

# SternaLock<sup>®</sup> Blu

Primary Closure System

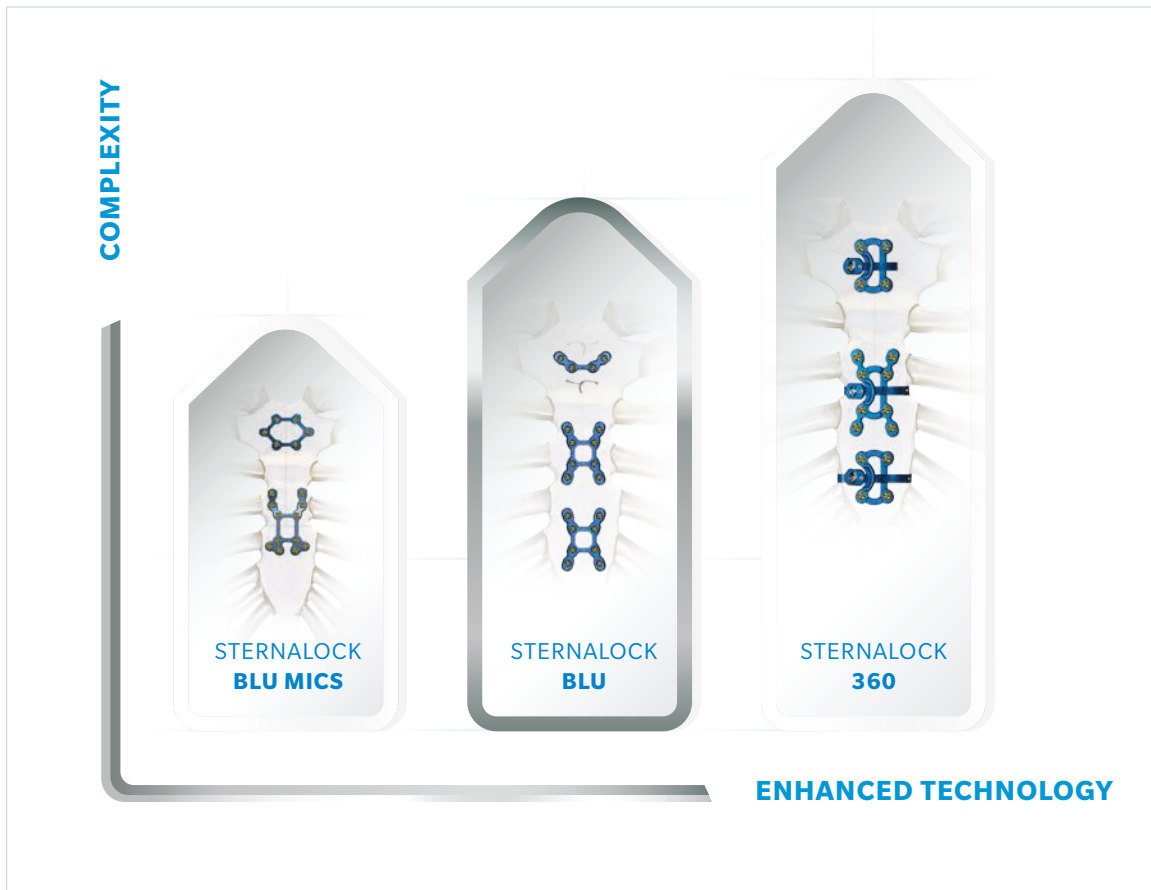
Surgical Technique

THORACIC

## The right clinical system for the right patient.

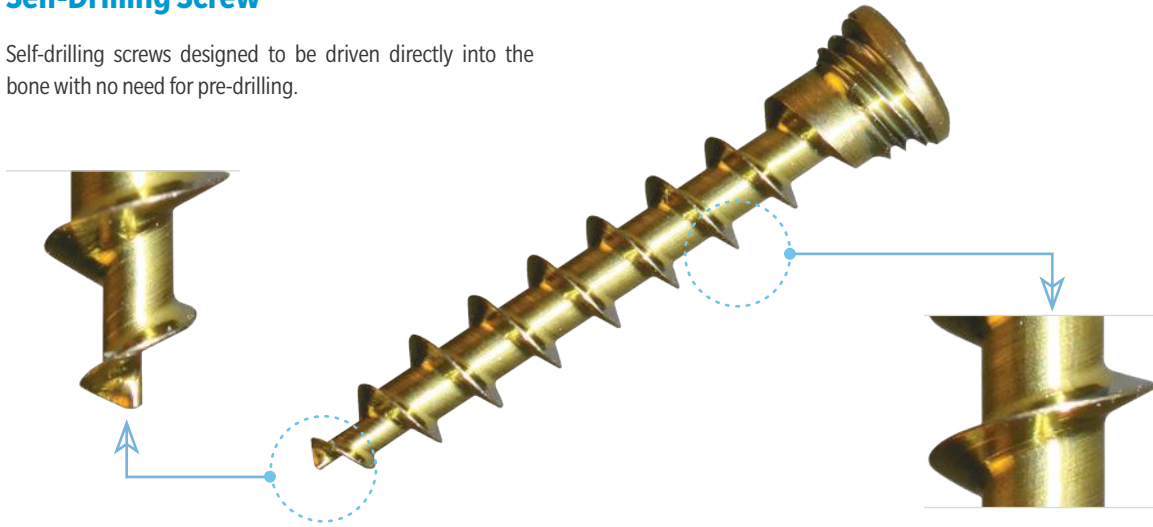
Zimmer Biomet offers a complete selection of sternal closure options based on the complexity of the procedure, a patient's needs or your closure preference. Whether you're performing minimally-invasive surgery, addressing the requirements of an osteoporotic patient or dealing with several high-risk factors, Zimmer Biomet offers an answer.

The **SternaLock® Blu** system is indicated for stabilization and fixation of fractures of the anterior chest wall following a sternotomy or sternal reconstructive procedures.



### Self-Drilling Screw

Self-drilling screws designed to be driven directly into the bone with no need for pre-drilling.



### Cancellous Screw Design

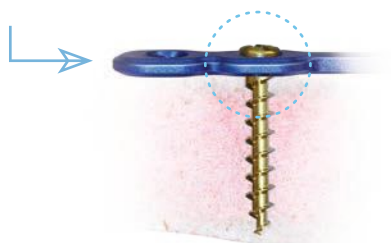
Deeper screw threads provide optimal engagement into the cancellous bone of the chest wall.

### Cancellous Screw Features

- Longer thread depth (.635mm)
- Longer thread pitch (1.6mm)
- Narrower minor diameter (1.3mm)
- Larger major diameter (2.4mm)

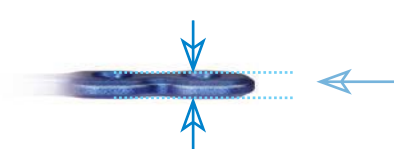
### Innovative Locking Technology

Screw threads lock into the plate while the tip engages the posterior cortex of the sternum.



### Low-Profile Implant Design

The low profile of 1.6mm plates allow for the plate to be easily contoured to sternum and limited palpability.



## SternaLock Blu Surgical Technique

### 1. Measure Sternal Depth

Dissect the pectoralis major at the anticipated plates locations. Be sure to leave the periosteum intact as this provides important healing nutrients.

Measure bi-cortical depth at three locations: manubrium, mid-body and inferior body. Depicted in the photo to the right, the measuring device indicates that a 14mm screw length would be recommended for plate placement in the circled region. The measuring device accounts for the thickness of the plate, so a 14mm screw would be used in this example.

**NOTE:** If for some reason you use an alternative measuring device that is not system specific, be sure to add 2mm to the length for the screw to accommodate the plate profile.



### 2. Approximation

Place two wires in the manubrium and one at the xiphoid for sternal reduction.

Reduction forceps can be used to achieve any additional reduction that may be needed.



### 3. Contour Plate

The double-sided plates can be contoured as needed to ensure they lay flush on the sternum. Avoid over contouring because this may increase plate fatigue.



## 4. Suggested Configuration

Select plate configuration. Place the first plate in the center of the manubrium. Avoid plating over the manubrium joint. Place the two sternal body plates equally spaced apart based on patients anatomy.

**NOTE:** Alternative configurations are acceptable as long as you have 5 cuttable cross sections.

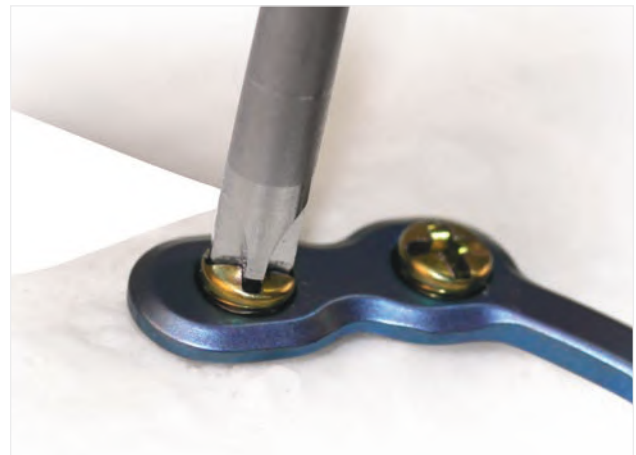


## 5. Select and Insert Screws

Select screws based on sternal depth measurements from step 1.

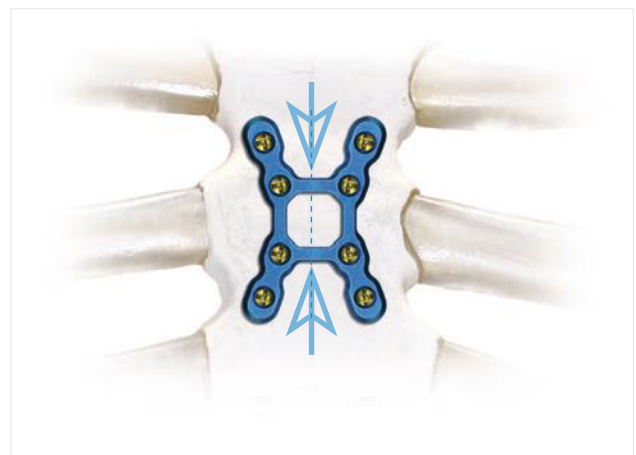
**Insert screws into plate.** Screws must be inserted perpendicular to the plate. To avoid plate rotation, do not fully seat the first screw inserted into the plate. It is important to go back with the manual driver and fully lock screws into the plate.

**NOTE:** The gold screws are the primary self-drilling screws. If you find that the primary screws are stripping in the bone while inserting, then use the larger diameter (magenta) screws to ensure you gain screw purchase into the bone.



## Emergent Re-entry:

Use wire cutters to cut the cuttable cross-sections of the plate.



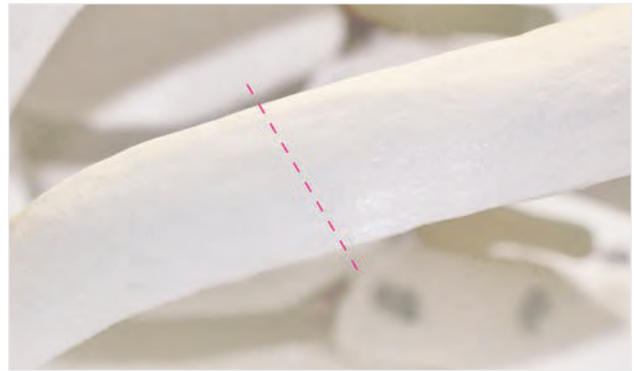
## Mini Thoracotomy Surgical Technique<sup>1,2</sup>

Chronic post-thoracotomy pain (CPTP), is a common complication of a thoracotomy, occurring in approximately 50% of patients.<sup>2</sup> Severe and disabling pain affects 5% of patients post-thoracotomy.<sup>2</sup> CPTP is thought to result from intercostal nerve damage sustained during rib retraction or reduction.<sup>2</sup>

Here we describe a thoracotomy technique that minimizes intra-operative trauma to the intercostal neurovascular bundle, preserves chest wall integrity, permits adequate exposure of the surgical field and rigidly fixates the rib to reduce movement, which may reduce pain level.<sup>2</sup>

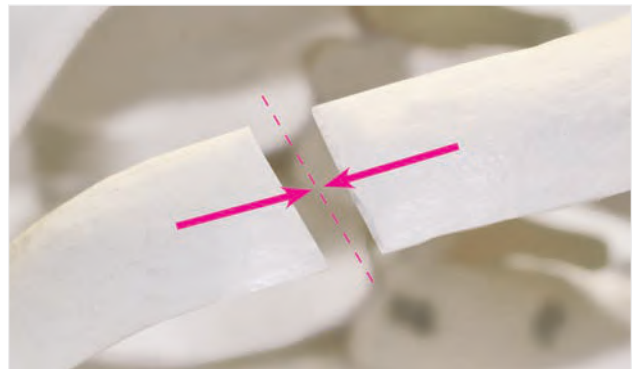
### Step 1

To gain access to the rib, make an incision through the epidermis along the inferior margin of the rib. Mobilize the neurovascular bundle over about 3cm at the osteotomy site. Make an oblique osteotomy using a ring cutter, taking care to avoid the mobilized neurovascular bundle.



### Step 2

After the surgical procedure, the rib osteotomy is reduced and opposed in anatomical alignment.



### Step 3

Select a straight plate that has a minimum of three screw holes on either side of the osteotomy. Insert the appropriate length screws perpendicular to the plate. Do not lock the initial screw to avoid plate rotation. It is important to go back with the manual driver to fully seat and lock the screw into the plate.



## Mini Sternotomy Surgical Technique

### Step 1

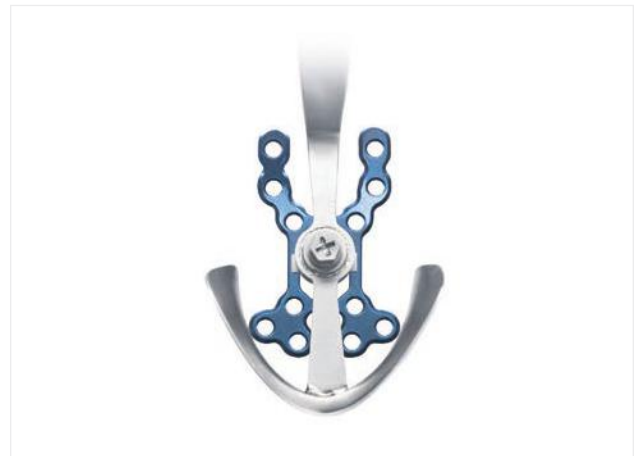
Approximate superior sternotomy with wires, then use Hexagon Plate (SP-2890) and appropriate length screws to stabilize the manubrium.

**Note:** SternaLock Blu Measuring Caliper (73-0005) is recommended for measuring sternal depth.



### Step 2

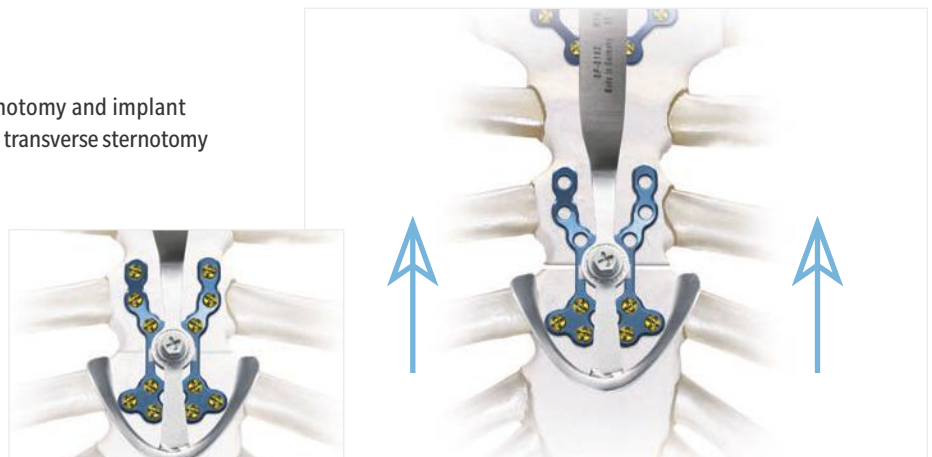
To Assemble Device: Lay the MICS Plate (SP-3215) on a flat surface and position the instrument footplates in the center of the plate. Turn the locking set screw clockwise with the manual driver to secure the plate to the instrument.



### Step 3

Position plate inferior of the transverse sternotomy and implant screws. Pull up the instrument to approximate transverse sternotomy and implant remaining screws.

Continue pulling up on the instrument until all screws have been implanted.





# ZIMMER BIOMET

Your progress. Our promise.™

For more information on SternaLock Blu and other thoracic fixation solutions, please contact us at:

## **BIOMET MICROFIXATION GLOBAL HEADQUARTERS**

1520 Tradeport Drive • Jacksonville, FL 32218-2480

Tel 904.741.4400 • Toll-Free 800.874.7711 • Fax 904.741.4500 • Order Fax 904.741.3059

[www.zimmerbiomet.com](http://www.zimmerbiomet.com)

## **EUROPE**

Toermalijnring 600 • 3316 LC Dordrecht • The Netherlands

Tel +31 78 629 29 10 • Fax +31 78 629 29 12

All content herein is protected by copyright, trademarks and other intellectual property rights owned by or licensed to Zimmer Biomet, Inc. or its affiliates unless otherwise indicated, and must not be redistributed, duplicated or disclosed, in whole or in part, without the express written consent of Zimmer Biomet. This material is intended for healthcare professionals and the Zimmer Biomet sales force. Distribution to any other recipient is prohibited. Zimmer Biomet does not practice medicine. Because this information does not purport to constitute any diagnostic or therapeutic statement with regard to any individual medical case, each patient must be examined and advised individually, and this information does not replace the need for such examination and/or advice in whole or in part. Each physician should exercise his or her own independent judgment in the diagnosis and treatment of an individual patient. Check for country product clearances and reference product-specific instructions for use. For complete product information, including indications, contraindications, warnings, precautions and potential adverse effects, see the package insert or [www.zimmerbiomet.com](http://www.zimmerbiomet.com).