SternaLock® Blu
PRIMARY CLOSURE SYSTEM
**One Surgeon. One Patient®.**

Over 1 million times per year, Biomet helps one surgeon provide personalized care to one patient.

The science and art of medical care is to provide the right solution for each individual patient. This requires clinical mastery, a human connection between the surgeon and the patient, and the right tools for each situation.

At Biomet, we strive to view our work through the eyes of one surgeon and one patient. We treat every solution we provide as if it’s meant for a family member.

Our approach to innovation creates real solutions that assist each surgeon in the delivery of durable personalized care to each patient, whether that solution requires a minimally invasive surgical technique, advanced biomaterials, or a custom, patient-matched implant.

When one surgeon connects with one patient to provide personalized care, the promise of medicine is fulfilled.

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**DOUBLE-SIDED PLATE DESIGNS**

Plate designs are available to facilitate the fixation of midline sternotomies, mini-sternotomies and mini-thoracotomies. The plates are double-sided and can be contoured to fit the patient’s anatomy.

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**PLATE AND SCREW THREAD LOCKING**

The screw tip engages into the posterior cortex of the sternum, and then locks into the plate at a 90 degree angle, rigidly fixating the bone halves together.
The 1.6mm thin titanium plates provide reduced palpability as compared to other sternal closure systems with higher profile plates.

The deep screw threads are specifically designed to grip into the cancellous bone of the sternum and provide stable fixation.
Mechanical Stability Supports Bone Healing

CT scan shows separation of the sternal body with wires.
CT scan shows well-apposed sternum with plates and screws.

Rigid Plate Fixation Results in Greater Stiffness and Strength Compared to Wire Cerclage

In a cadaveric study, rigid fixation with plates was shown to exhibit superior mechanical properties compared to wire cerclage. When tested in lateral distraction, the stiffness of the plates was more than 400% greater than peristernal wires (p<0.05). Similarly, the yield load (560N vs. 397N) was also significantly better in sterna that were rigidly fixated.

Comparison of Wire and Plate Stiffness

<table>
<thead>
<tr>
<th>Stiffness (N/m)</th>
<th>Lateral Distraction</th>
<th>Longitudinal (R/C) Shear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>SternaLock®</td>
<td>3500</td>
<td>3000</td>
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</tbody>
</table>

Comparison of Wire and Plate Yield Load

<table>
<thead>
<tr>
<th>Yield Strength (N)</th>
<th>Lateral Distraction</th>
<th>Longitudinal (R/C) Shear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wire</td>
<td>397</td>
<td>200</td>
</tr>
<tr>
<td>SternaLock®</td>
<td>560</td>
<td>100</td>
</tr>
</tbody>
</table>

Sternal testing in Lateral Distraction and Longitudinal (R/C) Shear

1. www.clinicaltrials.gov  •  NCT00819286
2. A cadaveric biomechanical analysis of sternal fixation systems, B.Hatcher, Ph.D.
* Non-clinical studies are not necessarily indicative of human clinical results.
**Surgical Technique**

1. Measure sternal depth where plate placement will occur. Measure at 3 points (manubrium, body & xiphoid). In the photo above, 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 using a standard ruler to measure the thickness of the sternum, you should use the next highest even numbered length screw to account for the plate thickness. For example a sternal thickness of 8mm -9mm should utilize a 10mm screw, while a sternal thickness of 10mm-11mm should use a 12mm screw. Surgeons should always determine screw size based on the patient's anatomy.

2. Wire the manubrium and xiphoid to reduce the top and bottom of the sternum. Complete the full approximation by placing reduction forceps at the mid-body.

3. Select plate configuration. Place the lower X-plate as inferiorly as possible on the sternum. (see illustration for suggested configuration).

4. Plates are two-sided to facilitate placement. Bend plates as needed to ensure they lay flat on the sternum.

5. Select screws based on sternal depth measurements from step 1.

6. Insert screws into plate. Do not lock initial screw to avoid plate rotation. Fully tighten once additional screws are in place.

3. Full surgical technique is located at www.biometmicrofixation.com
**IMPLANTS**

4-Hole, L Plate, 100°  
73-2643

4-Hole, Square Plate  
73-2622

8-Hole, X Plate  
73-2623

8-Hole, JL Plate  
73-2645

4-Hole, Straight Plate  
73-2636

12-Hole, Wide Ladder Plate  
73-2634

12-Hole, Ladder Plate  
73-2632

**SCREWS**

**Self-Drilling Locking Screws**

<table>
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<tr>
<th>Part #</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>73-2408</td>
<td>2.4mm x 8mm</td>
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<tr>
<td>73-2410</td>
<td>2.4mm x 10mm</td>
</tr>
<tr>
<td>73-2412</td>
<td>2.4mm x 12mm</td>
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<td>73-2414</td>
<td>2.4mm x 14mm</td>
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<tr>
<td>73-2416</td>
<td>2.4mm x 16mm</td>
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<tr>
<td>73-2418</td>
<td>2.4mm x 18mm</td>
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<tr>
<td>73-2420</td>
<td>2.4mm x 20mm</td>
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**Emergency Screws**

<table>
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<tbody>
<tr>
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<td>73-2720</td>
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</tr>
</tbody>
</table>

**BLADES**

2.4mm Power Driver Blade  
73-1191

2.4mm Short Blade  
73-1194
## INSTRUMENTATION

### Bone Reduction Forceps
- **Wide**
  - Item: 73-2597*
- **Narrow**
  - Item: 73-2596
- **Large**
  - Item: 01-2595*
  - Item: 24-1112*

*Instrument not standard in SternaLock Blu set, it is available upon request.

### Bone Reduction Forceps
- **Standard**
  - Item: 01-9728
- **Large**
  - Item: 51-6718*

### Plate and Wire Cutter
- Item: 51-0960

### 2.4mm Plate Holding Wand
- Item: 24-1186

### Plate Holding Forceps
- Item: 01-9095

### Screw Sizer
- Item: 73-0006

*Items not to scale
Power Driver™
50-1000

Power Driver™ Battery
50-1010

2.0/2.4mm Screw Driver Handle
01-7600
IMPORTANT

Remove Power Drivers before placing container in washer
DO NOT submerge Power Drivers in liquid

SternaLock® Blu
PRIMARY CLOSURE SYSTEM

SternaLock Blu Instrument Container
73-2306*

* Implants and instrumentation not included in the SternaLock Blu container or the tray.
What fascinates you about the body is also what drives us. That’s why we’re always pushing the boundaries of engineering to make products that help you keep the human form as glorious as it was intended. To learn more about our breadth of products, call 800-874-7711 or visit us online at biometmicrofixation.com. We’d love to join you in a conversation about the future.