



TECHNOLOGY

Mobility Assistive Device With Wide Support Base

OVERVIEW

ES Updated /MC

Background

Children with neurological disorders, such as spina bifida, often use wheelchairs for mobility to the detriment of their physical development and healthy operation of internal organs. The leg and hip muscles may not be properly innervated so that the child cannot independently ambulate. A mechanical orthotic device is needed to assist these children's mobility outside the wheelchair. Further, the device should offer therapeutic benefits to the child to help develop skeletal strength as they grow and to activate muscles that would not ordinarily be used by a child confined to a wheelchair.

Innovation

Researchers at the University of Maryland have developed two patented mechanisms for a crutch that provides comfort and added safety over current the strutters and crutches in the industry. The first is a mechanism that provides comfort to the underarm when one chooses to rest on the under supports of the crutch. This underarm mechanism is tiltable and can be fixed in a titled position for extreme fit and comfort to the user. A second mechanism includes a foot that is rotatable about the shaft of the crutch that adds stability to the crutch when the crutch is angled to the side of a user. This creates a wider support base of the crutch user. The wide based assistive device based on the Strutter should allow faster ambulation than an equally wide base walker. The width of the base is immediately adjustable by the user in contrast to the base (or footprint) of a walker. The width adjustment is made by where the user places the foot of the device during the stride. The wide base of support provides stance stability.

For licensing information, please contact the University of Maryland Office Of Technology Commercialization 301 405 3947 or by e-mail, otc@umd.edu

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Additional Information

INSTITUTION

University of Maryland, College Park

PATENT STATUS

Patent(s) pending

LICENSE STATUS

Contact OTC for licensing information

CATEGORIES

- Devices

EXTERNAL RESOURCES

- [US Patent 7,673,640](#)
- [US Patent 7,581,556](#)

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