of the remaining screws in the construct.

K. Indications

INDICATIONS FOR USE

The Stryker Spine Trio+ Spinal Fixation System is intended for posterior, noncervical pedicle and nonpedicle fixation of the spine to provide immobilization and stabilization of spinal segments in skeletally mature patients as an adjunct to fusion for the following indications:

- Degenerative disc disease (defined as back pain of discogenic origin with degeneration of the disc confirmed by history and radiographic studies);
- Spondylolisthesis;
- Trauma (i.e. fracture or dislocation);
- Spinal stenosis;
- Curvatures (i.e. scoliosis, kyphosis, and/or lordosis);
- Tumor;
- Pseudoarthrosis; and
- Failed previous fusion.

The Trio+ Spinal Fixation System is intended to be used in conjunction with the OSS/DIAPASON or Opus Rods, Xia pre-bent rods and the Multi-Axis Cross Connector.

L. Contraindications

Contraindications may be relative or absolute. The choice of a particular device must be carefully weighed against the patient's overall evaluation. Circumstances listed below may reduce the chances of a successful outcome:

- Any abnormality present which affects the normal process of bone remodeling including, but not limited to, severe osteoporosis involving the spine, bone absorption, osteopenia, primary or metastatic tumors involving the spine, active infection at the site or certain metabolic disorders affecting osteogenesis.
- Insufficient quality or quantity of bone which would inhibit rigid device fixation.
- Previous history of infection.
- Excessive local inflammation.
- Open wounds.
- Any neuromuscular deficit which places an unusually heavy load on the device during the healing period.
- Obesity. An overweight or obese patient can produce loads on the spinal system which can lead to failure of the fixation of the device or to failure of the device itself.
- Patients having inadequate tissue coverage of the operative site.
- Pregnancy.
- A condition of senility, mental illness, or substance abuse. These conditions, among others, may cause the patient to ignore certain necessary limitations and precautions in the use of the implant, leading to failure or other complications.
- Foreign body sensitivity. Where material sensitivity is suspected, appropriate tests should be made prior to material selection or implantation.
- Other medical or surgical condition which would preclude the potential benefit of spinal implant surgery, such as the presence of tumors, congenital abnormalities, elevation of sedimentation rate unexplained by other diseases, elevation of white blood cell count (WBC), or marked left shift in the WBC differential count.

These contraindications can be relative or absolute and must be taken into account by the physician when making his decision. The above list is not exhaustive.

M. Cautions and Warnings

PRE-OPERATIVE PRECAUTIONS

Anyone using STRYKER Spine products should obtain a Surgical Technique brochure by requesting one from a distributor or from STRYKER Spine directly. Those using brochures published more than two years before the surgical intervention should get an updated version.

STRYKER Spine devices must only be used by doctors who are fully familiar with the surgical technique required and who have been trained to this end. The doctor operating must take care not to use the instruments to exert inappropriate stress on the spine or the implants and must scrupulously comply with any operating procedure described in the surgical technique provided by STRYKER Spine. For example, the forces exerted when repositioning an instrument in-situ must not be excessive as this is likely to causes injury to the patient.

To reduce the risks of breakage, care must be taken not to distort the implants or nick, hit or score them with the instruments unless otherwise specified by the applicable STRYKER Spine Surgical Technique.

Extreme care must be taken when the instruments are used near vital organs, nerves or vessels.

Unless otherwise specified on the label, the instruments can be reused after decontamination, cleaning and sterilization.

INFORMATION FOR PATIENTS

The surgeon must discuss all physical and psychological limitations inherent to the use of the device with the patient. This includes the rehabilitation regimen, physical therapy, and wearing an appropriate orthosis as prescribed by the physician. Particular discussion must be directed to the issues of premature weight bearing, activity levels, and the necessity for periodic medical follow-up.

The patient must be warned of the surgical risks and made aware of possible adverse effects. The patient must be warned that the device cannot and does not replicate the flexibility, strength, reliability or durability of normal healthy bone, that the implant can break or become damaged as a result of strenuous activity or trauma, and that the device may need to be replaced in the future. If the patient is involved in an occupation or activity which applies inordinate stress upon the implant (e.g., substantial walking, running, lifting, or muscle strain) resultant forces can cause failure of the device. Patients who smoke have been shown to have an increased incidence of nonunions. Such patients should be advised of this fact and warned of the potential consequences. For diseased patients with degenerative disease, the progression of degenerative disease may be so advanced at the time of implantation that it may substantially decrease the expected useful life of the appliance. In such cases, orthopaedic devices may be considered only as a delaying technique or to provide temporary relief.

CAUTION

Federal law restricts this device to sale by or on the order of a licensed physician.

The implantation of pedicle screw spinal systems should be performed only by experienced spinal surgeons with specific training in the use of this pedicle screw spinal system because this is a technically demanding procedure presenting a risk of serious injury to the patient.

Based on the fatigue testing results, the physician/surgeon should consider the levels of implantation, patient weight, patient activity level, other patient conditions, etc. which may impact on the performance of the system.

WARNING

The TRIO+ Spinal Fixation System has not been tested for heating or migration in the MR environment.

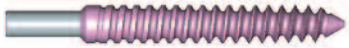
The safety and effectiveness of pedicle screw spinal systems have been established only for spinal conditions with significant mechanical instability or deformity requiring fusion with instrumentation. These conditions are significant mechanical instability or deformity of the thoracic, lumbar, and sacral spine secondary to spondylolisthesis (grades 3 and 4) of the L5-S1 vertebrae, degenerative spondylolisthesis with objective evidence of neurological impairment, fracture, dislocation, scoliosis, kyphosis, spinal tumor, and failed previous fusion (pseudarthrosis). The safety and effectiveness of these devices for any other conditions are unknown.

N. Trio+ Implants

Connectors

Product Description	Reference Number	
Trio+ Small Offset Connector (7mm)	48902015	
Trio+ Medium Offset Connector (11mm)	48902025	
Trio+ Large Offset Connector (15mm)	48902035	
Trio+ Right Biased Offset Connector (11mm)	48902060	
Trio+ Left Biased Offset Connector (11mm)	48902070	
Trio Two-Step Locking Connector	48902040	

Screws

Product Description	Reference Number	
Trio Ø4.5mm Standard Post Screw 25 - 40mm	48900425 - 40	
Trio Ø5.5mm Standard Post Screw 25 - 50mm	48900525 - 50	
Trio Ø6.5mm Standard Post Screw 30 - 60mm	48900630 - 60	
Trio Ø7.5mm Standard Post Screw 30 - 60mm	48900730 - 60	
Trio Ø8.5mm Standard Post Screw 30 - 60mm	48900830 - 60	
Trio Ø6.5mm Long Post Screw 40 - 50mm	48901640 - 50	
Trio Ø7.5mm Long Post Screw 40 - 50mm	48901740 - 50	

Rods

Product Description	Reference Number	
Diapason Ø6.0mm Titanium Alloy Union Rods 40 - 150mm	665040 - 665150	
Diapason Ø6.0mm Titanium Alloy Rods 200mm	665200	
Diapason Ø6.0mm Titanium Alloy Rods 400mm	665400	
Opus Ø6.0mm Titanium Alloy Rods 40 -600mm	671040-671600	
Xia Ø6.0mm Titanium Alloy RAD Rod 30 - 90mm	48218030 - 90	
Xia Ø6.0mm Titanium Alloy MAX RAD Rod 50 - 80	48219050 - 80	

MAC Connectors

Product Description	Reference Number	
Small MAC Connectors (29mm, 31mm, 35mm)	4107029, 31, 35	
Standard MAC Connectors (38mm, 42mm, 50mm, 66mm)	4107038, 42, 50, 66	
Monobloc MAC Connector (17mm, 20mm, 23mm, 26mm)	4107017,20,23,26	

O. Instruments used with Trio+

Handles

Product Description	Reference Number
Xia Standard Round Handle	03807030
Xia Ratcheting Round Handle	48041300
Xia Standard T Handle	03807200
Xia Ratcheting T Handle	48041200

Taps

Product Description	Reference Number
Xia 4.5mm Modular Tap	48040154
Xia 5.5mm Modular Tap	48040155
Xia 6.5mm Modular Tap	48040156
Xia 7.5mm Modular Tap	48040157
Xia 8.5mm Modular Tap	48040158
Tissue Protection Sleeve for Tap	48905010

Awls and Probes

Product Description	Reference Number
Opus Square Awl	675021
Blunt Probe	03807035
Opus Pedicle Tester	675020
Xia 4.5 Tapered Ball Probe	48137059

Screwdrivers and Flexible Extenders

Product Description	Reference Number	
Self Holding Pedicle Screw Driver Shaft	48905022	
Trio+ Combined Screwdriver	48906100	
Trio+ Flexible Extender III (for Combo Driver)	48905046	
Trio+ Flexible Extender II	48905041	
Extender Screw Post Inserter Tube	48905030	

Rod/Connector Pushers and Final Tightening

Product Description	Reference Number	
Xia Rod Insertion Forceps	48040140	
Rod Bender	48905050	
Connector Pusher	48906010	
Connector 3.5mm Hex Tightener Shaft	48906050	
Trauma Connector 11.5mm Hex Key Shaft	48906060	
Torque Wrench	48905070	
Trio+ Anti-Torque Key II	48906081	
Trio Connector Derotation Key	48906085	
Connector 3.5mm Hex Socket for Torque Wrench	48906075	
Connector 11.5mm Hex Socket for Torque Wrench	48906070	

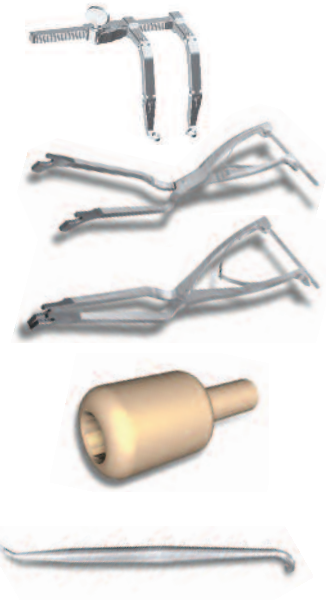
O. Instruments used with Trio+

Spondy Reduction Instruments

Product Description	Reference Number
Trio+ Spondylolisthesis Reduction Instrument (comprised of the following 3 components)	48905115
Rigid Threaded Extended Screw Post	48905116
Connector Pusher Sleeve	48905112
Reduction Key	48905113

Miscellaneous Instruments

Product Description	Reference Number
Trio+ Parallel Distractor	48906041
Rod Compression Forceps	48906030
Rod Distraction Forceps	48906040
Connector Derotation Cap	48906090
Diapason Derotation Wrench	48026200



Trays

Product Description	Reference Number
Trio+ Screw Tray	48905001
Trio+ Connector Tray Base	48906200
Trio+ Connector Tray Upper Insert	48906300
Trio+ Connector Tray Intermediate	48906210
Trio+ Connector Tray Lid	48906310

P. Notes

stryker®

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Spinal Implants

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A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a particular patient. Stryker does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery.

The information presented is intended to demonstrate the breadth of Stryker product offerings. A surgeon must always refer to the package insert, product label and/or instructions for use before using any Stryker product. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact your Stryker representative if you have questions about the availability of Stryker products in your area.

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