

Adjustable Suspension Wheelchair Armrest for Patients of Stroke

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Technology description

Background

The region in the brain affected by oxygen depletion of a stroke determines the severity and complexity of symptoms. A primary symptom is flaccid paralysis, which directly correlates to damaged brain cells capable of interactions with nerve and muscle cells. This paralysis refers to a complete lack of voluntary movement due to muscle weakness. Extensive support to limbs without muscular activity is necessary to eliminate the risk of further injury throughout the recovery period. Unaffected limbs can be used to support the weakened limb; however, this becomes burdensome for the individual. The use of wheelchair components can provide limb support and recovery times without excessive exertion from the individual; however, current armrests incorporate thick, padded stabilizers with limited adjustability and customization. There exists a need for customizable options that allow for more comfort, support, and tension to the upper extremities of the patient.

Technology Description

Researchers at the University of New Mexico have developed an adjustable specialty armrest to replace standard wheelchair armrests. The armrest was developed for stroke patients experiencing flaccid paralysis or those with spastic complications. This device provides added support to the armrest wherein the patient's arm would otherwise sit restlessly. The suspension material is adjustable allowing for various tension levels to comfortably support the individual's arm, eliminating muscular stress. The design is ambidextrous allowing the armrest to be utilized on both sides of a standard wheelchair.

Application area

Variable tension capabilities

Removable; can be cleaned and replaced

Ambidextrous attachment

Adjustable positioning

Compatible with standard wheelchair with limited modifications needed

Increased relief for patients with flaccid paralysis

Applications for stroke patients with flaccid paralysis as well as those with spastic complications

Institution

[The University of New Mexico](#)

Inventors

[Christopher Buksa](#)

[Matthew Lakin](#)

[Daniel Sikora](#)

[Neema Naeemi](#)

[Christina Salas](#)

[Amanda Sanchez](#)

[Marshall Klee](#)

[Rohan Pandharinath Choraghe](#)

[Ushnik Ghosh](#)

联系我们



叶先生

电话 : 021-65679356

手机 : 13414935137

邮箱 : yeyingsheng@zf-ym.com