

NEW



## STEP-SMART®

The only complete solution for drop foot. The Step-Smart® brace is not only designed for clearance during swing phase, it is also engineered to handle shock absorption at heel strike. The exclusive Jacob Joint® pushes the foot into gentle dorsiflexion during swing phase. Then the pre-loaded feature of the joint absorbs shock and decelerates the plantarflexion phase instantaneously during heel strike. The dorsiflexion assist Jacob Joint® comes complete with three sets of replaceable compression components that offer varying degrees of shock absorption. This allows the practitioner to adjust the shock absorption level to match the weight and step length of the patient.



### The Importance of Plantarflexion

Without plantarflexion the Floor Reaction Force creates a Knee Flexion moment that the patient has to fight. Plantarflexion is important at heel strike because it moves the Floor Reaction Force more Anterior. This is a more stable dynamic position. Unfortunately, many drop foot devices allow little or no plantarflexion.

The Step-Smart allows plantarflexion while providing the ideal level of plantarflexion resistance. The Step-Smart may be set to one of five different levels of plantarflexion resistance. This allows the

brace to be set to the required level of resistance for each patient. The result is easier walking and less fatigue for the patient.

The patient that has lost dorsiflexion has also lost the ability to resist the impact of shock at heel strike. The Jacob Joint replaces one of the two shock absorbing features of the lower leg. Those two are slight knee flexion and eccentric contracture of the dorsiflexors in controlled ankle plantarflexion. The ability to dial in the optimal balance that affords knee stability, while also providing deceleration at heel strike can only be found in the Step-Smart brace.

### The Importance of Deceleration at Heel Strike

A common complaint with traditional drop foot devices is the uncomfortable and sometimes painful "foot slap". The Step-Smart pushes the foot into gentle dorsiflexion during swing phase and then

decelerates the foot during heel strike. The brace provides the correct timing of shock absorption and the customized level of plantarflexion resistance. This prevents foot slap and allows for a normal step length.

## The Step-Smart is the complete solution for drop foot

The Step-Smart is low profile, easy to use, comfortable, and is designed with the proper dynamics to imitate the natural foot & ankle movements. This off the shelf brace can be customized to match each patient's shock absorption requirements and their foot/calf angle. We're confident that your patients will agree with Dr. Walter Keller, Vascular

Surgeon and Step-Smart user, when he states "With the old AFO design, walking was so tiresome that I was content falling on my face rather than use it. I love the Step-Smart because it better mimics the natural ankle motions during walking. I use it all day long."

# STEP•SMART® THE COMPLETE SOLUTION FOR DROP FOOT

The Step-Smart can be tailored to the needs of each patient.

The dorsiflexion assist joints and tensor settings may be adjusted to the ideal level for individual patients.

## Tensor Settings:

The foot/calf angle is unique to each individual and needs to be addressed by the AFO. The factory tensor setting works for most people. If the calf section seems to dislodge, the calf section angle can be adjusted. The Step-Smart brace includes a total of three tensors: two of the same length attached to the brace and one longer tensor which may be installed if needed. By



installing the longer tensor on the lateral side a more medial angulation is achieved. By installing the longer tensor on the medial side a lateral angulation is achieved. This 10-degree range allows the practitioner to make angular changes to match the foot/calf angle of 95% of the patients.

## Settings for the dorsiflexion assist joints:

The joints may be customized to one of five different levels of dorsiflexion assistance. The practitioner can determine the proper level of dorsiflexion assistance by evaluating the patient's step-length, weight and other factors. In general, the compression components are chosen to match the patient's specific shock absorption requirements. Mostly, this is affected by patient's weight and step length. Activity level should also be considered. It is suggested that the practitioner and patient establish a starting setting together using the following method.

Start with the 45-45 setting. After ten to twenty steps increase to the 45-60 setting. After another 10-20 steps increase again to 60-60. Keep going until there is too much resistance. Most patients find that the lower settings are enough to accomplish their desired resistance. With



too much resistance, the patient will experience knee instability or the sensation of walking down hill. At this point the setting is too stiff and should be decreased by one setting.

The Compression Component Guide is to be used as a guide only. Clinical evaluation is the best tool when choosing the appropriate compression component level.

### Compression Component Guide

Step-length	Weight (lbs.)			
	<110	110-140	140-180	>180
<12"	45-45	45-60	45-60	60-60
12"-24"	60-60	60-80	60-80	80-80
>24"	60-80	60-80	80-80	80-80

There are five settings: 45-45, 45-60, 60-60, 60-80 & 80-80.  
For 45-60 & 60-80 settings use higher durometer on lateral side.  
**Green=45, Amber = 60, Black = 80** This information is a guide only.  
The patient should work with the practitioner to determine the appropriate setting.

## Step-Smart® Sizing Guide

The S/M footplate length is 6 1/4" and the end of the footplate should land behind the metatarsal heads.

The L/XL footplate length is 6 3/4" and the end of the footplate should land behind the metatarsal heads.

Item #		Size	Heel widths	Men's Shoe Size	Women's Shoe Size
Right	Left				
23213	23313	S/M	Up to 2.5"	Up to Size 9	Up to Size 10
23215	23315	L/XL	Up to 3"	7+	8+

### NOTE:

The most important measurement for determining the proper size is the heel width.



## The Step-Smart® was designed by a Certified Orthotist and Prosthetist

Ian Engelman, M.S. CPO, has degrees from Tufts University, Northwestern and the University of Connecticut and has over 15 years of experience in practice. Ian has fitted numerous patients with traditional drop foot devices over the years and felt that a better brace could be developed. His goal was a brace design that not only looks better, but functions better. The Step-Smart accomplishes these goals; patients will appreciate the small details that make it easier to work with and the relief of improved gait efficiency.



**SWEDE-O, INC.**

6459 Ash Street  
North Branch, MN 55056 USA  
Toll Free 800.525.9339  
Tele 651.674.8301  
Fax 651.674.8425  
www.swedeo.com

Patent pending.