

# Meeting Activity Agenda

15001

## Attendees:

- Tyler Leichtenberger: Mechanical Engineer
- Noah Schadt: Mechanical Engineer / Team Facilitator
- Geni Giannotti: Biomedical Engineer / Treasurer

### **Topic A: New Strain Concern**

- Present recent strain testing data
- Present muscle limitations
- Ask how concerned she is
- Present MSD II plan options
- Discuss integration testing

### **Topic B: Plantar-Flexion Customer Requirement**

- Propose definition: Full dorsiflexion and plantar-flexion is defined as while walking
- Discuss permanent elastic
- Discuss pulley concepts to present an alternative

### **Topic C: Miscellaneous**

- What should we do about quick connects for the final design?
- Can you give Geni a little more direct information about the IRB?
- Megan has toe strike working

## MSD II Test Plan Ideas:

- Test using the new strap design
- Test on someone walking (slow motion video)
- Pair it with muscle and perform integrated testing
- Test 100 times for repeatability
- Annoyance test

## Brainstorm Possible Solutions:

- Bigger tank
- Wider tubing
- Different sleeving
- Multiple muscle
- Muscle straps
- Pulley system
- Custom sleeving
- Wire the valve
- Recycle the air
- Grow new nerves
- Muscle orientation
- Tethered on the back
- Mounted on a dog
- Get taller clients
- Elastic

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## Appendix:

### Customer Requirements Sample:

| Category   | Customer Rqmt. # | Importance | Description  | Comments/Status |
|------------|------------------|------------|--|-----------------|
| Functional | FT2              | 3          | range of motion to allow full dorsiflexion and plantar flexion |                 |

### Engineering Requirements Sample:

| rqmt. # | Importance | Source   | Engr. Requirement (metric)                     | Unit of Measure | Ideal Value | Marginal Value | Direction of improvement: Minimize (▼), Maximize(▲), or Target(x) | Test (how are you going to verify satisfaction) | Mapping to Functional Decomposition |
|---------|------------|----------|--|-----------------|-------------|----------------|---|---|-------------------------------------|
| ER5     | 3          | FT2, FT3 | Dorsiflexion mobility with Mckibben air muscle | degrees         | 90          | 80             | ▲   | protractor                                      | (ABBB)<br>Articulate Foot           |