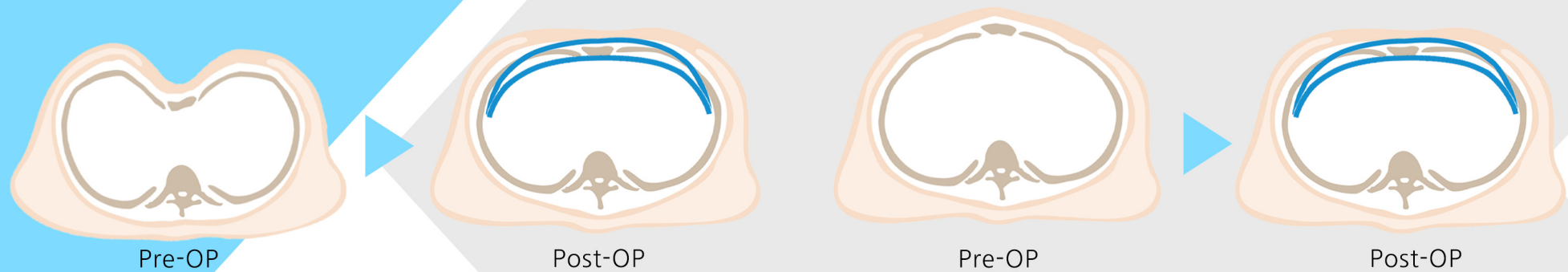


# UNITY TIS1031

Advanced Surgical Solution for Pectus Deformity



Pre-OP

Post-OP

Pre-OP

Post-OP

Pectus Excavatum

Pectus Carinatum

## TIS1031 series

| Part No.      | Length[mm] | Part No.    | Length[mm] |
|---------------|------------|-------------|------------|
| TIS1031-N16   | 160        | TIS1031-P18 | 180        |
| TIS1031-N17   | 170        | TIS1031-P20 | 200        |
| TIS1031-N18   | 180        | TIS1031-P22 | 220        |
| TIS1031-N19   | 190        | TIS1031-P23 | 230        |
| TIS1031-N20   | 200        | TIS1031-P24 | 240        |
| TIS1031-N21   | 210        | TIS1031-P25 | 250        |
| TIS1031-N22   | 220        | TIS1031-P26 | 260        |
| TIS1031-N23   | 230        | TIS1031-P28 | 280        |
| TIS1031-N24   | 240        | TIS1031-P30 | 300        |
| TIS1031-N25   | 250        | TIS1031-P32 | 320        |
| TIS1031-N26   | 260        | TIS1031-P34 | 340        |
| TIS1031-N27   | 270        | TIS1031-P36 | 360        |
| TIS1031-N28   | 280        | TIS1031-P38 | 380        |
| TIS1031-N29   | 290        | TIS1031-P40 | 400        |
| TIS1031-N30   | 300        |             |            |
| TIS1031-N31   | 310        |             |            |
| TIS1031-N32   | 320        |             |            |
| TIS1031-N33   | 330        |             |            |
| TIS1031-N33.5 | 335        |             |            |
| TIS1031-N34   | 340        |             |            |
| TIS1031-N34.5 | 345        |             |            |
| TIS1031-N35   | 350        |             |            |
| TIS1031-N35.5 | 355        |             |            |
| TIS1031-N36   | 360        |             |            |
| TIS1031-N36.5 | 365        |             |            |
| TIS1031-N37   | 370        |             |            |
| TIS1031-N37.5 | 375        |             |            |
| TIS1031-N38   | 380        |             |            |
| TIS1031-N38.5 | 385        |             |            |
| TIS1031-N39.5 | 395        |             |            |

| Part No.    | Length[mm] |
|-------------|------------|
| TIS1031-B06 | 60         |
| TIS1031-B08 | 80         |
| TIS1031-B10 | 100        |
| TIS1031-B12 | 120        |
| TIS1031-B14 | 140        |
| TIS1031-B16 | 160        |
| TIS1031-B18 | 180        |
| TIS1031-B20 | 200        |

| Part No.    | Length[mm] |
|-------------|------------|
| TIS1031-L01 | 7.5        |
| TIS1031-L02 | 10         |

### Distributor



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### Manufacturer



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Indication

Surgical correction is indicated for patients with:

- ▶ Severe Pectus Excavatum or Pectus Carinatum significantly affecting cardiopulmonary function or causing noticeable deformity.
- ▶ Respiratory or Cardiac Symptoms, such as shortness of breath, chest pain, fatigue, or reduced exercise tolerance due to the deformity.
- ▶ Progressive Worsening of Deformity that continues to develop during adolescence or adulthood.
- ▶ Psychosocial Impact, including severe emotional distress, self-esteem issues, or social withdrawal caused by the chest deformity.
- ▶ Failure of Non-Surgical Treatment, such as bracing for pectus carinatum, when conservative management does not yield satisfactory results.

Features & benefits

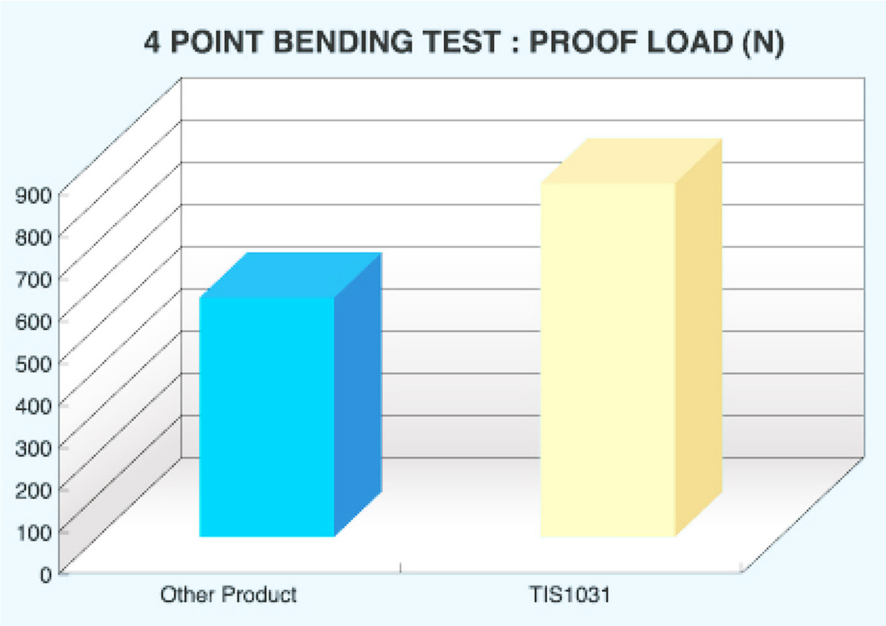
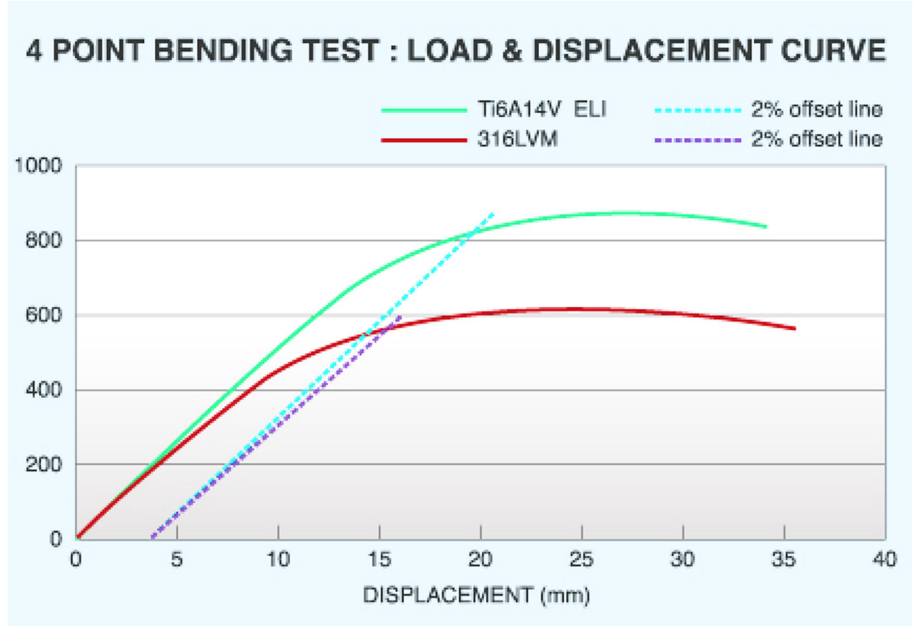
- ▶ Dual-Bar System for Enhanced Stability  
Using two bars helps prevent bar displacement after the procedure
- ▶ Biocompatible Material Proven in Medical Applications  
Made from Ti6Al4V ELI for excellent biocompatibility and durability
- ▶ Rounded Bar Ends for Minimal Soft Tissue Damage  
Smoothly curved bar ends reduce soft tissue injury during implantation
- ▶ Optimized Compact Design  
Downsized stabilizer without compromising strength to minimize soft tissue irritation and reduce insertion time
- ▶ Various Bar Length Options  
Accommodates different patient conditions with customizable bar lengths
- ▶ Precision-Driven Surgical Instruments  
Designed to enhance surgical accuracy and efficiency

Design Rationale

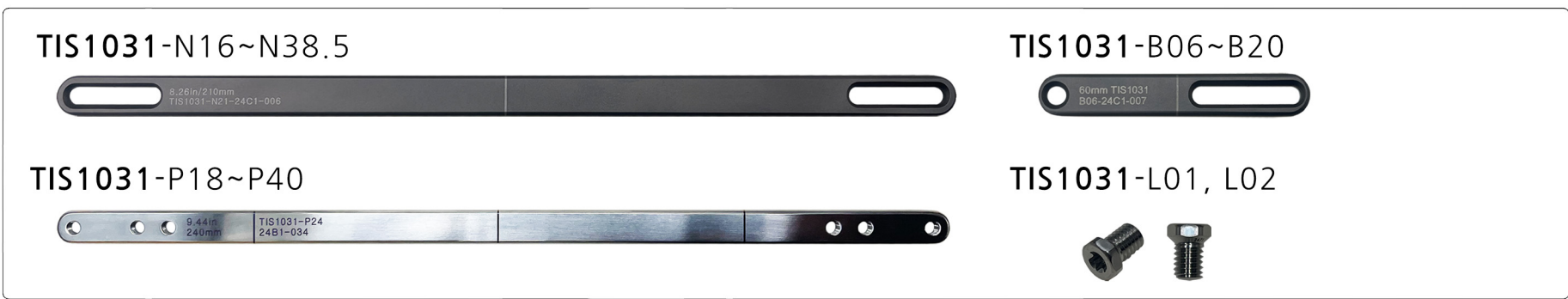
TIS1031 is designed to effectively address previously reported issues while maximizing the benefits of minimally invasive procedures. Our bar possesses the necessary mechanical properties and appropriate dimensions to correct chest deformities and maintain structural integrity during cartilage remodeling. The slots for stabilizer insertion function as migration limiters while also serving as guides for precise placement. Our stabilizer can be inserted at an angle or even perpendicularly, allowing for greater surgical flexibility. Additionally, its compact design has been achieved without compromising structural integrity. These unique features enhance both usability and convenience for surgeons, while also improving patient outcomes.

Mechanical Test

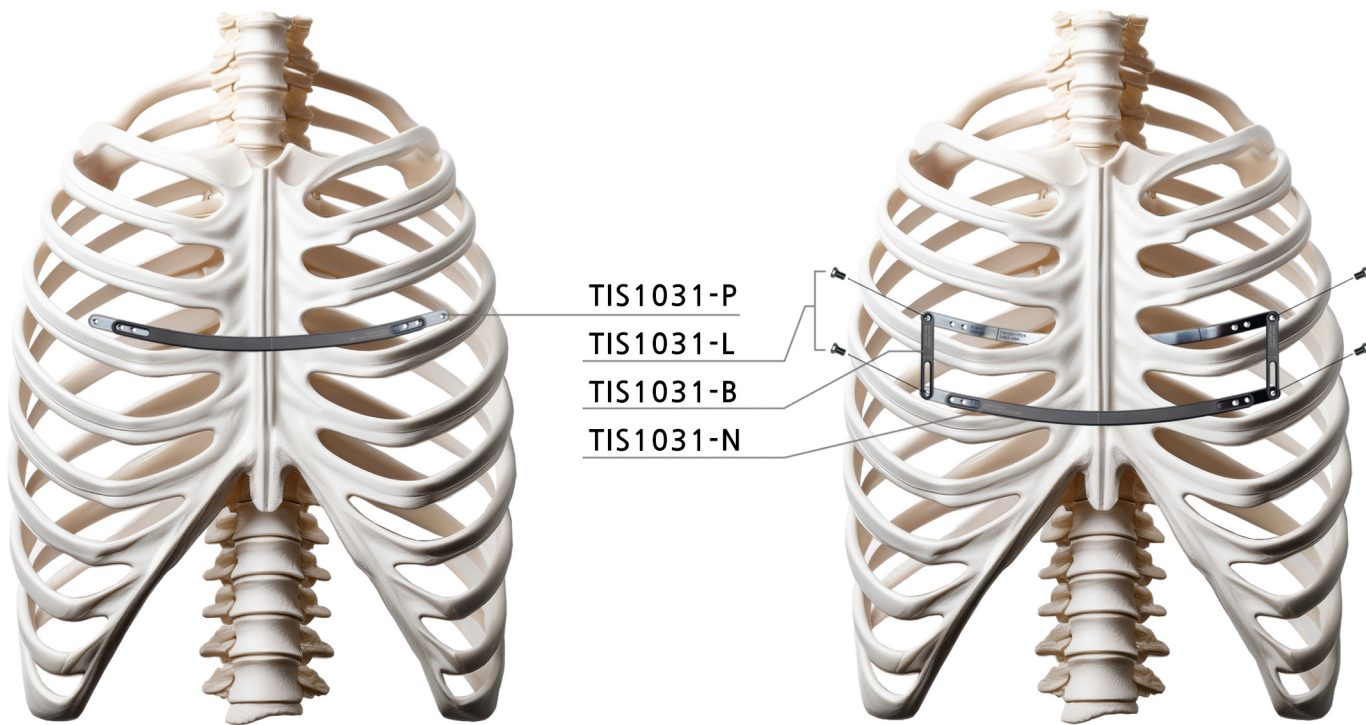
TIS1031, composed of Ti-6Al-4V ELI(Titanium Alloy), exhibits distinct mechanical properties compared to 316LVM. A four-point bending test, conducted per ASTM F382, confirmed that while TIS1031 has lower bending stiffness than 316L, it provides significantly higher proof load and toughness. These characteristics are essential for ensuring long-term stability in vivo, making it a suitable material for internal fixation applications.



UNITY Implants

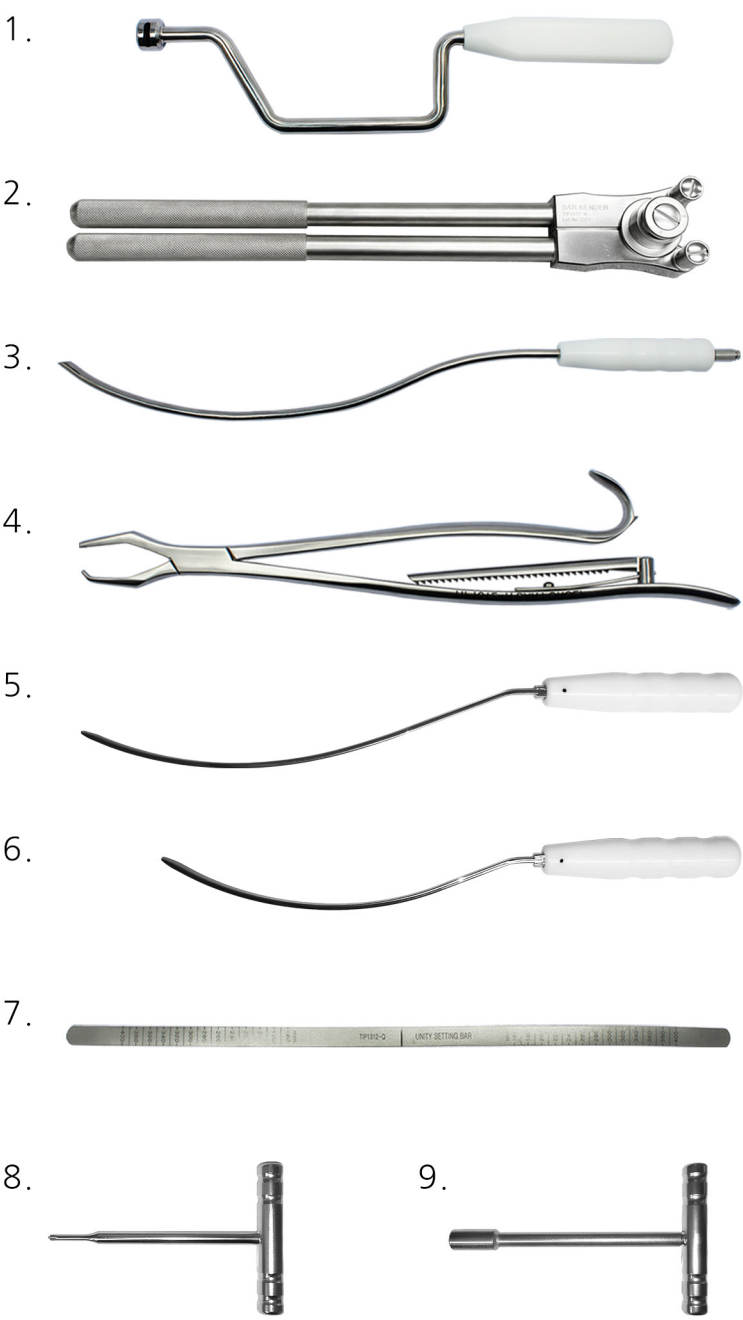


Surgical Method



UNITY Instruments

| Description                | Model No. |
|----------------------------|-----------|
| 1. ROTATOR                 | TIP1312-A |
| 2. BENDER                  | TIP1312-B |
| 3. POSTERIOR STERNUM GUIDE | TIP1312-C |
| 4. BAR FORCEPS             | TIP1312-H |
| 5. STERNUM GUIDE LONG      | TIP1312-L |
| 6. STERNUM GUIDE SHORT     | TIP1312-S |
| 7. SETTING BAR             | TIP1312-Q |
| 8. TORX DRIVER             | TIP1312-I |
| 9. HEX SOCKET DRIVER       | TIP1312-K |



UNITY TRAY