

Physical Function Testing Apparatus for Monkeys

Client: Dr. Ricki Colman

Advisor: Dr. Elizabeth Meyerand

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Date: February 23 to March 2, 2017

Problem Statement

We are looking to have equipment designed/developed that will allow us to test physical function, specifically muscle strength in macaque monkeys. For over 25 years we have been studying the effects of diet on aging in rhesus monkeys. We have learned that like humans, rhesus monkeys lose muscle mass with advancing age. We have shown that long-term intake of a reduced calorie diet can delay this decrease in muscle mass. While we have the ability to measure muscle mass, we are not currently able to measure muscle function or strength, our true outcome variable of interest. We can often use equipment that has been designed for humans with our monkeys. In this case, we are concerned that the muscle strength testing equipment that is commercially available requires the patient to willingly perform at their maximum level. Ideally we would have equipment that would entice the monkeys to perform at their maximum and allow us to determine muscle strength for both hind limbs and fore limbs separately.

Last Week's Goals

- We plan to meet with the client next week and then order our supplies

Summary of Team Role Accomplishments

- Naren – Filled out paperwork, met with client, research
- Ben M. – Filled out paperwork, met with client
- Ben R. – Filled out paperwork
- Eli – Filled out paperwork, met with client, research

Summary of Design Accomplishments

- We have assembled our materials list, sending the finalized version to the client tomorrow

Activities

Date	Person(s)	Task	Time (hrs)	Weekly Total	Semester Total
2.27.2017	Ben R.	Paperwork	0.5	0.5	8
2.27.2017	Eli	Paperwork / Materials Research	1	1	8
2.27.2017	Ben M.	Paperwork	0.5	0.5	9
2.27.2017	Naren	Paperwork / Combinator Research	1	1	7

Statement of Team Goals

- After our paperwork is processed, there is online paperwork that must be completed
- Begin to write our fabrication plan and testing plan for when the materials arrive

Individual Goals

- Ben Ratliff: Online paperwork, circuits fabrication plan and testing plan
- Ben Myers: Online paperwork, fabrication plan and testing plan
- Eli Stanek: Online paperwork, fabrication plan and testing plan
- Naren Chaudhry: Online paperwork, fabrication and testing plan

Difficulties

- None

Project Schedule

- We are sending our finalized materials list Friday, March 3rd

Expense

Date:	Item:	Cost:	Comments:
9/9/2016	LabArchives Team Notebook	\$10.00	One time purchase for team

Total Cost: \$10.00