

# The Reminding Walker

## Summary

Falls are the leading cause of injury among older adults. Many falls can be prevented with appropriate use of assistive devices. The Reminding Walker uses multi-sensor technology and software algorithms to provide just-in-time prompts that encourage users to engage their ambulation aid. This device is designed to help people maintain their independence while reducing risk of falls. This is an important and unique invention in the field of Cognitive Orthotics and Geriatric Safety that interfaces well with several existing technologies.

## Key Investigators

Paul Friedman, MD

## Field

Physical Medicine and Rehabilitation

## Technology

Advanced Assistive Ambulation Device for Encouraging and Aiding Mobility

## Key Features

- Customizable technology to fit needs of most any user
- Technologically advanced equipment
- Designed to encourage a more positive perception of mobility aids to support consistent use

## Stage of Development

Preclinical, prototype

## Status

Available for licensing

## Patent Status

US Patent 9,180,063

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## Market

In 2012, an estimated 6.1 million adults used Assistive Ambulation Devices, with approximately two thirds above the age 65. As the number of older adults continues to rise, so does the need for assistive ambulation devices such as walkers or canes.

Use of an Assistive Ambulation Device reduces the risk of falls in older persons; however, many falls occur when walker dependent persons are not using the walker. It has been estimated that 30 to 50 percent of people stop using their assistive device shortly after receiving it. A 2015 research study conducted at Michigan State University highlighted that 75% of surveyed people over the age of 60 had fallen while not using their device and led to a higher proportion of falls resulting in surgery than among device users. There is a need to engage users to continue to use their ambulatory devices.

## Technology

The Reminding Walker functions as a cognitive orthosis to provide cuing to encourage use of an assistive ambulation device, such as a walker or cane.

The Reminding Walker, attached to the walker or built into the ambulation aid, uses sensors and microprocessor software algorithms to determine the user is coming to stand, then produces pleasing auditory and visual cues to encourage use of the ambulation device. The cues can be personalized to the user and help to shift the perception of their device from a mere piece of equipment that represents disability and weakness to a customized resource that enhances independence.

The system can easily be linked to environmental controls that enhance safety, such as turning on lights leading to a bathroom.

Further enhancing safety for the user, the system can provide remote monitoring for activity and safety, passive and non-intrusive. This capability can be linked to existing safety alert communication systems and provide family members with the ability to non intrusively monitor the health and mobility status of the older person.

A device prototype has been built and tested for proof of concept.