

Project # 18 – Development of a Device for Neurochemical Sample Collection from Freely Moving Monkeys

Team Members: Cole Drifka (Co-Leader), Lauren Eichaker (Co-Leader), Ben Fleming (BWIG),
Adam Pala (Communicator), Sarah Springborn (BSAC)

Progress Report: 2

Week: 2 (February 7 – February 13)

Primary Contacts	Information
Client: Dr. Ei Teresawa	Department of Pediatrics, Primate Center Building Email: terasawa@primate.wisc.edu Phone: (608) 263-3579
Advisor: Professor Brenda Ogle	Assistant Professor, College of Engineering, Biomedical Engineering Email: ogle@wisc.edu Phone: (608) 265-8267

Initial Problem Statement:

The purpose of the project is to develop a device allowing monkeys to be free from chairing while experiments are conducted. Direct measurements of neurochemical substances in the brain from free moving non-human primates is significantly important for understanding complex brain function and developing treatment strategies for brain disorders in humans. During the past semesters, BME students designed and built devices. However, this device still needs further refinement for actual application. The development of the device for microdialysis experiments will require creativity, intellectual exercise and ergonomic expertise.

Revised Problem Statement:

To improve on the device created last semester that protects the microdialysis apparatus used during cranial experiments on non-human primates. This involves continued efforts to reduce the weight of the device, secure it around the monkey's head, and better able to cushion the microdrive unit.

Summary of Accomplishment:

While meeting with the client, we obtained a list of priorities, budget information and final goals. The team members scheduled TB tests and some obtained shop permit materials in case we need to complete our own manufacturing tasks. The new team members obtained information pertaining to animal safety in order to cross animal barriers in the Primate facility in order to test the final design. Overall, the team gained a better understanding of the project and what needs attention this semester. (We have another appointment to meet with the client on 2/20/09, tentatively at 12:05 PM.)

Statement of Team Goals:

The team needs to: draw/make schematics for a new "helmet" design for the machinist at the Primate house, research materials for use in the apparatus and as padding for its interior and complete prerequisite tasks for moving freely about the Primate house facility. Prerequisites include: TB test and animal safety quizzes.

Difficulties:

None

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Activities:

		Hours This Week	<input type="checkbox"/> Hours
Cole Drifka	Researched helmet designs/ materials.	2	3.5
Lauren Eichaker	Scheduled TB test, completed shop permit quizzes, brainstormed and took notes on ideas for the prototype and compiled PDS for presentation to advisor.	4.5	6
Ben Fleming	Brainstormed	1	3
Adam Pala	Research, scheduled TB test for 2/12/09	1.25	3.25
Sarah Springborn	Research, reading background information, brainstormed ideas for the design and obtained a TB test.	1.5	3.0
Team	Met with client on 2/6/09 to determine priorities and PDS elements. Met at Wendt library immediately after to brainstorm and then again in the lobby of Mechanical Engineering on 2/10/09 to compile brainstorming notes.	2.5	3.5

Expenses:

None yet