

# **Letter of Medical Necessity Components**

## **Principles of Suspension:**

Front suspension is designed to dissipate road vibration so that it does not enter the frame of the chair and transfer to the rider. It must also absorb higher impact energy created when the front caster wheels encounter obstructions while rolling over every day surfaces.

A study conducted by the Department of Health & Human Performance, Iowa State University determined that 80% of all the vibration within the frame of a wheelchair originates from the front casters. Their studies showed that 76% of all the vibration in the frame of the chair is eliminated by the addition of front suspension.

A RESNA Study (012700) conducted by Gerald Weisman and Dryver R. Huston of the Vermont Rehabilitation Engineering Research Center at the University of Vermont Burlington, Vermont studied whole body vibration as "wheel chair quality" and concluded that:

- "It is conceivable that the whole body vibration a wheelchair user is exposed to may create a condition of fatigue-decreased proficiency after only one hour when outdoors."
- Many of the users of Frog Legs front suspension have reported that their need for anti-spasmodic was significantly reduced or completely eliminated with use of our product.

A study conducted by Rory Cooper, Human Engineering Research Laboratories, VA Pittsburgh Healthcare System, argued that the vibrations and shocks individuals encounter on a daily basis while propelling their wheelchair may be sufficient to cause injury and concluded that:

- "Suspension caster forks reduce the shock and vibration exposure to the user of a manual wheelchair".

Areas that Suspension helps a wheelchair rider:

- Spasticity
- Secondary injuries
- Fatigue and muscle tightness
- Crystallization of body fluids (kidney stones)
- Neuropathy, predominately in the feet
- Pressure sores from sheering of seat
- Longevity of chair and other components

## **Justification by product:**

Suspension forks - A study conducted by the Department of Health & Human Performance, Iowa State University determined that 80% of all the vibration within the frame of a wheelchair originates

from the front casters. Their studies showed that 76% of all the vibration in the frame of the chair is eliminated by the addition of front suspension.

Suspension forks - Front suspension can reduce or eliminate spasticity, fatigue, longevity of wheelchair and components

## **HCPC Codes for Frog Legs Ultra Sport:**

Light Weight Manual: E1015R, E1015L

Light Weight Power: E1016R, E1016L

Heavy Duty Manual: E1017R, E1017L

Heavy Duty Power: E1018R, E1018L

## **Supporting Clinical Studies:**

[http://cdn.shopify.com/s/files/1/0229/9999/files/Abstract\\_shock\\_with\\_and\\_without\\_suspension.pdf?6260](http://cdn.shopify.com/s/files/1/0229/9999/files/Abstract_shock_with_and_without_suspension.pdf?6260)

[http://cdn.shopify.com/s/files/1/0229/9999/files/Cooper\\_Abstracts.pdf?6260](http://cdn.shopify.com/s/files/1/0229/9999/files/Cooper_Abstracts.pdf?6260)

[http://cdn.shopify.com/s/files/1/0229/9999/files/Frog\\_Legs\\_study.pdf?6260](http://cdn.shopify.com/s/files/1/0229/9999/files/Frog_Legs_study.pdf?6260)