Folding Frame Motorized Prone Cart

(VA Reference No. 07-025)

Novel design for a prone cart that improves the quality of life for individuals with spinal cord injury

Technology

Motorized prone cart for individuals with spinal cord dysfunctions

Inventor

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Key Features

- Designed to improve the quality of life for individuals with spinal cord injury
- Adjusts from a low position where the user is horizontal to a high position to where the user can position his or her head at eye level
- Minimal turning radius for maneuvering in tight spaces

Stage of Development

Reduced to practice with prototypes developed

Keywords

Medical device
- Prone Cart
- Wheelchair
- Assisted Device

Patent Status

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Technology

The Department of Veterans Affairs has developed a motorized prone cart that is designed for use by individuals with spinal cord dysfunctions who cannot use a wheelchair for mobility.

Description

The prone cart is comprised of a frame, a pair of independently powered and suspended drive wheels located centrally off the frame, and a body support having relatively moveable tray, chest support, abdominal support and leg support sections. The body support section can be adjusted from a low position where the user lies in a horizontal position to a high position where the user's head is elevated with respect to the patient's abdomen and legs.

Competitive Advantage

Existing prone carts are typically designed to be relatively long because the user is supported horizontally, making it difficult to maneuver in tight spaces. In addition, the user is essentially supported by the same part of the body all of the time resulting in discomfort, fatigue, and the possible development of pressure ulcers.

This prone cart:

- Can improve circulation, respiration, digestion, and urination.
- Can elevate users and provide articulated body support, which will allow the user to position his or her body with the head comfortably elevated to see ahead of the cart and interact with ambulatory people at eye level.
- Has a body support angle that is adjustable from 0 to 45 degrees.
- Has center turn wheels and a centered based for a turning radius that is minimized for maneuvering and turning in tight spaces.

Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).