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**A New Approach to Biomechanics and Orthotics - MASS Position Theory**

The vast majority of healthcare practitioners base their biomechanical assessment of the foot, and lower limb on the work of Dr. Root. The model centeres around the concept of "neutral position" the proper frontal plane relationship of the rear to the forefoot with "maximal pronation of the oblique midtarsal joint", the foot somewhere between extremes of supination and pronation. Clinically, this position is assessed in the open chain in a number of different ways, but primarily by talonavicular joint palpation.

It is startling to realize that the mass migration to the Rootian model of orthotic intervention happened without any research showing that it worked. In fact, the vast majority of research that has compared the relative effectiveness of Rootian custom orthotics to prefabricated ones, or even to other treatments, has shown no significant difference in outcomes.

This presentation offers the first credible challenge to this model. If the pathologic position of the foot is a pronated collapsed arch, then the “mirror image” would be the raised, supinated and restorative arch. It turns out that this is biomechanically supported and is illustrated by the MASS (Maximal Arch Supination Stabilization) position theory of foot biomechanics as proposed by Dr. Glaser. The MASS position of foot posture is defined as the maximal amount of closed chain supination that is achievable for any particular foot at midstance, with the heel and the, first and fifth metatarsals in contact with the ground. MASS Position Theory emphasizes the importance of actually changing the functional posture of the foot in the over-pronator, enabling the healthy levels of supination required for non-pathological gait. MASS Position Theory is immediately pertinent to all who are involved or interested in biomechanical management of the foot and lower kinetic chain.

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