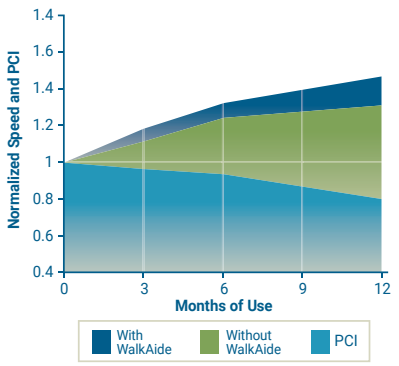
The WalkAide® System

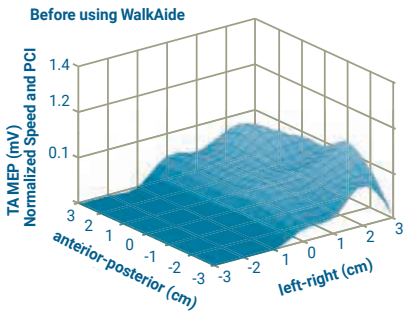
Independence.
One Step at a Time.

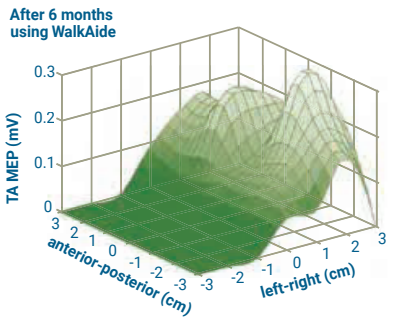
Advancing Outcomes in Neuro Rehabilitation

Dynamic FES for Neuro Rehabilitation



Walking speed increased over a 12-month period, while physiological cost index (PCI) decreased. Values (mean + SE) were normalized to 1.0 at the start of the trial for each subject and significant changes are indicated. Walking speed also increased even when the WalkAide was turned off (training effect).





After 6 months of using the WalkAide, the motor evoked potentials (MEPs) in the brain were larger, suggesting that stimulation has improved neuronal connections between the surrounding area of the brain and their response to the tibialis anterior muscle.

Walking Speed Improvements

3 months **15%**
6 months **32%**
12 months **47%**

The WalkAide System is an advanced Functional Electrical (FES) Stimulation System for the treatment of Foot Drop caused by **upper motor neuron injury** such as:

- **Multiple Sclerosis (MS)**
- **Stroke (CVA)**
- **Incomplete Spinal Cord Injury**
- **Cerebral Palsy (CP)**
- **Traumatic Brain Injury (TBI)**

Utilizing a **tilt sensor** technology, the WalkAide stimulates the common peroneal nerve to lift the foot at the right time during the gait cycle, prompting a more natural, efficient, and safe walking pattern. WalkAide users have the freedom to **walk with or without footwear, up and down the stairs, and all directions.**

Effective from Acute to Post-Rehab Care

Using the WalkAide **in all stages of neuro rehabilitation** provides the therapist a valuable tool to promote optimal patient outcomes.

- **Improve walking speed with less fatigue**
- **Improve gait quality**
- **Reduce atrophy**
- **Improve circulation, muscle condition, and bone density**
- **Promote Neuroplasticity**

Options for Rehab Use

Tilt Mode

- **Gait Training:** Maximize patient handling while increasing sensorimotor input
- **Swing:** Enhance motor learning through repeated, forced use during open chain activities (swing)
- **Random Practice:** Improve gait on all surfaces and generalize to varying environments
- **Biofeedback:** Use audible feedback during stimulation to promote tibial translation

Hand Mode

- **Pre-Gait Skills:** Practice weight shifting to improve transition between extensor and flexor tone
- **Blocked Practice:** Use controlled stepping and swing initiation in early gait training
- **Gait Training:** Manage dorsiflexion for safe steps during ambulation
- **Exercise and Gait:** Vary durations of stimulation to assist, challenge and progress activities

Heel Mode

- **Functional Activities:** Cue forward weight shifting in sitting and assist with sit-to-stand transfers
- **Pre-Gait Skills:** Teach controlled weight shifting side-to-side and with stepping forward and back
- **Early Gait Training:** Walk in parallel bars or for short distances to improve motor control

Exercise Mode

- **Bedside Therapy:** Enhance movement, circulation, strength, etc.
- **Rehab and Home Exercise:** Build muscle strength and endurance, increase ROM, normalize tone, etc.
- **Neuromuscular Re-education:** Promote learning via sensory feedback from consistent, repetitive and functional movement

> “I think the sensory input of both the stimulation and the foot on the ground promotes better long term improvement in the gait. I also see dorsiflexion strength improvement over time.”
>
> **– Lynne Romeiser Logan PT, PhD, PCS Upstate Medical University**

WalkAide: A New Level of Simplicity

WalkAide Bi-Flex™ Cuff

Accurate, simple, one-handed donning and doffing.
Reproducible outcomes in clinic, and at home.

Visual Indicator
Helps accurately align the WalkAide System for consistent positioning

Electrode Locators
Help ensure precise electrode placement for optimized stimulation

Universal Fit
Can be used on either left or right leg — available in four comfortable sizes

Easy-to-Use Latch
Securely holds the cuff to the leg for consistent placement

Washable Liner
Promotes patient comfort and hygiene

Vented Design
Allows for increased air circulation and increased breathability

Silicone Cover
Available to protect your WalkAide System

Unique Dual Durometer Construction
Rigid side helps secure the cuff with easy one-handed operation; soft side conforms to the leg for total electrode contact

Customizable Features
Can be personalized for look, fit and function

> I have had my WalkAide for five years. My WalkAide has enabled me to optimize my walking faculties, which in turn, increases my mobility and decreases my daily fatigue. I can't image what memories, events, and activities I would have never experienced because of not owning and wearing my WalkAide.
>
> **– Debbi, WalkAide user with MS**

WalkAide Disposable Liner

Simplified setup, therapy & follow-up

The Disposable Liner has been specifically designed to ease individual patient setup and adjustment. It allows clinicians to create a customized liner for each patient.

- **Reduces setup time:** Electrodes can remain on the liner after setup to maintain proper position for future therapy sessions.
- **Improves hygiene:** Each liner acts as a sanitary barrier, allowing clinicians to use the same cuff on multiple patients.
- **Sizeable to each patient:** The latex-free, hypoallergenic liner can be trimmed to fit all available cuff sizes.

WalkAnalyst 5.1

- Express Adult & Express Pediatric programming allow for faster patient fitting.
- One click changes from to tilt to hand or heel stimulation modes.
- Easily adjust, transfer or recover programs.
- Collect objective measures during 10 Meter and 6 Minute Walk Tests.
- Use with Windows 7, 8 or 10 as well as tablets with touch screen capabilities.

The Most Advanced Long Term Solution

WalkAide Lasting Change

The WalkAide can replace the traditional foot brace to re-engage a person's existing nerve pathways and muscles. The recruitment of existing muscles results in reduction in atrophy and walking fatigue, common side effects of bracing.

Functional Electrical Stimulation (FES) vs. Ankle Foot Orthosis (AFO) for Foot Drop

Benefits	FES	AFO
Reduces foot drop	Yes	Yes
Improves gait mechanics	Yes	Yes
Prevents loss of passive ROM	Yes	Yes
Prevents loss of active ROM	Yes	No
Active muscle contraction	Yes	No
Slows muscle atrophy	Yes	No
Promotes motor learning	Yes	No
Promotes neuroplastic changes	Yes	No

AFO = ankle foot orthosis electrical stimulation
FES = functional ROM = range of motion

Competitive Advantages:

WalkAide features competitive advantages not found in other FES systems.

- **Self-contained system:** Designed for reproducible results, easy application and maintenance
- **Single battery operation:** Operates up to 30 days on one AA battery, with no need for nightly recharges
- **Inclinometer and accelerometer:** Accurately analyze lower leg movement to help promote a natural walking pattern
- **Freedom of choice:** Wear almost any type of shoe, or no shoes at all
- **Value:** Low financial investment with a dedicated team of rehab specialists to help you and your patients succeed
- **Durability:** Durable equipment with a 2 year WalkAide limited warranty

WalkAide Technical Specifications

Size	8.2 cm(H) x 6.1 cm(W) x 2.1 cm(T)
Weight	87.9 g
Power Source	One 1.5 volt Alkaline AA battery (LR6)
Maximum Current	200 mA at 500 ohm; 121 mA at 1 K ohm
Maximum Voltage	121 V at 1 K ohm; <150 V at 1 M ohm
Number of Modes	2-Exercise, Walking
Number of Channels	1
Pulse Type	Asymmetrical Biphasic
Pulse Width	250300 microseconds (Adjustable)
Frequency Range	16.7 – 33 Pulses Per Second (Adjustable)
Maximum Stimulation Period	3 seconds
Stimulation Trigger Source	Tilt or Heel Sensor
Controls and Indicators	• ON/OFF/Intensity; Stimulation, Exercise • Error
Shipping and Storage Conditions	Device (Long Term) Temperature: -4˚ – +60˚ C) Relative Humidity: 95% max. non-condensing Electrodes (Long Term) Temperature: 41˚ – 80.6˚F (5˚ – +27˚ C) Humidity: 35 – 50% Electrodes (Short Term – less than 1 month) Temperature: 32˚ – 104˚ F (0˚ – +40˚ C) Humidity: 35 – 50%

As a practicing Neurologist I looked at all the foot drop systems on the market and the WalkAide was best for me to fight my MS.

– Michele, MD

INNOVATIVE NEUROTRONICS

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