

1

MTP Joint Repair

2

PIP Fusion

3

Osteotomy Guide

Take aim  
at lesser toe challenges



Are your lesser toe patients less than satisfied?

**15% – 33%**

of Weil osteotomies  
result in floating toes<sup>1</sup>



**10% – 46%**

of lesser toe patients are  
dissatisfied post-surgery<sup>1</sup>

**K-wire fixations for Hammertoes often result in<sup>3</sup>**

- Increased swelling, pain
- Pin-tract infection
- Delayed union
- Motion at arthrodesis site
- Painful removal

**Flexor tendon transfers and Weil osteotomies often lead to<sup>1,2</sup>**

- Floating toes
- Loss of ROM
- Stiffness
- Residual pain

**Metal “all internal” PIP Fusion implants often**

- May be difficult to remove
- Don't have controlled compression
- Require special handling

## Our three-part solution:

1 HAT-TRICK<sup>◇</sup> MTP Joint Repair System

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2 HAT-TRICK PIP Fusion System

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3 HAT-TRICK Osteotomy Guide



# HAT-TRICK<sup>◇</sup> MTP Joint Repair System

**Challenge:** Metatarsophalangeal instability is commonly present with lesser toe deformities. Current standard of treatments often lead to complications like floating toes, loss of ROM, stiffness and residual pain.<sup>1,2</sup>



Unilateral



Bilateral



**Solution:** The HAT-TRICK<sup>◇</sup> MTP Joint Repair System provides a complete repair of the lesser MTP joint that is less invasive and more anatomic than standard of care techniques.<sup>4</sup>

Bilateral

Controlled

- Allows for controlled tensioning of both plantar plate and collateral ligaments

Less invasive

- No required metatarsal osteotomy
- No screw fixation required
- No release of the plantar plate from the metatarsus

Unilateral

More anatomic

- Anatomic reattachment of collateral ligaments
- Anatomic distal reattachment of plantar plate
- Maintains the biomechanical axis, which can be lost when performing a metatarsal osteotomy

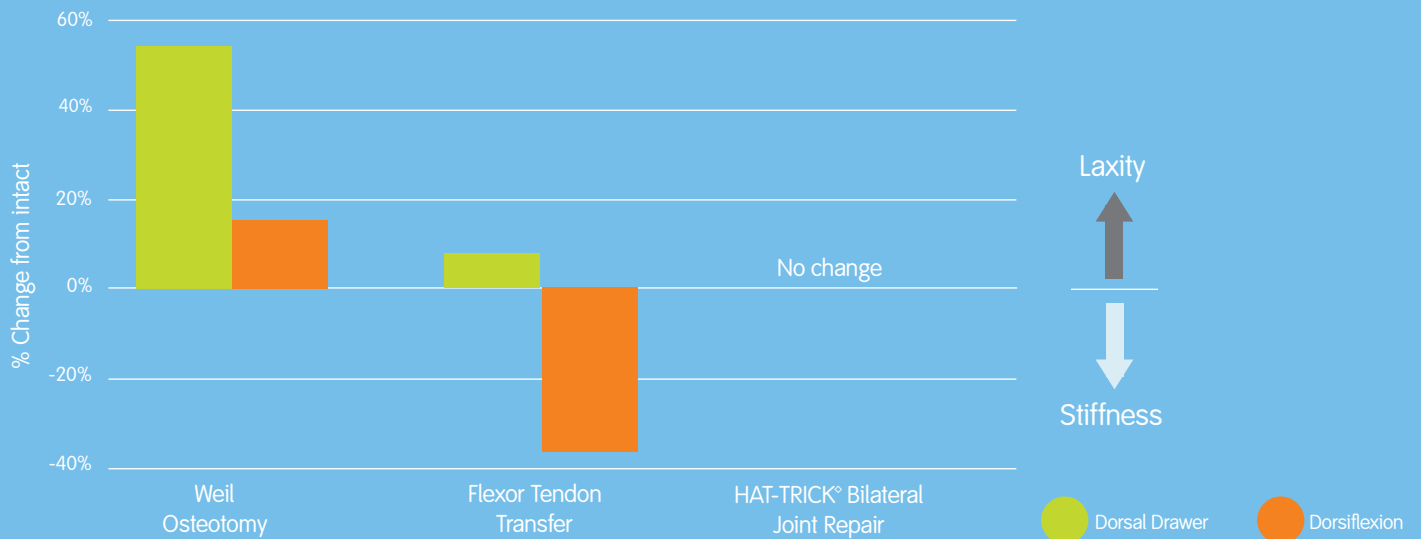


# HAT-TRICK<sup>◇</sup> MTP Joint Repair System

Stability, stiffness and center of rotation mimic normal physiological anatomy<sup>4</sup>

## Mimics normal physiological anatomy\*

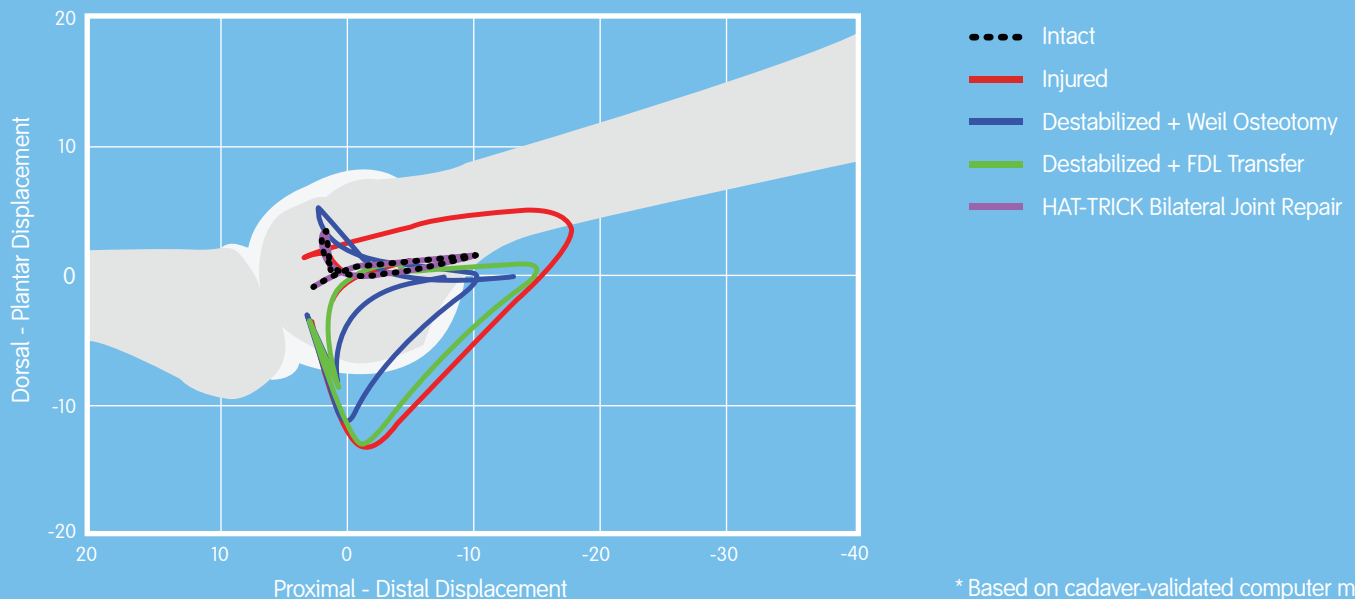
Repair of fully disrupted plantar plate and collaterals



\* Based on cadaver-validated computer model

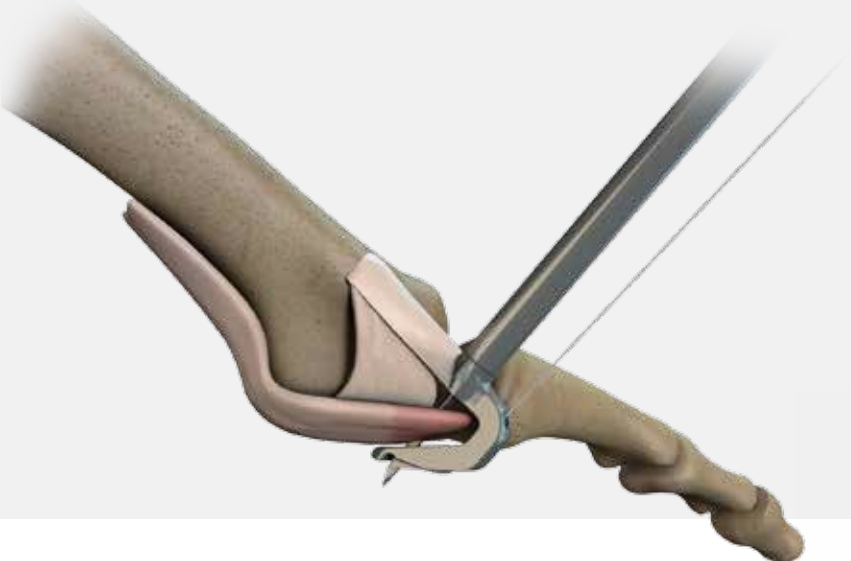
## Maintains the physiological center of rotation\*

Center of Rotation Plots; Plantar Plate and Collaterals Disrupted



\* Based on cadaver-validated computer model

## Specialized instruments

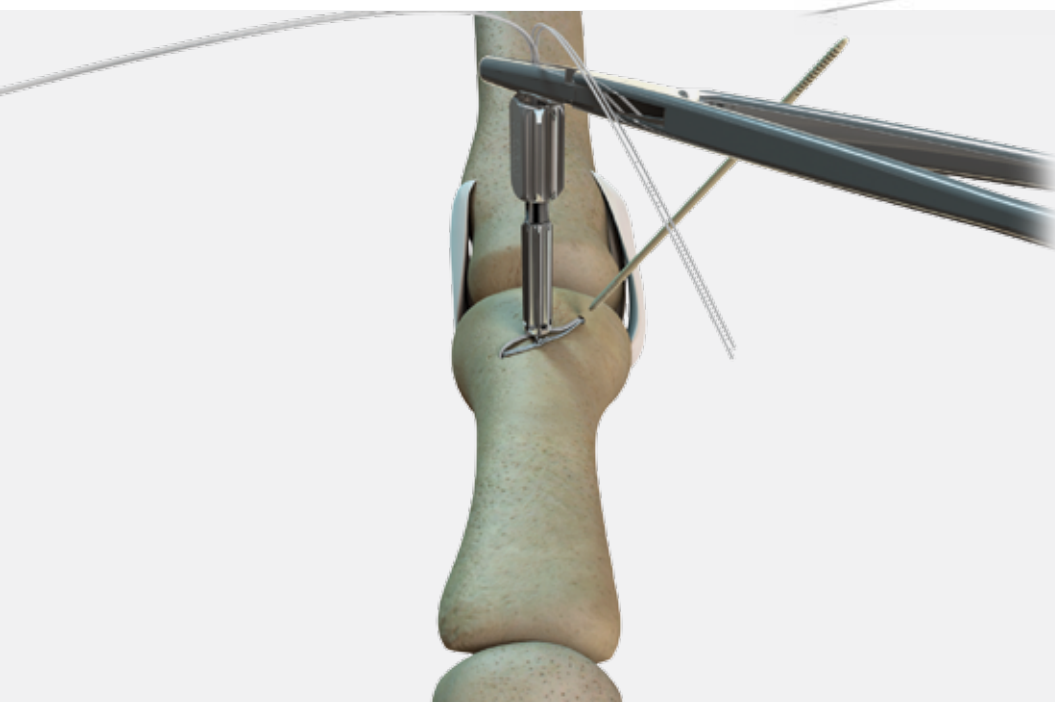
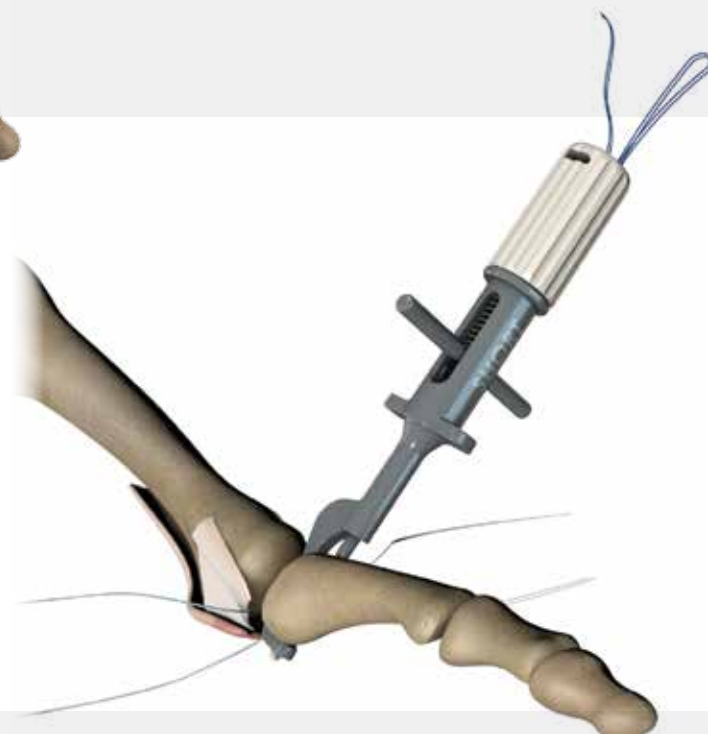


### **DART Suture Passer**

DART (Direct Anterior Repair Technique) Suture Passer allows for access to plantar plate without an osteotomy

### **Offset Drill Guide**

Short and long offset drill guides allow for drilling of two bone tunnels that do not intersect



### **Suture Tensioner and PEEK Interference Wires**

Allow for controlled tensioning of the ligament repair

# HAT-TRICK<sup>◇</sup> PIP Fusion System

**Challenge:** Standard K-wire treatment is associated with several complications.<sup>3</sup>

- Increased swelling and pain
- Pin-tract infection
- Delayed union
- Delayed healing of the arthrodesis site due to lack of compression
- Motion at arthrodesis site with rotational concerns
- Pain with removal of the K-wire

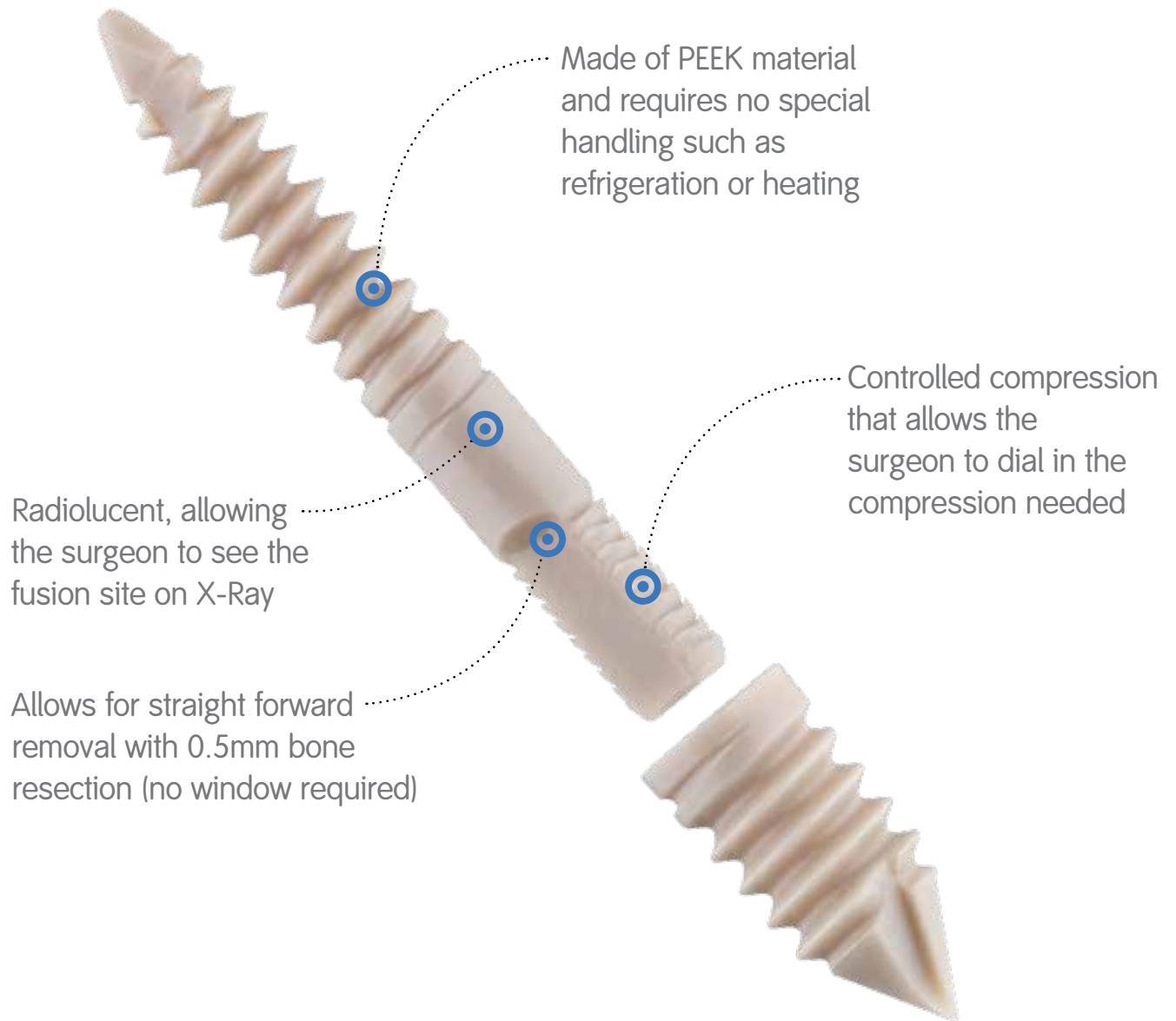


**Solution:** All inside fusion of the PIP joint has fewer complications<sup>3</sup> and is less invasive than other standard of care treatments, like K-wires or cannulated screws.

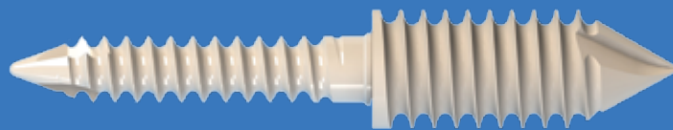




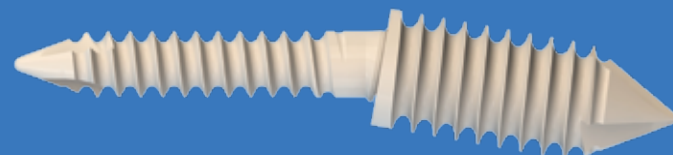
# A revisable, all PEEK implant



Multiple diameters with both 0° and 10° angulation options



0°



-10°

# HAT-TRICK<sup>®</sup> Osteotomy Guide

**Challenge:** Weil Osteotomy procedures move the center of rotation of the metatarsal head plantar off the biomechanical axis.



**Solution:** The HAT-TRICK Osteotomy Guide allows for a controlled, precise and reproducible approach that maintains the biomechanical axis.<sup>5</sup>



Normal Anatomy



Longitudinal Axis

Traditional Weil Osteotomy



Longitudinal Axis

Oblique cut  
Axis not maintained

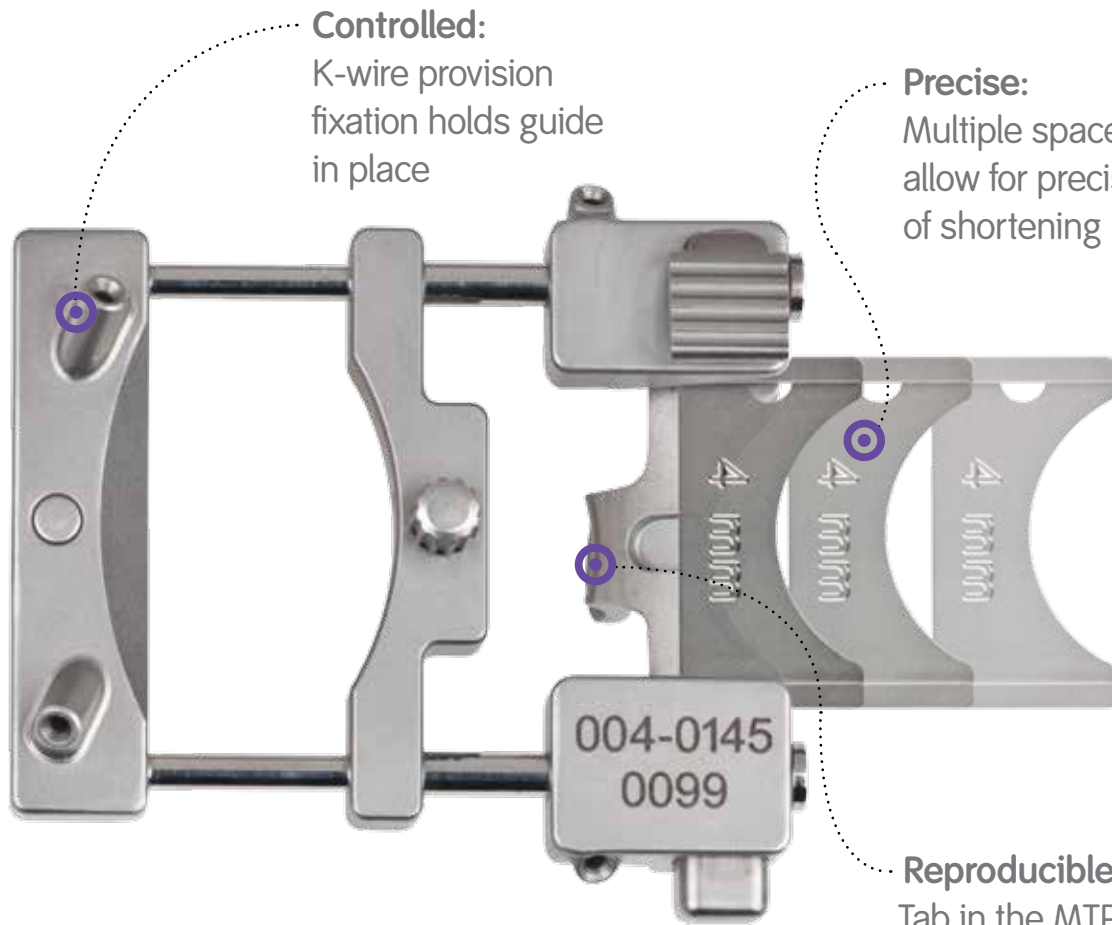
Metatarsal Osteotomy using HAT-TRICK system



Longitudinal Axis

2 parallel cuts using spacer  
Axis maintained

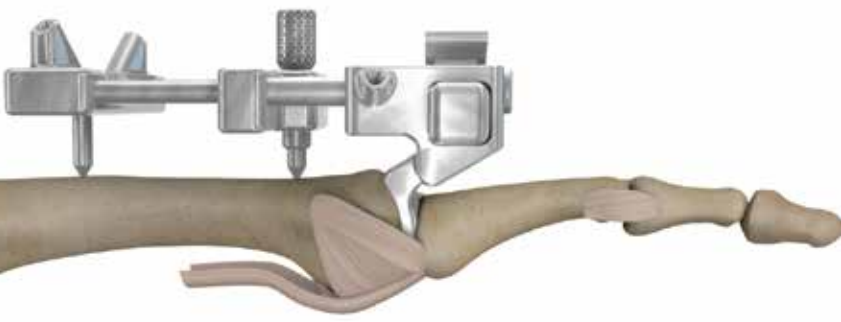
# Instrumentation designed for controlled, precise and reproducible results



**Controlled:**  
K-wire provision  
fixation holds guide  
in place

**Precise:**  
Multiple spacer options  
allow for precise length  
of shortening

**Reproducible:**  
Tab in the MTP joint space  
allows the surgeon to  
reproducibly line up the  
osteotomy



## References

- 1 Barg A, Courville XF, Nickisch F, Bachus KN, Saltzman C. Role of Collateral Ligaments in Metatarsophalangeal Stability: A Cadaver Study. *Foot Ankle Int* 2012; 33:877-882.
- 2 Myerson M, Jung HG. The Role of Toe Flexor-to-Extensor Transfer in Correcting Metatarsophalangeal Joint Instability of the Second Toe. *Foot Ankle Int* 2005; 26: 675-679.
- 3 Angirasa AK, Barrett MJ, Silvester D. Smart Toe® Implant Compared with Kirschner Wire Fixation for Hammer Digit Corrective Surgery: A Review of 28 Patients. *J Foot Ankle Surg* 2012; 51:711-713.
- 4 Saltzman C. "The Development of a Novel Repair Technique for Metatarsophalangeal Instability Utilizing Cadaver Validated Computer Modeling: A Comparison with Current Techniques" International Foot & Ankle Conference. 2012 Sydney, Australia.
- 5 Internal testing



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