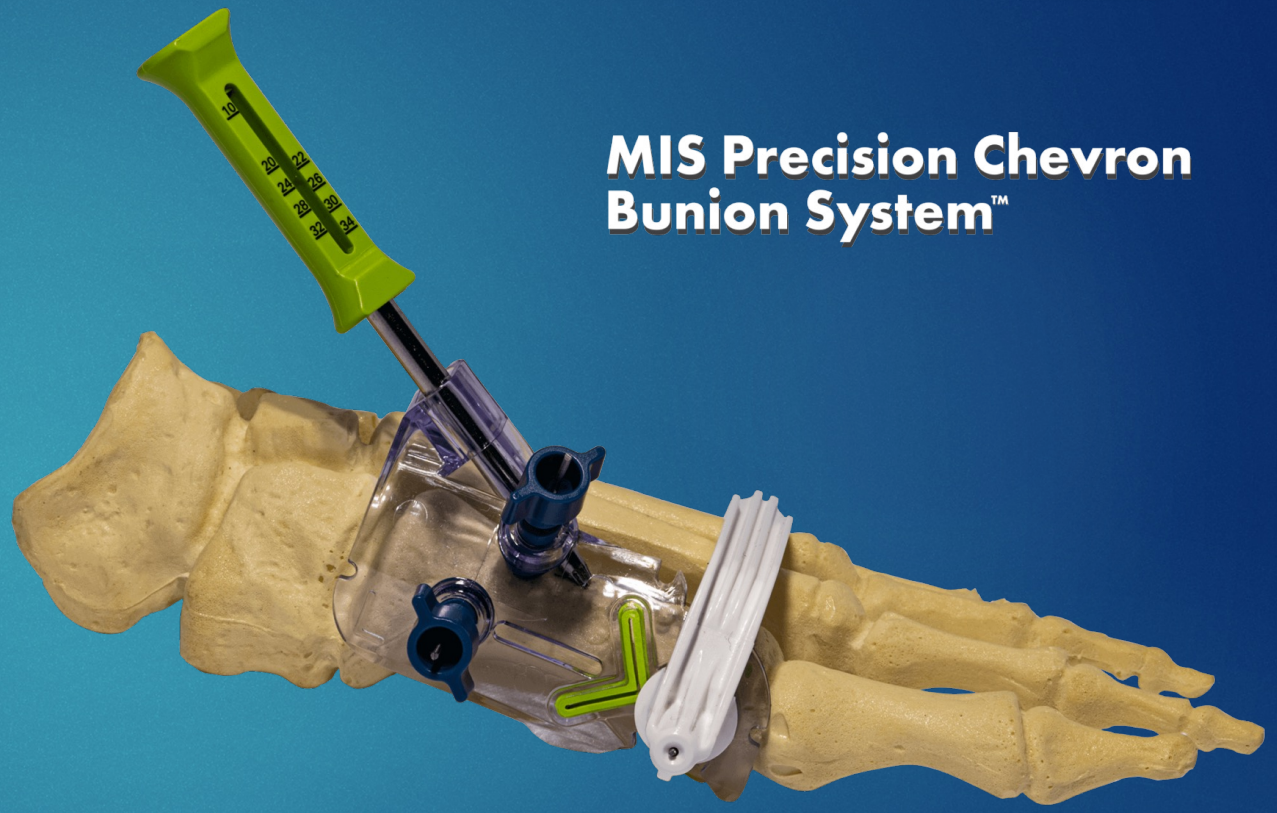
MIS PRECISION CHEVRON BUNION SYSTEM

MIS Precision Chevron Bunion System - New

- Based off a traditional method
- Chevron Osteotomy Guide
- Sagittal Saw
- Screw guide for placement of a 3.5mm cannulated screw
- 1cm incision
- Indications
  - Mild to moderate bunion
- Correction in transverse and sagittal plane
- More cost effective



MIS Chevron – RELJA Innovations

- Features and Benefits
  - Minimally Invasive
  - Stable Chevron Osteotomy
  - Minimal Opioids
  - Faster transition to tennis shoe
    - Typically, 6 weeks
  - Higher patient patient satisfaction
  - Lower learning curve
    - Research study demonstrates a learning curve of 4.7 cases
    - 45 – 70 minutes duration 1st case
    - 45 minutes or less for the 3rd case
      - Based on 11 surgeons experience
  - RELJA will train surgeons and support first cases

RELJA INNOVATIONS

Traditional open chevron bunionectomy

- Old procedure has been performed since the 1970s
- Still very popular
- Stable / Predictable
- 4-5cm open incision
- Patients have scar tissue
- Patients have joint stiffness
- Patients experience pain after surgery

RELjA INNOVATIONS

MIS Bunion system benefits

- Extracapsular osteotomy = no 1st MPJ joint stiffness
- Better cosmetic result
- Decreased trauma to soft tissues
- Limit damage to blood supply
- Faster healing osteotomy
- Less post op pain and swelling
- Quicker recover and earlier return to activities
- Higher patient satisfaction
- Patients desire MIS

MIS Precision Chevron Bunion System

- Targeted, sterile procedure kit (One SKU)
- 1cm incision
- Indication for use:
  - Mild to Moderate bunion deformity
  - Limited hypermobility of the 1st ray
  - Limited frontal plane rotation
- 50-70% of bunions performed today are still chevron procedures
- Product is FDA approved

RELjA INNOVATIONS

This sawblade is required (or Hall equivalent)

RELjA INNOVATIONS

RELJA MIS Precision Chevron Bunion System

- The MIS Precision Chevron Bunion System allows surgeons to perform a Chevron bunion surgery through a small 1 cm incision
- "familiar" to the way surgeons perform a chevron bunionectomy now
- Uses a traditional sagittal saw blade

RELjA INNOVATIONS

RELJA MIS Precision Chevron Bunion System

- Precision aiming guide for placement of a cannulated screw.
- Quick, accurate and repeatable
- Sterile packed kit with precision osteotomy guide, all instrumentation, and 2 screws

RELJA

RELJA INNOVATIONS

MIS PRECISION CHEVRON TECHNIQUE

MIS Lateral Release:

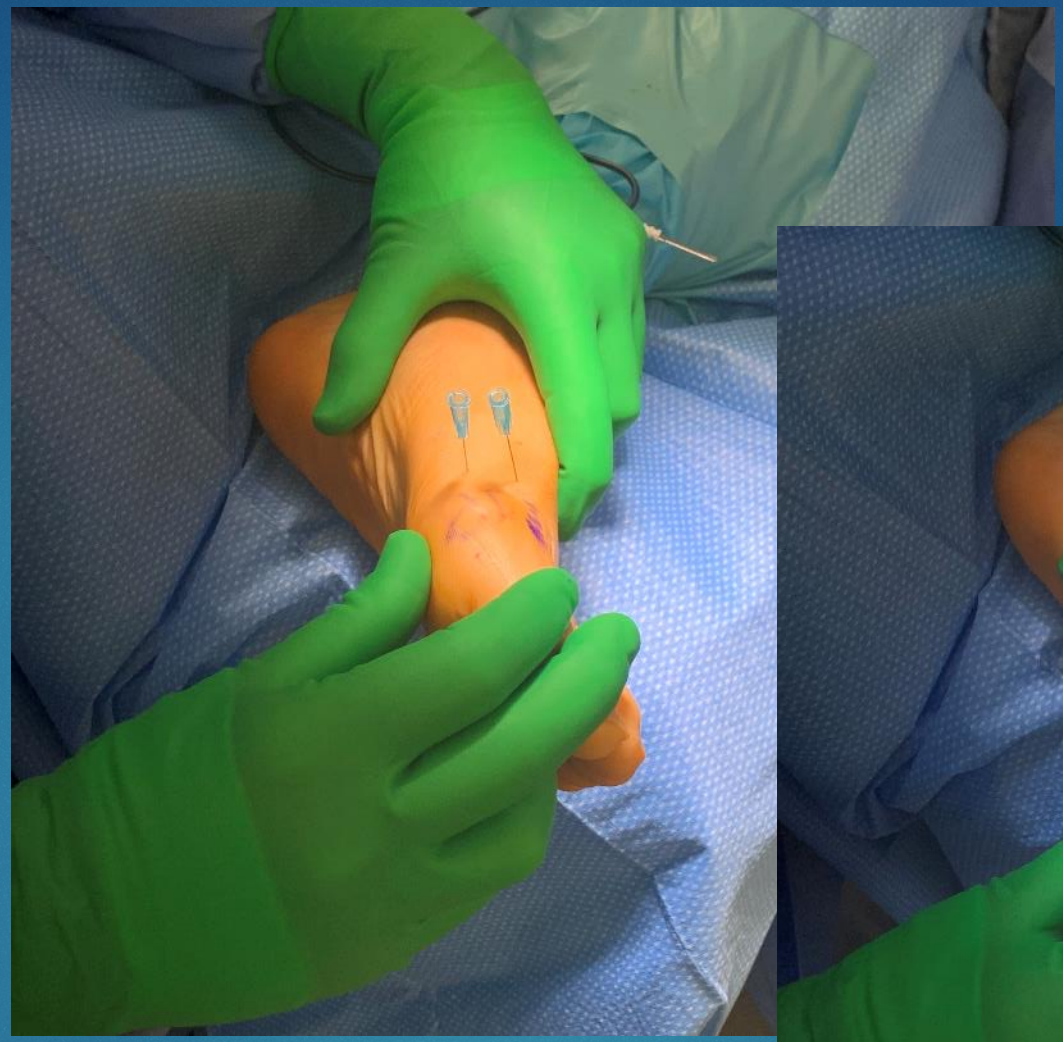
RELjA INNOVATIONS

Mark Midshaft of the 1st metatarsal just proximal to the medial eminence

Place 25G needles above and below the 1st metatarsal. Needles should stand parallel on their own

Needles start in center of the bone and work up / down to get correct position

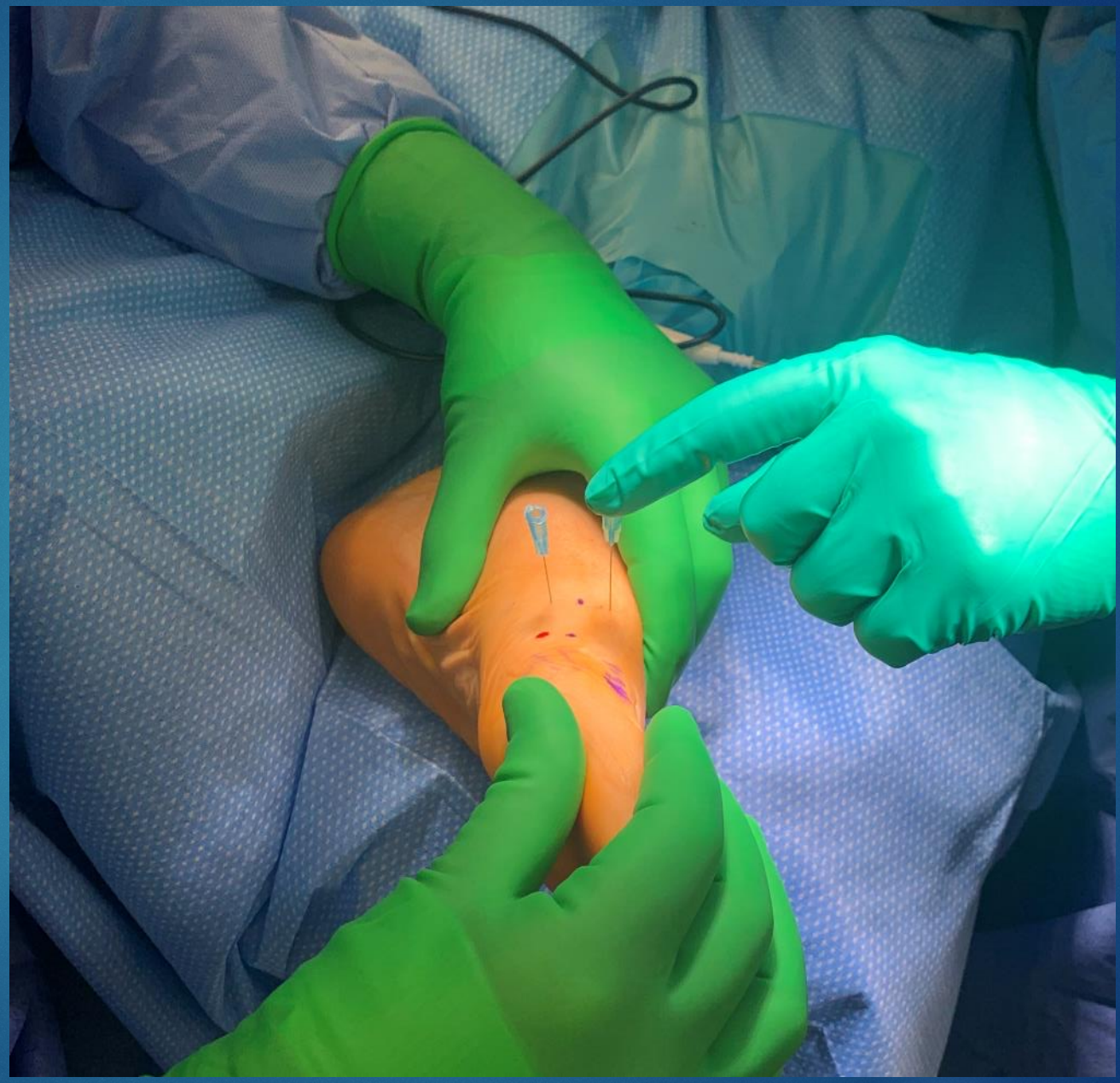
Place a Mark between the two needles



RELjA INNOVATIONS

Repeat Midshaft

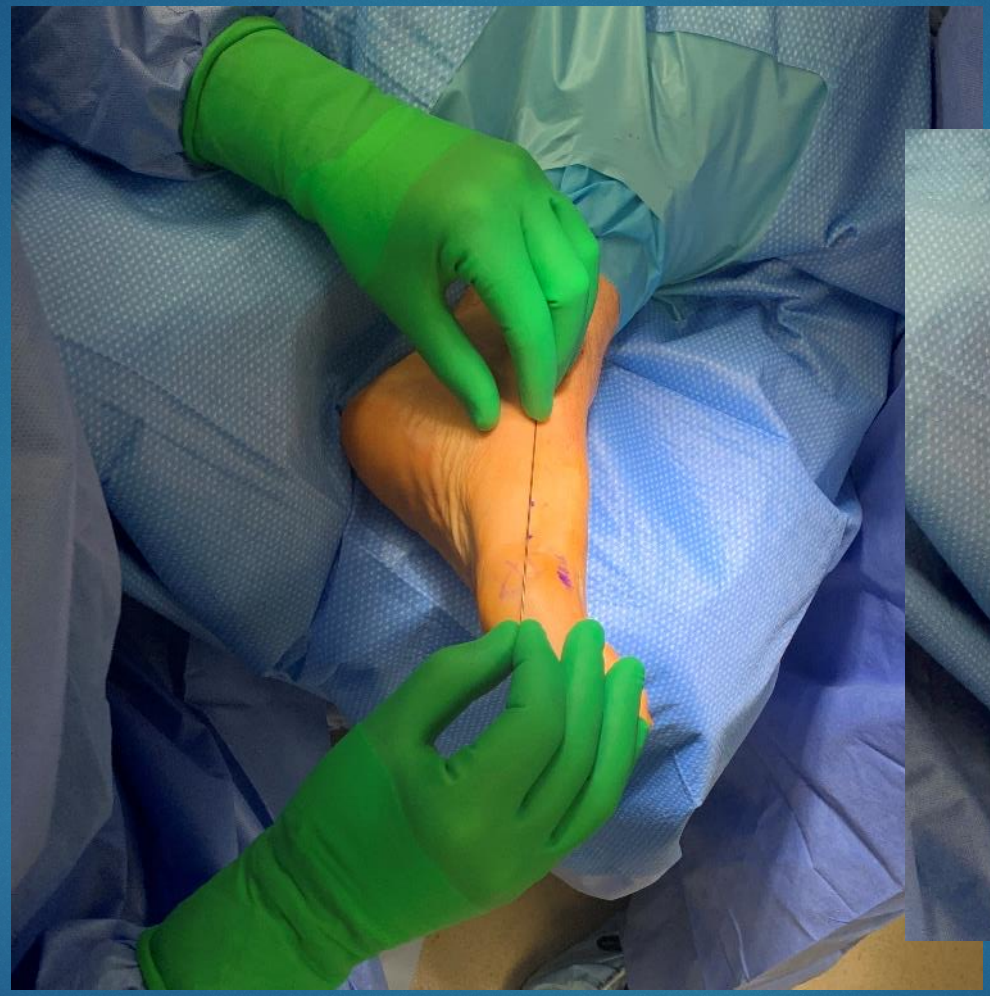
approx. 2cm proximal to the previous mark



RELjA INNOVATIONS

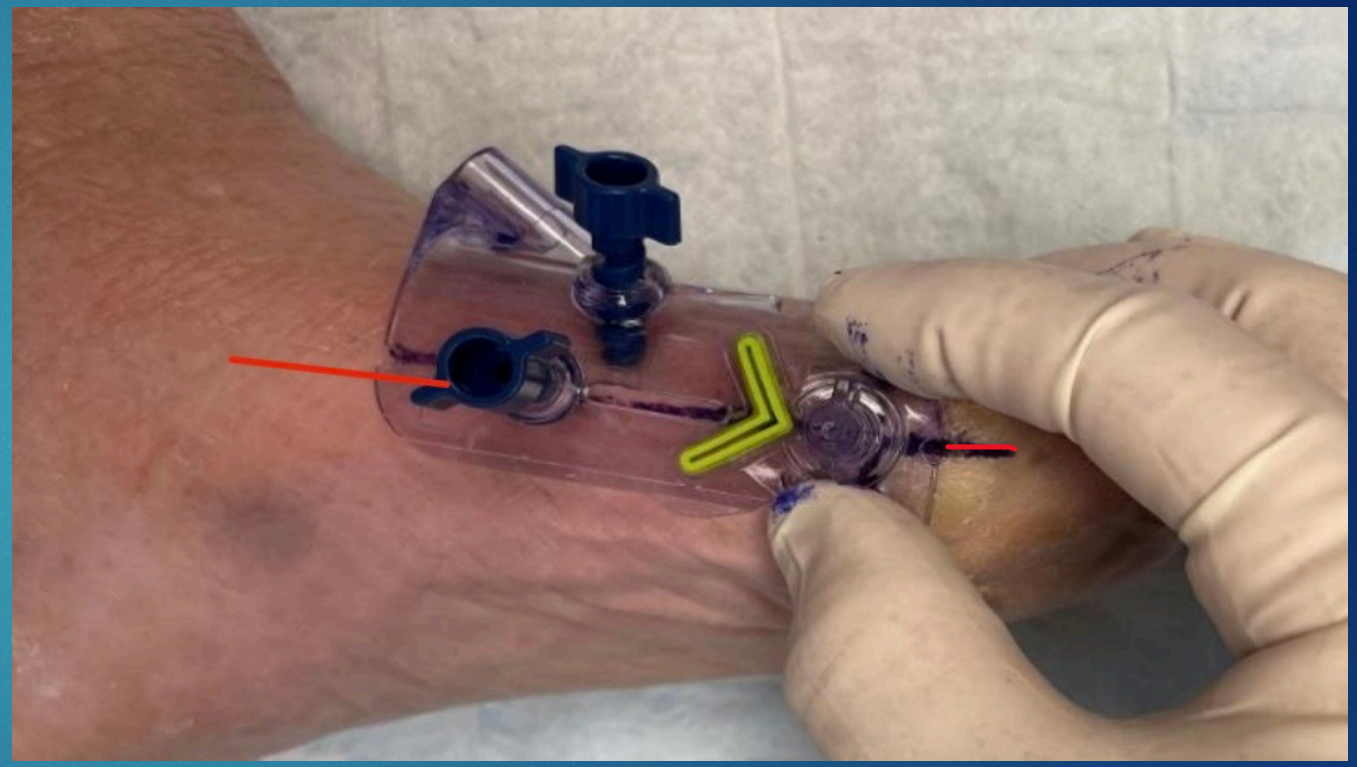
Place the guide wire over the two marks and draw a line

Draw line long enough to go past the osteotomy guide



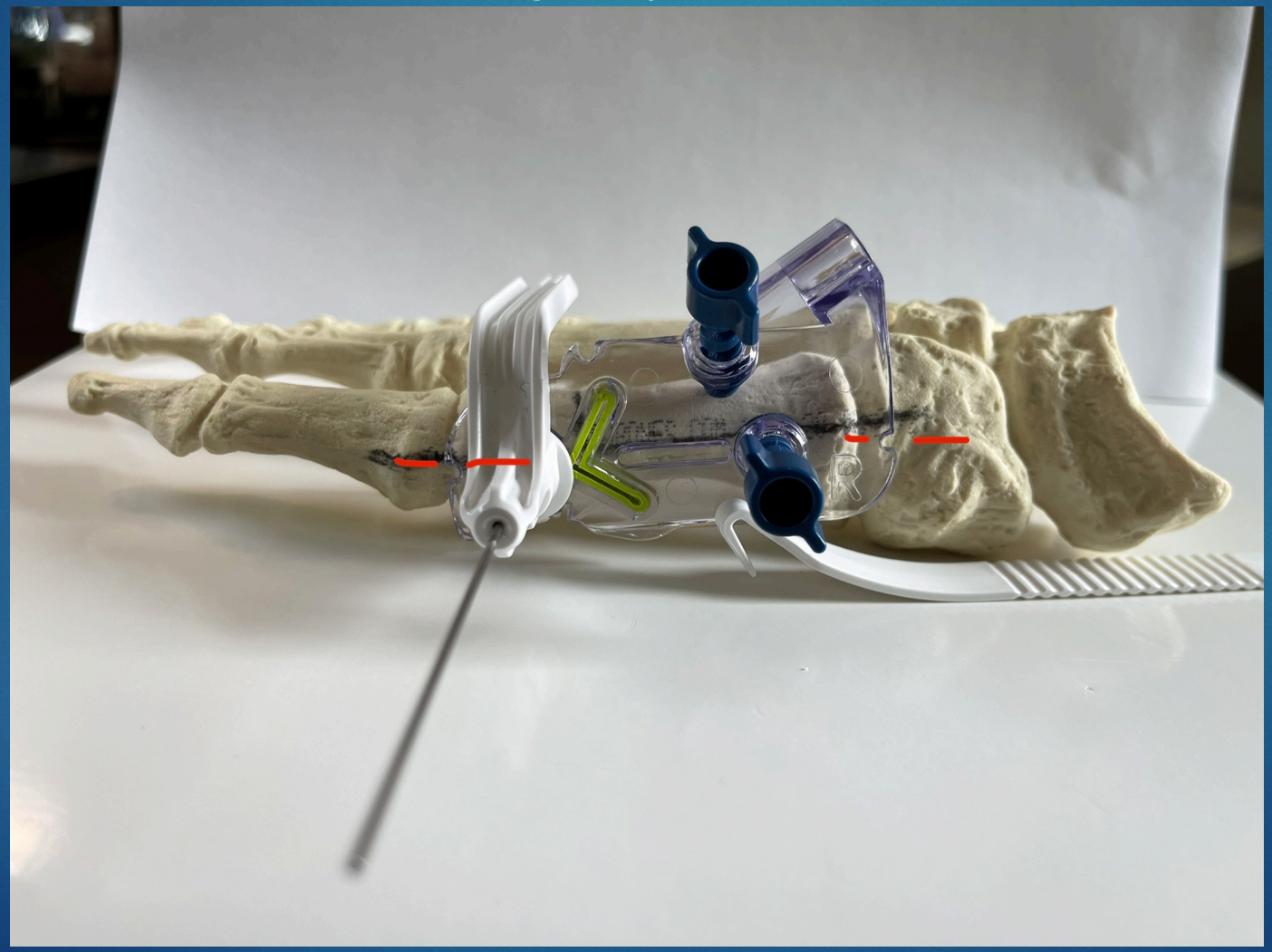
RELjA INNOVATIONS

- Place the Osteotomy Guide on the foot in line with the first metatarsal markings
- Always hold the Osteotomy guide at the distal portion as shown.



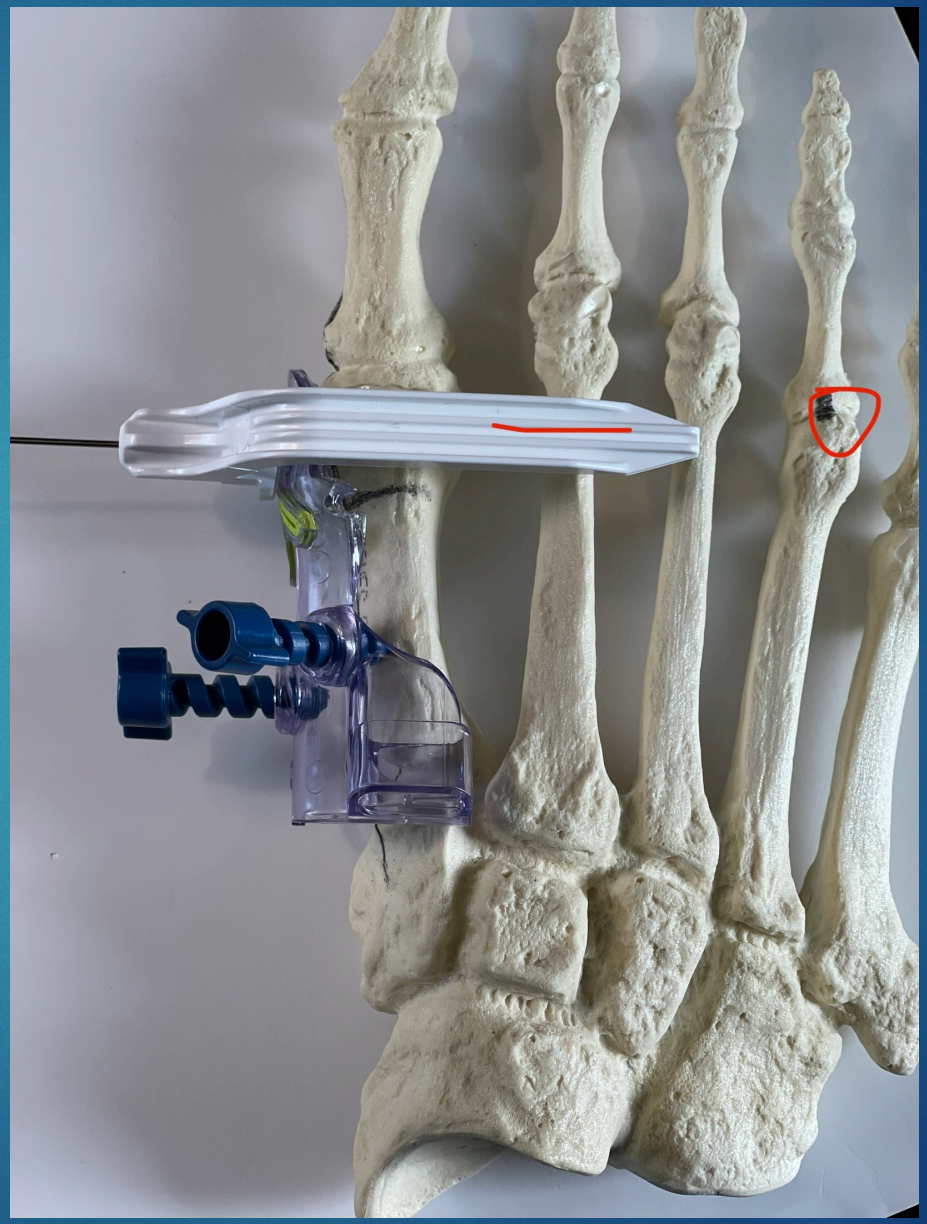
RELjA INNOVATIONS

- Distal markings (red) line up with distal notch. Proximal notch 3 mm below skin marking line.
- Targeting guide aim directly across the foot as shown (not dorsiflexed or plantarflexed unless desired by surgeon).



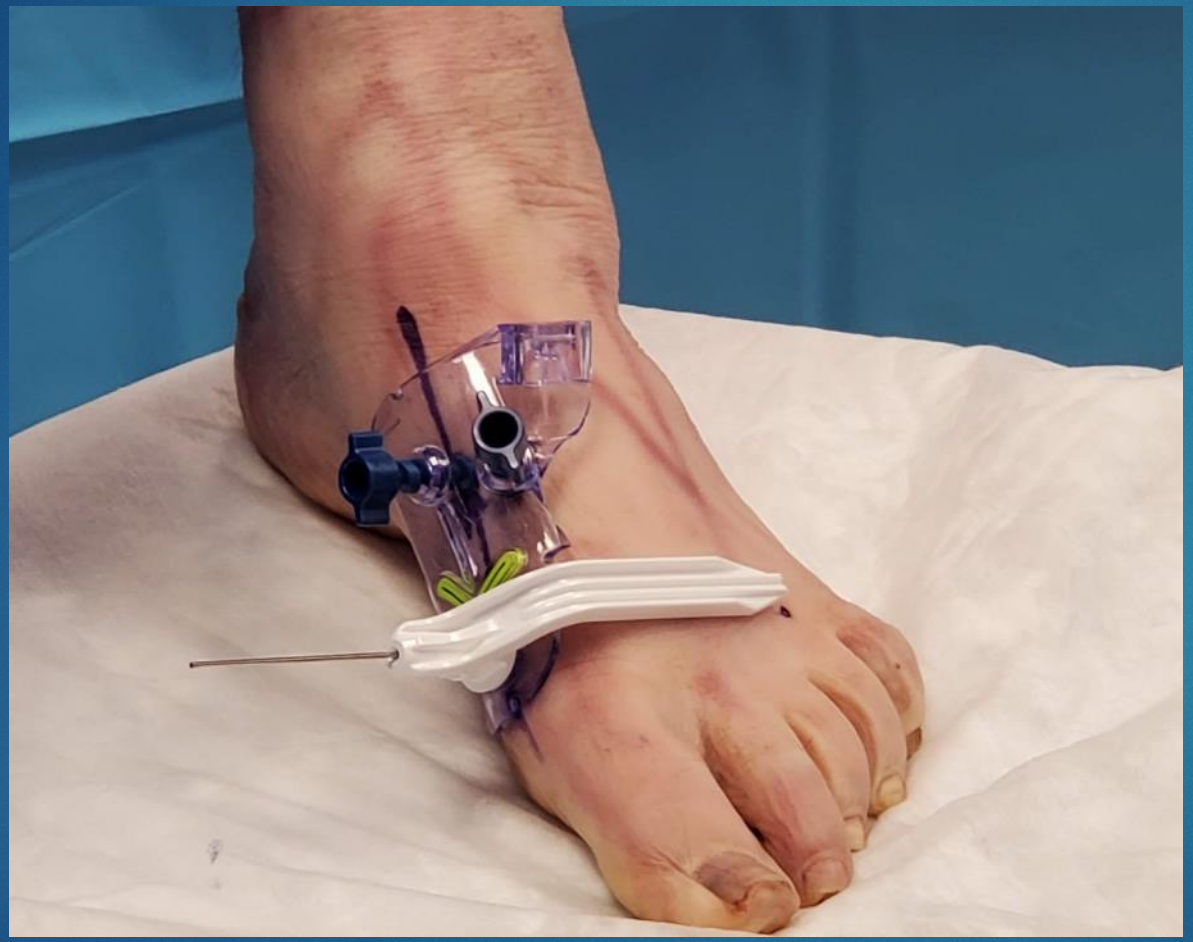
RELjA INNOVATIONS

- Aim targeting guide (Red) to 4th MPJ / base 4th digit.



RELjA INNOVATIONS

- Utilize the Targeting Guide (white) to assist with alignment.



RELjA INNOVATIONS

- Utilizing live fluoroscopy, align the osteotomy guide on the medial side of the foot.
- Utilize K wire #1
  - (insert into the targeting guide and osteotomy guide but not in the foot)
- Obtain a true lateral for this image with the k wire looking like a BB
- Align the osteotomy guide midline on the 1st metatarsal in the area of the 1st metatarsal neck

RELjA INNOVATIONS

Align the osteotomy guide until you achieve this position.

Next insert K wire #1 in the 1st metatarsal

RELjA INNOVATIONS

Confirm the osteotomy guide is in the correct position.

Place the medial side of the foot against the x ray tube.

This is easier to get a true lateral

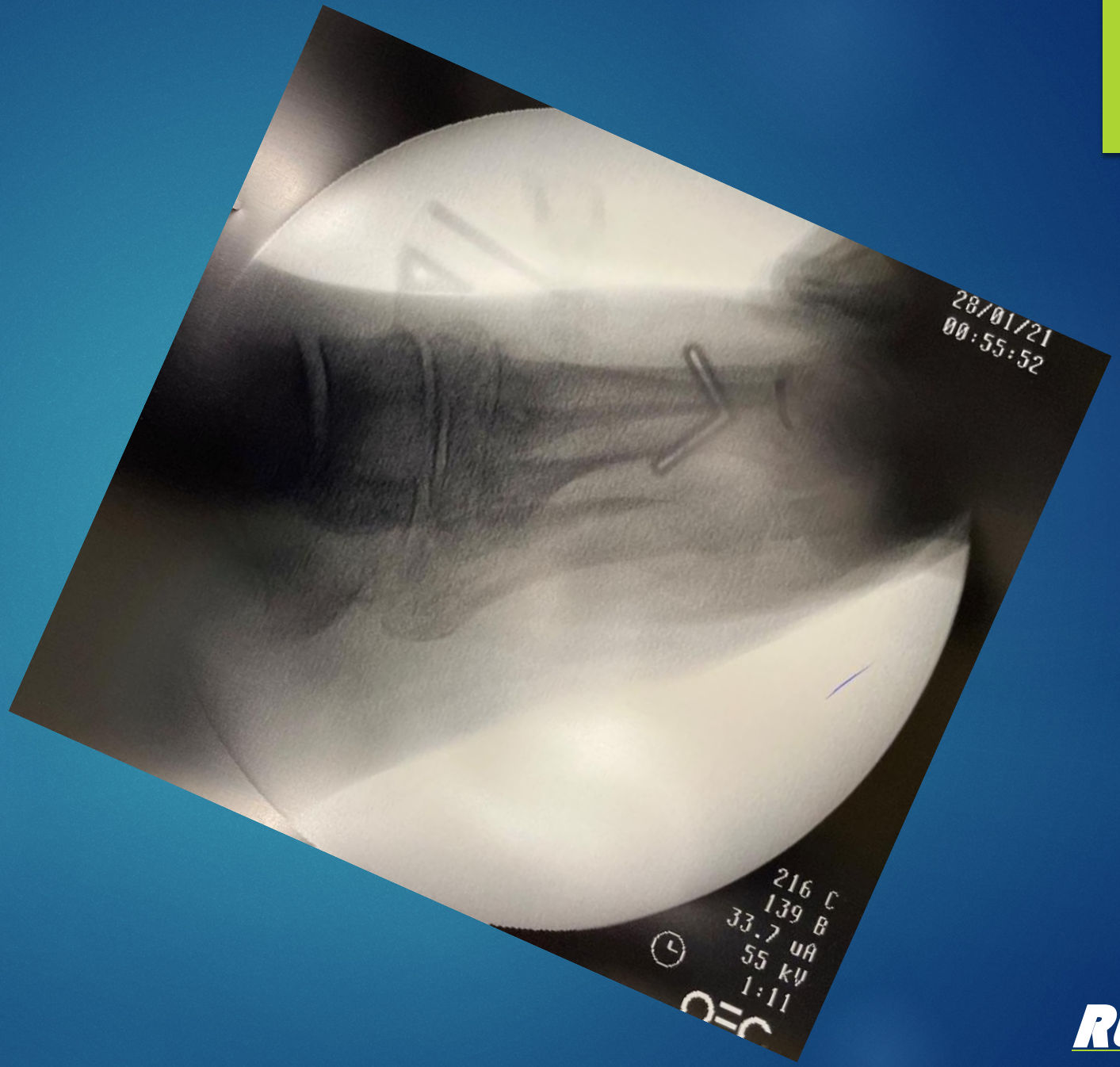
RELjA INNOVATIONS

- Ensure the apex of the osteotomy is midline of the 1st metatarsal

- X rays should be shooting down the line of the K wire
  - K wire should look like a BB
- Point the K wire directly down the line of the tube on the fluoroscopy
- NO NO YES

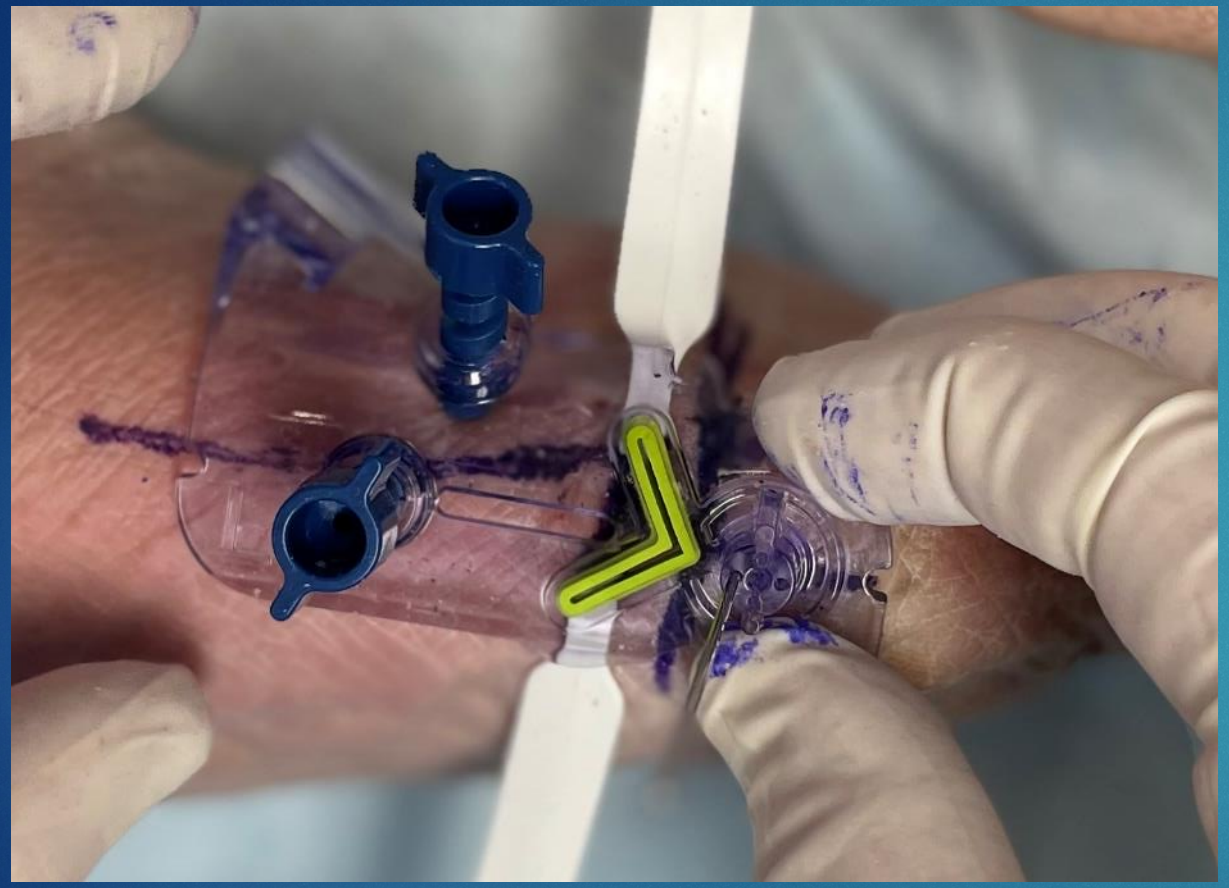
Confirm Position of Osteotomy Guide with Fluoroscopy

-Osteotomy here is too proximal



RELjA INNOVATIONS

Adjustment holes - allows fine adjustment of the guide on K-Wire #1.



RELjA INNOVATIONS

- Rotate or Remove the Chevron Osteotomy Guide and mark the incision

- Make an incision
  - Horizontal first cases
  - Then transition to Vertical

- Perform dissection

RELjA INNOVATIONS

Insert the Dorsal Retractor (longer) to protect the soft tissues and EHL.

Insert the Plantar Retractor (shorter) to protect the soft tissues.

RELjA INNOVATIONS

While retracting the skin, utilize a freer to confirm that K wire #1 is midline of the metatarsal

RELjA INNOVATIONS

Rotate Guide back into position

Gently adjust blue alignment screws to rest on the skin if needed

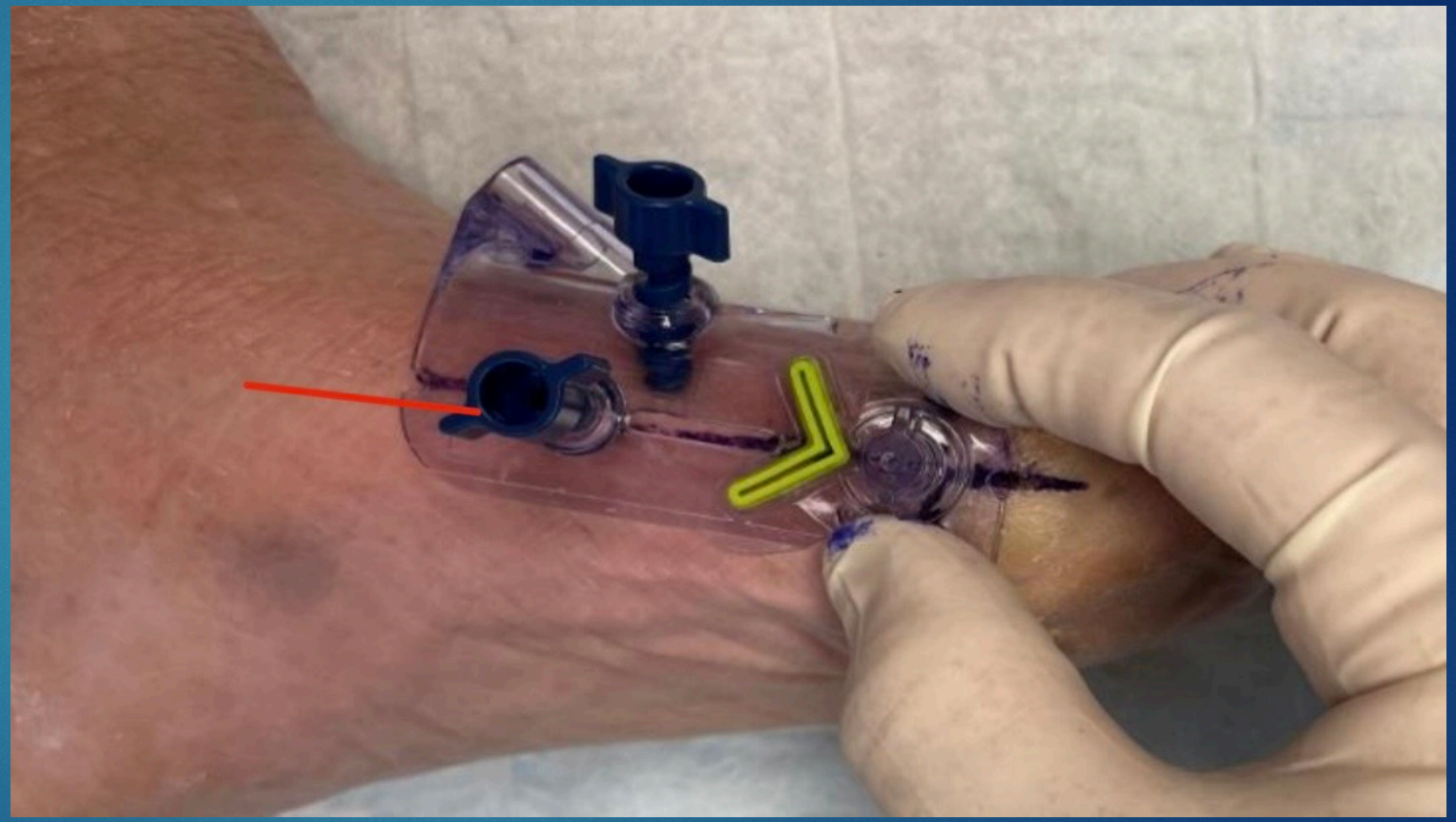
RELjA INNOVATIONS

Apply Jurgens Ball with distal guide held against the skin on K wire #1

RELjA INNOVATIONS

Proximal portion of the guide should be 3mm below the skin marking line

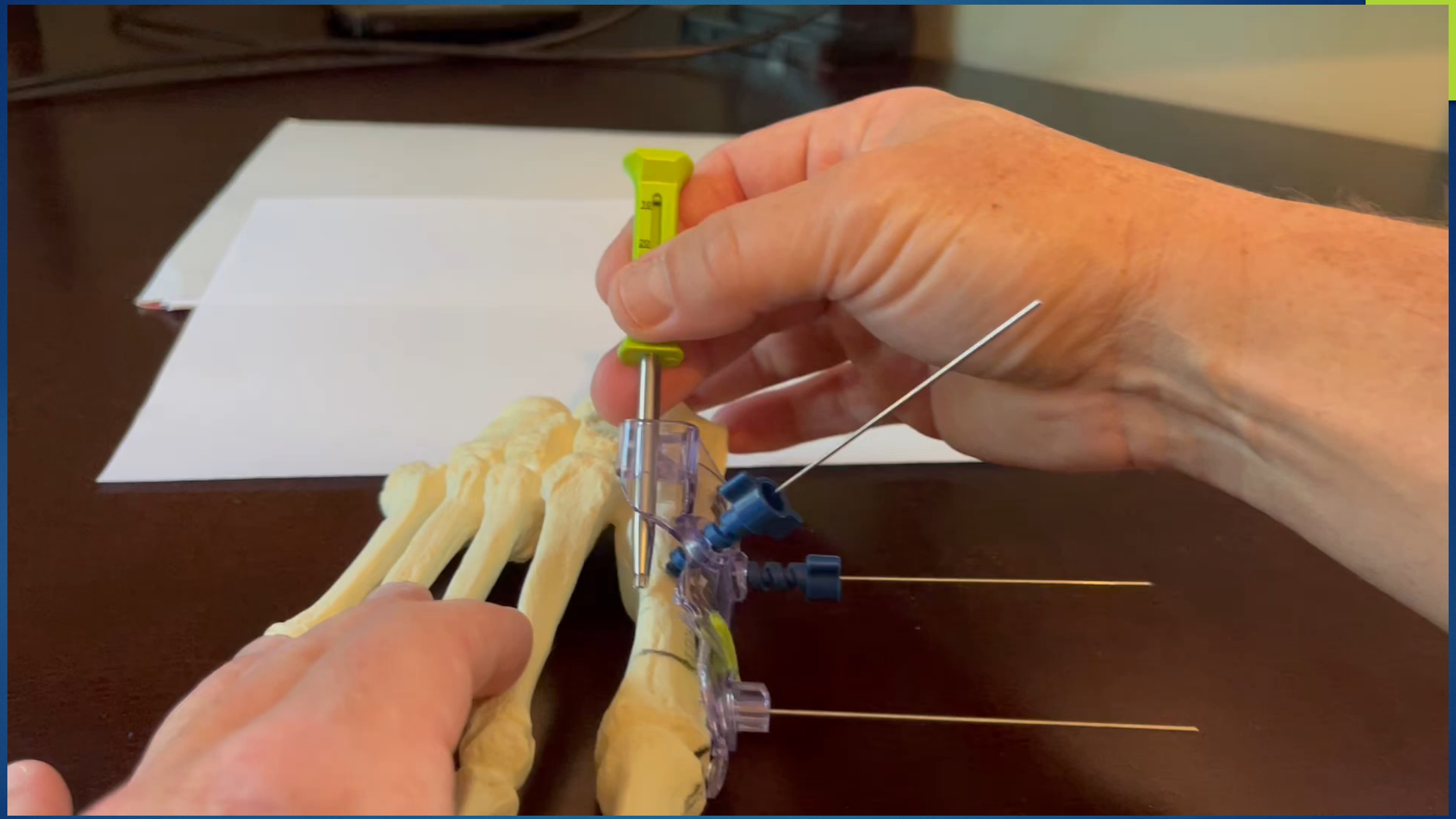
This will ensure the guide wire enters the 1st metatarsal in the best position in a later step



RELjA INNOVATIONS

- Insert K Wires 2 and 3
- Insert the Screw Guide

RELjA INNOVATIONS

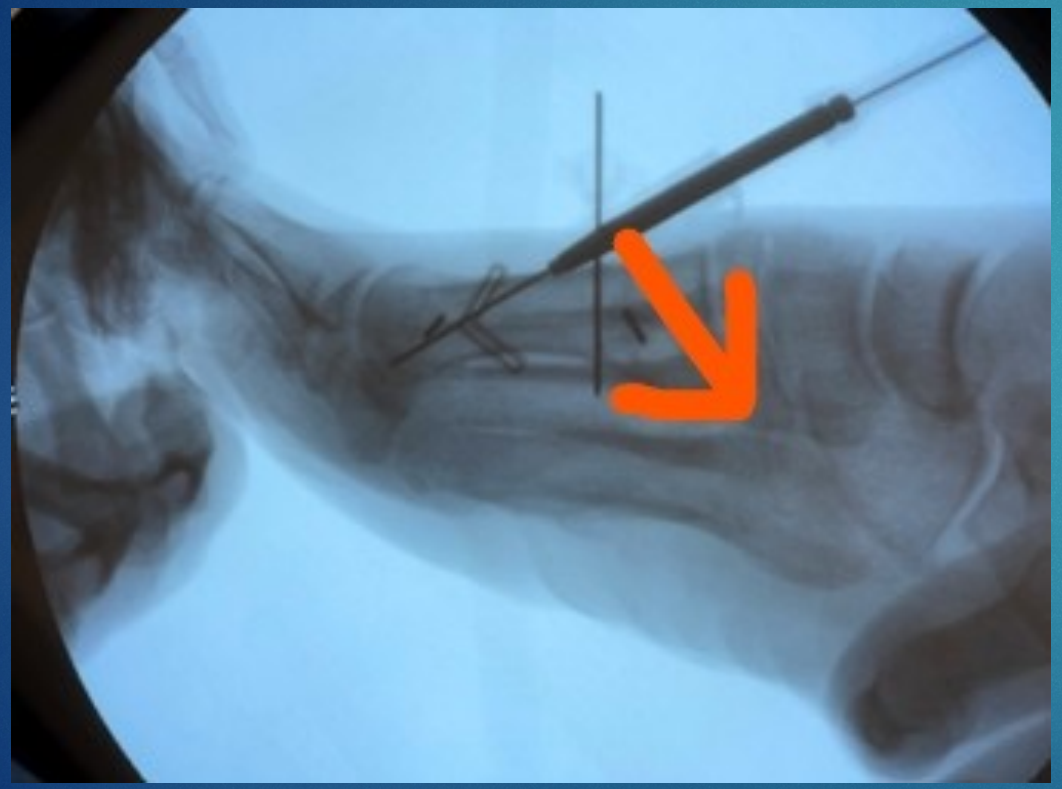


- Insert the 1.1mm Guide Wire through the Screw Guide
- Don't allow the screw guide to skive distal while inserting
- Stop just short of the 1st MPJ

RELjA INNOVATIONS

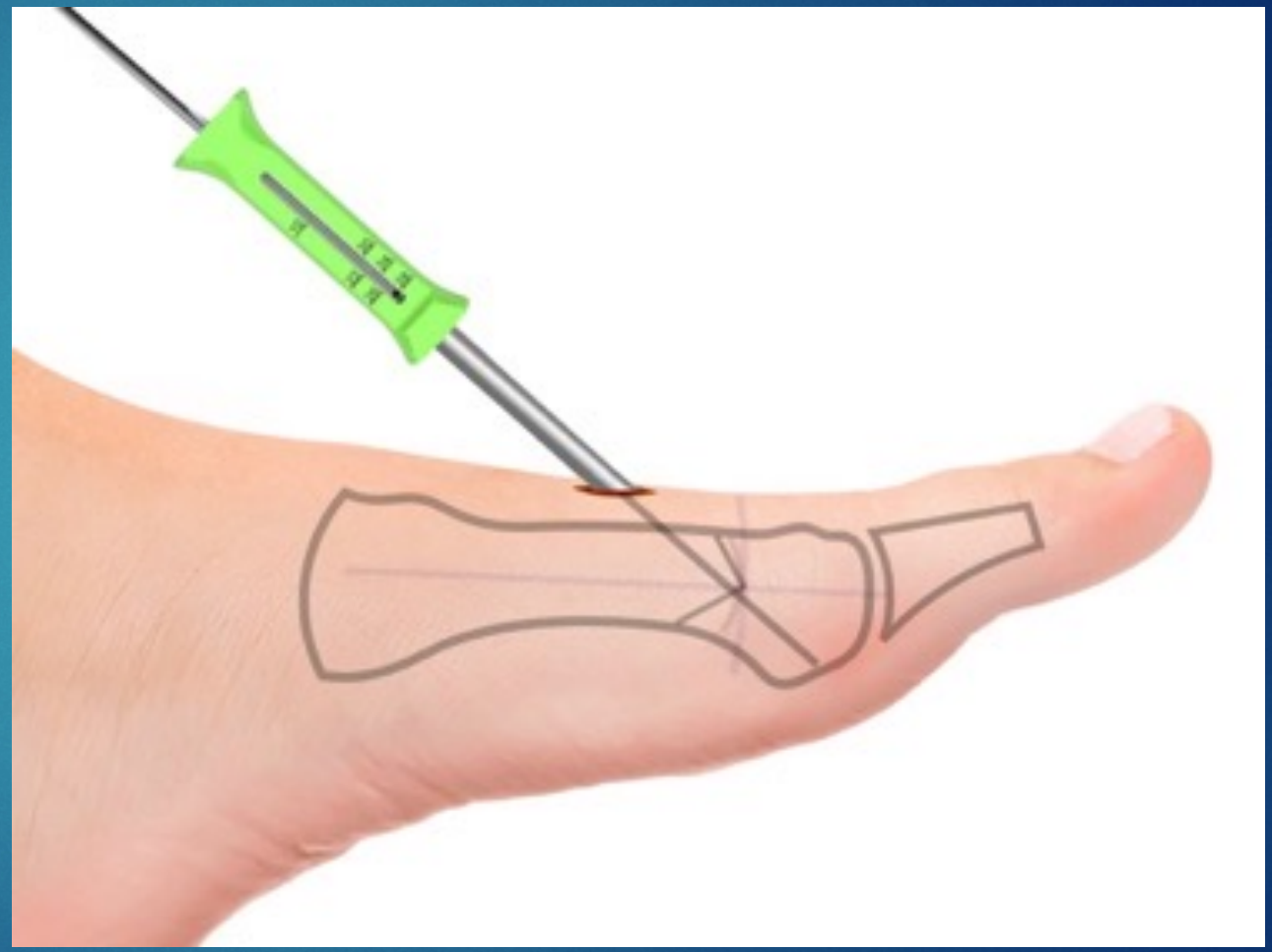
- Confirm screw guide doesn't slide distal when inserting guide wire.

Apply gentle pressure in direction of arrow to keep k wire from skiving distally. Don't change the angle of entry of the guide wire.



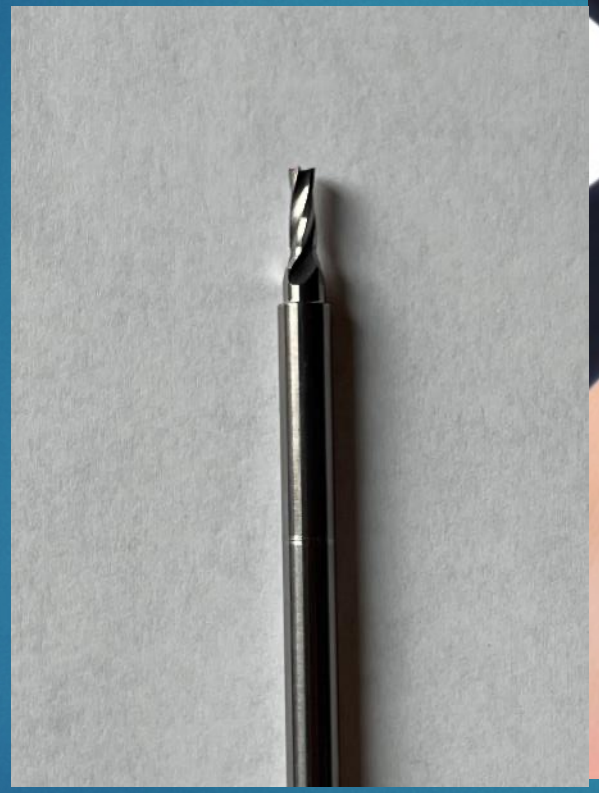
Guide wire should enter dorsal aspect of 1st metatarsal at least 1cm proximal to the osteotomy

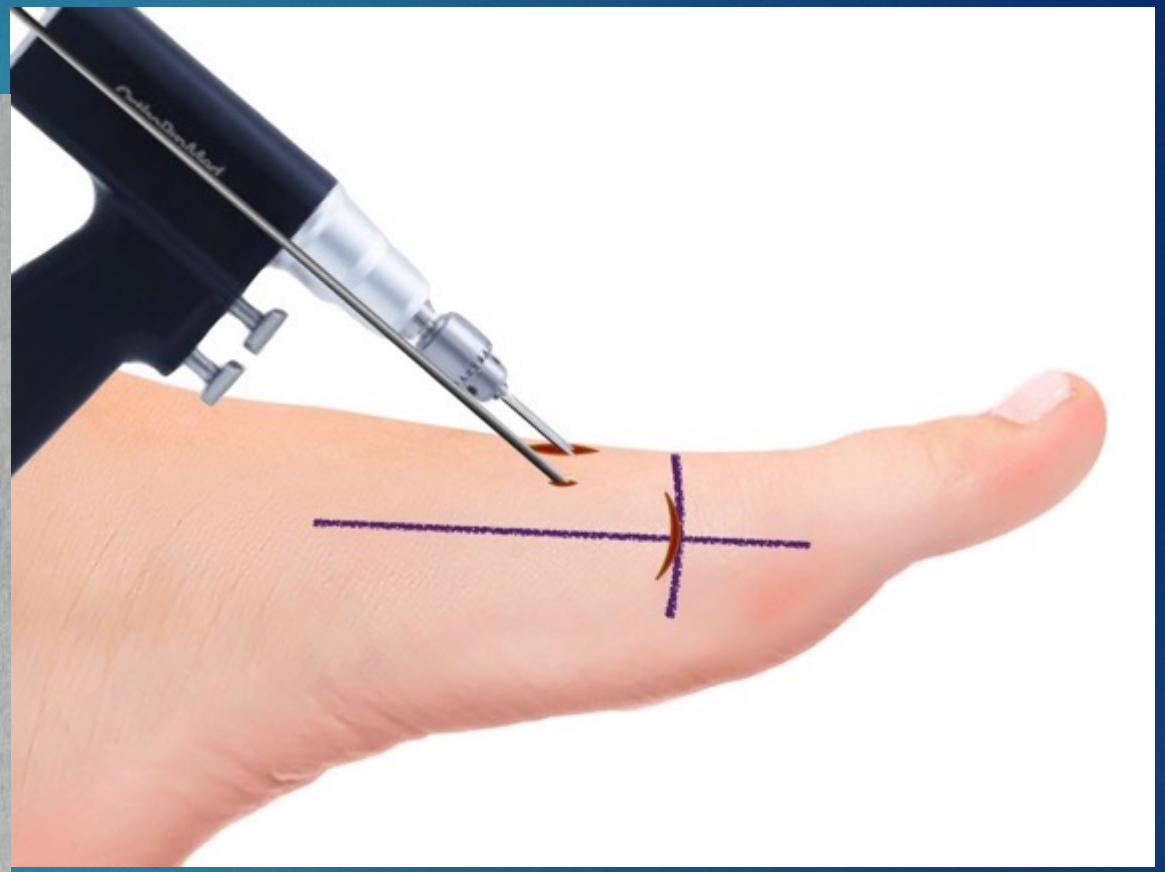
- Measure the screw length
- 32mm or greater = 27mm screw
- <32 mm = 24mm screw
- Screw guide should be on the bone when measuring.
- <27mm then need to move the osteotomy guide more proximal



RELjA INNOVATIONS

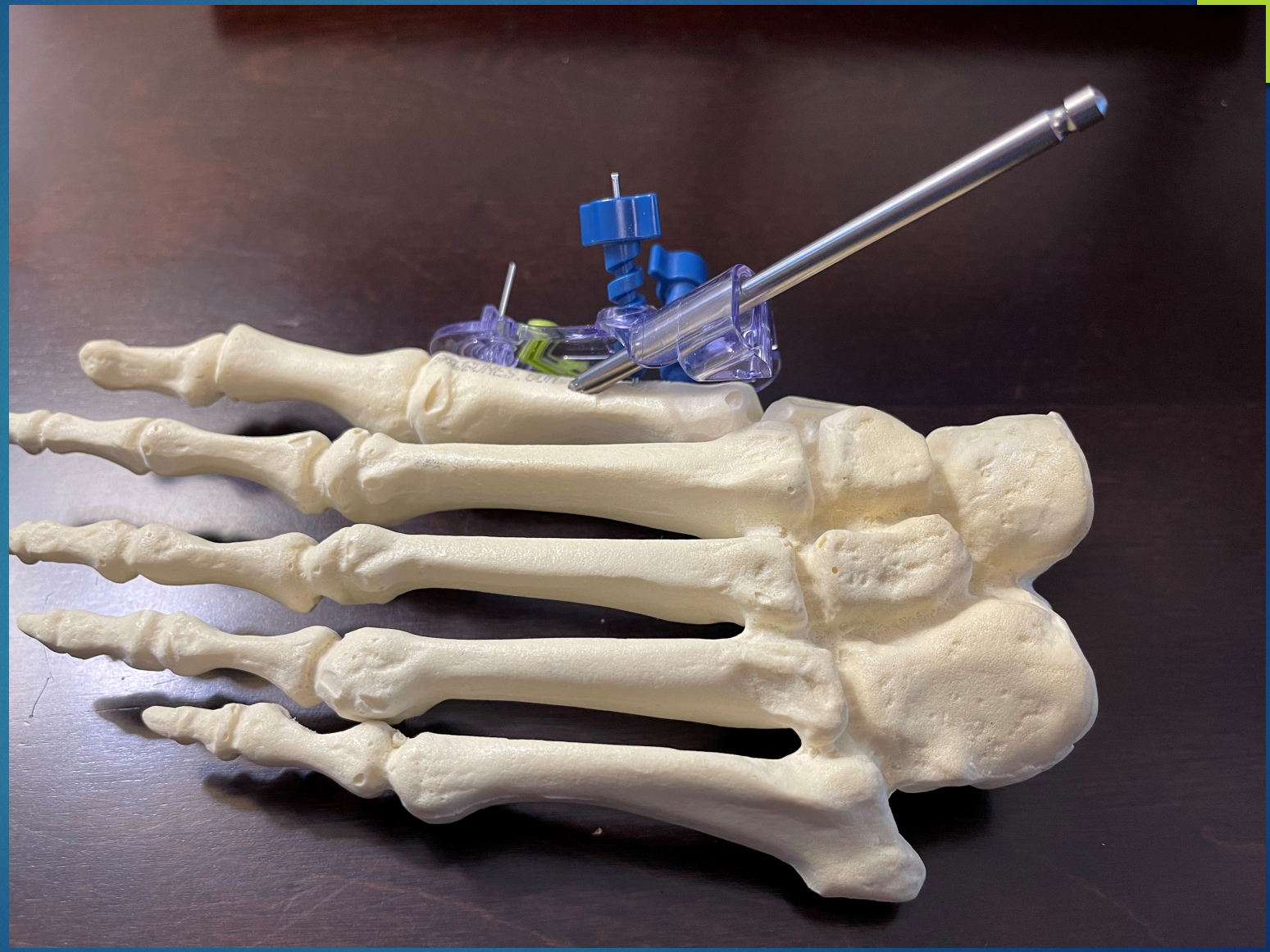
- Drill/Countersink
- Bury drill to positive stop





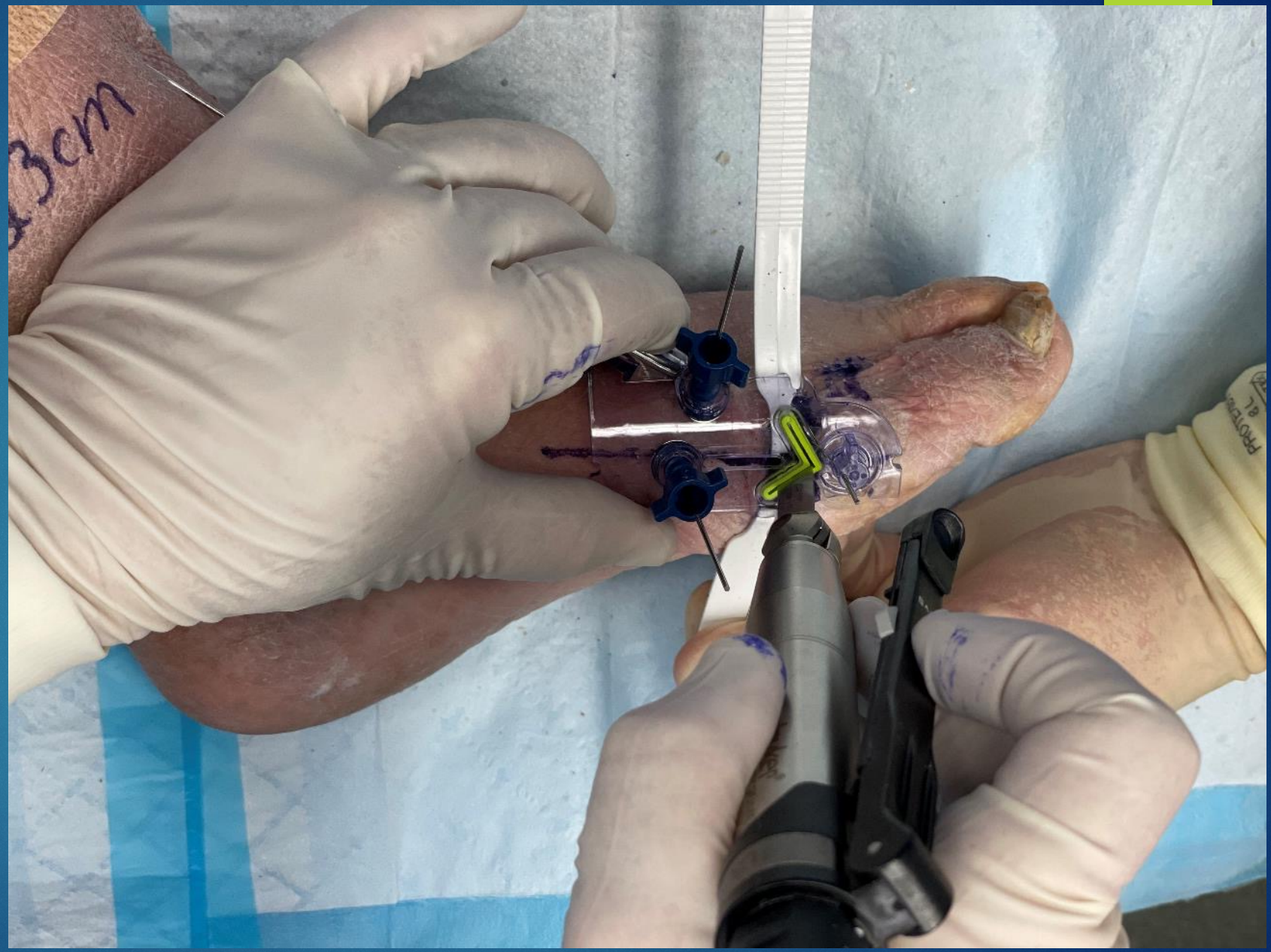
RELjA INNOVATIONS

- Disconnect drill and leave drill in place
- Remove guide wire



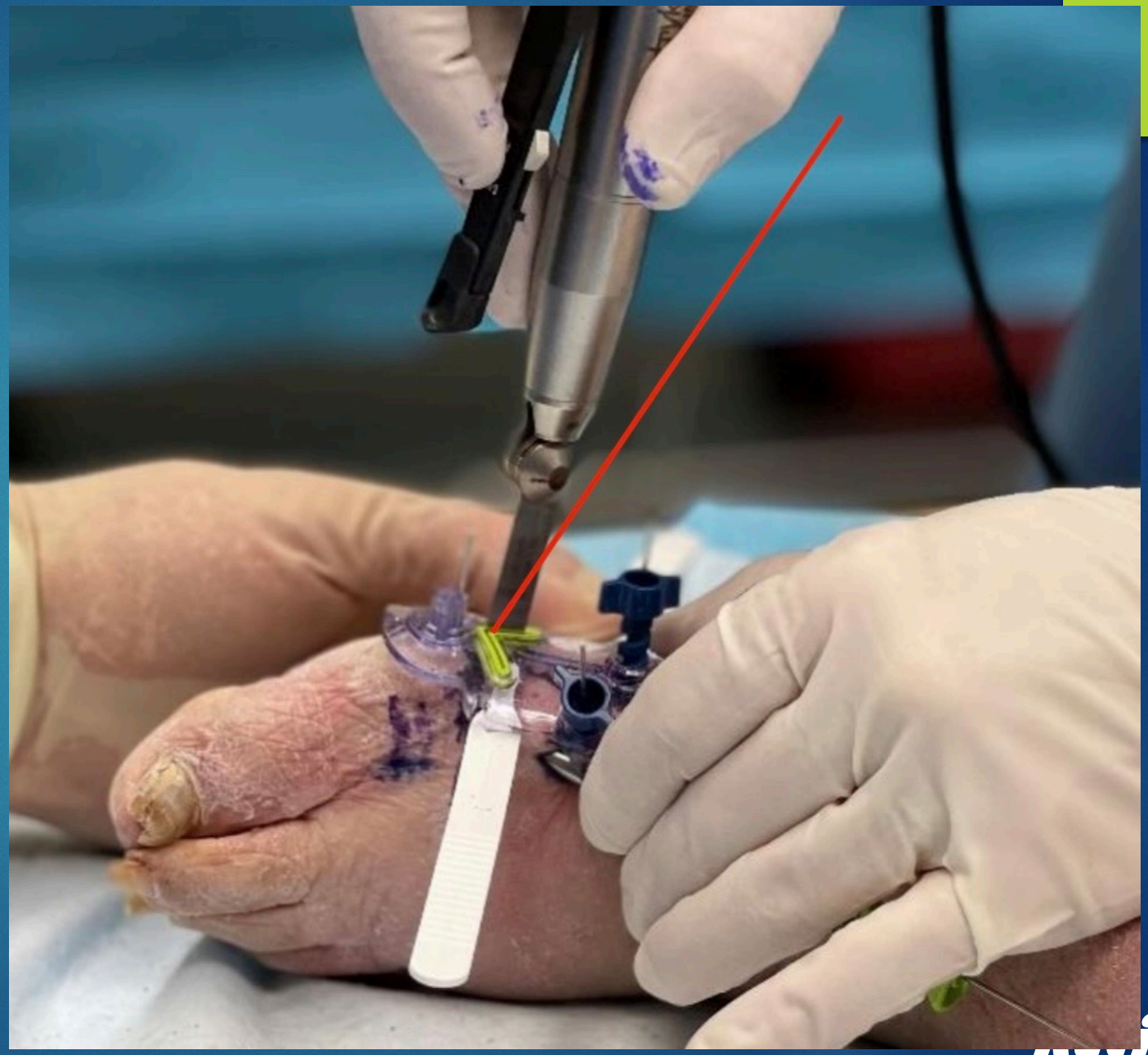
RELjA INNOVATIONS

- Retract the skin
- Perform osteotomy



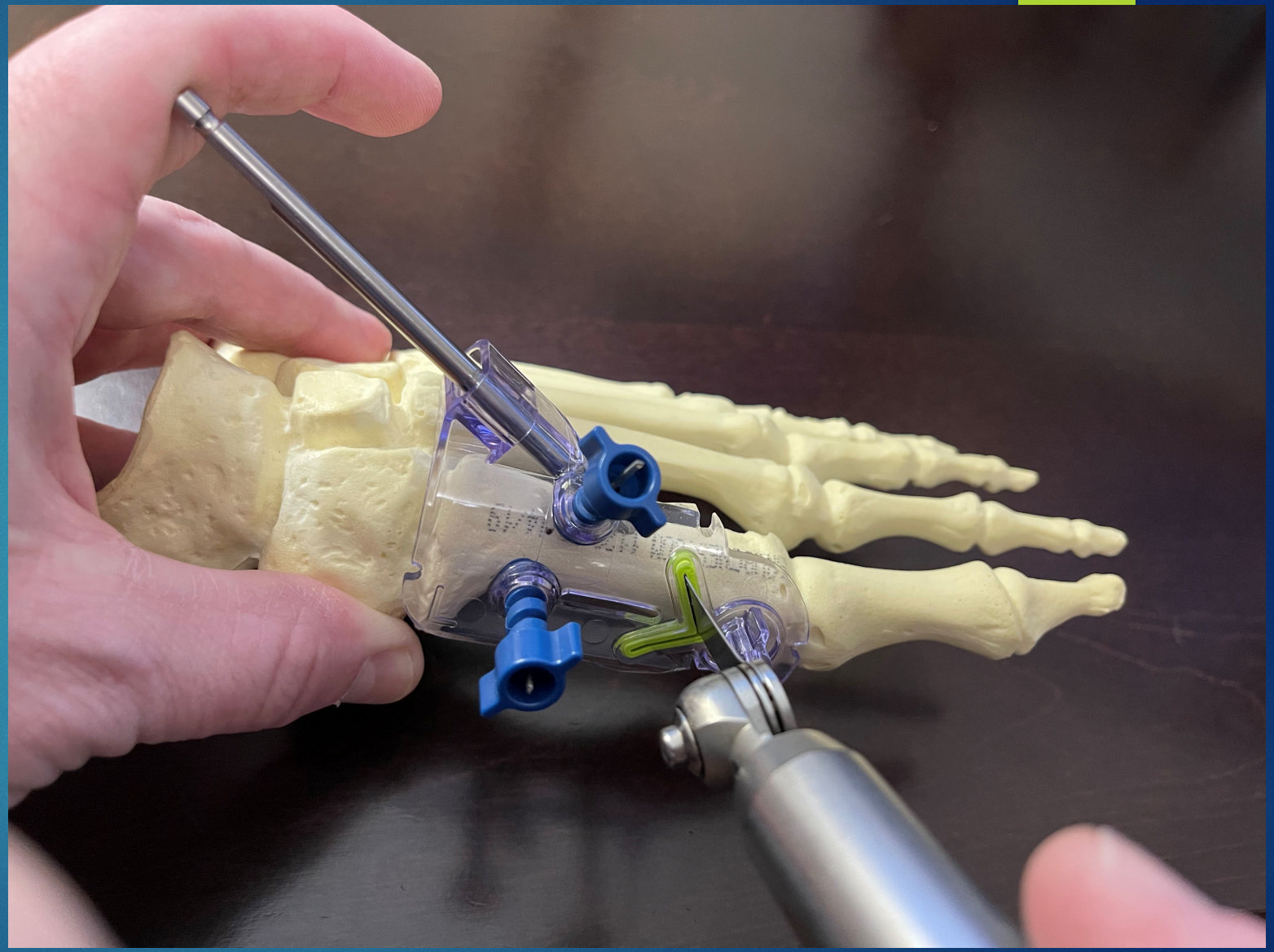
RELjA INNOVATIONS

- When performing the osteotomy, stay parallel to k wire number #1 as shown.
- Don’t angle the sagittal saw as shown in red
- Stay Dorsal with the Dorsal cut to limit damaging plantar bone shelf



INNOVATIONS

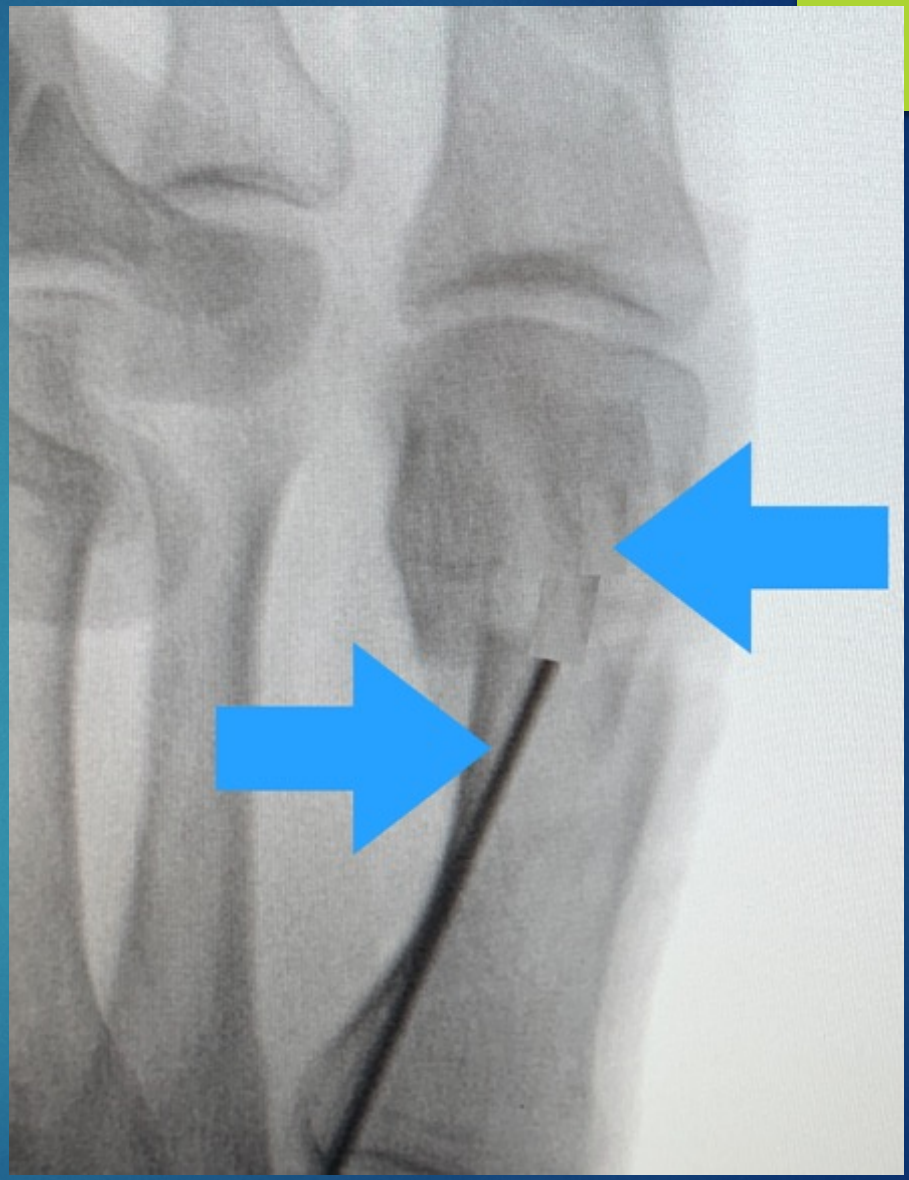
- When performing the osteotomy, hold the top of the drill to keep it from backing out.



RELjA INNOVATIONS

RELjA INNOVATIONS

- Correct the deformity by distracting the hallux and moving the 1st metatarsal head lateral while at the same time pushing medially on the midshaft of 1st metatarsal
- Utilize an osteotome to free any lateral soft tissue limiting translation
- Insert a freer in the metatarsal shaft to assist with translation
- Confirm desired position under fluoroscopy.



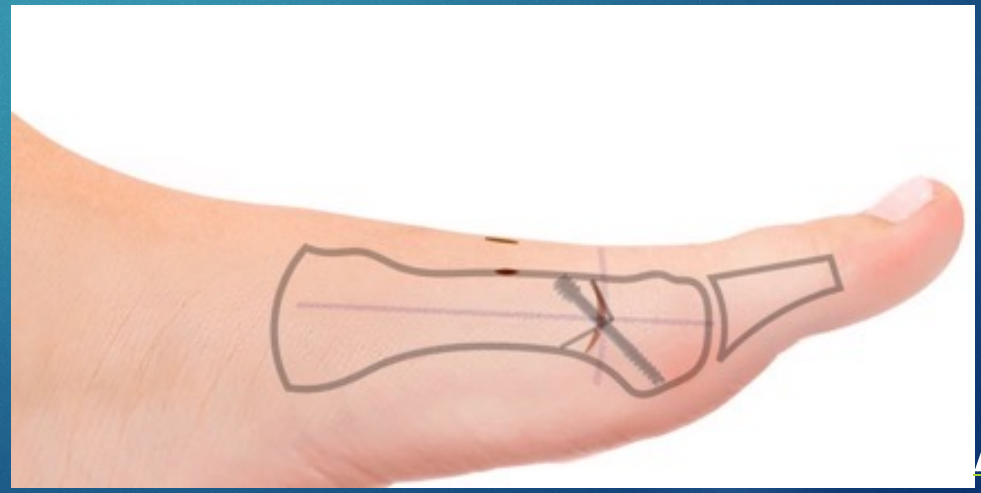
- Insert the Guide Wire into the drill and advance just into the 1st MPJ.
- Insert temporary fixation medially

Confirm position and no gapping of the osteotomy

Remove Drill and keep guide wire in place

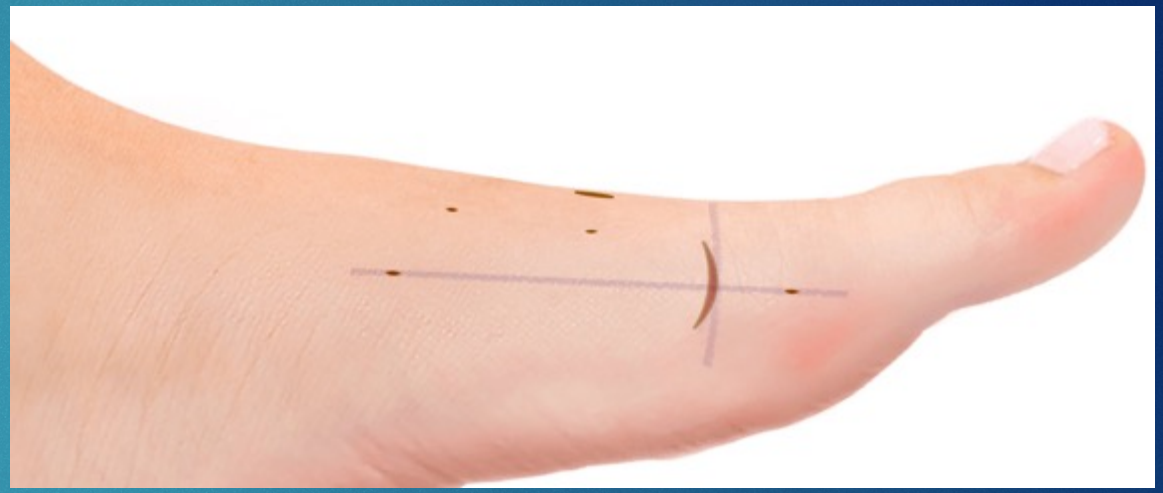
RELjA INNOVATIONS

- Insert a 3.5mm screw
- Confirm the screw position with fluoroscopy



RELjA INNOVATIONS

- Resect the medial bone shelf.
- Remove the Guide Wire and temporary fixation.
- Flush and close incisions.



RELjA INNOVATIONS

Post op

Post op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ale
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Eric
45
LIH
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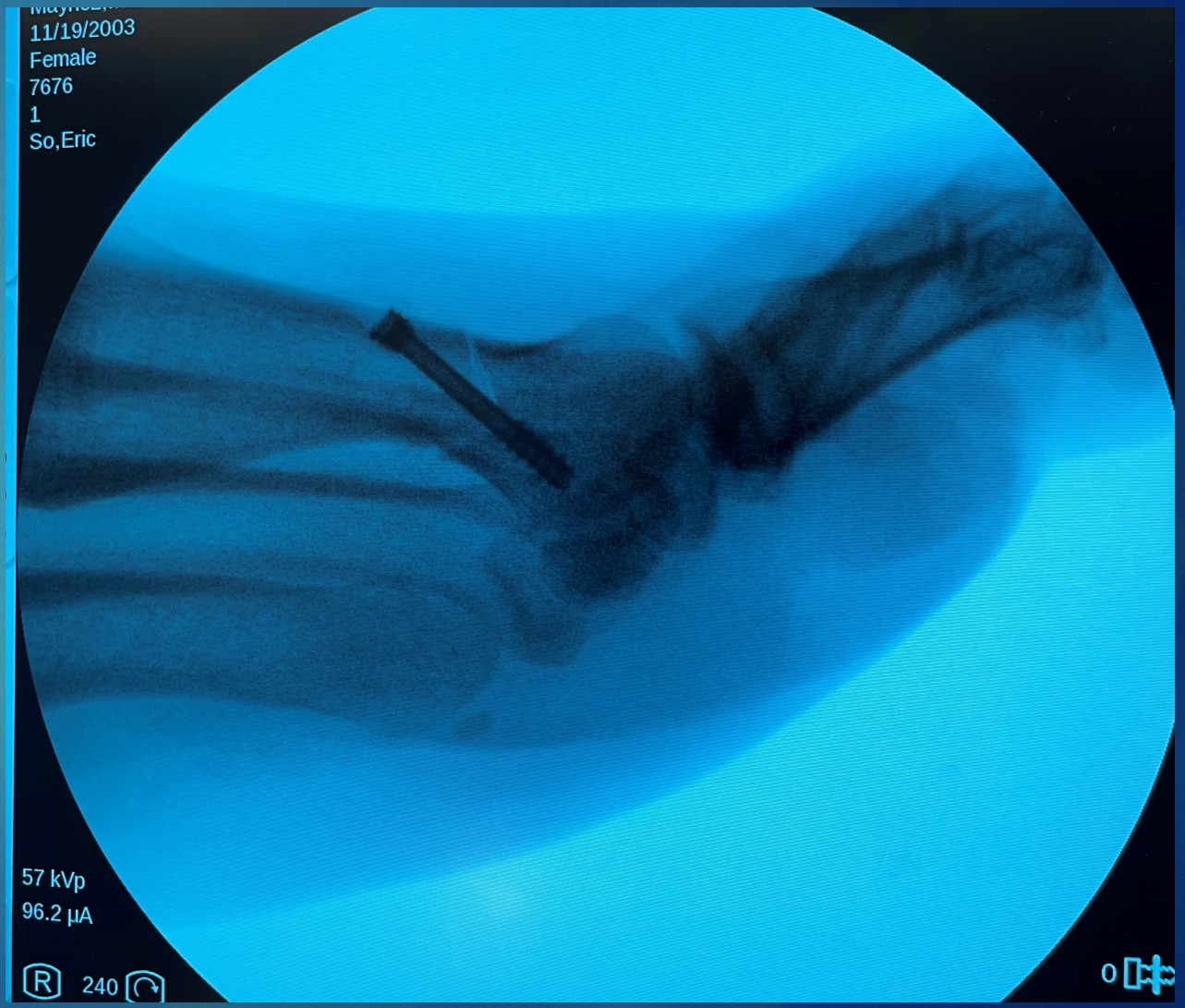
2
76
31
OEC


11/19/2003
Female
7676
1
So,Eric
57 kVp
96.2 µA
R
240
0

Post op

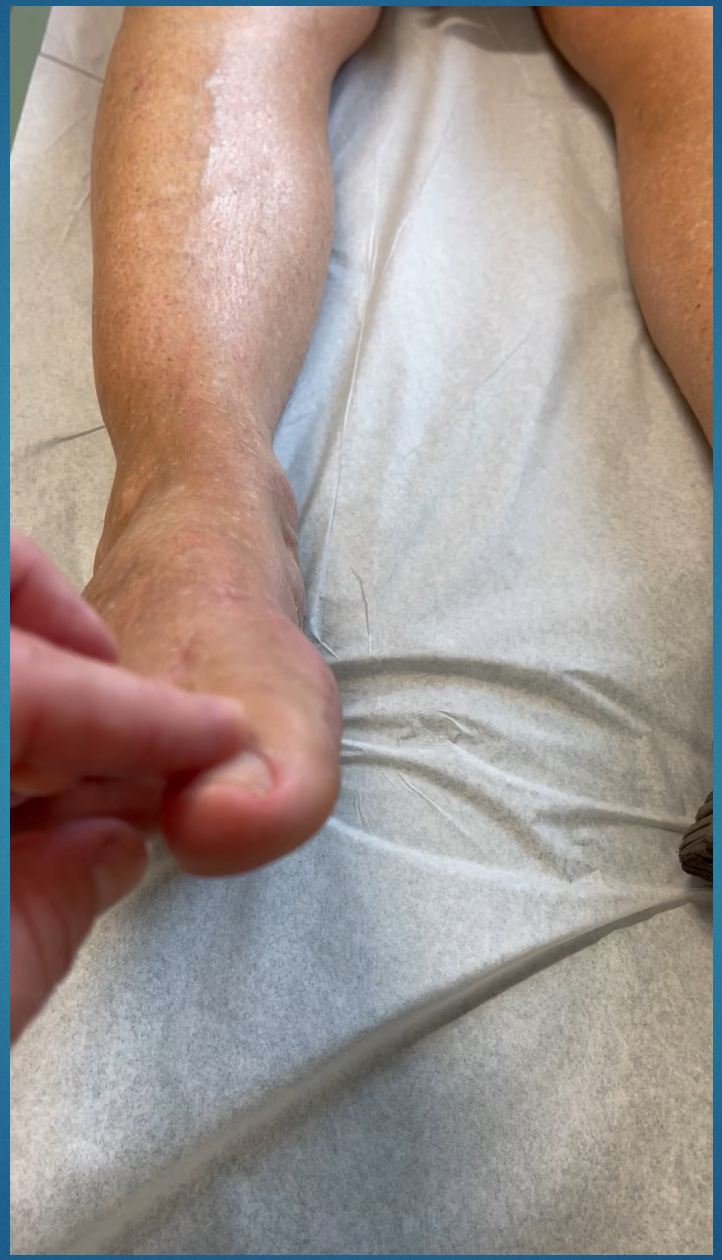
6 weeks post op - Patient 1

6 weeks post op - Patient 2

6 weeks post op - Patient 3

6 Weeks Post op – Patient 1

6 weeks post op – patient 3



Packaging

Single SKU: RI-2427-C for left and right feet, any size foot

Outer tray = 10" L x 5.3" W x 1.75" H

Bottom inner tray – two osteotomy guides (L and R), cannulated T10 screwdriver

Upper inner tray – screw guide, targeting guide, retractors, implants, 3 K-wires, guidewire, drill bit

RELjA INNOVATIONS

Surgeon Testimonials

- "The best part is the guide incorporates the osteotomy and guide pin for screw all in one" - R. Lemmenes, DPM
- "Docs will use it. Patients will love it." - J. Hilario, DPM
- "MIS is a big market. This is better than any other system out there." - M. Rivera, DPM
- " The Guide will solve precision problems." - E. So, DPM
- "A simple reproducible instrument guided MIS hallux valgus system." - A. Ferguson, MD
- "Really like the product; it's very innovative." - T. Holmes, DPM
- "Like the sagittal saw. Like the targeting guide." - J. Shih, DPM

RELjA INNOVATIONS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INNOVATIONS