

CUSTOM ORTHOTICS

Specifications

Posting Specifications

FOREFOOT POSTS

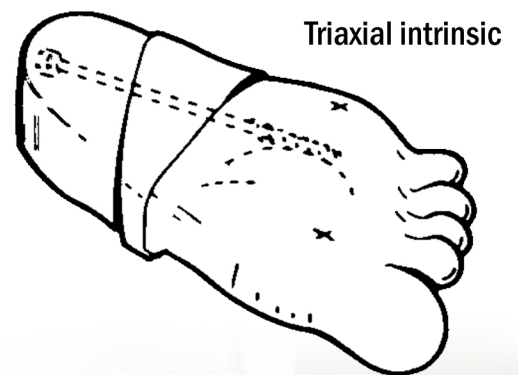
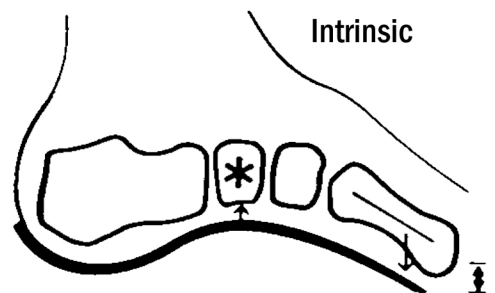
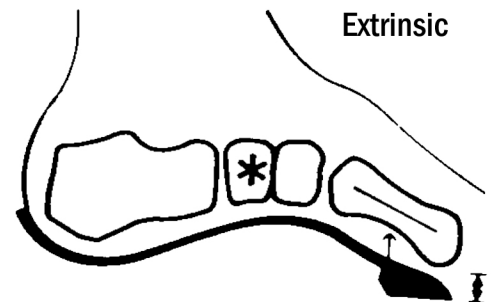
Extrinsic: This method of forefoot posting is accomplished by placing crepe directly under the front of the orthoses, wedging the forefoot into its neutral or desired position. This type of posting may not allow the metatarsal heads to reach the supporting surface and could induce jamming at the metatarsophalangeal joints. This type of posting also adds considerable bulk to the front of the orthoses, sometimes causing shoe fit problems.

Intrinsic: Intrinsic posting into the cast allows the metatarsals to plantarflex to the supporting surface, decreasing jamming of the metatarsophalangeal joints and preventing the forefoot post from affecting the place of the rearfoot.

Triaxial Intrinsic: This technique allows the posting of the forefoot to be integrated directly into the plaster cast of the foot. By sectioning the midtarsal joints to their oblique axis, the forefoot can be rotated out of a varus or valgus position. This allows full posting of large degrees of deformity. Triaxial posting is often completed by incorporating a biaxial rearfoot post.

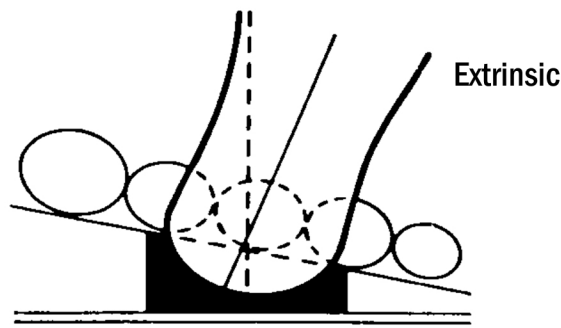
Extrinsic Long: An extrinsic forefoot post is added under the metatarsal heads, tapering off distally and becoming incorporated into a forefoot extension. The post is used in place of the intrinsic forefoot post. This posting is most useful when controlling forefoot varus or valgus in sports where heel contact is short or there are large amounts of side-to-side motion in the activity.

Runner's Wedge: A runner's wedge is incorporated in the same manner as the extrinsic long except with 3° of varus in addition to the forefoot intrinsic posting.

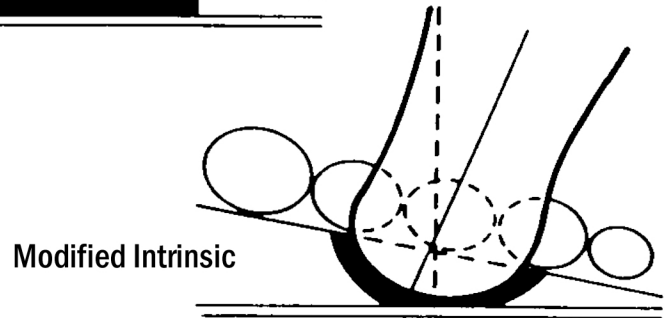


REARFOOT POSTS

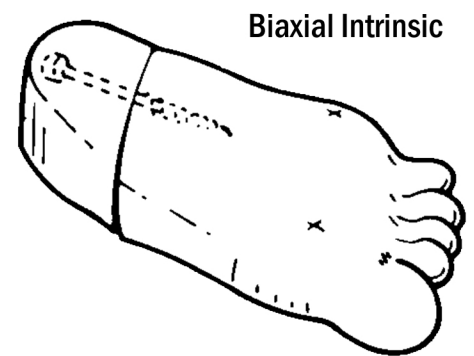
Extrinsic: In this traditional method of posting, crepe is applied directly to the heel area of the device.



Modified Intrinsic: The shell of the orthosis is ground at the heel contact point, either to the plane of the forefoot or in the desired degree of rearfoot. The amount of posting available is dependent on the thickness of the orthoses and is limited. It should not be confused with true intrinsic posting offered with biaxial or triaxial methods.



Biaxial Intrinsic: In this process, the rearfoot section of the cast is sectioned to the axis of the subtalar joint. The rearfoot section can then be rotated into its desired position of varus or valgus. The advantage of this technique is that it allows the rearfoot to be posted independently of the forefoot, eliminating discrepancies between the plane of the forefoot and rearfoot sections of the orthoses. High degrees of deformity can be posted without affecting how the device fits in the shoe and prevents lateral slippage of the foot off the orthosis. Biaxial rearfoot posting can be incorporated into most orthoses and can be used independently or in conjunction with the triaxial posting.



MEDIAL/KIRBY SKIVE

A medial skive cast modification (Kirby Skive) is a rise or lift on the inside of the heel cup. It is available in mild (2mm), strong (4mm) and very strong (6mm). This cast modification increases the ground reactive force through the orthotic on the medial plantar side of the calcaneus, which decreases the tendency to evert and encourages inversion of the heel.

PRONATION SKIVE

The amount of motion the orthotic has during the forefoot loading when the distal edge come to the ground. With a crepe extrinsic rearfoot post, the material will naturally compress to allow pronation. You can specify an exact amount of motion (eversion) ground into the post. A common request is 4° of motion.





Cast and Shell Modifications

Arch Height

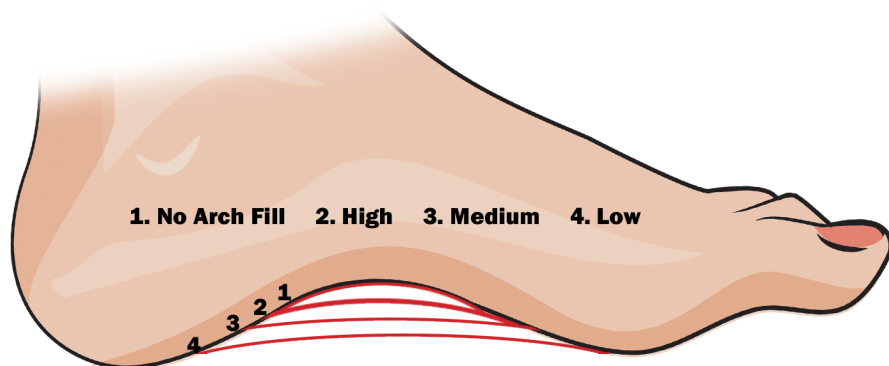
When creating your patient's custom casts, Allied OSI Labs does a **Modified Root Style cast correction**.

Arch fill is referring to the plaster fill that is added from the forefoot correction platform, through the arch area, and transitions to the heel before the shell is pressed.

- The less arch fill, the higher the arch will be on the orthotic.
- The more arch fill, the lower the arch will be on the orthotic.

The following approximations will provide an estimate of how much plaster fill will be added to the positive cast (these will vary upon the individual cast):

- **No Arch Fill:** a minimal amount of plaster is added to transition between the posting platform and arch.
- **High:** approximately 1/8" fill
- **Medium (Allied OSI standard):** approximately 1/4" fill
- **Low:** approximately 1/2" fill



Approximate representation only.

CUSTOMIZATION EXAMPLES

Pes Cavus

To accommodate a pes cavus foot type with an orthotic, it is imperative that the arch is high enough to support the patient's arch. Usually, the "no arch fill" is beneficial.

Flexible Pes Planus

To control pronation with an orthotic, one of the most effective ways is to order a "no arch fill".

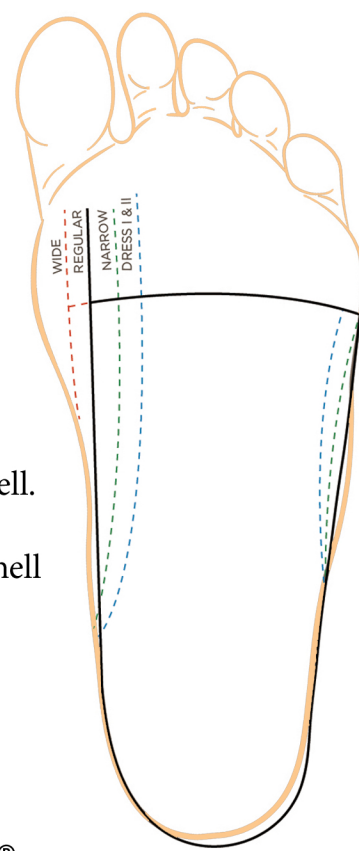
Fixed Pes Planus

A fixed pes planus foot type requires an arch that is lower than normal; a high or normal arch could be painful. If the cast already reflects this low arch, no extra plaster fill is necessary.

NOTE: Allied's standard arch fill is medium, but you can customize your arch fill under "Cast Modifications" on your order form.

Forefoot Width (*the width of the distal edge of the orthosis*)

- **Wide:** shell encompasses all metatarsal heads, 1-5
- **Regular** (Allied OSI standard): shell bisects 1st metatarsal head
- **Narrow:** forefoot is ground 1/8" laterally from bisection line on the 1st metatarsal head. *NOTE: the medial and lateral arches are bowed in 1/8" (hour-glass shape); choose narrow grind width for dress shoes*
- **Dress I & II (Extra Narrow):** 1/4" laterally from bisection of 1st metatarsal head and 1/8" medially from 5th metatarsal head



Arch Width *(all increases bulk and concerns with shoe fit)

- **Shaffer grind:** increase in the height and width in the medial arch of the orthotic shell. The shell has a low medial flange that rounds up around the 1st ray and navicular.
- **Old style shaffer grind:** increase in the height and width in the medial arch of the shell of the orthotic but is less abrupt than a flange.

Material Weight Recommendations

Polypropylene

- Up to 160 lbs: 1/8"
- 161 lbs - 299 lbs: 3/16"
- 299+ lbs: 1/4"

Performance RX™ and Graphite TL 2100®

- Up to 120 lbs: Semi-flexible (not available in TL 2100®)
- 121 lbs - 220 lbs: Semi-rigid
- 221 lbs - 300 lbs: Rigid
- Over 300 lbs: Ultra-rigid (not available in Performance RX™)

Polyethylene

- Up to 150 lbs: 3mm

Graphite TL Silver®

- Up to 200 lbs: Semi-rigid
- 200+ lbs: Rigid

Diabetic Orthotics

- Up to 150 lbs: Soft
- 151 lbs - 185 lbs: Medium
- 186 lbs - 250 lbs: Firm

NOTE: When adding medial flanges or arch reinforcement, add 60 lbs to weight limit.

These weight guidelines are provided to us by each material manufacturer. The weight recommendations are based on shell material properties of rigidity/flexibility testing for optimal control and rebound to original shape.

The thickness of plastic materials such as Polypropylene or Polyethylene material determines the stiffness or rigidity of the orthotic shell. A 1/8" plastic orthotic is more flexible (less rigid) than a 3/16" plastic shell.

Composites such as TL 2100 and Performance Rx are composed of either graphite or Nylon and are used to make the orthotic shell. Composites get their properties from the strands that are layered. The stiffness of a composite is determined by both the weave pattern and the size of the strands.

These materials will become more flexible for patients that weight exceed these recommendations. The shell flexibility can also vary not only with weight but also with the foot shape, foot size, and prescription options.

Allied OSI labs will manufacture orthotics for patients outside these guidelines. If on occasion, a material has broken or cracked due to weight, the shell warranty is voided.

Accommodations/Extras

1st MPJ Shell Cut Out*



The medial corner of the shell is removed starting distally from the first intermetatarsal space proximally to neck of 1st to allow more plantarflexion of the first ray.

Cut out 1st to cuneiform in shell: The medial corner of the shell is removed starting distally from the 1st intermetatarsal space and extending proximally to the 1st metatarsal base. The intent is to further plantarflex the 1st ray. Caution: these techniques also narrow the distal edge and posting is 2-5.

Accommodation in the Forefoot*



1/8" Corex extends from the distal edge of the device to the sulcus and an aperture is created for the area that needs offloaded.

Deep Heel Cup*



Measures 16mm (standard heel cup is 12mm). A higher heel cup will give more control and increased stiffness to the orthotic. It also widens the device in the heel making shoe fit more difficult.

Heel Lift*



Additional crepe added to an extrinsic rearfoot post to elevate the heel. The maximum recommendation inside a shoe is 1/2".

Hole in the Heel*



A circular aperture cut through the shell under the heel to off weight the heel area. The Footlights Dress features an added 1/8" Poron® fill for cushioning.

Horseshoe Pad*



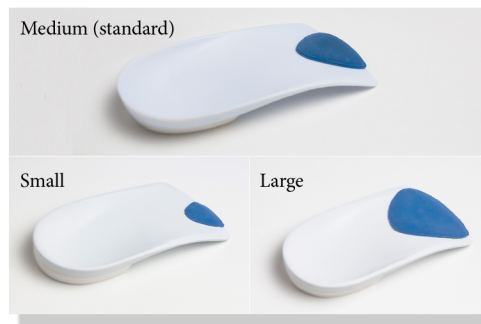
A 1/8" foam rubber horseshoe pad is added to the dorsal surface of the orthotic shell. It is effective for offloading heel spurs or pain from plantar fasciitis.

Medial Flange



An increase in the height of the orthotic shell on the medial starting just distal to the heel and extending to the distal edge. The shell wraps up medially around the 1st ray and talarnavicular area which adds increased stiffness and control. It also increases bulk and makes the orthotic arch wider, so shoe fit may be a concern.

Met Pads*



1/8" Poron® pads offer support and cushioning for the transverse arch. The standard placement is proximal to 2-4 met heads and the met pad hangs over the distal shell 1/8". Other sizes and placement is available upon request.

Morton's Extension*



1/8" Corex under the 1st metatarsalphalangeal joint from the distal end of the orthotic shell to the sulcus that limits the range of motion. It supports and preloads the first metatarsal head in relation to 2-5 mets.

Runner's Wedge/Extrinsic Long Forefoot Post*



Crepe material extends from distal aspect of shell to sulcus and it thicker medially for a varus post or laterally for a valgus post and tapered out. This is added to carry the forefoot correction forward to control through the propulsion phase of gait. A Runner's Wedge is 3° of varus correction in addition to the intrinsic forefoot post. The Extrinsic Long Forefoot Post is used in place of the intrinsic forefoot post.

NOTE: Accommodations that are ordered but are not standard to the product will be charged by upgrading the order to the Standard+ price.

Limited accommodations are available on the Custom Footlights and are included at no charge in that product line. *Indicates accommodations available on Footlights.

