

## 1-24-08 Concept Review Notes

### Attendance:

#### Design Team Members:

Carl Mangelsdorf  
James Nardo  
Jeff Tempest (note taker)  
Jen Zelasko

#### Reviewers

Dr. Debartolo (ME)  
Dr. Kempinski (ME)  
Dr. Marshall (IE)  
Shadle Stewart  
Jared Berman  
Ryan Hellems

#### General Comments:

- *Jeff – Feb 4th* Look at position of handle bar swivel mechanism to better simulate a real bike (if handle bars are tilted to a steep angle the handle bars are not swiveling in the same plane as a real bike)
- *Jeff – Feb 4th* More research needed on tilt mechanism for handle bars (one that allows the PT to maintain as much contact with the patient while still being able to adjust the tilt)
- *James – Feb 4th* Need a stop that prevents handle bars from swiveling too far.
- *Jen – Feb 4th* Research life span of pedal mechanism (make it interchangeable)
- *Jen – Feb 4th* Make bike base large enough (platform) so that the therapist can stand on it and be safe.
- *Carl – Feb 1st* Research possibility of using a coil over shock that is pre-compressed as our spring mechanism.
  - Allows it to be easily replaced
- *James – Jan 30th* Look at possibility of creating a “hybrid” (combination) of concepts that we have already created.
- *Jen – Feb 4th* Hand/foot restraint that can be easily disengaged
  - Velcro gloves
  - Velcro strap mount
  - Button release
- *James – Feb 4th* Protecting steel from corrosion
- *Jen – Jan 29th* Research torsion spring idea
  - Forces needed
  - No linear?

#### Carl’s Concept:

- *Carl – Feb 4th* Install bushing/bearing at bottom of worm gear to help support and reduce wear at piston end.
- *Carl – Feb 4th* Force need to adjust spring compression.

#### James’ Concept:

#### Pulley Design:

- *Jen – Feb 4th* Dual Winch???

## 1-18-08 Concept Review Notes

### Attendance:

### Design Team Members:

Jonathan Bawas

### Reviewers

Dr. Borkholder

- Use Inclinometer – based on accelerometer technology
  - Suggested using Analog Devices (has pricing)
- Determine high risk aspect of concept / design
  - Audio Electronics (lack of experience)
    - Prototype this design & Simulate and Breadboard
- Agreed with having both audio and visual feedback to patient

### Action Items:

- *Jon – Feb 4th* Pick a sensor and begin design of high risk design (audio)
  
- *Jon – Jan 25th* E-mail JJ about testing angles on patient