

Engineering Specification #18 – Force needed to bring patient to upright locked position

The purpose of this test is to determine the manual force needed to bring a patient who is off balance back to the upright locked position. The ideal value is a force of less than 51 pounds. The marginal value is 51 pound force.

Start Date: 5/14/08

Finish Date: 5/14/08

Engineers set-up experiment: Jonathan Bawas, Carl Mangelsdorf, James Nardo, Jeffrey Tempest, Jen Zelasko

Equipment Needed:

1. None

Experiment Set-up:

- 1.) **While patient is seated on the bike and tilted to the maximum degree, use the winch control to tighten the spring compression and bring the patient to the upright position.**

Conclusions:

The electrical winch control is able to bring the patient to the upright position without any need for the physical therapist to manually apply force. Therefore, no force is needed to bring the patient to the upright position and the ideal value for this specification has been met.