

# Elliptical Trainer (Weight Supported) with rehabilitation software and goal orientated exercises: provides functional and emotional improvements in adults with neurological injuries

David Matson<sup>1</sup>, Scott Painter<sup>2</sup>

<sup>1</sup>ICARE Rehab Queensland. Redcliffe. Queensland. Australia. <sup>2</sup>Headway ABI Australia. Gold Coast. Queensland. Australia. info@icarerehabqld.com.au

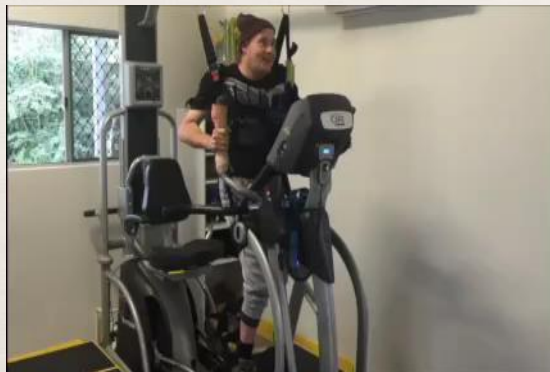
**Background:** Low-moderate intensity exercise has well documented physico-emotional benefits.

**Subjects:** Nine adults with neurological, musculoskeletal and / or cardiopulmonary compromise limiting functional mobility, consented to participate in rehabilitation using a novel (elliptical trainer) device and rehab software.

**Aim:** to compare functional and mood measures at baseline and at 6 months.

**Design & Method:** Cross sectional study. Data compared at baseline and 6 months measuring:

- gait speed (10m walk test)
- perceived level of fatigue (VAS-F)
- visual analogue mood scale (VAMS)



## Case: Paul's story-

- 56 yo stroke survivor
- cortically blind
- minimal proprioception /upright awareness
- mobilised via wheelchair
- progressed to weight supported activity

## Results:

Gait speed increased an average of -9.63 (6.87sd) seconds ( $p=0.41$ ) and 0.09 (0.10sd) m/s ( $p=0.63$ ). VAS-F fatigue levels improved (av. 1.89 on 10 point scale). VAMS improved (av. 1.89 on 10 point scale).

**Conclusions:** Results indicate improvements in gait speed, VAS-F and VAMS supporting the use of this novel (elliptical trainer) device and rehabilitation software to enhance client centered outcomes. Larger randomized trials comparing traditional and novel (elliptical trainer) approaches for physical activity following neurological injury are recommended.

