

A 6-Week Case Study

Rebuilding balance and walking confidence with multiple sclerosis

PARTICIPANT

Vanessa · Age 51 · Multiple sclerosis (diagnosed ~10 years ago)

MARCH - APRIL 2026

RESULTS AT A GLANCE**4-Square Step Test**

21.19 sec

from 39.05 sec at baseline

▼ 46% faster

60-Sec Sit-to-Stand

10 reps

from 8 reps at baseline

▲ 25% more

6-Minute Walk Test

460 ft

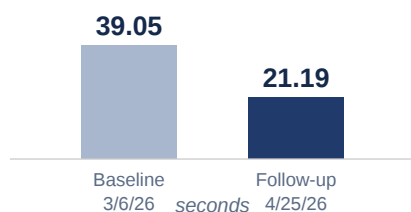
from 445 ft at baseline

▲ 15 ft

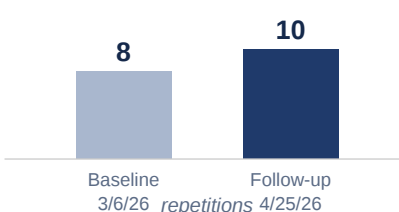
All measures assessed at baseline (March 6, 2026) and follow-up (April 25, 2026). Arrows show the direction of improvement for each test.

4-Square Step Test

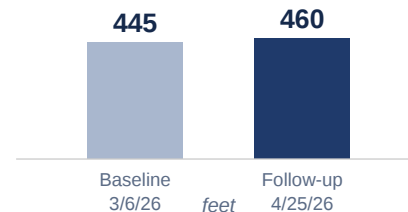
Dynamic balance — lower is better

**60-Second Sit-to-Stand**

Functional leg strength — higher is better

**6-Minute Walk Test**

Walking endurance — higher is better



Background

Vanessa is a 51-year-old woman living with multiple sclerosis, diagnosed approximately ten years ago. Vanessa is highly engaged in her own health, working with both a neurologist and a functional-medicine physician. In addition to this walking protocol, she attended a bi-weekly MS-focused gym class with circuit and cardio work. Vanessa is employed full time at a plant nursery and has a teenage son who participates in sports.

At her baseline assessment, Vanessa presented with lower-limb weakness and spasticity (left > right) that affects her gait and balance. For everyday mobility she walks with Activator walking poles and wears a Bioness functional electrical stimulation (FES) unit on her left lower leg; both assist with foot clearance during the swing phase of gait, balance, and endurance. Knee hyperextension and a narrow base of support were also noted features of her gait pattern.

The Just Walk Protocol

Just Walk is a lightweight (about three pounds), fully mechanical wearable device for neuromotor gait rehabilitation. It assists with foot lift at the start of each step and applies adjustable resistance as the leg moves forward, integrating into the natural gait cycle to reinforce walking patterns. Over six weeks, Vanessa followed a consistent, self-logged routine, recording the timing and perceived difficulty of every walk.

PROTOCOL ELEMENT	DETAIL
Device	Just Walk neuromotor rehabilitation device
Duration	6 weeks (March 7 - mid-April 2026)
Frequency	Two walks per day
Session length	Approximately 10 minutes per walk
Configuration	Resistance attached anterior, bilaterally
Progression	Device Level advanced over time: Level 0 → Level 1 (Week 2) → Level 2 (Week 4)
Walking aids	Activator poles used during walks; Bioness FES unit turned off during Just Walk sessions

The 6-Week Journey

Vanessa's daily logs trace a steady arc — early sessions shaped by cold weather and a stiff back, then a clear shift toward "easier" and "feeling really good" as she advanced through the device's Levels.

WEEK 1 LEVEL 0	Settled into the twice-daily routine. Most walks rated "good" or "much easier."
WEEK 2 LEVEL 0-1	A rough start from back pain, but the vest felt "comforting." Advanced to Level 1 - it "made a huge difference."
WEEK 3 LEVEL 1	Her strongest week of notes: walks logged "easier" and "feeling really good."
WEEK 4 LEVEL 1-2	One session missed due to illness. Advanced to Level 2 late in the week — immediately "hard."
WEEK 5 LEVEL 2	Adjusting to the higher Level; noted the harness can get sore — "pressure on lower neck & shoulders."
WEEK 6 LEVEL 2	Completed the program at Level 2 - most walks steady, only one day logged "rough."

Outcome Measures in Detail

MEASURE	BASELINE 3/6/26	FOLLOW-UP 4/25/26	CHANGE
4-Square Step Test Dynamic balance & stepping	39.05 sec*	21.19 sec	46% faster
60-Second Sit-to-Stand Functional leg strength	8 reps	10 reps	+2 reps (25%)
6-Minute Walk Test Walking endurance	445 ft	460 ft	+15 ft

**Baseline 4-Square Step Test adjusted to 39.05 sec to account for time Vanessa spent managing the walking pole during the test, as observed on video; her raw recorded time was 44.05 sec.*

Reading the results. The standout change was in dynamic balance: Vanessa cut her 4-Square Step Test time by nearly half, moving from a score deep in the high-fall-risk range toward markedly steadier multidirectional stepping. Her sit-to-stand count rose by 25%, pointing to real gains in functional leg strength (she used one pole in her left hand and pushed up from her right hand for stability during the test at both time points). Walking endurance on the 6-Minute Walk Test improved more modestly — a 15-foot gain; for people with MS, a change of roughly 65 feet is generally considered clinically meaningful, so this is best read as a small positive trend. Given the significant impact of her MS, the meaningful story here is the direction and size of her own change across six weeks.

Clinical Interpretation

Across six weeks of twice-daily walking sessions, Vanessa demonstrated meaningful improvements in dynamic balance, functional strength, and gait confidence. Most notably, her 4-Square Step Test improved by 46%, reflecting better multidirectional stepping, foot clearance, and postural control — key areas related to fall risk in individuals with multiple sclerosis.

Clinically, the immediate effect of the device was notable. Upon donning the Just Walk system, the device provided strong proprioceptive input enhancing body awareness. Vanessa demonstrated improved postural organization, gait mechanics, and movement confidence.

These objective improvements aligned with Vanessa's subjective reports throughout the trial. She consistently described walking as easier and more comfortable, with improved confidence and reduced fatigue during longer community outings. Importantly, she began choosing to wear the device beyond training sessions for social and community activities, suggesting the device may function not only as a rehabilitation tool, but also as a meaningful mobility and participation-support aid for individuals with neurologic gait impairments.

Encouragingly, carryover effects were also observed outside of device use, including reduced lower-extremity circumduction during the swing phase of gait and reduced knee hyperextension during the stance phase of gait.

Vanessa's Experience

Vanessa described the effects of the Just Walk device as immediate and noticeable from the very first use. Upon putting the device on, she reported feeling more upright, supported, and mechanically organized through her trunk and lower extremities. The proprioceptive feedback improved her sense of body awareness almost instantly.

Over the course of the six-week trial, she consistently described the device as confidence-building. Walking felt steadier, less effortful, and more secure, particularly during longer community outings. As a result, Vanessa began choosing to wear the device outside of training sessions at social events and community activities because it allowed her to walk longer distances with reduced fatigue and greater confidence.

"The Just Walk system has worked miracles for me. I can't wait to continue to use it and get stronger every day."

VANESSA, FROM HER WEEKLY LOGS

This section reflects experiences Vanessa shared in her weekly logs and recorded video testimonials. Verbatim quotes from the video testimonials can be inserted here once transcribed.

Looking Ahead

This case study is the first in a planned series following multiple participants through the Just Walk protocol. Bringing together individual stories like Vanessa's — each with its own baseline, challenges, and gains — will build a fuller picture of how the device performs across a range of needs, diagnoses, and starting points.