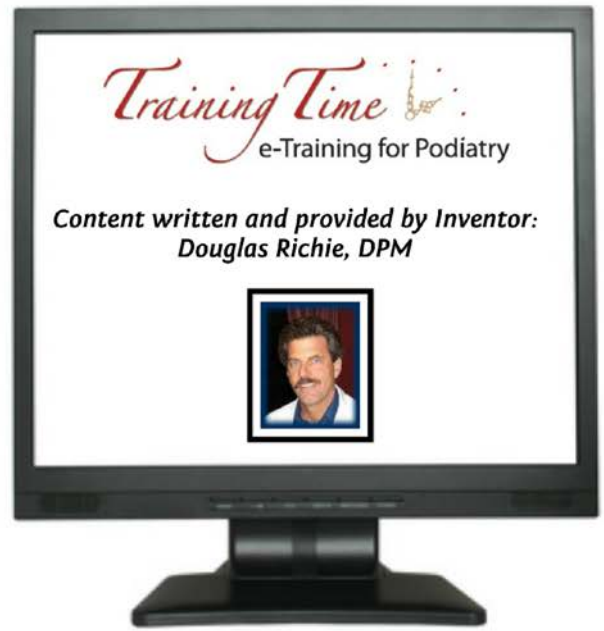
INNOVATION

THE Richie BRACE® RESTORING MOBILITY

This presentation is brought to you today by:



THE Richie BRACE® RESTORING MOBILITY

THE Richie BRACE® RESTORING MOBILITY

The Richie Brace Family

Richie Brace-Standard

Richie Restricted Hinge

Medial Arch Suspender

Lateral Arch Suspender

Dynamic Assist

Richie California AFO

Richie Gauntlet AFO

THE Richie BRACE® RESTORING MOBILITY

Richie Brace fabrication ~ Custom Models

- Hand corrected plaster models
- Balance forefoot to rearfoot deformities
- Accurately preserving the medial and lateral arches
- As well as, the anatomic shape of the heel cup.

THE Richie BRACE® RESTORING MOBILITY

Unique features of our products

Patented Arch Suspender option for powerful correction of deformities in the midfoot and hindfoot.

Unique limb uprights with recess for Velcro strap closure, no need for rivets or D-rings for straps

Unique Velcro strap closure system with simple, single posterior strap for adjustment

THE Richie BRACE® RESTORING MOBILITY

Clinical Indications for the Richie Brace

General Considerations:

Bracing the Foot and Ankle can have one or more treatment goals:

- Limit motion of a joint
  - Chronic ankle instability
  - Degenerative arthritis of ankle or subtalar joint

- Restore motion of a joint i.e. Dropfoot conditions:
  - Post CVA
  - Charcot Marie Tooth
  - Multiple Sclerosis
  - Common peroneal nerve palsy
  - Brain injury

Clinical Indications for the Richie Brace, (con't)

- **Decrease load on Soft Tissue Structures**
  - **Posterior Tibial Tendon**
  - **Peroneal Tendon**
  - **Lateral Ankle ligaments**

- **Off load the plantar surface of foot from ground reaction forces and shear forces**
  - **Charcot arthropathy**
  - **Neuropathic Ulceration**
  - **Charcot Marie Tooth**

- **Improve Balance and Proprioception**
  - **Prophylactic ankle bracing**
  - **Diabetic peripheral neuropathy**
  - **Elderly patients with high risk of falls**

Rules and Clinical Indications for the Richie Brace

Rule #1

A brace can move a joint within the range of motion available at that joint., if no motion, the brace will not increase the motion.

*Accurate evaluation and measurement of joint range of motion is critical to decide which is the appropriate brace to prescribe.

THE Richie BRACE® RESTORING MOBILITY

Rules and Clinical Indications for the Richie Brace

Remember that all of the brace casts are corrected to align the rearfoot perpendicular to the supportive surface. If your patient has a pathology which cannot be corrected to perpendicular, then you must tell the lab to modify the standard correction criteria.

THE Richie BRACE® RESTORING MOBILITY

Rules and Clinical Indications for the Richie Brace

For example

- A rigid non-reduceable Stage 3 Adult Acquired Flatfoot cannot be corrected to a neutral or perpendicular hindfoot position.

The prescription can be modified to request “no balance” to the cast correction or “ no correction of deformity”.

The final brace will still have benefit in preventing end-stage subluxation of the hindfoot joints which usually provides significant symptomatic relief.

Rules and Clinical Indications for the Richie Brace

Another example:

- Significant tibial varum deformity (over 6 degrees).
- The angulation of the tibia to the ground will mal-align the footplate of the brace to the ground.
- Six degrees of tibial varum will invert the entire brace six degrees to the ground.
- The lab should correct the footplate to compensate for tibial varum or for genu valgus deformities.

In these cases, the footplate is angulated on the limb uprights to assure that the footplate rests flat on the ground.

Rules and Clinical Indications for the Richie Brace

Rule #2

The alignment to the footplate of the brace, to the alignment of the leg of the patient will determine the alignment of the footplate to the ground.

*Evaluation of alignment of the tibia to the ground is critical

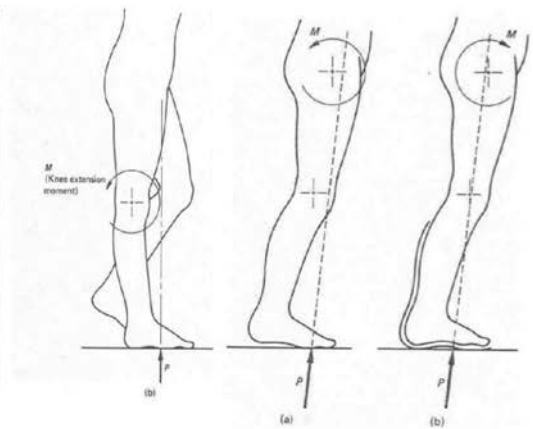
THE Richie BRACE® RESTORING MOBILITY

Rules and Clinical Indications for the Richie Brace

Rule #3

Stability of knee can affect or be affected by the ankle-foot orthosis.

*Patients must be carefully evaluated in gait with special attention to alignment and stability of the knee



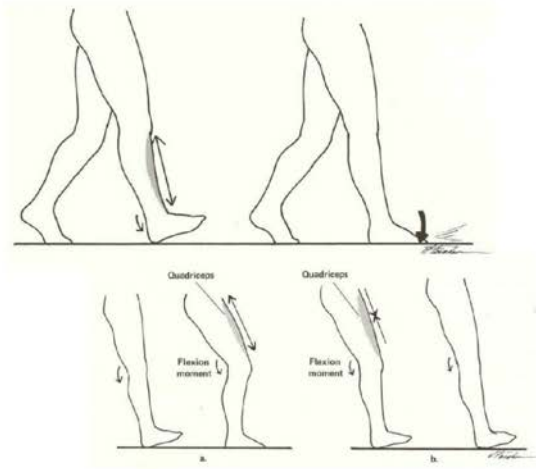
An unstable knee requires a solid AFO to restore tibial alignment.

THE Richie BRACE® RESTORING MOBILITY

Rules and Clinical Indications for the Richie Brace

Rule #4

Restricting or locking motion at the ankle joint will cause compensation both proximal and distal:

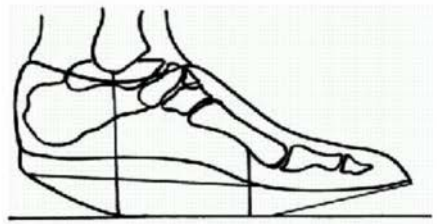


At the Knee: Abnormal flextion moment during contact phase of gait

At the Midfoot: Increased sagittal plane motion during midstance and terminal stance

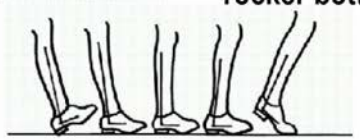
Rules and Clinical Indications for the Richie Brace

- **This can be a negative effect of solid AFO's and Gauntlet style braces which can be partially off set by use of heel rocker and midfoot rocker sole additions**



It is recommended to use a heel rocker to control abnormal flextion stress to the knee

*** referral to a pedorthist for modifcation of the shoe ~ adding a rocker bottom**



Rules and Clinical Indications for the Richie Brace

Rule #5

Traditional solid shell AFO are designed to control the foot and the ankle primarily in the sagittal plane. They have minimal effects on control of the tibia in the transverse and frontal planes

Most pathologies treated by the podiatric physician require control of the foot and ankle in the transverse and frontal planes

Examples

- lateral ankle instability
- posterior tibial tendon dysfunction
- arthritic conditions of the subtalar joint

Rules and Clinical Indications for the Richie Brace

Rule #6

Many applications of the Richie Brace are for conditions which will improve and ultimately not require bracing on a permanent basis.
Many conditions will change over time and require a new brace prescription or a modification of the original brace.

- 50% of patients with Posterior Tibial Tendon Dysfunction successfully recover in 12 months and discontinue use of their Richie Brace
- Long term management with custom functional foot orthoses is recommended

Rules and Clinical Indications for the Richie Brace

Rule #7

A proper shoe is essential to the fit and function of the Richie Brace. The shoe upper is required to control the foot in the transverse and sagittal planes. Brace therapy will fail if patients are not willing to follow the advice given by the doctor for selection of proper footwear.

*Function of the Richie Brace should never be evaluated by having the patient stand on the brace outside of the shoe. The shoe upper is essential to control medial and lateral slippage of the foot off of the footplate of the brace.

THE Richie BRACE® RESTORING MOBILITY

Rules and Clinical Indications for the Richie Brace

Rule #8

In most cases, application of a Richie Brace is only one part of an overall comprehensive program for treatment

Most conditions treated with Richie Brace therapy also benefit from

- physical therapy
  - gait training
  - muscle strengthening
  - balance training

In other cases, patients may need to be seen by an orthopedic surgeon or physiatrist

*Teaming with other specialties such as physical therapy, orthopedics, neurology and physiatrists can optimize treatment outcomes with the Richie Brace and can also produce referrals from these sources which had not occurred before.

THE Richie BRACE® RESTORING MOBILITY

RICHIE BRACE® STANDARD

Clinical Indications:

- ✓ Mild to moderate PTTD, TPD
- ✓ Early Charcot Arthopathy
- ✓ Severe pronation
- ✓ Sinus tarsi syndrome
- ✓ Chronic Ankle Instability
- ✓ Tarsal coalition
- ✓ Degenerative Arthritis of the ankle, subtalar & midtarsal joint
- ✓ Peroneal Tendinopathy i.e. chronic tendonitis or tear

Casting Requirements:
Ankle Casting sock

RICHIE DYNAMIC ASSIST BRACE®

Clincal Indications:

- ✓ Partial or complete Dropfoot
- ✓ Post CVA
- ✓ Peroneal nerve injury
- ✓ Mild Muscular Dystrophy
- ✓ Charcot Marie Tooth Disease
- ✓ Post Polio
- ✓ Diabetic Neuropathy

Casting Requirements:
Ankle Casting Sock

Richie Brace Restricted Hinge

Clinical Indications:

- ✓ DJD of ankle or rearfoot
- ✓ Mild Dropfoot
- ✓ Dropfoot w/ equinus
- ✓ Dropfoot w/ spasticity
- ✓ Stable knee
- ✓ Use w/ a Lateral Arch Suspender for Peroneal Tendinopathy or severe lateral ankle instability
- ✓ Use w/ a Medial Arch suspender for moderate to severe PTTD

Casting Requirements:
Ankle Casting Sock

THE Richie BRACE® RESTORING MOBILITY

The Restricted Hinge Richie Brace and the Richie Solid AFO braces are fabricated to position the ankle joint at a 90 degree position in static stance

If your patient has significant equinus (less than zero degrees of ankle joint dorsiflexion with the knee extended)

- **The prescription should designate the amount of equinus, or the alignment of the footplate to the leg at the ankle joint in the sagittal plane**

THE Richie BRACE® RESTORING MOBILITY

A patient with Charcot Marie Tooth Disease who has maximum ankle joint range of motion of -10 degrees should have the footplate of the brace set 10 degrees plantarflexed to the leg when a restricted hinge pivot brace is used.

RICHIE CALIFORNIA BRACE®

Clinical Indications:

- ✓ Rigid, non-reducible Adult Acquired Flatfoot (Stage III & IV)
- ✓ Severe DJD or Deformity of hindfoot
- ✓ Charcot Arthopathy

Casting Requirements:
Mid Leg Casting sock (Must go 9" up the back of the leg from the floor)

RICHIE GAUNTLET BRACE®

Clinical Indications:

- ✓ Rigid, non-reducible Adult Acquired Flatfoot (Stage III & IV)
- ✓ Severe DJD or Deformity of hindfoot
- ✓ Charcot Arthopathy
- ✓ Partial or complete dropfoot

Cast Requirements:

Mid Length sock

RICHIE BRACE® SOLID AFO

Clinical Indications:

- ✓ Dropfoot with unstable knee
- ✓ Dropfoot with spasticity
- ✓ Charcot Arthopathy

RICHIE OTC ANKLE BRACE®

Clinical Indications:

- ✓ Acute ankle sprain
- ✓ Syndesmosis Sprain
- ✓ Interim brace before custom AFO
- ✓ Tendinopathy of foot and ankle
- ✓ Peroneal Tendinopathy

RICHIE BRACE® OTC DYNAMIC ASSIST

Clinical Indications:

- ✓ Dropfoot secondary to CVA or nerve injury
- ✓ Peroneal tendinopathy
- ✓ Tibialis Anterior Tendinopathy

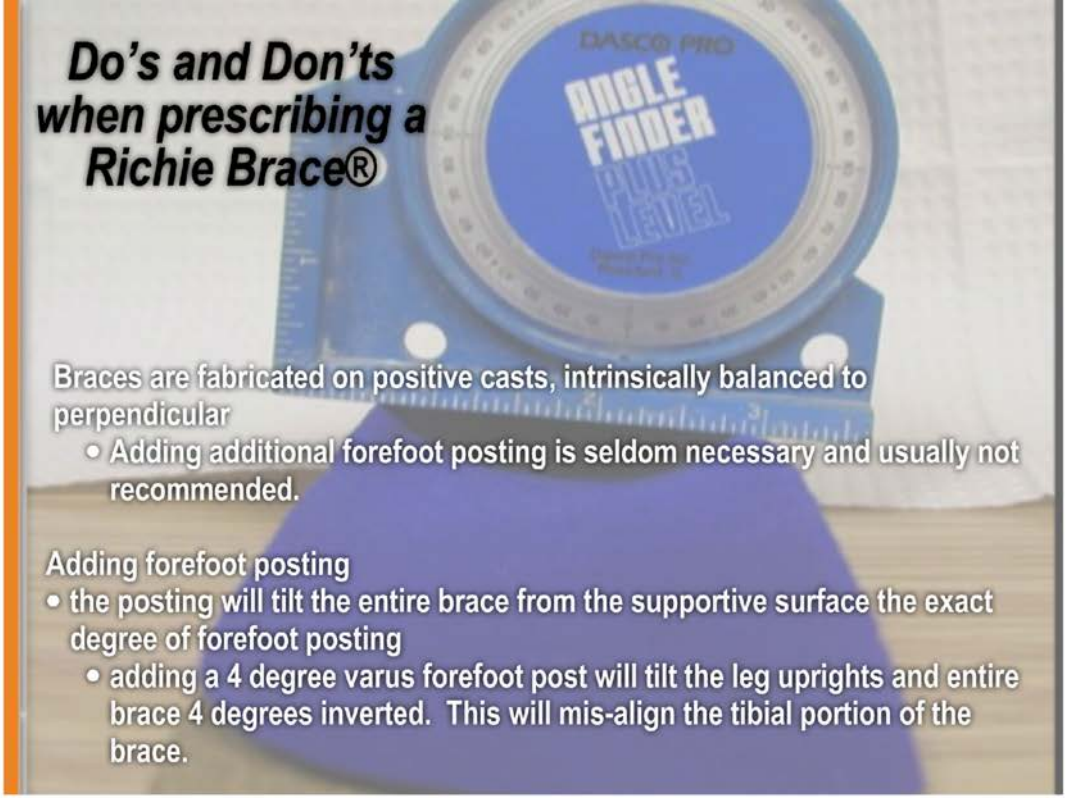
RICHIE OTC ANKLE BRACE®

OTC Braces are available in five sizes:

	MEN	WOMEN
X-SMALL		4-6
SMALL	4-7	7-9
MEDIUM	8-10	10-12
LARGE	11-13	13+
X-LARGE	14+	

THE Richie BRACE® RESTORING MOBILITY

Do's and Don'ts when prescribing a Richie Brace®



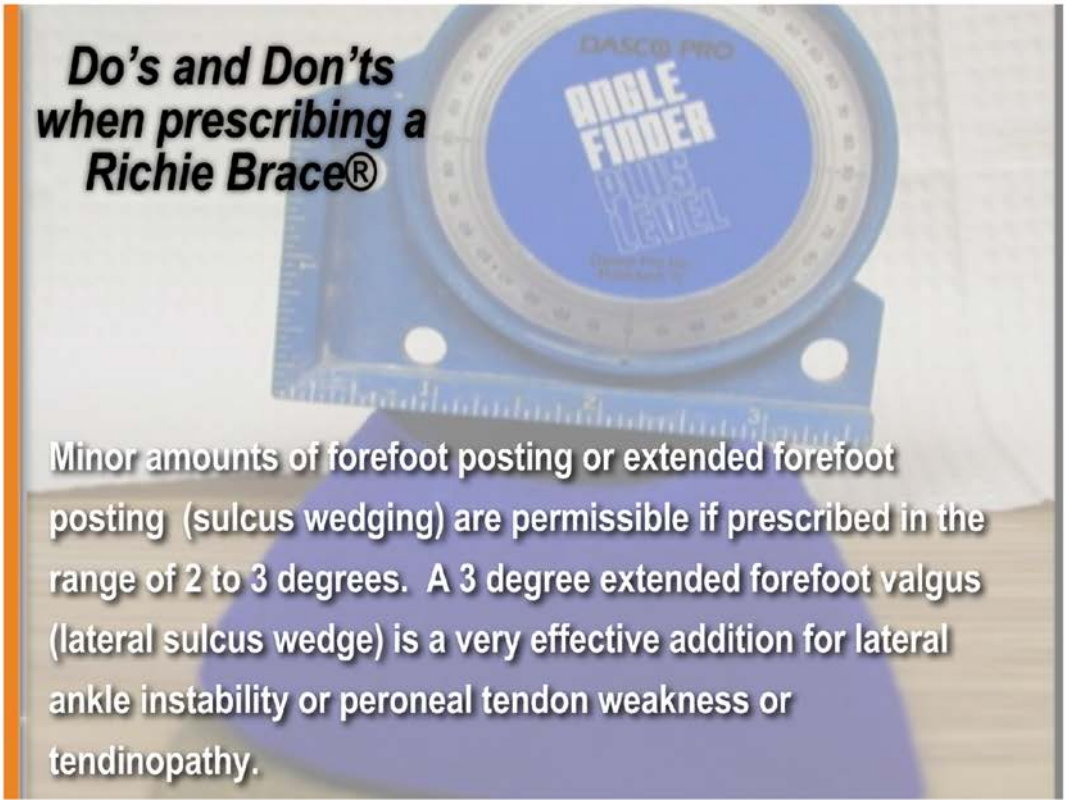
Braces are fabricated on positive casts, intrinsically balanced to perpendicular

- Adding additional forefoot posting is seldom necessary and usually not recommended.

Adding forefoot posting

- the posting will tilt the entire brace from the supportive surface the exact degree of forefoot posting
  - adding a 4 degree varus forefoot post will tilt the leg uprights and entire brace 4 degrees inverted. This will mis-align the tibial portion of the brace.

Do's and Don'ts when prescribing a Richie Brace®



Minor amounts of forefoot posting or extended forefoot posting (sulcus wedging) are permissible if prescribed in the range of 2 to 3 degrees. A 3 degree extended forefoot valgus (lateral sulcus wedge) is a very effective addition for lateral ankle instability or peroneal tendon weakness or tendinopathy.

Treatment Pearls when prescribing a Richie Brace®

Recommendation	
For Adult Acquired Flatfoot, we recommend the following considerations:	• 6mm Medial Heel Skive • Lateral Flange (not medial flange!) • Sweet Spot for Prominent Navicular • Medial Arch Suspender for more severe deformities (Stage 3) • Richie Gauntlet for Stage 4 deformity

THE Richie BRACE® RESTORING MOBILITY

Treatment Pearls when prescribing a Richie Brace®

Recommendation	
For Lateral Ankle Instability, we recommend the following enhancements:	• Medial flange (not lateral flange!) • 3 degree extended valgus forefoot post a (sulcus wedge) • Modify limb uprights for tibial varum if deformity exceeds 4 degrees • For Severe Rearfoot Varus: Add 3 degree valgus rearfoot post and 6 mm lateral heel skive

THE Richie BRACE® RESTORING MOBILITY

Treatment Pearls when prescribing a Richie Brace®

For Dropfoot, we recommend the following :

Richie Dynamic Assist if knee is stable, no equinus (ankle joint dorsiflexion range available to 90 degrees with knee extended) and no evidence of spasticity or muscular contracture.

Richie Restricted Hinge Pivot if spasticity or contracture, with stable knee. If equinus, inform the lab of the maximum ankle joint dorsiflexion and have the foot plate aligned to the leg uprights according to measurements of maximum range of ankle dorsiflexion.

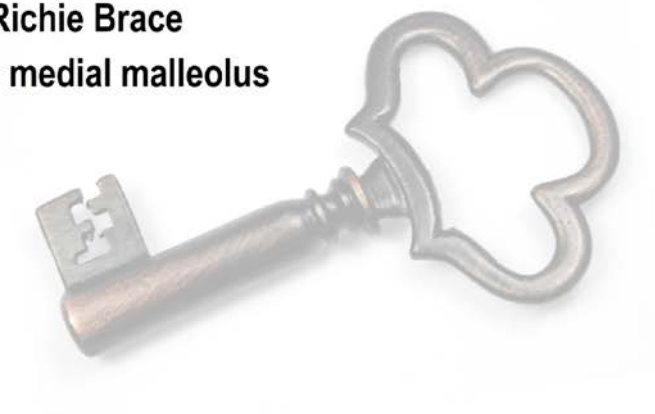
For Dropfoot with unstable knee:
Richie Solid AFO

THE Richie BRACE® RESTORING MOBILITY

Troubleshooting: Key Questions and Issues

Although fit issues are not common with the Richie Brace, they still arise simply because the pathologies treated with these devices are challenging and sometimes unpredictable.

- The most common area for fit and adjustment issues with the Richie Brace
  - medial malleolus



Key Questions and Issues...
Brace Irritation on Medial Malleolus

- Improper placement of the hinge pivot of the brace
- Too high on the ankle joint
- Casting error by the doctor or due to lab error.
- Poor pronation control of the brace

Correction:

As the foot pronates at the subtalar and midtarsal joints, the tibia and talus ADDUCT on the forefoot causing medial displacement of the medial malleolus and pressure against the medial limb upright.

Check the brace on the patient to assure that the metal hinges are located within 5 millimeters of the distal most tip of each malleolus.

Suggested modifications:

To improve pronation control and reduce rubbing of the brace against the medial malleolus

- Ask the lab to add an extended Korex wedge on the top of the heel cup and extending to the navicular on the top surface of the orthotic footplate.
- Ask the lab to add a Medial Arch Suspender option.

Adding additional padding to the medial malleolus section of the brace is usually unsuccessful it only increases pressure. Consider adding Korex or foam to the footplate upright immediately distal or beneath the medial malleolus.

Troubleshooting the Fit and Function of the Richie Brace

Problem: **Brace is not controlling the Dropfoot**

When seen, this usually occurs with the Dynamic Assist Model of the Richie Brace and is simply due to the fact that attention was not paid to prescription criteria. If the patient has significant equinus, spasticity or contracture the dorsiflex-assist hinges will not control the dropfoot.

Solution: The patient must be re-casted and fitted with a Restricted Hinge brace or a Solid AFO set in equinus. In some rare cases where there is no equinus and the dropfoot continues, there may be benefit to switching out the Tamarack Hinges to a high durometer (stiffer) set of hinges. The lab can do this on request.

THE Richie BRACE® RESTORING MOBILITY

Troubleshooting the Fit and Function of the Richie Brace

Problem: The Dynamic Assist Brace is Too Springy

This is usually a problem when putting on the brace as the limb uprights have to be pulled back and held in position on the leg as the back strap is secured. With elderly patients or patients with arthritis or weakness of the hands, this may be a challenge.

Solution: There are lower durometer (less spring) hinges available on request from the lab. There is also another strap closure option which can be added by the lab where a single wide continuous strap can be wound around the limb uprights without having to feed thru the slots in the limb uprights.

Troubleshooting the Fit and Function of the Richie Brace

Problem: The Brace is Too Wide

This is an uncommon problem and rarely causes problems with patient discomfort or compliance. However, it can cause shoe fit issues.

The cause

- casting error ~ where the cast material was not properly molded to the foot of the patient
- plaster casting technique inadvertently widened the ankle portion when pulling the cast off the foot.

Solution: The brace can be spot heated and narrowed at the footplate upright portion, both medial and lateral.

Tips for Spot Heating the Richie Brace

- Aim a heat gun at the footplate upright section of the brace immediately below the metal hinge pivot
- Apply the heat source for approximately 30 seconds
- Place one hand on the limb upright and another on the top surface of the footplate
- Push down on the medial limb upright and watch as the footplate upright will bend and widen the brace at the medial malleolus
- Bend approximately one centimeter of increased width of the footplate upright

Run this section of the brace under cold water to immediately preserve the adjustment in the plastic

THE Richie BRACE® RESTORING MOBILITY

Other tips for Spot Heating:

- The limb uprights can be heated and adjusted but require less heat for a shorter period of time than the footplate portion of the brace.
- It is easy to over widen the brace and loose biomechanical control. It is better to make adjustments in increments.
- When in doubt, ask your lab to make these adjustments. The brace has an initial warranty which will be voided if you damage the brace with inappropriate overheating or bending of the plastic.

THE Richie BRACE® RESTORING MOBILITY

"POOR FITTING BRACES COST YOU MONEY!"

- *Library produced ankle foot orthoses rarely fit the shape of pathologic feet in accurate fashion.*
- *The result is intolerance by the patient and a need for the practitioner to adjust the device or send it back to the lab for modification.*
- *Every office visit for a patient to have the fit of the brace evaluated or adjusted cannot be billed to insurance or Medicare....all such visits are wrapped under the L-Code for the AFO brace.*

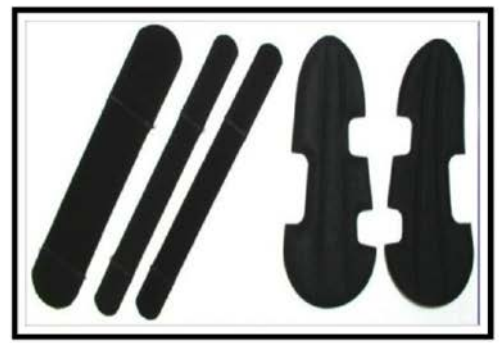
If you are seeing patients for fitting and adjustment on multiple occasions, you are working for free!

THE Richie BRACE® RESTORING MOBILITY

REFURBISHMENT

L4002 (Replacement strap, any orthosis, includes all components, any length, any type)

L2820 -RB (soft interface)



New HCPCS Modifiers for Repair and Replacement

The following two modifiers are being added to the HCPCS on April 01, 2010, and are effective for claims with dates of service on or after April 01, 2010:

RA – Replacement of a DME, Orthotic or Prosthetic item

RB - Replacement of a part of a DME, Orthotic or Prosthetic item furnished as part of a repair

NOT on initial dispense – must be 90 days or longer after the brace was dispensed.

THE Richie BRACE® RESTORING MOBILITY

THE RICHIE BRACE CATALOG PROVIDES AN EXCELLENT RESOURCE GUIDE TO

- Clinical indications for all of the Richie Brace models

AS WELL AS THE TREATMENT GUIDE OFFERING

- Brace indications
- Diagnosis
- Casting recommendation

RICHIE BRACE ® TREATMENT GUIDE

					
Richie Brace® Standard	**Dynamic Assist**	**Restricted Hinge Pivot**	**Restricted Hinge w/Arch Suspender**	**California AFO**	**Richie Solid AFO**
Stage II PTTD	Dropfoot w/out equinus No spasticity Stable knee (must have all 3 above)	Dropfoot w/ equinus Dropfoot w/spasticity Stable knee	Medial: Stage II or III PTTD with subluxed T-N joint	Severe Deformity: Stage IV PTTD Charcot Deformity	Dropfoot with unstable knee
Chronic Ankle Instability	Post CVA Peroneal nerve injury Post Polio	DJD of Hindfoot and Ankle	Lateral: Peroneal Tendinopathy Flexi varus deformity of hindfoot/ankle	Severe DJD of Ankle or Hindfoot	
C A S T I N G					
Ankle Casting Sock	Ankle Casting Sock	Ankle Casting Sock	Ankle Casting Sock	Mid Leg Casting Sock	Full Leg (thermoplast) Casting Sock

Quick ICD-9 DX Code Reference List Commonly used for Richie Brace Prescriptions

Lateral Ankle Instability	Charcot Foot	Degenerative Joint Disease of Ankle & Rearfoot	Adult Aquired Flatfoot (PTTD)	Tendinopathy of Ankle	Dropfoot
Instability of Joint; Ankle & Foot 718.87	Charcot Arthropathy 094.0 (713.5)	Osteoarthritis, Localized, Primary; Ankle & Foot 715.17	Adult Aquired Flatfoot 734	Tendinitis, Tibial 726.72	Dropfoot 736.79
Calc-fib Ligament Sprain 845.02	Diabetic Charcot Joint 250.6 (add the appropriate diabetic 5th digit) and (713.5)	Pain, Joint; Ankle & Foot 719.47 Tarsal Coalition 755.87	Rupture, Tendon; Ankle & Foot 727.68 Pronation, Aquired 736.79	Tendinitis, Peroneal 726.79	Hemiplegia 438.20

THE Richie BRACE® RESTORING MOBILITY


FIREFLY
custom made foot orthoses
Item No.
900 - RB/L
Size
Large
Richie Brace Casting Sock
THE Richie BRACE
Made exclusively for Richie Brace distributors by the STS Company
Made in USA • Lot # 04 Use By: 10/27/11 • U.S. Patent 5,228,164
FIREFLY
custom made foot orthoses
RICHIE BRACE PRESCRIPTION FORM
BRACE SELECTION
ANKLE PIVOT SELECTION
POSTING
SHELL MODIFICATIONS
OPTIONAL TOP COVER SELECTIONS
ADDITIONS
SPECIAL INSTRUCTIONS


Firefly prescription foot orthoses
Richie Brace
Catalogue
Richie Brace
19:00
Read more...
Casting and Suspenders
19:00
Read more...
Dynamic Assist
19:00
Read more...
Gauntlet
19:00
Read more...
Solid AFO Braces
19:00
Read more...
OTC Pre-Fabricated Braces
19:00
Read more...

Firefly
prescription foot orthoses

Phone +353 71 91 49494

Fax +353 71 91 14299

Firefly
Markievicz Road
Sligo
Co. Sligo
Ireland

Firefly
10 Main Street
Garrison
BT93 4ER
United Kingdom

FIREFLY
custom made foot orthoses

THE Richie BRACE®

Thank you!

Training Time
e-Training for Podiatry