



We make every effort to accommodate our plaster cast correction to exact specifications. In order to reduce the difficulty in ordering different amounts of plaster correction, we have the following five categories of standard cast correction.

**1. AS IS** - As you note in the photograph, the AS IS has a plaster platform to the forefoot, otherwise there has been no plaster added to the positive cast. A constant soft tissue expansion is applied with thickness varying from 1/16" to 1/4" depending upon the size of the foot. This constant expansion allows the medial lateral borders of the orthotic to be expanded somewhat while leaving the plantar contour intact. There is no incast correction for forefoot deformity, therefore the amount of forefoot varus or valgus captured in the foot will also be reflected in the orthotic shell. Because there is no alteration in the plantar surface of the positive cast, the orthotic shell will fit exactly to the patient's foot in the position in which the cast was taken.

**2. ABRUPT TO 0°** - The forefoot varus or valgus is corrected in the cast (intrinsic posting) so that the shape of the orthotic drops quickly off the platform and returns to the shape of the positive cast. This is modified if necessary with a high degree of forefoot deformity so that there is not a ridge that would be uncomfortable under the neck of the 1st or 5th metatarsals. A lateral expansion from the platform at the head of the 5th metatarsal along the lateral side and around the posterior

aspect of the heel is incorporated. The size of this plaster expansion depends upon the size of the patient's foot. This expansion is to allow for some soft tissue expansion on the lateral side only. Minimal plaster is added to the medial longitudinal arch so that the contour of the orthotic device will be similar to the foot throughout the mid-section as illustrated in the figure. The white plaster is the correction that has been added. Because of the close fit of the orthotic device to the shape of the foot it is important that the cast accurately captures the foot in the desired position of control. A slight variation on the ABRUPT TO 0° type cast correction is the partial intrinsic posting of deformity which would be ordered as abrupt to so many degrees of varus or so many degrees of valgus depending on where the cast is to be platformed. To determine this, it is necessary to decide how much deformity is not to be posted and ask for the platforming to that amount. This allows you the opportunity to use extrinsic posting as an addition, possibly as an extended post to sulcus. Or to allow for some additional motion if it is not desirable to control the foot in exactly the casted position.

**3. BIO** - This plaster correction includes the lateral and heel expansion similar to that discussed under the abrupt to 0° cast correction. The forefoot can be posted intrinsically or extrinsically. The drop off from forefoot platform to the positive cast is somewhat more gradual than the abrupt to 0°. There is some plaster added to the medial longitudinal arch to reduce the prominence of the medial arch of the finished orthotic device. This additional plaster in the longitudinal arch will cause some loss of contact of the foot in the central portion to the orthotic device, however, the control remains quite good. If you are uncertain about the

amount of plaster which you would like to have added to the positive cast, we would suggest that you start with the "Bio" cast correction; it is our most popular cast modification.

**4. MODIFIED BIO** - This plaster correction includes the lateral and heel expansion similar to that mentioned in the abrupt to 0°. The forefoot is platformed for intrinsic or extrinsic forefoot posting. Plaster is added in the medial longitudinal arch area (lowering the longitudinal arch of the finished orthoses). Orthotic devices made over the cast correction cause the least amount of irritation to the patient and necessitate the fewest adjustments. The lack of close contouring of the orthosis to the foot results in some loss of control.

**5. REGULAR** - This classic cast correction has been widely used for many years. The forefoot is balanced perpendicular to the heel. The lateral and heel expansions are done in similar fashion to the abrupt to 0° type cast correction. Plaster is added to the medial longitudinal arch to contour the platforms into the arch area of the cast. The plaster that is added to the medial longitudinal arch is rounded up the medial side of the cast so that the orthotic device pressed over this cast will tend to have a higher medial flange. It is particularly useful when an extra deep heel cup or a high medial and lateral flange is required for control. This is the cast correction that we use normally for our Shaffer, Roberts, Whitman, and Out-Toe Gait Plate type devices.

This type of cast correction essentially incorporates intrinsic forefoot posting with moderate fill to the longitudinal arch.

**6. ROOT FUNCTIONAL** - This cast correction as described by Merton R. Root, DPM, incorporates intrinsic forefoot posting with the forefoot being platformed to 0° similar to that discussed under the abrupt to 0° cast correction. The lateral and heel expansion are added depending upon the depth of the heel cup that has been ordered. The lateral expansion starts with the lateral platform at the 5th metatarsal head and then tapers to the point just lateral to the contact point of the heel where the depth of the heel cup is measured then continues around the posterior aspect of the heel as shown in the illustration on the reverse. The standard depth of the heel cup is 12 mm for men and 10 mm for women. Heel cups of any depth can be ordered and the cast corrections will be made accordingly. Plaster is added to the medial longitudinal arch from the mid-point of the 1st metatarsal medially so that the most medial edge of the orthotic device will be flat (parallel with the supporting surface). As you can see, the central portion of the cast is essentially untouched making the contour of this device quite close to the foot. As described by Dr. Root, this device is ground with a straight distal edge from the 1st and 5th metatarsal heads rather than our normal parabola. The lateral and heel expansion used with this device makes a slightly different shaped heel cup which is deeper centrally and flattens out along its lateral and posterior border. The overall heel cup is somewhat shallower than with the other types of cast correction.