AcuTie® II
The Next Generation
Sternal Closure System

Innovative Solutions for Challenging Thoracic Procedures
AcuTie® II is the next generation sternum closure system that combines the simplicity of standard wire cerclage with increased compression, stability in multiple planes, lateral protection, and straightforward installation.

### Easy To Use
Feed
Tension
Crimp

### Complete Stability
Offers stability in all three planes
Enhances compression
Reduces stress on lateral edge

### Cost-Effective
Costs less than other plating solutions
Installs in seconds
Easy installation and confident re-entry

Crimp locks in compression and resists wire fatigue

Optimized low profile for the sternum

Directional cleats penetrate the cortex to create stability
Feed

Feed standard sternotomy wire through the plate.

Tension

The AcuTie tensioner provides compression at the osteotomy and imbeds the cleats into the sternum for stability.

Crimp

The AcuTie crimper allows one-step crimping to lock in wire tension.

Fast Re-Entry

Fast re-entry is obtained if needed with the use of standard wire cutters.
**Complete Stability**

**AcuTie® II**
- Resists forces in all directions
- Repeatable, secure compression

**Wire, Cable, Straps**
- Poor resistance to anterior-posterior and rostral-caudal loading
- Low or variable compression

**Anterior Plates**
- Poor resistance to lateral loading at the deep sternal cortex
- Variable or no compression

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Cleats penetrate deep into the sternal cortex to provide stability in all three planes.

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**Force to Create 2mm Displacement**

<table>
<thead>
<tr>
<th>Location</th>
<th>AcuTie II</th>
<th>Wire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lateral</td>
<td>79% gain</td>
<td></td>
</tr>
<tr>
<td>Rostral-caudal</td>
<td>167% gain</td>
<td>64% gain</td>
</tr>
<tr>
<td>Anterior-posterior</td>
<td></td>
<td></td>
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</tbody>
</table>

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1. Data from [source]
AcuTie II reduces stress on the lateral edge of the sternum leading to less tear-through.

**Force to Create Tear-Through**

![Graph showing force to create tear-through with AcuTie II compared to wire.](image)

- AcuTie II: 150 N
- Wire: 50 N

73% improvement

**Motion at 10,000 Cycles**

![Graph showing motion at 10,000 cycles with AcuTie II compared to wire.](image)

- AcuTie II: 0.1 mm
- Wire: 0.5 mm

82% reduction in motion

**Compression Force at the Osteotomy**

![Graph showing compression force at the osteotomy with AcuTie II compared to wire and other sternal plates.](image)

- Wire: 50 N
- AcuTie II: 100 N
- Anterior Plate: 25 N

Compared to wire and other sternal plates, AcuTie II provides an increased compression force at the osteotomy.

Plate’s crimp feature eliminates fatigue and breakage caused by twisting and bending wires.
Increased sternal stability with rigid plates improves healing over conventional twisted wire fixation.

AcuTie II can be installed in less than 90 seconds per plate. This may lead to less OR time, resulting in reduced hospital costs.

1. Data on file at Acute Innovations®.