

## Ergonomic re-design of a surgical stapling device

**Client:** Dr. Amy Liepert, [liepert@surgery.wisc.edu](mailto:liepert@surgery.wisc.edu)

**Advisor:** Beth Meyerand, [memeyerand@wisc.edu](mailto:memeyerand@wisc.edu)

**Date:** 20 Jan 2017 - 27 Jan 2017

### **Team:**

- Andrew Fugate - [afugate@wisc.edu](mailto:afugate@wisc.edu), Team Leader
- Albert Anderson - Communicator
- Therese Besser - BSAC
- Ellen Restyanszki, [restyanszki@wisc.edu](mailto:restyanszki@wisc.edu), BWIG & BPAG

### **Problem Statement:**

Surgical staplers have undergone many design modifications including the recent addition of powered devices. Stapling devices are used both for intestinal resections and anastomoses as well as for vascular control. The users of these devices have also changed overtime with both the increase in female surgeons as well as an aging surgeon population.

Opportunities for improvements in device design for the increasingly diversified surgeon users are multiple. This project provides the opportunity for lab based and field study investigation of the ergonomic implications for the device users as well as potential for novel design modifications and/or solutions.

**Restatement of Team Goals:** n/a

### **Summary of Team Role Accomplishments**

Andrew - I got in contact with our client to set up a meeting. I also watched some surgical videos to get to know what this tool is used for and get ideas for potential design improvements.

Albert - Researched applications of surgical staplers.

Therese - Began to look at current publications on surgical staplers.

Ellen - Began research on current models of surgical staplers.

### **Summary of Design Accomplishments**

We began brainstorming different ideas of where we wish to go with this project. We will know more after our first client meeting on Monday.

**Activities:**

Date	Person	Task	Time (hrs)	Weekly Total	Semester Total
1/25/16	Andrew	Surgical videos, light literature research	1	1	1
	Albert				
1/26/16	Therese	Literature research, BSAC meeting	2	2	2
1/23/16	Ellen	Surgical Stapler Research	1	1	1

**Statement of Team Goals:**

- Write up some questions for our client meeting on Monday.
- Meeting with client to refine problem statement, set semester expectations, scope of project
- Develop a project timeline

**Individual Goals:**

Andrew - continue research including the client design specifications

Albert - continue to research current designs, and why they are inadequate.

Therese- continue research

Ellen - Better understand the scope of the project from the client meeting.

**Difficulties:** TBD

**Project Schedule/Timeline:** TBD after client meeting

**Expenses**

n/a