Lapiplasty®
3-Plane Correction at the CORA

Instrumented Reproducibility.
*Rapid* Weight-Bearing.¹
Low Recurrence.²

TREACE®
Medical Concepts, Inc.
*The Future of Hallux Valgus Surgery™*
What is the Lapiplasty® Procedure?
An instrumented, reproducible approach to 3-plane correction with rapid return to weight-bearing

Correct.
Make your correction before you cut
The Lapiplasty® Positioner is engineered to quickly and reproducibly correct the alignment in all three planes, establishing and holding true anatomic alignment of the metatarsal and sesamoids.1

Cut.
Perform precision cuts with confidence
The Lapiplasty® Cut Guide delivers precise cuts with the metatarsal held in the corrected position, ensuring optimal cut trajectory while virtually eliminating the risk of metatarsal shortening.

Compress.
Achieve controlled compression of joint surfaces
The Lapiplasty® Compressor delivers over 150N of controlled compression1 to the precision-cut joint surfaces, while maintaining the 3-plane correction.

Fixate.
Apply multiplanar fixation for robust stability
Low-profile Biplanar® Plating provides biomechanically-tested2 multiplanar stability for rapid return to weight-bearing.3

2Ray JJ, et al. Foot Ankle Int. 2019 (published online ahead of print)
3Data on file.
5Data on file.
How does the Lapiplasty® Procedure work?

Key surgical steps*

1. **Joint Release**
   Run sagittal saw congruously down the 1st TMT joint to mobilize and plane the joint surfaces.

2. **Anatomic Correction**
   Apply the Lapiplasty® Positioner, simultaneously securing the IM angle, frontal-plane rotation, and sagittal alignment in corrected position.

3. **Precision Cuts**
   Secure the Lapiplasty® Cut Guide and make precise joint cuts with the triplanar correction held in place.

4. **Joint Distraction**
   Apply the Lapiplasty® Compressor over the Cut Guide Pins to distract the joint for removal of bone slices and fenestration of the joint surfaces.

5. **Joint Compression**
   Using the Lapiplasty® Compressor, bring the precision-cut joint surfaces together for controlled apposition and compression of the arthrodesis site.

6. **Multiplanar Fixation**
   Apply low-profile Biplanar™ Plates dorsally and medially, providing multiplanar fixation for rapid weight-bearing.¹

*Trease Medical Concepts, Inc. Surgical Technique LBL 1405-9001

Covered by one of more patents. See www.trease.com/patents
**Lapiplasty® System**

**Anatomic Biplanar™ Implants**

**Lapiplasty® System 1**
Sterile-packed Biplanar™ Plating kit for versatility to fit each patient's anatomy, while delivering superior multiplanar strength.

**SK12**

<table>
<thead>
<tr>
<th>Plate Width</th>
<th>Locking Screws</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6mm</td>
<td>2.5x12mm (5)</td>
</tr>
<tr>
<td></td>
<td>2.5x14mm (4)</td>
</tr>
</tbody>
</table>

- Low-profile design to minimize soft tissue irritation
- Standard-sized locking screws eliminates intra-operative measuring
- Biplanar™ configuration for multiplanar stability

**Lapiplasty® System 2**
An evolution of Biplanar™ Plating with increased cross-sectional width and 2.7mm screws for additional construct strength.

**SK14**

<table>
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<th>Plate Width</th>
<th>Locking Screws</th>
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</thead>
<tbody>
<tr>
<td>3.9mm</td>
<td>2.7x12mm (5)</td>
</tr>
<tr>
<td></td>
<td>2.7x14mm (4)</td>
</tr>
</tbody>
</table>

- Enhanced anatomic contour with low-profile thickness maintained
- Star-drive screws for improved screw driver engagement
- Increased cross-sectional width for improved stability

**Lapiplasty® System 3R**
Most robust Biplanar™ Plating option with widest cross-section, 3.0mm screws, and increased span to address revision cases and challenging anatomy.

**SK23**

<table>
<thead>
<tr>
<th>Plate Width</th>
<th>Locking Screws</th>
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<tbody>
<tr>
<td>4.3mm</td>
<td>3.0x12mm (4)</td>
</tr>
<tr>
<td></td>
<td>3.0x16mm (8)</td>
</tr>
</tbody>
</table>

- Low-profile thickness maintained
- Increased center span (+5mm) to accommodate grafts and challenging anatomy
- Most cross-sectional width for robust stabilization

**Plantar Python™ Plate**
Sterile-packed for use with the Lapiplasty® System, the Plantar Python™ Plate is uniquely pre-contoured for easy-to-apply tension-side fixation.

**S1: SD11/12 (L/R)  S2: SD14/15 (L/R)**

- Medial side of cuneiform to planar on metatarsal for easy-to-apply tension-side fixation
- Helical plate geometry conforms to complex anatomy of 1st TMT joint

*See Instructions for Use LBL1405-9005*
One System for All Your Hallux Valgus Needs
Sterile-packed kits for operational efficiency

Lapiplasty® Compression Screws

2.5mm Headless Screws® SK20
Headless titanium compression screws for Akin osteotomies & other applications
2.5x20mm
2.5x28mm

3.0mm Interfrag Screws® SK18
Low-profile headed, titanium cannulated compression screws for tarsal-metatarsal fusions & other applications
3.0x36mm
3.0x40mm

4.0mm Interfrag Screws® SK25
4.0x36mm
4.0x40mm

3.5mm Transverse Screw® SK19
Low-profile headed, titanium cannulated compression screws for tarsal fusions & other applications
3.5x23mm

2.0mm Snap-Off Screws® SK21
Titanium snap-off screws for Weil osteotomies & other applications
2.0x10mm
2.0x12mm

Lapiplasty® Long Locking Screws

2.7mm Long Screw Pack SD16
2.7x16mm (2)
2.7x18mm (2)

3.0mm Long Screw Pack SD17
3.0x18mm (2)
3.0x20mm (2)

See Instructions for Use LBL1405-9056* or LBL1405-9110**
Biomechanically Proven for Rapid Weight-Bearing

Biomechanical test specimens were constructed using Sawbones® surrogate bone models (Pacific Research Laboratories Inc, Vashon, WA) and tested in cantilever bending to simulate functional 1st TMT joint loading. The testing included both static ultimate failure and cyclic load to failure. Three different studies were performed under this test protocol, which are detailed below.

### S1 vs Conventional Plating

**S1 Biplanar™ Plating**

**VS**

- Anatomic Dorsal Locking Plate w/ 4.0 Interfrag Screw

**+130% Increase in Ultimate Failure Load**

**+30% Increase in Cycles to Failure**


### Plantar Python® vs S1

**S1 Biplanar™ Plate w/ Plantar Python®**

**VS**

**S1 Biplanar™ Plating**

**+17% Increase in Ultimate Failure Load**

**+103% Increase in Cycles to Failure**


### S2 vs S1

**S2 Biplanar™ Plating**

**VS**

**S1 Biplanar™ Plating**

**+78% Increase in Ultimate Failure Load**

**+179% Increase in Cycles to Failure**

*Publication in process. Data on file. (M171A)*
The Evidence-Based Solution for 3-Plane Correction

Treace Medical Concepts is dedicated to advancing the understanding of the Lapiplasty® Procedure and its benefits to patients, surgeons, and the healthcare system through research studies and publications in the peer-reviewed literature.

Multicenter Early Radiographic Outcomes of Triplanar Tarsometatarsal Arthrodesis With Early Weightbearing

Multicenter, retrospective study of 57 hallux valgus (62 feet) patients treated with the Lapiplasty® Procedure and early return to weight-bearing at mean follow-up of 13.5 months.

<table>
<thead>
<tr>
<th></th>
<th>Pre-Op</th>
<th>6 Week</th>
<th>4 Month</th>
<th>12 Month/Final</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>IMA</td>
<td>13.6°±2.7°</td>
<td>6.1°±2.1°</td>
<td>6.1°±2.3°</td>
<td>6.6°±1.9°</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HVA</td>
<td>24.2°±9.3°</td>
<td>11.6°±5.1°</td>
<td>10.2°±5.9°</td>
<td>9.7°±5.1°</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>TSP</td>
<td>5.0±1.3</td>
<td>1.6±0.7</td>
<td>1.8±0.9</td>
<td>1.9±0.9</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Highlights of the study:
- Mean return to weight-bearing at 10.9 days in a walking boot
- 96.8% of study patients maintained their 3-plane bunion correction as assessed by Intermetatarsal Angle (IMA), Hallux Valgus Angle (HVA) and Tibial Sesamoid Position (TSP)
- Symptomatic non-union rate of 1.6% (1 foot)

Ray JJ, et al. Foot Ankle Int. 2019 (published online ahead of print)

Progression of Healing on Serial Radiographs Following First Ray Arthrodesis in the Foot Using a Biplanar Plating Technique Without Compression

Multicenter, retrospective study of bone healing with accelerated weightbearing protocol in 195 patients undergoing TMT or MTP fusions with Lapiplasty® biplanar plating at mean follow up of 9.5 months.

Highlights of the study:
- Patients began weight-bearing at 5 days post-op in a walking boot
- 97.4% of the patients demonstrated a successful bony fusion and 98.9% of the patients maintained a stable joint position
- 3.1% overall implant removal rate for irritation and hardware failure


Lapiplasty® Publications
