BIOLOGICALLY ORIENTED PROSTHESES

BIOPRO

Accu-Cut® Osteotomy Guide System

Surgical Technique

MADE IN THE U.S.A

Contents

Product

The BioPro Accu-Cut Osteotomy Guide System provides precise and repeatable osteotomies for many types of bunion correction surgery.

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Indications & Contraindications

Indications for use:

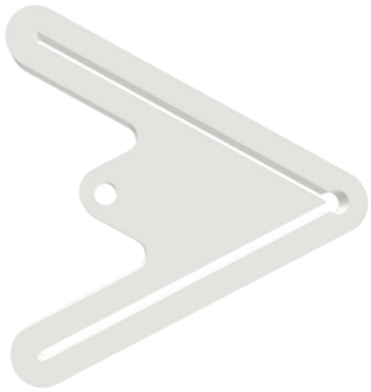
1. For correction of bunion deformity requiring either varus or valgus correction.
2. For correction of bunion deformity requiring joint decompression.

Contraindications:

1. A general health problem that might pose a significant threat to the life of the patient if subjected to a major surgical procedure. An active infection or a previous infection of the lower extremity that has not been quiescent for at least six months.
2. A local or systemic infection.
3. Significant deficiency in the vascular supply to the extremity.
4. A condition of the toe which may lend itself to a more conservative procedure.

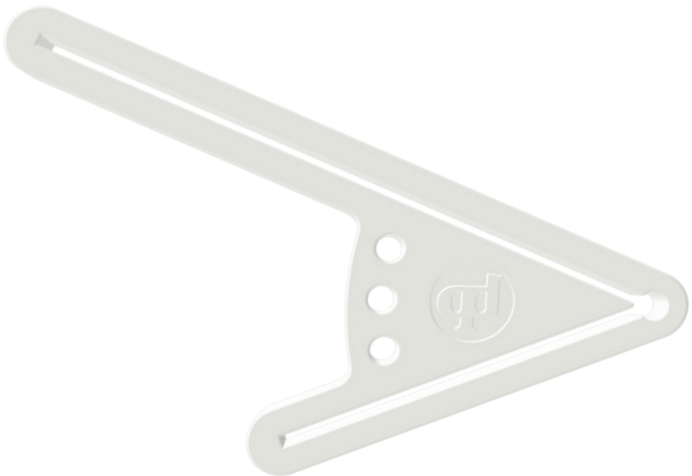
Guide Specifications

Chevron (Austin) Guide
The standard Chevron Guide offers a 55° angle for precise cuts on a classic, predictable osteotomy. (ref 19505)



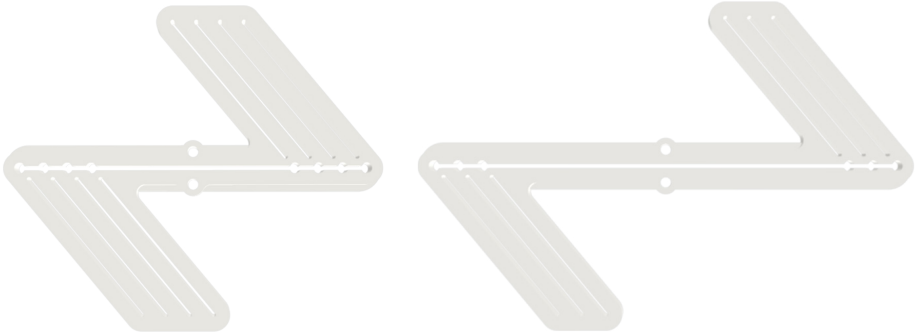
Youngswick Guide
The Youngswick Guide offers two dorsal slots, spaced 1mm, 2mm, or 3mm apart. This allows the surgeon to shorten and plantarflex the metatarsal head by 1, 2, or 3 mm while providing lateral transposition. (ref 19506/19507/19508)

Long-Arm Chevron Guide
The Long-Arm Guide is a 45° chevron with a long dorsal arm. This offers more surface area along the dorsal cut for multiple screw fixation. Additionally, the guide offers three proximal mounting holes, spaced 11° apart, allowing intra-operative adjustment of the cut angle. (ref 19510)

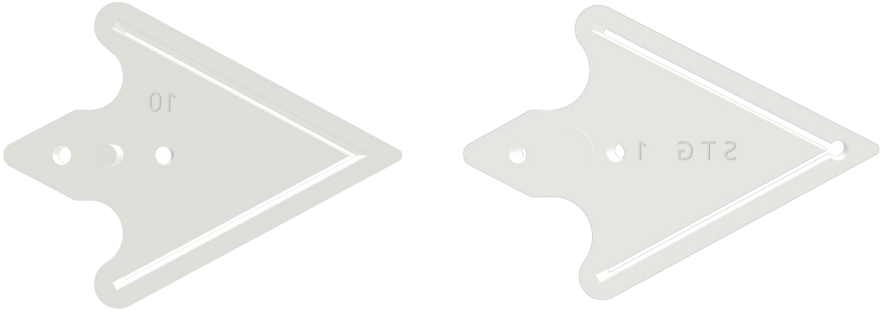


Guide Specifications

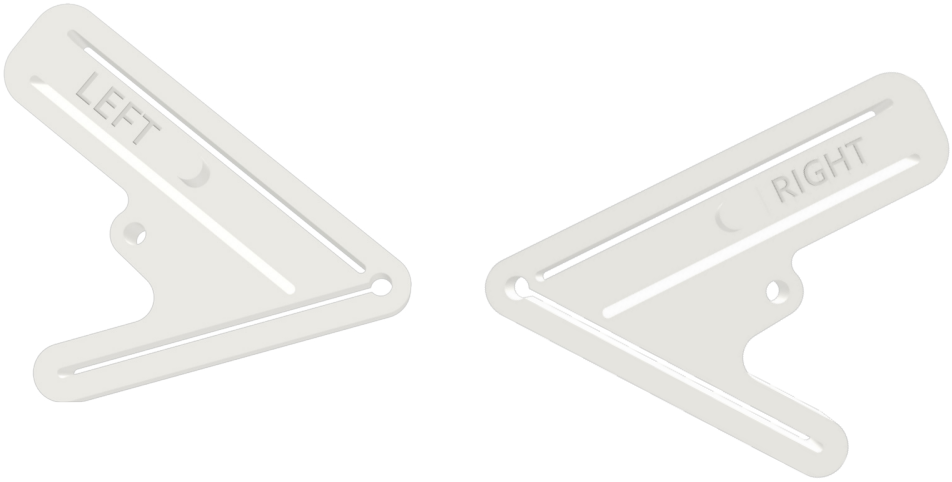
Scarf Guide
The Scarf Guide is a “Z” shaped guide to assist in the popular Scarf procedure. The system includes two guides, a large and a small, with each guide having multiple slots for the dorsal and plantar cuts. This allows for customization of the osteotomy based on the anatomy of the patient’s metatarsal. (ref 19511)



2-Stage Guide
The 2-Stage Guide allows correction of PASA or DMAA, similar to the Reverdin-Gerbert procedure. The system includes a Stage-1 guide for a standard Chevron cut, along with three angled Stage-2 guides allowing 5°, 10°, or 15° of rotation along with lateral transposition. (ref 19509)



DMAA Guide
The DMAA Guide allows for correction of DMAA or PASA with one simple guide. The system includes a Chevron guide with a second dorsal slot, angled at 10°. This allows for lateral transposition plus rotation of the head. (ref 19720)



Sterile Kit Specifications

Sterile kits

Accu-Cut Guides are individually sterile packed and include (2) sterile saw blades and (2) .045” double trocar K-wires providing the surgeon with everything needed to perform the desired osteotomy.

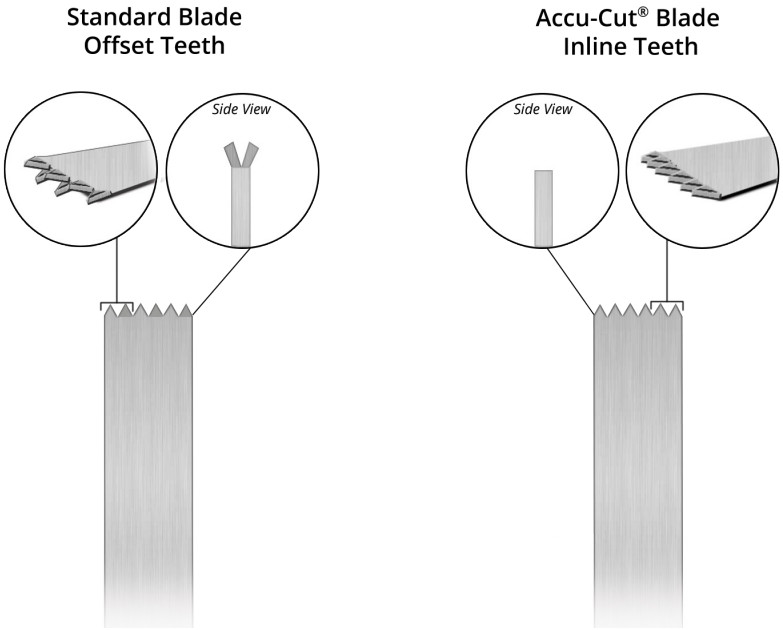
Depending on guide selection, you may receive more than one guide in your sterile packed instrument kit.

Saw blades

It is important to only use the provided saw blades. The blades are universal and should fit most saw systems. Traditional saw blades have offset teeth, meaning the blade is thicker at the teeth than the rest of the blade. The provided blades have inline teeth, for a low-profile, uniform thickness. This allows for tighter tolerances within the guide slots.

Caution

Blades not designed for the Accu-Cut will not fit properly within the guide slots and can damage the guide or produce material debris.



Surgical Technique

The following technique is performed with the Chevron Guide. The same basic principles apply to all of the Accu-Cut Osteotomy Guides.

Fig 1

Step One:
Resect a small wafer of medial eminence from the metatarsal head, thereby creating a flat medial surface. (Fig 1)

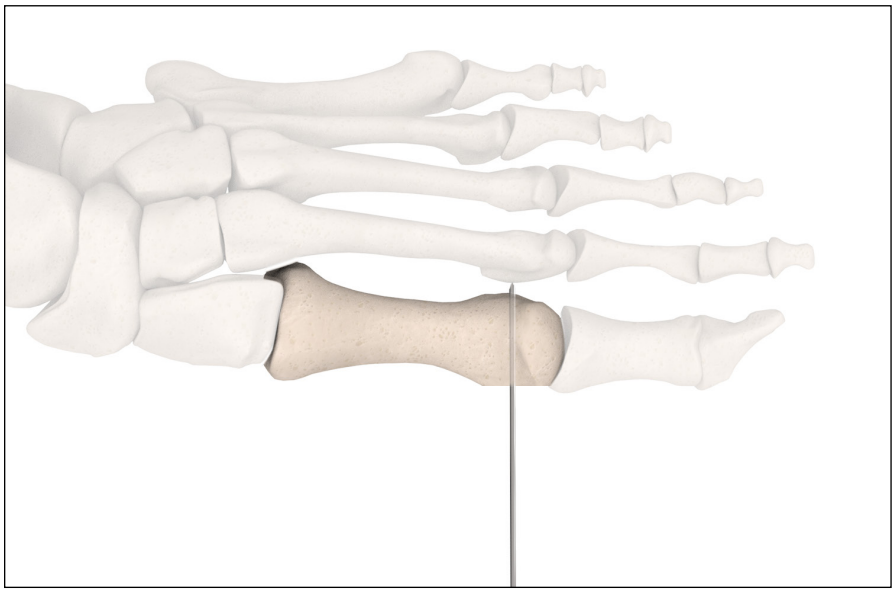


Fig 2

Step Two:
Drive one of the provided 0.045” double-trocar K-wires into the metatarsal head at the desired apex point of the osteotomy, ensuring it passes through the lateral cortex. (Fig 2)

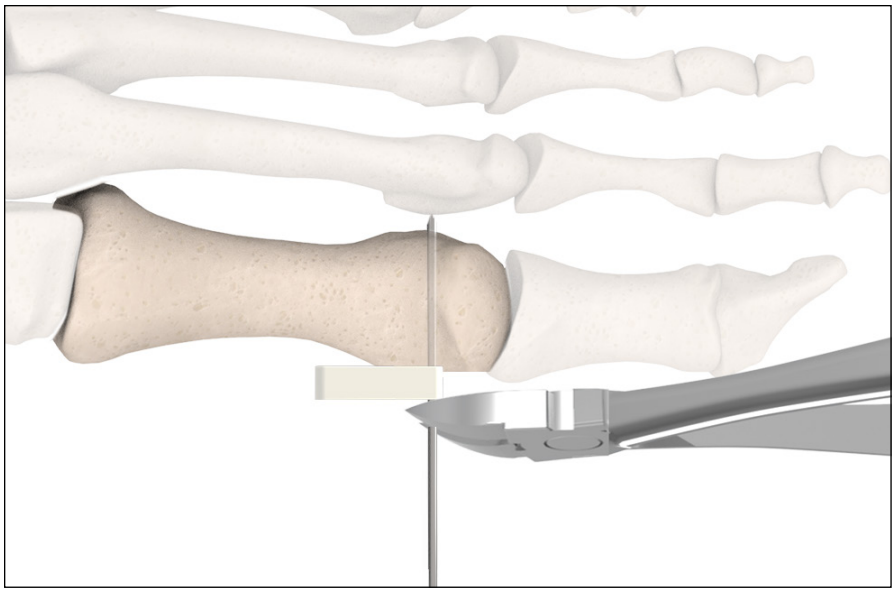


Fig 3

Step Three:
Slide the apex hole of the Accu-Cut Guide onto the K-wire until flush against the metatarsal head. Using wire cutters, cut the K-wire flush against the guide surface. (Fig 3)

Step Four:
Place the cut end of the K-wire used in step three back into the wire driver with the trocar point exposed. Align the posterior hole of the Accu-Cut Guide at the desired point on the metatarsal's medial bisection and drive the wire through the guides posterior hole and bone until through the lateral cortex. (Fig 4)

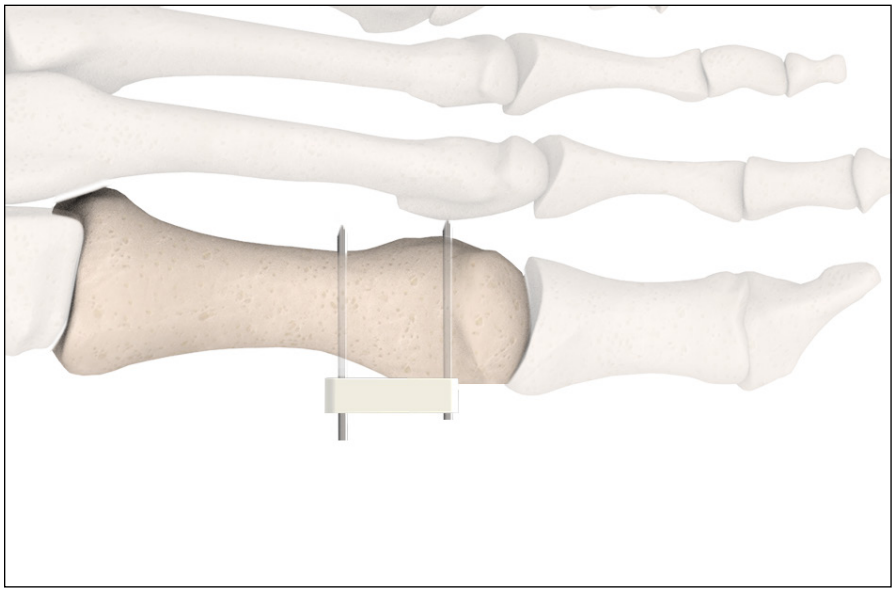


Fig 4

Safety Point
This creates a stable two-point fixed system to eliminate saw cut migrations.

Step Five:
Cut the posterior K-wire leaving 5-6mm exposed.

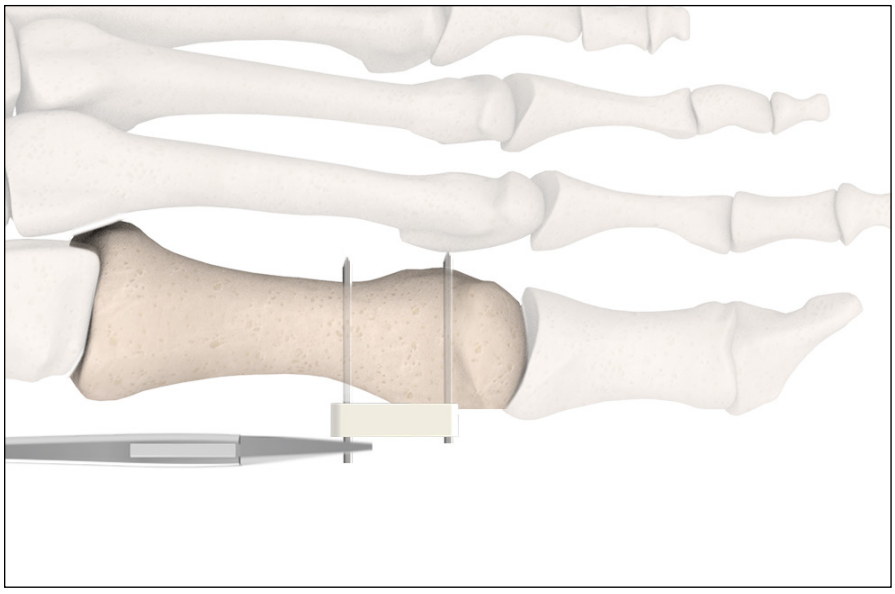


Fig 5

Step Six:
Place a small hemostat over the posterior K-wire, flush with the Accu-Cut Guide to stabilize the guide against the bone surface. (Fig 5) This will prevent migration of the guide medially on the K-wires during sawing.

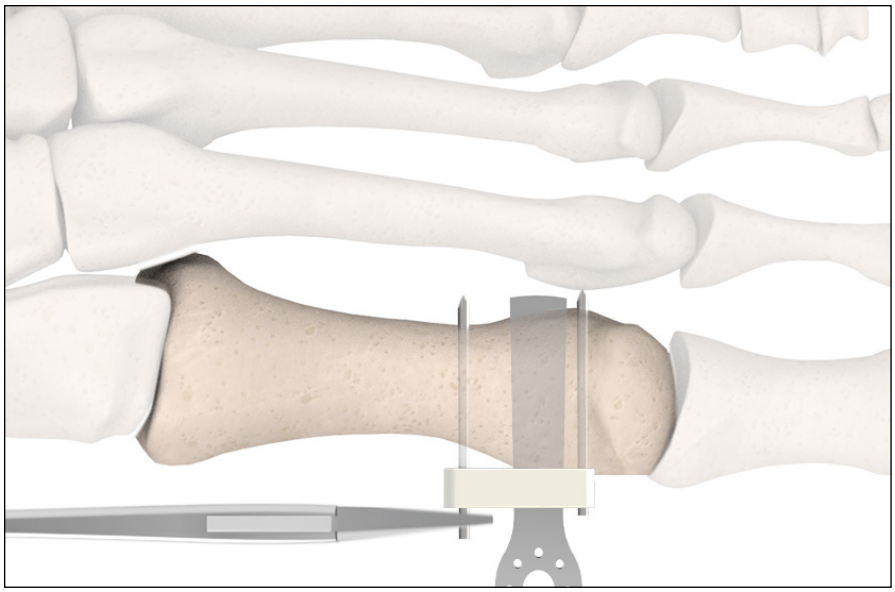


Fig 6

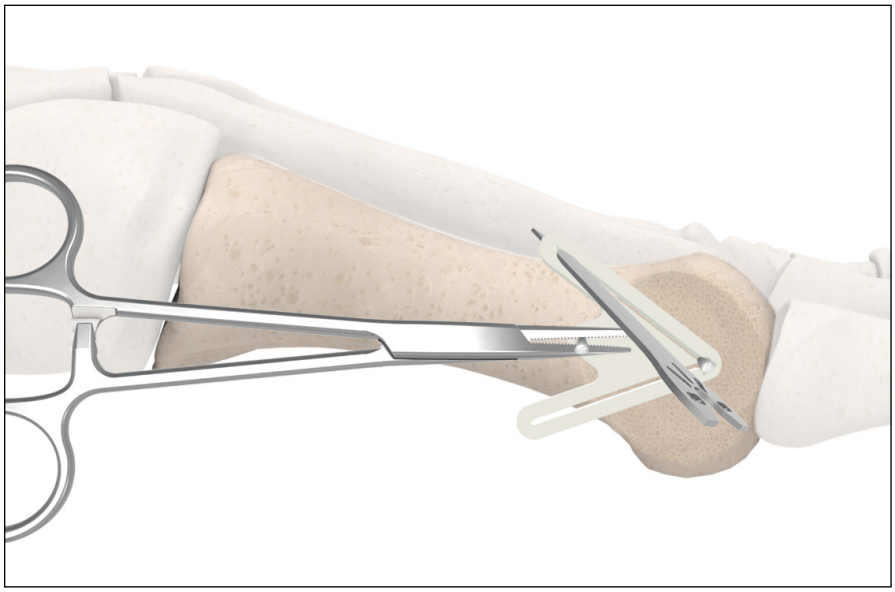


Fig 7

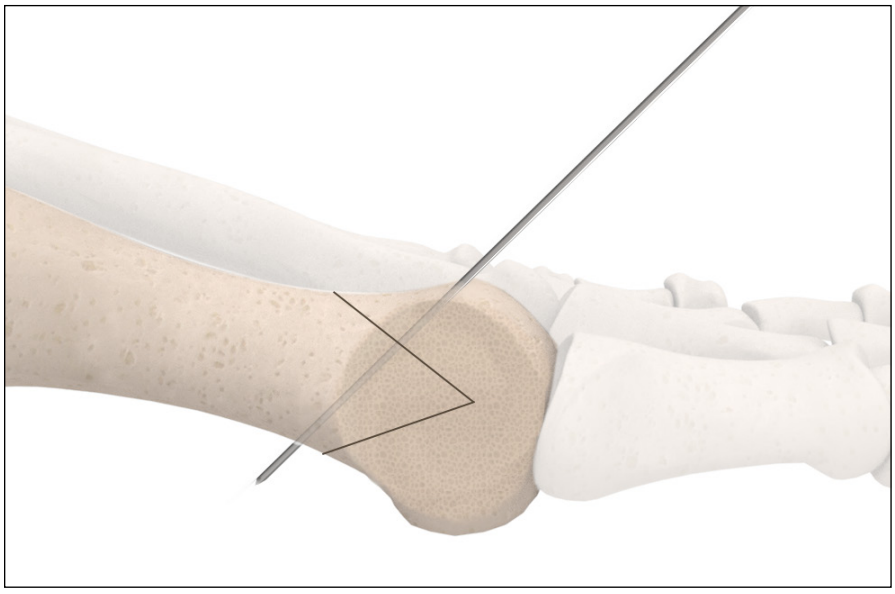


Fig 8

Step Seven:
Insert the sagittal saw with the provided custom blade into the cutting slot until the blade is adjacent to the bony surface. Activate the saw and perform the through and through cuts until the capital fragment is free. (Fig 6)

Important Note
Depending on the size of the metatarsal, you may need to tilt the saw blade in order to cut through the dorsal cortex of the metatarsal. (Fig 7)

Caution
Always insert the blade into the slot before activating the saw.

Safety Point
The apex wire acts like a cutting guard and will not allow the saw blade to cut beyond it in the metatarsal head, regardless of the angle the saw is held at during the cutting operation.

Important Note
The system includes two saw blades, designed to fit the most popular sagittal saw systems on the market today. Use the blade that best fits the system available and discard the other. Only use the provided saw blades with the Accu-Cut Osteotomy Guide System.

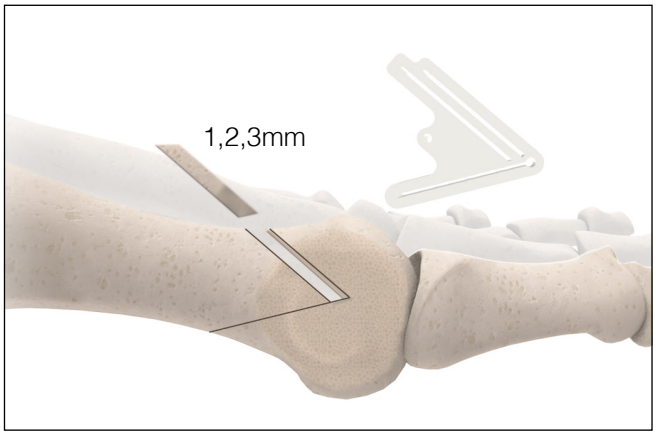
Caution
Blades not designed for the Accu-Cut will not fit properly within the guide slots and can damage the guide or produce material debris.

Step Eight:
Remove the hemostat, guide and K-wires from the operative site. Place the fragment in the desired position and use the second provided 0.045 K-wire for temporary fixation of the capital fragment. (Fig 8)

Step Nine:
Fixate the osteotomy with the surgeon's desired technique and remove the medial eminence created by lateral transposition with sagittal saw.

Suggestion:
BioPro recommends fixation with a 3.0mm Go-EZ cannulated screw.

Youngswick Guide

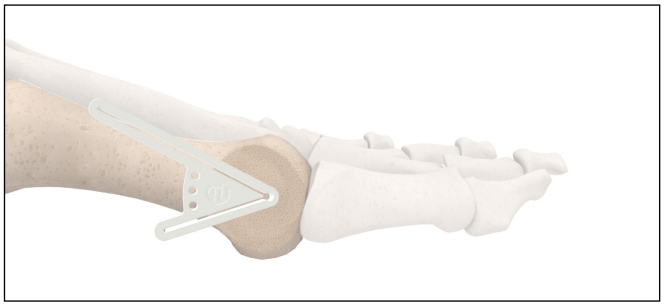


The Accu-Cut system also offers 1mm, 2mm, and 3mm dorsal wedge guides for performing the Youngswick-type modification (Y-type) in cases of long metatarsal, elevatus, or Hallux Limitus. The overall procedure is the same with the addition of a second dorsal-proximal cut to be performed prior to transposing the osteotomy.

Be sure to make both dorsal cuts first and the plantar cut last. This will ensure all cuts are being made on a stable capital fragment with the guide securely attached to the metatarsal until the final cut is completed.

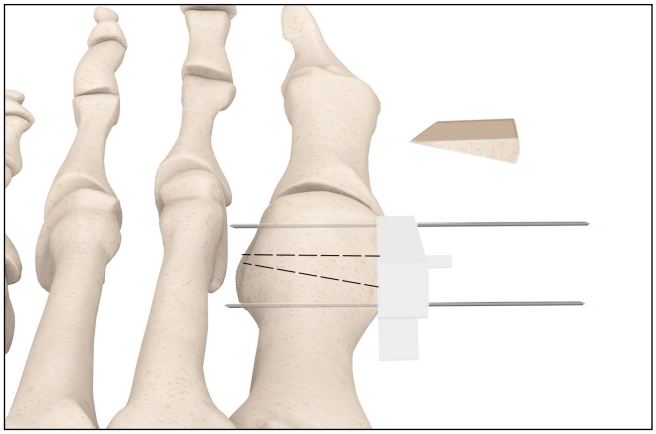
The Accu-Cut saw blades create a 0.5mm cut. When using the Youngswick guide, two dorsal cuts are created, equaling 1mm of shortening and plantar displacement in addition to the offset of the guide (1mm, 2mm or 3mm). Be sure to take this 1mm into account when choosing the appropriate guide for the correction needed.

Long-Arm Chevron Guide



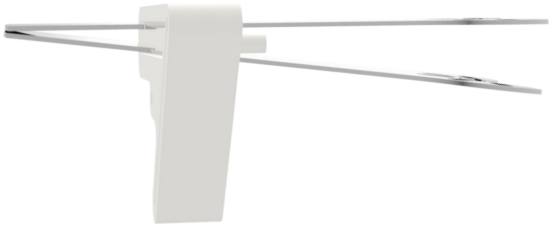
The procedure for the Long-Arm guide is the same as the Chevron, but at 45° to offer a longer dorsal arm than the traditional 55° guide. Length of the dorsal arm can be customized based on the angle the guide is mounted at, as seen in the images to the left. The surgeon can also mount the guide, make one cut, then reposition the guide on the proximal K-wire before making the second cut. This will change the angle of the osteotomy by 11° for each mounting hole.

DMAA Guide

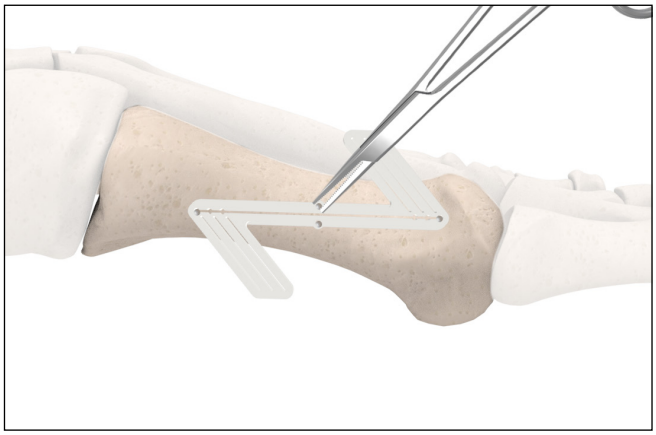


The Distal Metatarsal Articular Angle (DMAA) Guide allows for precise correction of DMAA or PASA. Offering a standard Chevron cut with the dorsal and plantar slots, the guide also incorporates a second dorsal slot angled at 10°.

The system includes both a right and left guide. Be sure to use the proper guide (either left or right) for the foot being operated on.



Scarf Guide

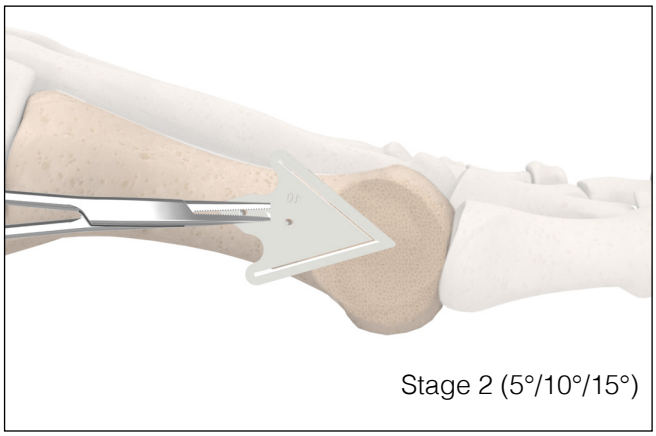


The Scarf Accu-Cut Osteotomy Guide System includes two guides (short and long). Use the guide that best fits the patient's anatomy. Each guide can produce cuts of varying lengths, with each cutting slot corresponding to a K-wire hole. The placement of the guide should be considered before placing the first K-wire.

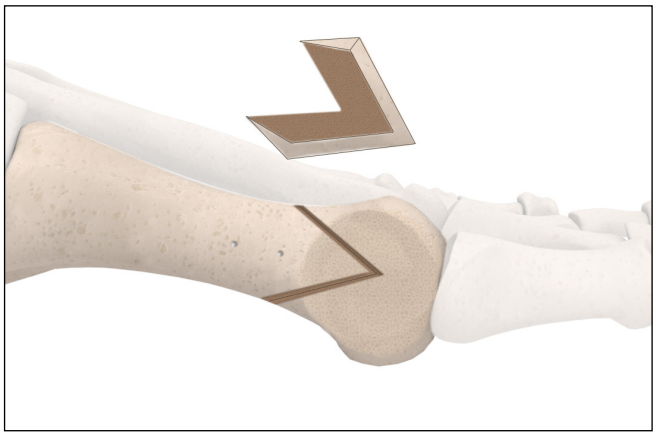
It is important that the K-wire be placed adjacent to the cutting slot used for the osteotomy. For example, if you plan to use the second slot from the proximal end of the guide but place the wire in the first most proximal hole, a small undercut will be created in the cut. The k-wire acts as a positive stop for the saw blade

2-Stage Guide

Stage 1



Stage 2 (5°/10°/15°)



The 2-Stage Guide allows correction of PASA or DMAA, similar to the Reverdin-Gerbert procedure. The system includes a Stage-1 guide for a standard Chevron cut, along with three angled Stage-2 guides allowing 5°, 10°, or 15° of rotation along with lateral transposition.

This procedure is different from the other Accu-Cut Guide procedures as it requires two guides.

After performing stage 1, remove the guide and apex K-wire.

Do NOT remove the two proximal K-wires.

Choose the desired amount of correction; 5°, 10° or 15° and select the appropriate Stage-2 guide. Mount the chosen Stage-2 guide onto the two remaining proximal K-wires and re-apply the hemostat to the proximal most K-wire.

Ordering

ITEM #	DESCRIPTION
19505	AUSTIN/CHEVRON GUIDE
19506	YOUNGSWICK 1MM
19507	YOUNGSWICK 2MM
19508	YOUNGSWICK 3MM
19509	2-STAGE PASA/DMAA GUIDE
19510	LONG ARM CHEVRON GUIDE
19511	Z (SCARF) GUIDE
19720	DMAA GUIDE

Notes

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