



Gait Assistance Device

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Category

Medical Devices

Life Sciences

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OVERVIEW

The Gait Assistance Device is a wearable device for mobility and postural rehabilitation that uses configurable elastic bands to assist, resist, and retrain muscle movement—delivering customizable, immediate feedback and support for users with gait challenges.

- **Modular system:** Chest, waist, and limb straps with strategically placed elastic bands, allowing targeting of specific joints and muscle groups for tailored rehabilitation.
- **High usability and broad market opportunity:** Rapidly donned, highly adjustable, and affordable—addressing rehabilitation clinics, care facilities, and direct-to-consumer mobility aid markets.

BACKGROUND

Mobility impairment due to stroke, injury, or neurodegenerative disease is a growing global concern, with aging populations and increasing rates of chronic conditions driving market demand for effective rehabilitation solutions. Current devices in this industry are often rigid, hyper-specialized, expensive, and difficult for users and clinicians to adopt. Most lack modularity and patient-centric configurability, leading clinicians to rely on improvised therapies with elastic bands or tape—methods that are limited and inconsistent.

Trends indicate a shift toward flexible, user-friendly devices with lower barriers to adoption. The opportunity exists for a solution that is both effective in retraining movement through real-time feedback, and practical for both clinics and home use, addressing a multi-billion-dollar rehabilitation technology market.

INNOVATION

The Gait Assistance Device's core innovation is its lightweight, passive exosuit design using adjustable elastic bands, easily anchored to wearable straps. Unlike rigid exoskeletons or single-purpose orthotics, the Gait Assistance Device can rapidly adapt to support, resist, or cue muscles across multiple joints—fine-tuned for each wearer's deficits.

The device can be donned in minutes and customized or reconfigured within seconds. Elastic band placement and stiffness offer precise control over assistance or resistance, enabling both active correction during motion and proprioceptive retraining—improving outcomes beyond traditional therapies.

Notably, the Gait Assistance Device is built from durable, hypoallergenic materials, with a modular approach that allows for scalable manufacturing and distribution. Its human-centered design process led to superior usability scores and repeatable results, while remaining cost-effective—enabling widespread adoption among therapists, clinics, and direct users.

ADDITIONAL INFORMATION

REFERENCES:

- ["Human-centered design of a novel soft exosuit for post-stroke gait rehabilitation."](#)

INTELLECTUAL PROPERTY: Patent application pending.