



TECHNOLOGY

TreadSense - Sensory Balance Treadmill

OVERVIEW

Spending associated with an aging population is a major factor in rising health care costs. Falls and instability contribute to 40% of nursing home admissions. Current devices that improve balance are either too difficult for older users or too expensive for private use.

Researchers at the University of Maryland have developed a treadmill that diagnoses risks associated with poor balance and adapts in real-time to the user's range of mobility. This device improves balance control and fills a niche at a price affordable for health clubs, nursing homes and home use.

Current treadmills largely emphasize cardiovascular fitness and are designed with "open-loop" control functions that fail to provide user-specific feedback. However, TreadSense focuses on training the senses used for ambulatory balance. This novel treadmill inexpensively "closes the loop" by measuring user performance to provide dynamic feedback and make real-time program adjustments.

Advantages

- Trains the senses used for balance, improving user balance and agility
- Allows for user-specific customization and adaptability
- Less dangerous than current balance improving devices (Bongo Board)
- Less expensive than current diagnostic devices (Balance Master®)
- Can be retrofitted onto existing treadmills

Applications

- Diagnosis of potential balance issues
- Improvement of user balance through custom analysis and real-time feedback

For additional information, please contact otc@umd.edu.

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Additional Information

INSTITUTION

University of Maryland, College Park

CATEGORIES

- Robotics

- Devices

EXTERNAL RESOURCES

- [US Patent 8,900,165](#)

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