

Methods Of Training Human Brain And Body To Walk Using Modular Unpowered Exoskeleton

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Technology description

Invention:

This technology is a non-motorized rehabilitation movement device targeted towards motor-impaired and spinal cord (SCI) patients. The device is configured to prevent the back, hip, legs, calves and feet from deviating from normal walking patterns to allow for independent movement and exercise. Ultimately, this technology develops a patient over time and systemically requires less support as the patient progresses during gait rehabilitation.

Background:

Cerebral Palsy (CP) is a disorder that affects movement, muscle tone and motor skills due to irregular brain development, with around 500,000 people affected in the United States alone. Patients with CP or SCI (approximately 282,000 affected) need a variation of therapy and treatment to overcome standing and walking independently. Walking independently requires a level of developed motor function and muscle degeneration. Current exoskeleton solutions are motorized, extremely costly and are generally not an option for a majority of patients, illustrating the need for an inexpensive apparatus to improve this process. This technology addresses patient's needs to maintain balance and posture, allowing them to learn to stand and walk.

Application area

Wellness therapy

Medical/Healthcare

Rehabilitation

Advantages

Simplistic design

Non-motorized

Low-cost

Allows for a greater range of movement

Provides gait alignment

Provides a range of support from lower back to bottom of foot

Institution

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N/A

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