



## ACHIEVING MAXIMUM SUCCESS WITH THE RICHIE BRACE

Firefly are the only licensed UK & Ireland distributor of the Richie Brace. Introduced to the medical community in 1996, the Richie Brace has proven remarkably successful in the non-operative treatment of a number of foot and ankle pathologies. This document outlines which Richie Brace is best placed to treat a range of Dropfoot conditions

### CONDITION DESCRIPTION & PATIENT EVALUATION

Patients will have difficulty dorsiflexing the foot during ground clearance – toes will tend to drag across the ground when walking, increasing the risk of falling. Depending on the patient and the evaluation, the podiatrist should choose one of the following Richie Braces for Dropfoot: Dynamic Assist, Restricted Hinge or Richie Solid. For further direction see the Firefly patient evaluation document or contact [Firefly's Technical Support team](#).

### CHOOSING THE DYNAMIC ASSIST

The Richie Dynamic Assist is the gold standard for treating Dropfoot. The brace achieves a heel strike and a normal gait pattern for patients with Dropfoot. It incorporates spring-like Tamarack flexural ankle joints, suitable if the following patient conditions are present:

- Range of motion is available in the ankle joint to reach 90° (foot to leg)
- Posterior calf muscle is strong
- Good knee stability
- Lack of hind foot deformity.

**Note:** Stroke patients as well as patients with common peroneal nerve injuries meet this criteria.



### CHOOSING THE RESTRICTED HINGE

The Restricted Hinge offers a more rigid ankle articulation. It does this through restricting ankle dorsiflexion and plantarflexion to a range of under 5 degrees without disrupting a smooth contact and heel list phase in gait.

The Richie Dynamic Assist Brace is preferred for most Dropfoot conditions, however, if the following conditions are present the Restricted Hinge should be prescribed:

- Severe varus
- Severe valgus
- Dropfoot with Equinus\*\*\*
- Weak calf (consider Richie Solid or Restricted Hinge)



## CHOOSING THE RICHIE SOLID

The Dynamic Assist Richie Brace is preferred for all dropfoot conditions but will fail if the following patient conditions are present:

- Knee instability
- Fixed equinus
- Spasticity
- Weak calf (consider Solid AFO or Restricted Hinge)

In these cases, the most appropriate Richie Brace is the Richie Solid.



### Dropfoot with Severe Varus or Valgus Deformity

In Charcot Marie Tooth disease, or other common peroneal nerve injuries, there is often an acquired cavo-adducto-varus deformity of the foot.

The varus condition combined with dropfoot requires the following prescription modifications:

- Measure tibial varum and ask the lab to bend upright when tibial varum exceeds 10 degrees.
- Add 6mm lateral heel skive
- Add 4 degree valgus sulcus wedge (extended forefoot post)
- Add 4 degree valgus rearfoot post for extreme cases
- Severe varus conditions which arise from neuromuscular pathologies often require footwear modifications such as a valgus midsole wedge.

### Dropfoot with Equinus\*\*\*

When equinus is present, this condition is better controlled with the Restricted Hinge Brace.

The brace must hold the foot in maximum dorsiflexion position which is allowed specific to the patient. This requires that the footplate be aligned at the ankle in the plantarflexed position.

This position must be measured and designated by the prescribing podiatrist based upon measurements of maximum range of ankle dorsiflexion available to the patient.

This requires the Firefly's Lab to make some modifications based upon the deformity captured in the impression cast; however, **an STS mid-leg casting sock must be used!**

Additionally, this allows accurate measurement of fixed equinus, but requires the podiatrist to:

- Cast the patient in a non-weight bearing position with the knee flexed to at least 45 degrees.
- Dorsiflex the ankle to end range during the casting process.
- When the brace is fixed in equinus, a heel lift should be applied to bring the limb upright to perpendicular. The heel lift will also aid in achieving a heel strike when equinus deformity is present.
- Remember to apply a heel lift to the contralateral shoe!