

Hip

Flexion

Assist

Device



[Introduction]

- The Hip Flexion Assist Device (HFAD) is a new product for individuals with Multiple Sclerosis (MS) who are experiencing hip flexor weakness.
- The HFAD is designed to improve gait performance by assisting hip flexion, as well as knee flexion and ankle dorsiflexion.

[Design Rationale]

- It is common for patients with MS to experience a disrupted gait due to hip flexor, knee flexor, and ankle dorsiflexor weakness.
- Typically, this results in difficulty achieving sufficient foot clearance during gait.
- A disrupted gait can impair a patient's ability to perform the routines of their daily life.

[Design Rationale]

- In MS, the Ankle Foot Orthosis (AFO) is the most commonly used lower-extremity orthosis, partly because it is lighter than an orthosis that extends above the knee.
- The AFO can help compensate for ankle dorsiflexor weakness, however, it is unable to compensate for hip or knee flexor weakness.
- Therefore, oftentimes an AFO fails to restore sufficient foot clearance.

[HFAD Features]

- The HFAD overcomes these difficulties
- It is lightweight and able to compensate for hip flexor, knee flexor, and ankle dorsiflexor weakness, thus resulting in improved gait

[Validation]

- A recent study¹ conducted at the Cleveland Clinic Foundation examined the efficacy and safety of the HFAD in ambulatory MS patients
- This study was funded by the National MS Society and published in the Archives of Physical Medicine and Rehabilitation

1. Sutliff, Matthew H., PT; Jonathan M. Naft, CPO; Darlene K. Stough, RN; Jar Chi Lee, MS; Susana S. Arrigain, MA; and Francois A. Bethoux, MD. "Efficacy and Safety of a Hip Flexion Assist Orthosis in Ambulatory Multiple Sclerosis Patients." Archives of Physical Medicine and Rehabilitation 89 (2008): 1611-1617.

[Validation – Results]

The results of the study indicated that use of the HFAD:

- Significantly improved gait performance
- Improved strength in the limb fitted with the HFAD
- Increased daily activity level

[Validation – Results]

After eight weeks of HFAD use:

- Average of 27% improvement in the time needed to walk 25 feet (7.62 m)
- Average of 24% improvement in the distance walked in six minutes
- Average level of user satisfaction with the HFAD rated a 39 out of 45

[Customer Feedback]

- HFAD customer feedback has been very positive
- One HFAD user who nicknamed the HFAD the “slingshot” says:

“I've been enjoying the new slingshot tremendously. It is sturdy and streamlined. One word -- FABULOUS!!! I particularly like the belt.”

- Beth

[The HFAD]

**Dynamic
Tension
Bands**



**Comfortable
Waist Band**

[HFAD – Waist Band]

**Durable
Heavy Duty
Webbing with
Hook & Loop
Closure**

**Soft
Comfortable
Neoprene
Lining**



HFAD – Tension Bands

- Assist hip flexion, knee flexion and ankle dorsiflexion
- Consist of elastic cores covered with mesh sleeves
- Run along the inner and outer sides of the weaker leg



HFAD – Tension Bands

**Width of
Tension
Bands can be
adjusted on
the Waist
Band to suit
the wearer**



[HFAD – Popliteal Strap]

- Optional item that attaches to the tension bands & rests behind the knee
- Helps initiate knee flexion during the swing phase of gait



- Can help reduce knee hyperextension
- Can be helpful for patients with stiffness in the leg due to extensor spasticity, a condition that can make it more difficult to bend the knee

[HFAD – Attachment]

The HFAD:

- Attaches to shoes that lace up
- Requires no special footwear



[HFAD – Assist Adjustment]



The amount of assist is easily adjustable via the:

■ Grips

■ Adjustment Strap

[HFAD – Wear Options]

The HFAD may be worn:



Over
Clothing

OR

Under
Clothing



[Indications]

The HFAD may be beneficial for individuals with MS who:

- Have hip flexor, knee flexor, or ankle dorsiflexor weakness
- Fatigue when walking, resulting in limited endurance
- Drag the weaker leg with compensatory movements (such as hip hiking, circumduction of the effected leg, or vaulting off of the contralateral foot)
- Have tried to use an AFO to compensate for foot drop, but still struggle to walk due to hip and knee flexor weakness

Contraindications

The HFAD should not be used by individuals who have:

- Back pain of 4/10 or higher (on a numeric pain rating scale)
- Open wounds in the waist region
- Feeding tubes
- Valgus deformities
- Upper extremity weakness (that may impair proper donning and doffing of the device)
- Impaired coordination (that may impair proper donning and doffing of the device)
- Significantly impaired cognition (that may impair proper donning and doffing or safe use of the device)

[HFAD Features]

- Lightweight
- Comfortable
- Easily adjustable
- Easy to put on and take off
- May be worn over or under clothing
- Requires no special footwear
- Manufactured from durable materials

[Ordering Information]

The HFAD is available in stock sizes:

SIZE	WAIST CIRCUMFERENCE	
	(in)	(cm)
Small	24 - 32	61 - 82
Medium	33 - 40	83 - 102
Large	41 - 48	103 - 122

Please specify Right, Left or Bi-lateral and Regular Length or Extra Long [height over 5' 10" (1.78m)] when ordering.

[Contact Information – U.S.]

Customers within the U.S. please contact:

Becker Rehabilitation Products Customer Service

888-344-0450

248-588-8959

Fax: 248-588-5351



[Contact Information - International]

International Customers please contact:

Becker Orthopedic International Customer Service

800-521-2192

248-588-7480

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