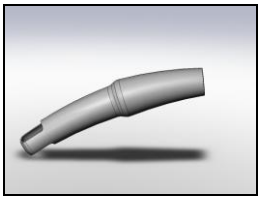
Splint for Treatment of Musculoskeletal Injury of the Hand

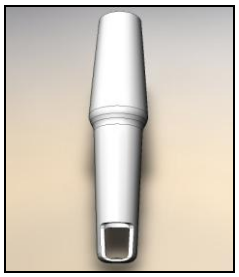
(VA Reference No. 10-036)

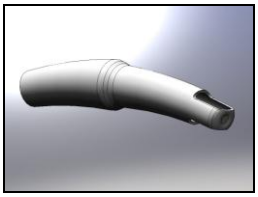
Novel splint designed to conform to the surface of a finger with uniform force

Technology

The Department of Veterans Affairs has developed a novel splint that is designed to conform to the surface of the finger with uniform force throughout and provides a stabilizing force to the joint.







Description

The novel splint designed could be used to stabilize a sprained or otherwise damaged proximal interphalangeal joint. Prototypes have been developed in multiple sizes including a mold of the product, so once final design is demonstrated to meet required specifications commercial scale-up can begin. The technology represents a Class I medical device that is not subject to 510(k) approval and has significantly reduced Good Manufacturing Principle (GMP) requirements making the regulatory hurdles for a potential partner insignificant.

Competitive Advantages

Current splints in the market are bulky, difficult to put on, and can also place high pressure on certain parts of the finger which can cause subsequent injury.

Unlike current splints in the market, the developed splint:

- Has an improved fit combined with flexible, adjustable stiffness resulting in more comfort for patients.
- Addresses the need for a product that can be worn without creating pressure sores and pain.
- Has cavities for "battens" which are rigid members adapted to increase the force necessary to flex the splint.
- Automatically flexes the joint in a pre-set direction.
- Is easier to put on and take off due to the material used in the manufacturing process.
- Has been produced on a small scale at a low cost per splint and larger scale production should result in a further reduction of cost.

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).

Technology

Novel splint for stabilizing finger following musculoskeletal injury

Inventor

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Key Features

- More comfortable for patient ensuring greater compliance
- Reduces pressure sores and pain
- Easily removed or placed on the joint due to low friction of the material used
- Small scale commercial production demonstrated to be cost-effective

Stage of Development

Splint has been prototyped, including a mold of the product

Keywords

Medical device
- Splint
- Proximal Interphalangeal Joint

Patent Status

Patent application filed

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