# FLATFOOT SOLVED

# Innovative, Comprehensive, Proven



### MEDIAL DISPLACEMENT CALCANEAL OSTEOTOMIES

### Gorilla<sup>®</sup> Calc Slide Plate

- Plate size and shape optimized to prevent additional dissection and soft tissue disruption during plate insertion
  - Plate is inserted through same incision as osteotomy
  - No violation of posterior heel pad with an incision or screw
    - May result in fewer hardware removal cases than screw fixation<sup>1,2</sup>
- Interosseous plating provides a firm buttress to prevent displacement of the osteotomy and avoids the peroneal tendons
- Interosseous plates allow the surgeon to achieve patient specific correction—as opposed to traditional calc slide plates which are limited to the step off built within

- Five points of fixation (three screws and two fins) assist in stabilizing the construct
- Plate hood allows for compression of the posterior fragment with either a locking or non-locking screw and includes angulation allowing the surgeon to capture the sustentaculum tali
  - Hood height was minimized to 5 mm and is designed to limit soft tissue irritation in cases requiring minimal correction
  - Interosseous plating does not violate the growth plate of the calcaneus in pediatric patients
- Sharp arms ease insertion and provide rotational stability

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Gorilla® Calc Slide Plate

### Monster<sup>®</sup> Hindfoot Screw System

- Designed specifically to meet the needs of the foot and ankle surgeon
  - 4.5, 5.5, and 7.0 mm diameters
    - 4.5 and 5.5 screws available in Short, Long, and Fully Threaded Options
    - 7.0 screws available in Short (16 mm), Medium (20 mm), Long (32 mm), and Fully Threaded Options
  - All screw families and instrumentation available within the Monster<sup>®</sup> Hindfoot Tray
  - Headed and Headless
  - For 7.0 mm screws
  - Available in 2 mm increments (36–50) to allow for optimal capture of subchondral bone in a calc slide procedure

- May be placed using the FLUOROBAND<sup>™</sup> Guidewires
  - Patented technology helps select thread length based on location of FLUOROBAND<sup>™</sup> with respect to the joint
    - First Groove: at 20 mm, directs medium thread length
    - Second Groove: at 32 mm, directs long thread length



Monster® 7.0 Headless Screws

- Four different washer types including patented Slotted Bowl Washer
  - Patented Slotted Bowl Washer designed specifically to allow surgeon to place washer around screw without having to fully remove screw,preventing loss of purchase and saving intraoperative time

	32 mm Groove	[		20 mm Groove
Threaded				
Smooth			-	

FLUOROBAND<sup>™</sup> Guide Wires



Monster<sup>®</sup> Washers



### **EVANS AND COTTON OSTEOTOMIES**

### **PRESERVE<sup>™</sup> Wedges**

- Aseptically processed allograft harvested from the patella, talus, or femoral calcar
  - No gamma irradiation—preserves graft strength<sup>3</sup>
  - No bleach—preserves graft osteoinductivity<sup>4,5</sup>

### **PRESERVE<sup>™</sup> Evans Wedge**

- Patented procedure specific shape
  - Dorsal to plantar taper—designed to relieve strain on the lateral band of the long plantar ligament
  - Lateral to medial taper—designed to relieve strain on the periosteum and the spring ligament
- Available in 6, 8, 10, or 12 mm of built-in correction



Dorsal to PlantarTaper Lateral to Medial Taper

PRESERVE<sup>™</sup> Evans Wedge

### **PRESERVE<sup>™</sup>** Cotton Wedge

- Patented procedure specific shapes
  - Dorsal to plantar taper with a rounded medial edge to match the contour of the medial cuneiform
- Available in 5, 6, 7, or 8 mm of built-in correction





Anatomic shape designed to match the medial cuneiform

PRESERVE<sup>™</sup> Cotton Wedge

### **EVANS AND COTTON OSTEOTOMIES (CONT.)**

### Titan 3-D<sup>™</sup> Wedge

- Anatomically shaped medical grade titanium alloy (Ti-6AI-4V)
- Open geometry with three-dimensional scaffold allows for blood entry, bone through growth and the incorporation of biologic products, if used
- ▶ PRECISION<sup>™</sup> Guided screw across the osteotomy increases the stability of the construct
  - 3.5 or 4.0 mm Mini-Monster® Screws are used in • conjunction with either implant
- Tapered nose helps to aid in implant insertion ►
- Smooth back surface and corners designed to minimize soft tissue irritation
- Spikes on both sides of implant designed to help prevent expulsion from osteotomy site and provide a bridge for biologic through growth

- Product specific inserters attach to the back of the implant and are designed to facilitate accurate implant insertion and placement
- Resection Guides are available to aid in implant removal and minimize over-resection



### **Evans**

- Small and Large Sizes available to accommodate differences in height
- 6.8.10. or 12 mm of built-in correction
- Patented procedure specific shape



**Evans Large** 



Evans Small





### Cotton

- ▶ 5, 6, 7, 8 mm of built-in correction
- Patented procedure specific shape



Titan 3-D<sup>™</sup> Cotton



### **AO Wedges**

- The Additive Orthopaedics<sup>®</sup> Bone Wedge System offers a porous titanium wedge that provides an alternative to allograft/autograft bone for a Cotton Osteotomy and Evans Osteotomy
- Built with LatTi-Structure<sup>®</sup>
  - LatTi-Structure<sup>®</sup> has a porous lattice structure that is designed to resemble cancellous bone with the potential to create a bio-scaffoldt
  - The wedges are additively manufactured and feature a propriety 79% porous lattice structure
  - 3D printed Ti6AI4V Titanium ELI
- Additive Orthopaedics<sup>®</sup> Cotton Plantarflexing Osteotomy Wedge for plantarflexion of the first ray
  - Available in nine size options
    - Lengths: 16,18, and 20mm size options
    - Widths: 4.5, 5.5, and 6.5mm size options
- Additive Orthopaedics<sup>®</sup> Evans Lateral Column Lengthening Wedge for lateral column lengthening
  - Available in nine size options
    - Lengths: 18, 20, and 22mm size options
    - Widths: 8, 10, and 12mm size options
- Additive Orthopaedics<sup>®</sup> Bone Wedges system includes trials and inserters
- Additive Orthopaedics<sup>®</sup> Bone Wedges are supported by the Gorilla Plating system



AO Titanium Evans Wedge



AO Titanium Evans Wedge used with Gorilla® HEvans Plate

### **EVANS AND COTTON OSTEOTOMIES (CONT.)**

### Gorilla<sup>®</sup> HEvans<sup>®</sup> Plate

- Designed specifically to be used in conjunction with patented shaped PRESERVE<sup>™</sup> Evans Graft
- Low profile plate (1.1 mm) intended to minimize soft tissue irritation
  - Posterior ramp (0.5 mm) intended to minimize irritation to the peroneals
- Two points of fixation anteriorly designed to prevent subluxation of the graft
  - Intended to stabilize anterior calcaneal fragment and maintain correction during graft incorporation



Gorilla<sup>®</sup> HEvans<sup>®</sup> Plate with proximal ramped portion designed to limit irritation to the peroneals

### Gorilla<sup>®</sup> BOW & ARROW<sup>®</sup> Plates

- Low profile plate (1.1 mm) with ramps intended to minimize soft tissue irritation
- Patented "ARROW" spacer hooks around proximal cortex designed to prevent expulsion of plate
  - "ARROW" spacer matches the patented geometry of the PRESERVE™ Evans Grafts
  - "ARROW" spacer is short, allowing the plates to be used in combination with the PRESERVE<sup>™</sup> Evans grafts



Gorilla® BOW & ARROW® Evans Plate

### **BOW & ARROW<sup>®</sup> Evans**

- Tapered dorsal to plantar and lateral to medial bow designed to ease insertion and offload medial and plantar soft tissue structures
  - 6, 8, 10, or 12 mm of built in correction



Osteotomy spacer matches geometry of PRESERVE<sup>™</sup> Evans Graft



Arrow on "BOW" hooks around proximal cortex and is designed to prevent dislocation

### **BOW & ARROW<sup>®</sup> Cotton**

- ► Tapered plate back matches each available size of the patented PRESERVE<sup>™</sup> Cotton wedge
  - 5, 6, 7, or 8 mm of built-in correction



Gorilla<sup>®</sup> BOW & ARROW<sup>®</sup> Cotton Plate used with Demineralized Bone Matrix



### **TENDON TRANSFERS**

### Grappler<sup>™</sup> Interference Screw System

- Novel Trilobe Driver Engagement
  - Extension through the cannulation of the implant designed to facilitate accurate implant insertion
  - Maximizes torque transfer between driver and implant reducing the likelihood of strippage
  - Driver is electropolished and designed to minimize stick following implant insertion
- One to one sizing
  - The tendon size, drill and implant diameters are one to one—no necessary calculations to be completed
- Instrumentation is offered to facilitate "Through and Through" as well as "Blind Tunnel" techniques
- Implant specific cannulated drills and tissue protectors
  - Designed for optimal fit and positioning of implant and tendon
- Drills offered in Ø0.5 mm increments to accommodate varying bone density and allow for a snug fit of implant and tendon





	Grappler™ Interference Screw System (20 Unique Implants)						
	Grappler <sup>™</sup> Interference Screw Diameter						
Screw Length	Ø4.0 mm	Ø4.5 mm	Ø5.0 mm	Ø5.5 mm	Ø6.0 mm	Ø7.0 mm	Ø8.0 mm
10 mm	•		•				
15 mm	•	•	•	•	•		
20 mm	•	•	•	•	•		•
25 mm			•				٠

### **TENDON TRANSFERS (CONT.)**

### Mister Tendon<sup>™</sup> Harvester

The Paragon 28<sup>®</sup> Mister Tendon<sup>™</sup> Harvester System allows surgeons to perform a distal cut of the FHL or FDL tendon through a minimally invasive incision, harvesting a working length of tendon suitable for tendon transfer procedures. An accessory dilator instrument is provided to help bluntly dissect soft tissue, improving harvester access without causing additional damage. The Mister Tendon<sup>™</sup> Harvester System comes sterile-packed and ready for use in tendon transfer procedures.

### SYSTEM FEATURES

- Controlled harvest of tendon through shorter incision
- Controlled harvest of tendon with reduced soft tissue disruption (deep and superficial)
- Procedure specific instrument length
- Sterile packaged



### **TENDON HARVESTER**



### Grappler<sup>™</sup> Suture Anchors

- The Grappler<sup>™</sup> Suture Anchor System was designed to address the challenges that are present when performing soft tissue tensioning and ligament reconstruction in foot and ankle procedures. The Grappler<sup>™</sup> Suture Anchor System includes a variety of All-Suture anchors, PEEK anchors, Titanium anchors, sutures, and suture tape.
  - All-Suture
    - Ø1.4 mm and Ø2.8 mm Anchor, Pre-loaded with Suture/Needles
    - Ø1.4 mm: Single-loaded with #0 Suture
    - Ø2.8 mm: Double-loaded with #2 Suture
  - Titanium
    - Ø3.0 mm and Ø4.5 mm Anchor, Pre-loaded with Suture/Needles
    - Ø3.0 mm: Double-loaded with #0 Suture
    - Ø4.5 mm: Double-loaded with #2 Suture
  - PEEK
    - Ø4.5 mm & Ø5.5 mm Anchor, Pre-loaded with Suture & needles
    - Solid or cannulated drill bits
    - Ø4.5 mm/Ø5.5 mm: Double-loaded with #2 Suture
    - Ø4.5 mm/Ø5.5 mm: Double-loaded with #2 Suture and 1.5 mm Tape



## Paragon

### Grappler<sup>™</sup> Knotless and BridgeLine Tape

The Grappler<sup>®</sup> Knotless Anchor System was designed to address the unique challenges that Foot and Ankle surgeons face when repairing soft tissue structures. The Grappler<sup>®</sup> Knotless Anchor System includes Bridgeline<sup>™</sup> 4 mm Suture Tape, cannulated knotless anchors, and foot and ankle specific instrumentation. The cannulated PEEK anchors are vented to facilitate bony growth, strengthening hold in bone and



are available in 4.5 and 5.5 mm diameters. The anchors come preloaded with suture passer on an elegantly designed handle intended to maximize surgeon control in restoring soft tissue anatomy to the appropriate tension. Modular kit configurations are designed to minimize waste and provide surgeons the ability to address a variety of pathologies with a streamlined technique.

### **Knotless Anchor Kit**

- Cannulated Knotless Anchors (Ø4.5 mm and Ø5.5 mm)
- Tensioning Driver Handle
- Drill (Solid, Ø3.5 mm and Ø4.3 mm)
- Tissue Protector/Drill Guide
- Tap (Solid, Ø4.5 mm and Ø5.5 mm)
- Suture Passer
- 4.0 mm Suture Tape (100% UHMWPE or Adaptive)

#### **Bridgeline<sup>™</sup> Tape:**

Bridgeline<sup>™</sup> Tape is offered in conventional UHMWPE as well as the novel Adaptive version which is a first in kind semi-resorbable suture tape construct which stretches following resorption and which is designed to transition load to the native anatomy. Both are four millimeters wide allowing for broader tissue surface interaction than competitive offerings.

#### Adaptive Bridgeline<sup>™</sup> Tape:

The tape is semi-resorbable. After absorption, the tape has a longer working length which promotes load-sharing with soft tissue structures.



Pre-Absorption

Post-Absorption

### HYPERMOBILE FLEXIBLE FLATFOOT SOLUTIONS

### Gorilla® NC Fusion—NC Fusion Plate

- ► Dedicated PRECISION<sup>™</sup> Guided System designed to allow for reproducible fixation across the entire NC joint complex
  - Allows for a crossing screw that passes from the medial cuneiform to the lateral aspect of the navicular
    - Accommodates a 3.5 mm, 4.0 mm, 4.5 mm or 5.5 mm Mini-Monster® or Monster® crossing screw
    - Plantar positioning of this screw in the medial cuneiform is designed to minimize plantar gapping ensuring balance in the construct
- The proximal dorsal locking pocket hole allows for fixation of the navicular to the intermediate cuneiform
- The plantar locking screw in the navicular aids in minimizing plantar gapping

- The distal screws in the medial cuneiform have the ability to be placed across the entire cuneiform construct
- Anatomically Contoured Plate
  - Dorsal to plantar curvature to match medial column
  - Anterior to posterior curvature to mitigate adductory forces distally
- Low profile 1.5 mm plate designed to avoid soft tissue irritation
- Built in alignment templating designed to ensure best fit of plate to the anatomy







### Gorilla® Medial Column Plates

- ► Dedicated PRECISION<sup>™</sup> Guided System designed to allow for reproducible fixation across the entire NC joint complex
  - Allows for a crossing screw that passes from the medial cuneiform to the lateral aspect of the navicular
    - Accommodates a 3.5 mm, 4.0 mm, 4.5 mm or 5.5 mm Mini-Monster® or Monster® crossing screw
    - Plantar positioning of this screw in the medial cuneiform is designed to minimize plantar gapping ensuring balance in the construct
- The proximal dorsal locking pocket hole allows for fixation of the navicular to the intermediate cuneiform
- The plantar locking screw in the navicular aids in minimizing plantar gapping
- The distal screws in the medial cuneiform have the ability to be placed across the entire cuneiform construct
- Anatomically Contoured Plate
  - Dorsal to plantar curvature to match medial column
  - Anterior to posterior curvature to mitigate adductory forces distally



- Low profile 1.5 mm plate designed to avoid soft tissue irritation
- Built in alignment templating designed to ensure best fit of plate to the anatomy
- Comprehensive offering of plates to span select portions of or the entire medial column
  - 36 total plates in five different families
- Two thicknesses (1.5 and 2.0 mm thick)
- Most plates contoured to match standard anatomy of the midfoot
  - Rescue plates available to address malformed anatomy or revision procedures



	Arch Plate	Distal Arch Plate	Extended Arch Plate	Rescue Plate	Proximal Arch Plate
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Hole Configurations	10-Hole, 12-Hole	8-Hole, 10-Hole	15-Hole, 17-Hole	9-Hole, 11-Hole, 15-Hole	7-Hole, 9-Hole
Plate Thickness	1.5 mm, 2.0 mm	2.0 mm	2.0 mm	1.5 mm, 2.0 mm	1.5 mm
Total Plates	12	6	6	6	6

### **RIGID FLATFOOT SOLUTIONS**

### SUBTALAR JOINT FUSION

### Monster<sup>®</sup> 7.0 Screws

- Short thread (16 mm), Medium thread (20 mm), Long thread (32 mm), and fully threaded lengths
- Available in 2 mm increments (70 mm–90 mm) to allow for optimal capture

### **PRESERVE<sup>™</sup> STJDA Wedge**

- Patented round graft restores height and allows for a varus or valgus correction
- Trialing system allows for interoperative assessment of correction of height as well as the position of the graft
- Available in 10, 12, 14, 16, and 18 mm



Monster<sup>®</sup> 7.0 Screws and PRESERVE<sup>™</sup> STJDA Wedge









10 mm Trial

12 mm Trial 14 mm Trial

16 mm Trial



#### **COIN CORRECTION GUIDE**

Helps in alignment of Subtalar Distraction Arthrodesis Graft when placing in joint.



#### **TRIAL SIZE HANDLE**

- The trial sizers mimic the exact size and shape of the 4 pre-cut Graft widths, helping to eliminate the guesswork of which size Graft to use
- The joystick trial sizer handle allows for easy manipulation of the trials, helping to limit surgeon radiation exposure while determining correct size and orientation
- Located in the Allograft Subtalar and Calc-Cuboid Caddy



12 mm Subtalar Trial

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#### TALONAVICULAR (TN) AND CALCANEOCUBOID (CC) FUSION

### Gorilla<sup>®</sup> Universal Plating System

- Teddy Bear Plate
  - Stable arrow shape designed specifically to address TN fusion
  - Small, Medium, and Large
- Trapezoid Plate
  - Leverages strength of the trapezoid shape and is curved to match the contouring of the lateral wall
  - May be used to address CC or TN fusions
  - Four size options

## TALAR NAVICULAR (TN) AND CALCANEAL CUBOID (CC) FUSION

### Gorilla<sup>®</sup> Universal Plating System

- Dogbone Plate
- Compression and locking options
- Versatile applications throughout the midfoot and hindfoot
- Eight size options







Gorilla<sup>®</sup> Universal Teddy Bear Plate





Gorilla<sup>®</sup> Universal Slanted Dogbone Plate

Gorilla<sup>®</sup> Universal Dogbone Plate and PRESERVE<sup>™</sup> Calc-Cuboid Wedge

### CALC-CUBOID ARTHRODESIS LENGTHENING GRAFT

- Anatomically shaped to the calcaneocuboid joint
- Primary donor sites: distal femur, talus, calcaneus and femoral calcar



### **RIGID FLATFOOT SOLUTIONS (CONT.)**

### JAWS<sup>™</sup> Great White Staples

- The JAWS<sup>™</sup> Great White<sup>™</sup> Staple is sterile packaged and pre-loaded on an inserter that provides a simple, and quick, insertion method to help gain rigid compression across an osteotomy or fusion site
- All staple options are loaded on a patent-pending trigger released staple inserter
- Kits included: Drills (2.7 or 3.0 mm), Locating Pins, Drill Guide (which doubles as a tamp), and Staple
- ► The JAWS<sup>™</sup> Great White<sup>™</sup> Staple is available in five different sizes to address most forefoot, midfoot, and hindfoot indications
- 12 mm, 15 mm, 18 mm, 20 mm, and 25 mm
- The bridge length and leg length are 1:1 except for the 25 mm staple which has 20 mm legs

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### **Staple Inserter Use**







The staple comes pre-loaded onto the inserter. After preparing the osteotomy/fusion site and drilling the holes, the staple can be seated into the bone. To deploy the staple, push the trigger on the inserter.



### Monster<sup>®</sup> 4.5 and 5.5 Screw System

- ► Headed and Headless
- Short, Long, and Fully Threaded Options
  - 4.5 (2 mm increments 18–50 mm 5 mm increments 55–70 mm)
  - 5.5 (2 mm increments 26–60 mm 5 mm increments 65–90 mm)



4.5 mm Monster<sup>®</sup> Screws



#### 5.5 mm Monster<sup>®</sup> Screws

### **Cartilage Removal Tool**

 Provides "Reverse Cutting" functionality

#### Instrumentation

The Gorilla® Plating System includes a robust offering of specialty foot & ankle instrumentation including the Cartilage Removal Tool, Subchondral Drill, Periosteal Elevator, Curved and Straight Osteotomes, and Pin Distractor



### **Subchondral Drill**

 Provides approximately 10 mm of controlled drilling of subchondral bone







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For the contraindications, potential complications and adverse reactions, warnings and precautions associated with this device, please refer to the device specific instructions for use at http://www.paragon28.com/ifus

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SCREW SYSTEM



