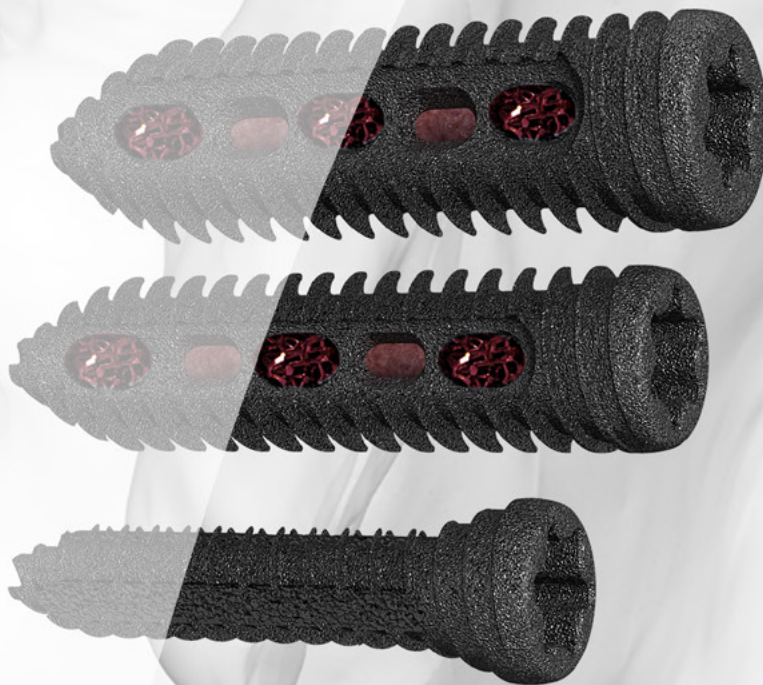


TRITON[®]

Sacroiliac Joint Fixation System





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Spine the Right Way.SM

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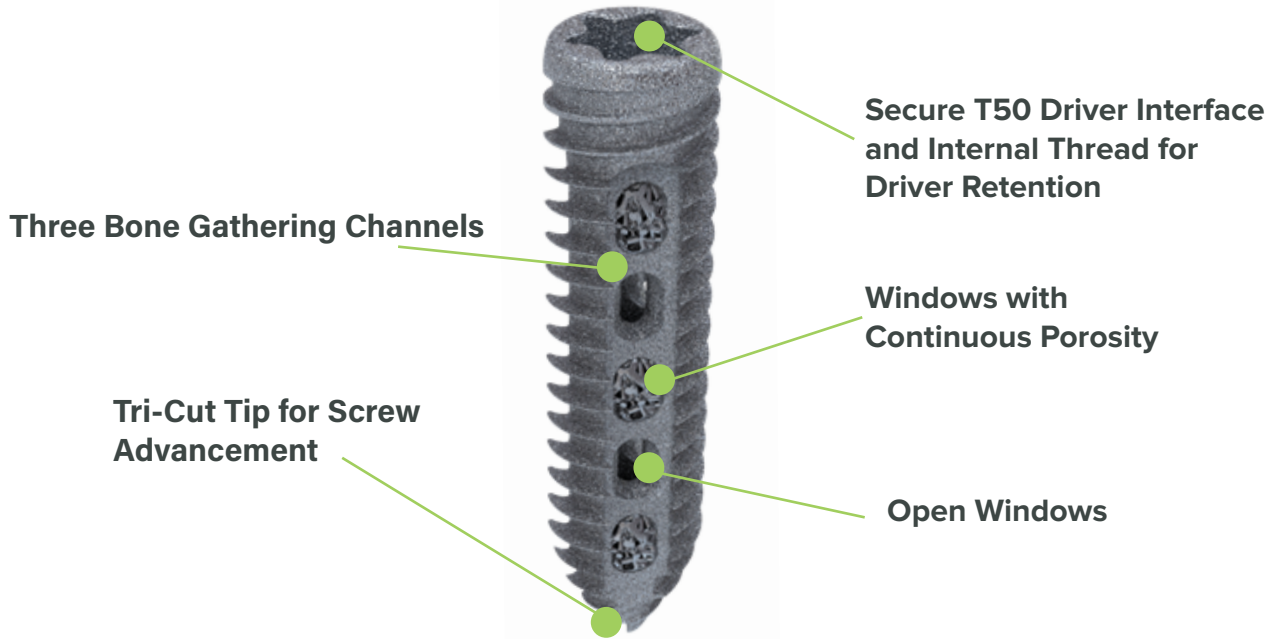
TRITON[®]

SI Joint Fixation System



Introduction

The ChoiceSpine TRITON® Sacroiliac Joint Fixation System is intended for sacroiliac joint fixation for conditions including degenerative sacroiliitis and sacroiliac joint disruption. TRITON® is a titanium 3D manufactured cannulated screw with open and porous graft windows. TRITON® offers various lengths and diameters to accommodate different patient anatomies.



Description	Screw Major Diameter	Screw Minor Diameter	Length
Secondary	Ø8mm	Ø6mm	30,35,40,45,50,55,60mm
Primary	Ø12mm	Ø9mm	30,35,40,45,50,55,60,65mm
Revision	Ø14mm	Ø11mm	35,40,45,50,55,60,65mm



Ø8mm *

* Open and Porous windows not present on Ø8mm Screw



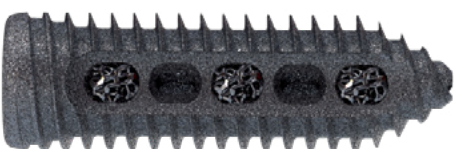
Simple Instrumentation



Ø12mm



Bone Gathering Channels



Ø14mm



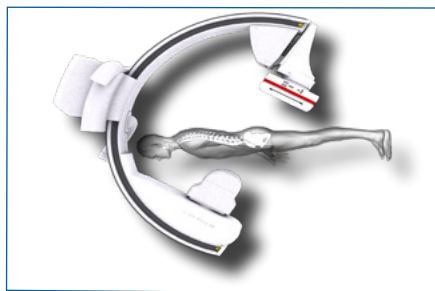
Fixation



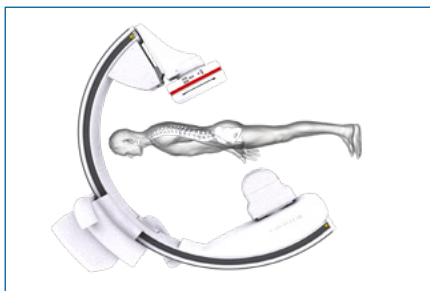
Patient Setup and Operative Imaging

Adequate pre-operative planning is always recommended prior to surgical intervention.

Position the patient in the prone position. The surgical procedure requires three (3) main C-Arm images: Inlet View, Outlet View and Lateral View.



Inlet view: Allows the Pelvic Brim to be viewed.



Outlet View: Allows the Sacral Foramen to be viewed.



Lateral View: Allows the Alar Lines, Posterior/Anterior Sacral Walls and the S1 Endplate to be viewed.



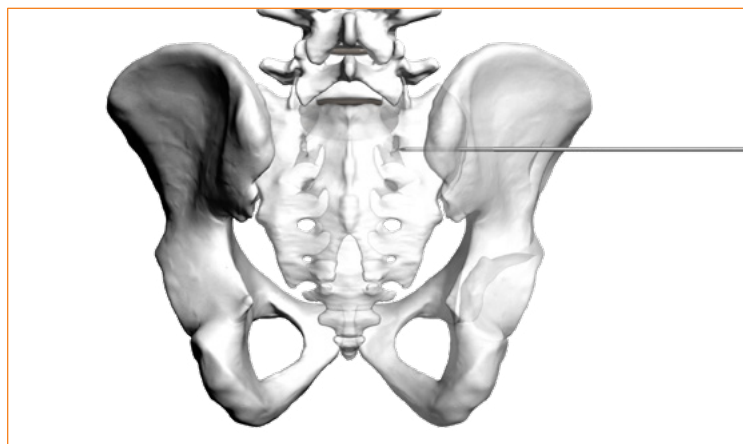
Patient Markings, Incision, and Targeting

Utilizing the lateral image, locate the Superimposed Alar Slope, Anterior Sacral Wall and Posterior or Linear Sacral Wall with the Steinmann Pin or Exchange Pin. Mark the skin to create a triangular working area for Screw positioning.

Incise along the Posterior Sacral Wall starting at the intersection with the sacral alar marking approximately 3-5cm in length.

Steinmann Pin Positioning

The **Steinmann Pin** should be inserted across the joint 1cm distal from the alar line and in the middle of the sacrum in the Outlet View. Depending on the patient anatomy, the **Steinmann Pin** should point just above the S1 nerve root foramen seen on the Outlet View. The final position of the **Steinmann Pin** should be in the middle portion of the sacrum in the Inlet View lateral, to the lateral S1 neuroforamen.

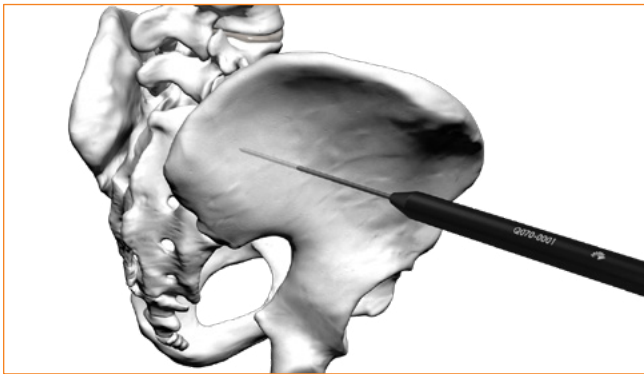


Impact the **Steinmann Pin** into the ilium and sacrum at the desired trajectory and depth using the **Mallet (Q070-0022)**. Slide **Dilator 1 (Q070-0001)** over the **Steinmann Pin** for additional Pin stability during impaction if desired. The **Pin Holder (Q070-0006)** may be used to stabilize the **Steinmann Pin** or **Dilator 1** while targeting the intended Screw position and trajectory.



Tissue Dilation

Place **Dilator 1 (Q070-0001)** over the **Steinmann Pin** until flush against the iliac cortex.



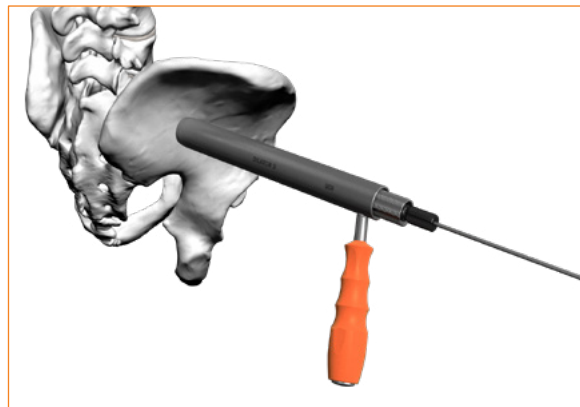
Snap the **Depth Gauge (Q070-0005)** onto the proximal end of **Dilator 1**. Select an appropriate Screw length by reading the **Depth Gauge** measurement that aligns with the proximal end of the **Steinmann Pin**. If the **Steinmann Pin** does not directly align with the gauge markings, it is recommended to select the shorter Screw length.



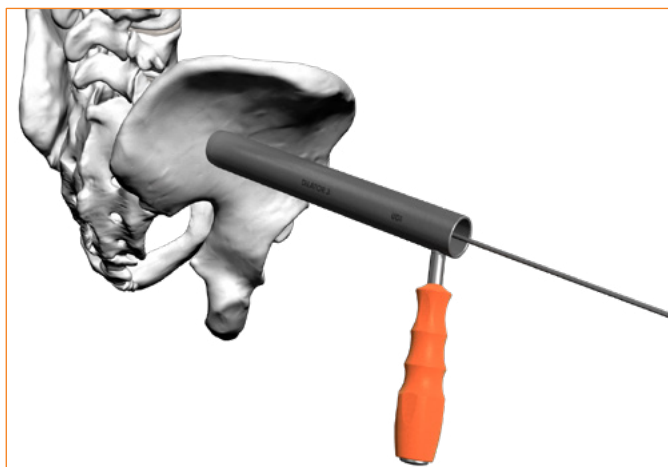
Slide **Dilator 2 with Handle (Q070-0002)** over **Dilator 1** if implanting a Ø8mm or Ø12mm Screw.



Slide **Dilator 2 without Handle (Q070-0003)** and **Dilator 3 with Handle (Q070-0004)** over **Dilator 1** if implanting a Ø14mm Screw.



Remove internal **Dilator(s)** leaving the final **Dilator** and **Steinmann Pin** in place.



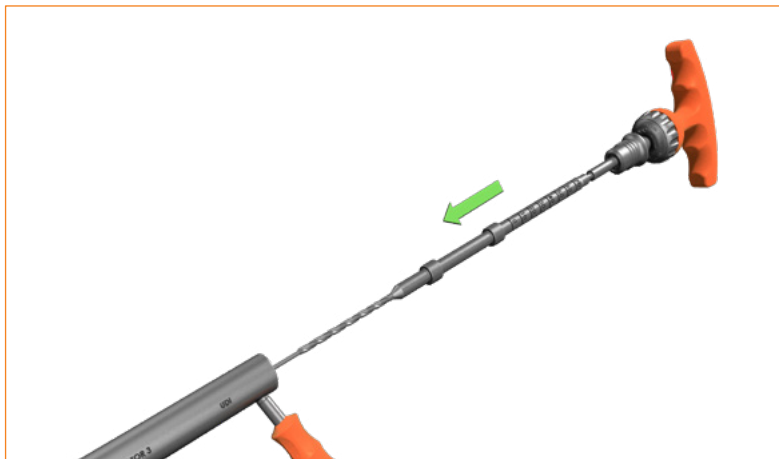
Screw Hole Preparation

Multiple instruments are available for screw hole preparation which can be utilized based on surgeon preference.

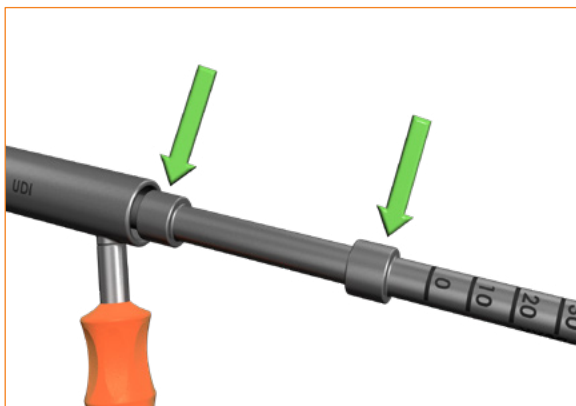
The **Drills** and **Taps** are undersized to the corresponding Screw diameters and have depth markings indicating prepared depth relative to the proximal end of the final **Dilator**.



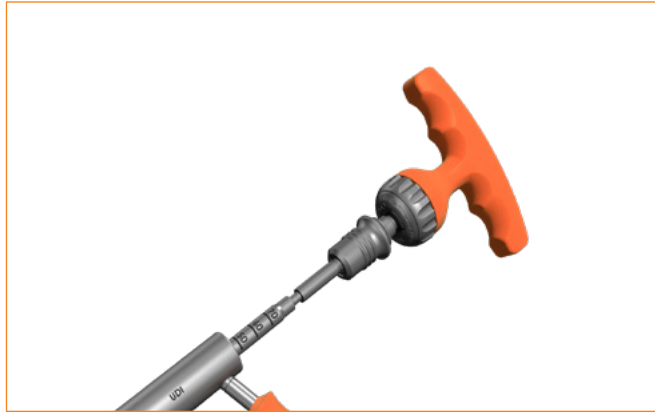
Connect the **Ratcheting T-Handle (E070-0045)** to the selected screw preparation instrument and guide the instrument over the placed **Steinmann Pin** and through the final **Dilator**.



Collars are present on all screw preparation instrumentation for alignment through **Dilator 2 (Q070-0002)**. The **Dilator 3 Adaptor (Q070-0014)** can be attached between the collars on the screw preparation instrument (**Tap** or **Drill**) for proper alignment through **Dilator 3**.

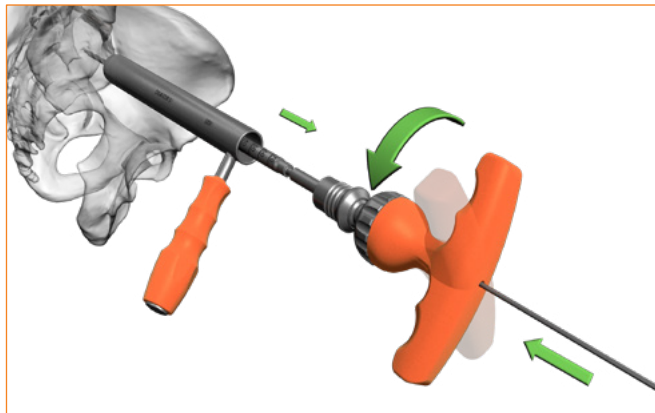


Advance the screw preparation instrument to the desired depth using a clockwise rotation.

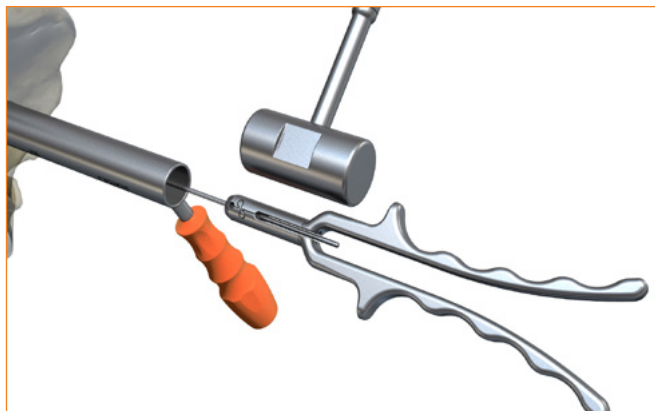


Note: Screw preparation instruments are compatible with power. Optional Jacobs Chuck (E070-0055) is required for power compatibility.

Remove the Screw preparation instrument using a counterclockwise rotation. Prior to removing the instrument over the **Steinmann Pin**, insert an **Exchange Pin** through the cannulation of the instrument. While keeping lateral to medial directed force on the **Steinmann Pin**, remove the instrument over the **Steinmann Pin**. Remove the instrument and **Exchange Pin** from the surgical working area.

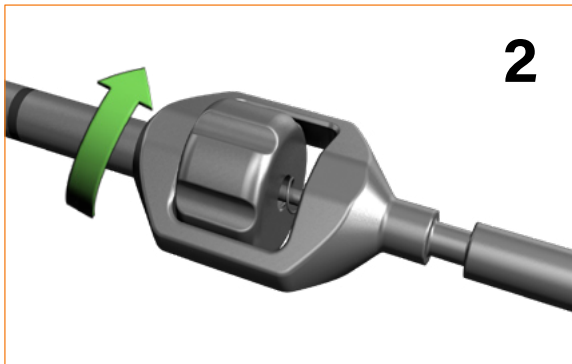


In the event of unintentional **Steinmann Pin** advancement, the **Pin Puller (Q070-0012)** can adjust the Pin position by guiding the instrument over the **Steinmann Pin**, squeezing the handles together, and pulling proximally. Impact the **Pin Puller** with the **Mallet** if additional force is required to retract the **Steinmann Pin**.



Screw Insertion

Aseptically remove the desired Screw from the sterile packaging. Unscrew the top of the plastic storage tube while holding the bottom containing the Screw. Attach the **Ratcheting T-Handle (E070-0045)** onto the proximal end of the **Screwdriver (Q070-0007)**. Load the **Screwdriver** onto the Screw by mating the hexalobe features and rotating the **Screwdriver** knob clockwise to engage the internal threads of the screw. Rotate the knob until finger tight. Remove Screw from the plastic storage tube.



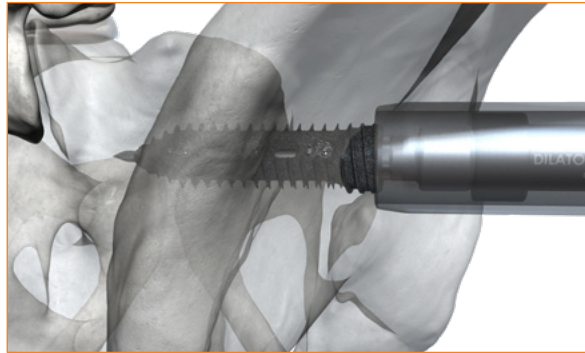
CAUTION: SCREW THREADS ARE SHARP. AVOID GLOVE AND TISSUE CONTACT WITH SCREW THREADS.

Guide the Screw and **Screwdriver** through the final **Dilator** and over the **Steinmann Pin**. If implanting a Ø14mm Screw, the **Dilator 3 Adaptor** may be attached between the collars of the **Screwdriver** for proper alignment through **Dilator 3**.

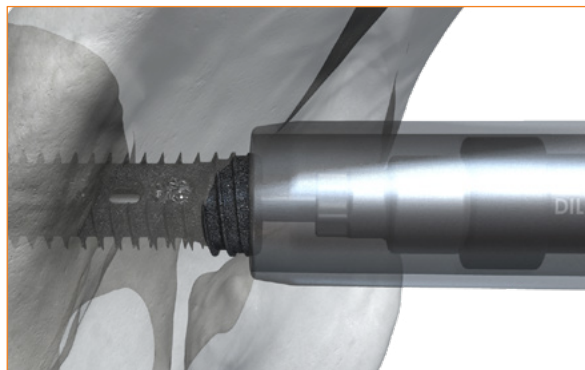


CAUTION: ENSURE SCREW INSERTION THROUGH FINAL DILATORS TO PROTECT SOFT TISSUE FROM DAMAGE.

Under fluoroscopic guidance, advance the Screw into the ilium towards the sacrum by rotating the **Screwdriver** clockwise. Use caution to avoid **Steinmann Pin** advancement during Screw insertion. As the laser mark band on the **Screwdriver** approaches the proximal end of the final **Dilator**, confirm the Screw is seated to the desired depth and/or tightness.

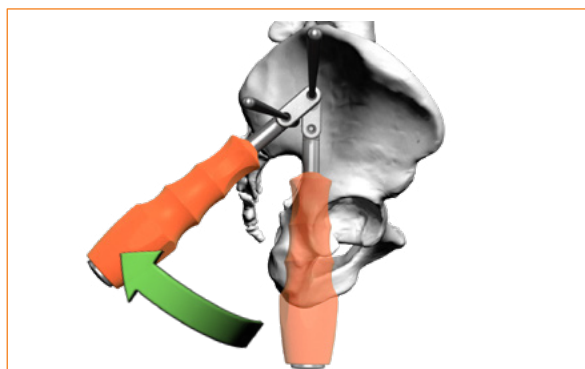


Rotate the knob counterclockwise to disengage the **Screwdriver** from the Screw. Remove the **Screwdriver** out of the final **Dilator** over the **Steinmann Pin**. Use an **Exchange Pin**, if necessary, to keep **Steinmann Pin** in position.

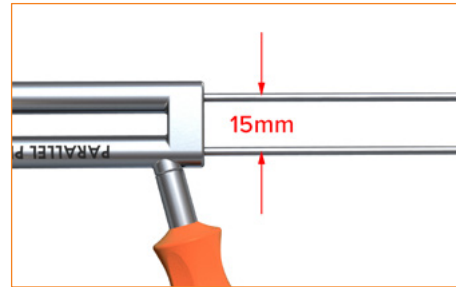
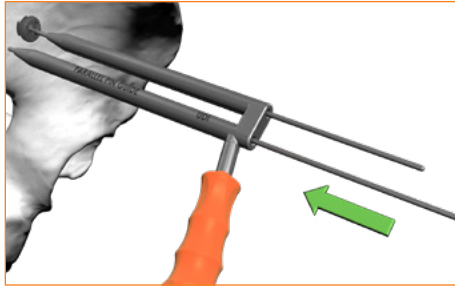


Placement of Second and Third Steinmann Pins

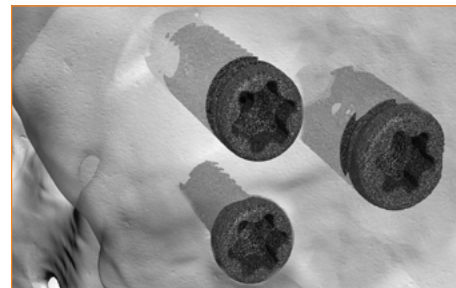
Remove the final **Dilator** over the **Steinmann Pin** assuring the Pin stays in place. Slide one of the **Parallel Pin Guide (Q070-0008)** tubes over the first **Steinmann Pin**. Rotate the **Pin Guide** to position the second tube to the next **Steinmann Pin** location.



Impact the second **Steinmann Pin** through the second **Pin Guide** tube. Remove the **Parallel Pin Guide** and repeat tissue dilation, Screw hole preparation, and Screw insertion steps.



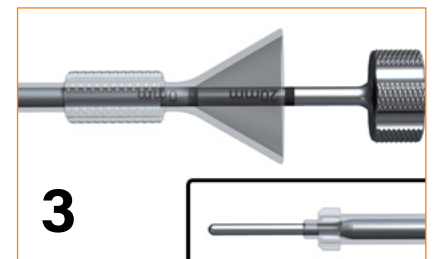
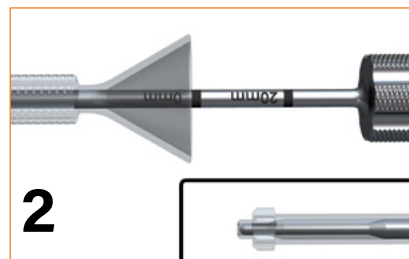
Utilize the **Parallel Pin Guide** for a second time to position the third **Steinmann Pin** for the final Screw placement. Standard Screw positioning techniques are linear or triangular.



For adequate fixation, it is recommended that three Triton Screws are implanted. Two to four implants may be used due to variations in anatomy.

Bone Graft Delivery

Screw post-packing can be achieved using the **Bone Funnel (Q070-0016)** and **Bone Plunger (Q070-0018)**. Prepack the **Bone Funnel** with the desired graft material. Remove the **Steinmann Pin** from the Screw and seat the hexalobe end of the Funnel into the hexalobe of the Screw head, which can be confirmed utilizing an inlet/outlet view. Push the **Bone Plunger** through the filled cannula of the **Bone Funnel** to advance the graft material. The **Bone Plunger** has 0mm and 20mm depth markings to indicate plunger positioning past the distal tip of the **Bone Funnel**.

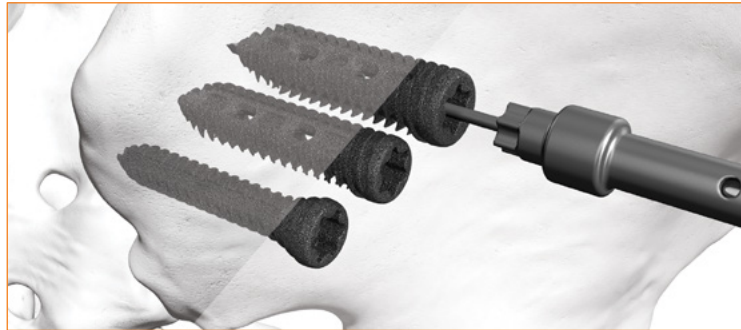


NOTE: STRATOFUSE® HA/TP PUTTY or 100 DBM is recommended for this application.

Screw Removal

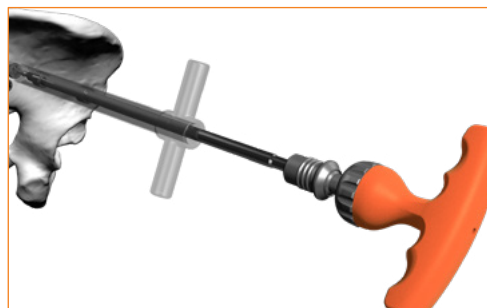
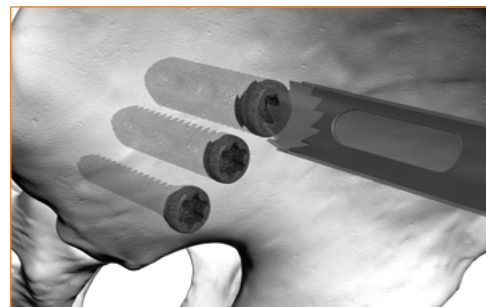
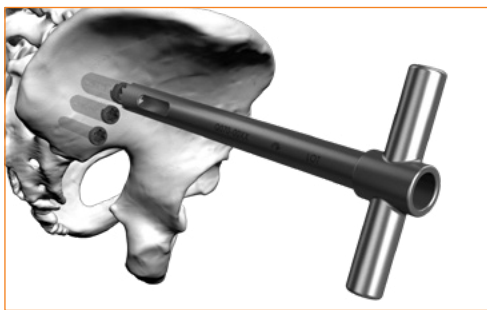
Primary Removal Method:

Reattachment of the **Screwdriver** should be the primary method of Screw removal. Clear any tissue to access the Screw head. If necessary, introduce the **Steinmann Pin** into the cannulation of the Screw and guide subsequent **Dilators** to retract and protect soft tissue. Remove the internal **Dilators** leaving the final **Dilator** and **Steinmann Pin**. Attach the **Ratcheting T-Handle** to the **Screwdriver**. Guide the **Screwdriver** over the **Steinmann Pin** and seat the hexalobe of the **Screwdriver** into the hexalobe of the Screw. Rotate the **Screwdriver** knob clockwise to engage internal threads in the screws. Rotate the **Screwdriver** counterclockwise to remove the Screw from the surgical site.



Secondary Removal Method:

If the primary removal method is not successful due to fusion, **Trephine Removal Tools (Q070-0019 and Q070-0020)** and a **Reverse Removal Tool (Q070-0021)** are alternative methods for Screw extraction. Align the **Trephine Removal Tool** over the Screw head. Rotate the t-bar handle clockwise to the desired depth. If necessary, insert the **Reverse Removal Tool** into the Screw head, and rotate counterclockwise to engage the Screw. Maintain counterclockwise rotation to remove the Screw from the sacroiliac joint.



CAUTION: THE THREADS ARE SHARP. UTILIZE THE TISSUE RETRACTION INSTRUMENTS TO PROTECT SOFT TISSUE DURING SCREW REMOVAL.

Instrument List

Part Number **Description** **Qty**

Q070-0001 Dilator 1 1

Q070-0002 Dilator 2 with Handle 1

Q070-0003 Dilator 2 without Handle 1

Q070-0004 Dilator 3 with Handle 1

Q070-0005 Dilator 1 Depth Gauge 2

Q070-0006 Pin Holder 1
















Q070-0007 Screwdriver 2

Q070-0008 Parallel Pin Guide 1

Q070-0012 Pin Puller 1

Q070-0014 Dilator 3 Adaptor 2



Part Number	Description	Qty	
Q070-0016	Bone Funnel	2	
Q070-0018	Bone Plunger	1	
Q070-0022	Mallet	1	
Q070-D008	Ø8mm Drill	1	
Q070-D012	Ø12mm Drill	1	
Q070-D014	Ø14mm Drill	1	
Q070-T008	Ø8mm Tap	1	
Q070-T012	Ø12mm Tap	1	
Q070-T014	Ø14mm Tap	1	
E070-0045	Ratcheting T-Handle 1/4" Square	2	
gS 78.5824	Steinmann Pin 12" Trocar-Blunt	6	
Q090-1100	Steinmann Pin Caddy	1	
Q070-SA120	Exchange Pin 20", Blunt-Blunt	3	
Q090-1200	Exchange Pin Caddy	1	
E070-0055	Jacobs Chuck Adaptor		

Optional Instruments

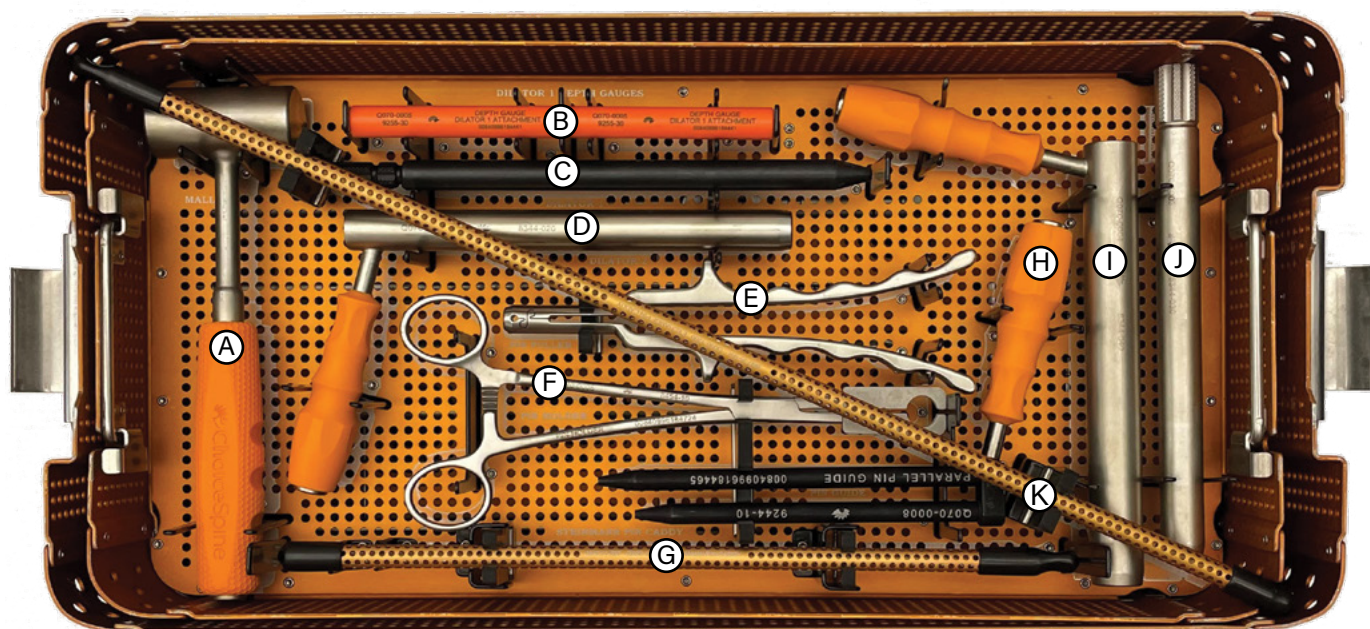
Q070-0019	Removal Instrument Ø12
Q070-0020	Removal Instrument Ø14
Q070-0021	Reverse Removal Tool

Implant List

Part Number	Description
S-QT10-0830	Triton®, Screw, Ø8x30mm Sterile
S-QT10-0835	Triton®, Screw, Ø8x35mm Sterile
S-QT10-0840	Triton®, Screw, Ø8x40mm Sterile
S-QT10-0845	Triton®, Screw, Ø8x45mm Sterile
S-QT10-0850	Triton®, Screw, Ø8x50mm Sterile
S-QT10-0855	Triton®, Screw, Ø8x55mm Sterile
S-QT10-0860	Triton® Screw, Ø8x60mm Sterile
S-QT10-1230	Triton®, Screw, Ø12x30mm Sterile
S-QT10-1235	Triton®, Screw, Ø12x35mm Sterile
S-QT10-1240	Triton®, Screw, Ø12x40mm Sterile
S-QT10-1245	Triton®, Screw, Ø12x45mm Sterile
S-QT10-1250	Triton®, Screw, Ø12x50mm Sterile
S-QT10-1255	Triton®, Screw, Ø12x55mm Sterile
S-QT10-1260	Triton®, Screw, Ø12x60mm Sterile
S-QT10-1265	Triton®, Screw, Ø12x65mm Sterile
S-QT10-1435	Triton®, Screw, Ø14x35mm Sterile
S-QT10-1440	Triton®, Screw, Ø14x40mm Sterile
S-QT10-1445	Triton®, Screw, Ø14x45mm Sterile
S-QT10-1450	Triton®, Screw, Ø14x50mm Sterile
S-QT10-1455	Triton®, Screw, Ø14x55mm Sterile
S-QT10-1460	Triton®, Screw, Ø14x60mm Sterile
S-QT10-1465	Triton®, Screw, Ø14x65mm Sterile

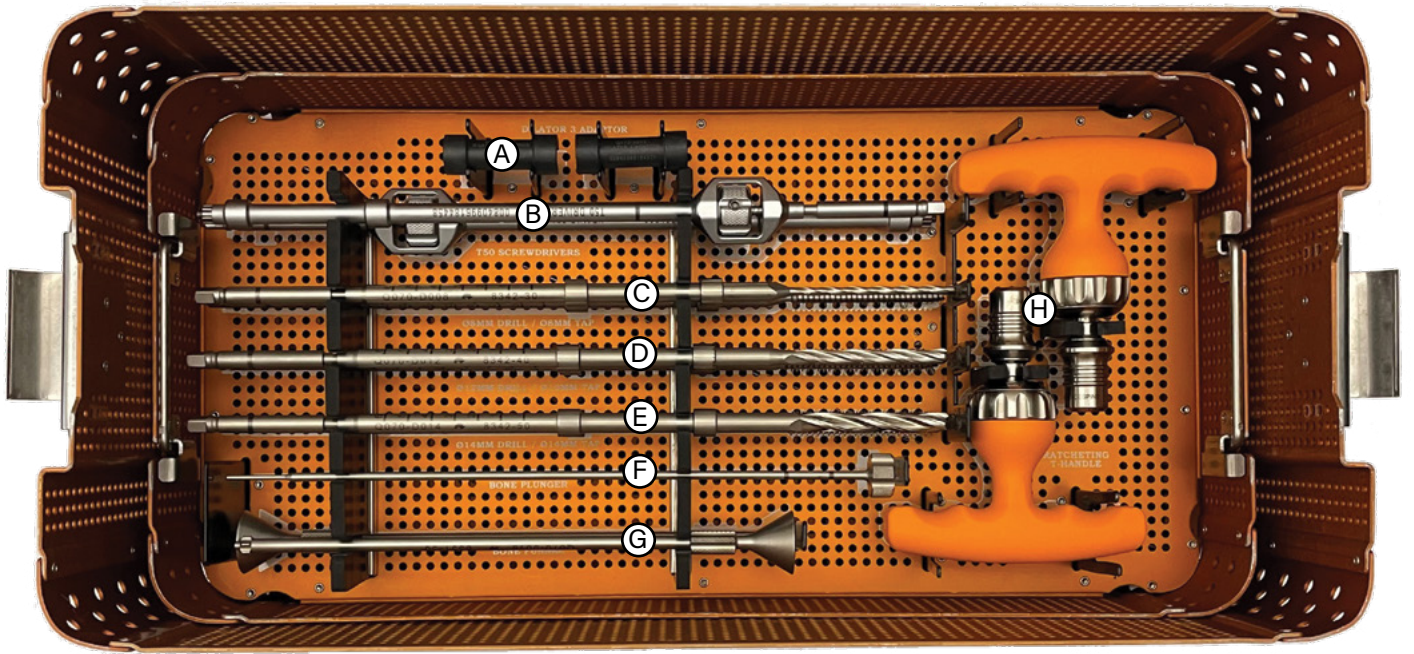


Instrument Tray Top



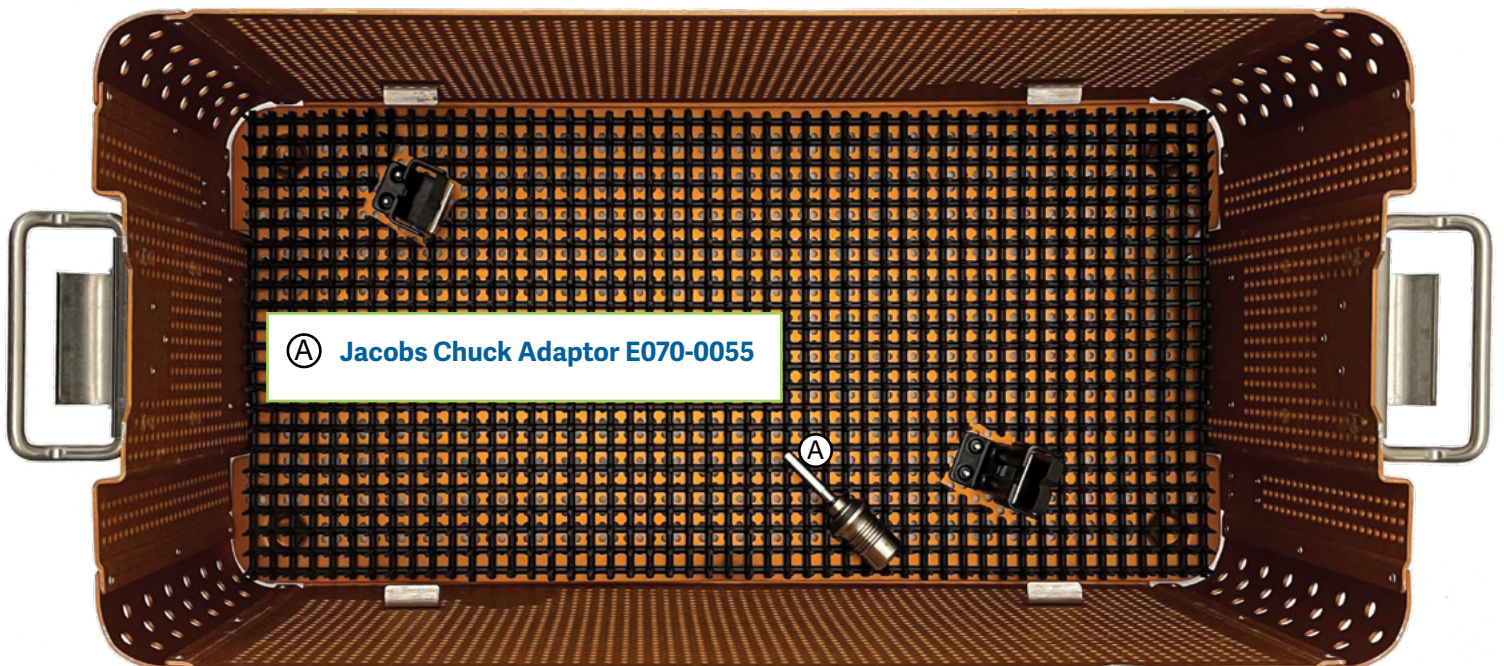
- | | | |
|--|---------------------------------|----------------------------------|
| Ⓐ Mallet Q070-0022 | Ⓔ Pin Puller Q070-0012 | Ⓛ Dilator 2 w/o Handle Q070-0003 |
| Ⓑ Dilator 1 Depth Gauge (x2) Q070-0005 | Ⓜ Pin Holder Q070-0006 | Ⓨ Dilator 3 w/ Handle Q070-0004 |
| Ⓒ Dilator 1 Q070-0001 | ⓐ Steinmann Pin Caddy Q090-1100 | Ⓚ Exchange Pin Caddy Q090-1200 |
| Ⓓ Dilator 2 w/Handle Q070-0002 | ⓑ Parallel Pin Guide Q070-0008 | |

Instrument Tray Middle



- Ⓐ Dilator 3 Adaptor (x2) Q070-0014
- Ⓑ T50 Screwdrivers (x2) Q070-0007
- Ⓒ Ø8mm Drill Q070-D008 and Tap Q070-T008 (lower)
- Ⓓ Ø12mm Drill Q070-D012 and Tap Q070-T012 (lower)
- Ⓔ Ø14mm Drill Q070-D014 and Tap Q070-T014
- Ⓕ Bone Plunger Q070-0018
- Ⓖ Bone Funnel Q070-0016 (x2)
- Ⓗ Ratcheting T-Handle 1/4" Square E070-0045 (x2)

Instrument Tray Lower



- Ⓐ Jacobs Chuck Adaptor E070-0055

For Instructions for Use please visit <https://choicespine-eifu.com/>

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