

Tone-reducing AFO

Overview

A custom-made plastic AFO with special footplate features aimed to reduce spastic reflex and resistance on foot muscles.



Nested AFO

Designs & Components:

- Special EVA insole pads.
- Custom-made plastic AFO.
- Calf and ankle Velcro straps.
- Soft inner plastic socket (2mm) around the foot part.

Principle and Gait

- Special pads (toe extension pad and metatarsals pad) are used to provide stretch and stress over the plantar-flexor & toe extensor muscles.
- The continuous muscle stretch of the hypertonic muscle alters the excitability level and stretch resistance on the targeted muscle.
- The plastic shell of the AFO provides Tri planar control of the ankle joint motion using a three-point pressure (3pp) system.
- The 3pp force system provides ankle plantarflexion control and varus/valgus correction.



- Axial load force transmission over the side metal uprights to reduce the force acting on the anatomical joint.
- External force control (GRF re-aligning) by orthosis alignment.

Indications:

- Ankle muscle spasticity in patients with UMN lesion.
- Ankle equinus due to muscle hypertonia.
- Ankle varus/ valgus deformities.
- Ankle joint instability.

Prerequisite for use:

- Intact trunk stability and balance.
- Ankle muscle resistance and stiffness.
- Absence of fixed plantarflexion rigidity and contracture > 10 degree.

