Grasping Instrument for Laparoscopic Bowel Surgery  
Progress Report 9  
11/3/06 – 11/9/06

Client: Charles P. Heise, MD  
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Team Members: Richard Bamberg (BME 200)-BWIG  
Ann Sagstetter (BME 200)-BSAC  
Becky Jones (BME 300)-Communications  
Lynn Murray (BME 300)-Team Leader

Problem Statement: During laparoscopic surgery, small clips are used to hold tissue out of the way of the surgical procedure. Current clips provide greater pressure on the area of tissue closest to the joint sometimes causing the tissue to be expelled out of the grasping instrument and possibly traumatizing the tissue. The goal of this project is to equalize the pressure across the length of the clip. Due to the small entrance incision, the prospective device must have a diameter less than 5 mm. Because the grasping instrument must be made for internal use, precautions must be taken to minimize moving parts and safety hazards.

Summary of Team Accomplishments
- Class meeting on Friday: emailed current design patent documents to all group members
- Individual analysis of patent documents: deciphering figures to determine exact mechanics, reading plain English description of what device goal is, etc.
- Individual sketch work: based on the mechanical design of the current device, each group member contributed ideas/sketches of possibilities to initialize hinge movement in our group’s final design
- Projected team meeting for tonight (Thursday 11/9) to compile ideas and brainstorm for final mechanics

Current Week’s Goals
- Material research to begin prototype: what would we need to use to create an actual to-scale model? Is that feasible within our time limitations? If not, how can we create a working with different material?
- Compromise on mechanical drawings to determine final mechanical integration design
- Confer with advisor and machine shop management to determine plausibility of machining prototype
- Possible client meeting
**Projected Schedule:**

Week 1 Form team, select project, contact client.
Week 2 Meet with client, Develop understanding of project.
Week 3 Brainstorm; Produce Project Design Statement (PDS).
Week 4 Work on mid-semester presentation.
Week 5 Mid-semester Oral Presentation.
Week 6 Meet with Client; Agree on final design.
Week 7 Work on design.
Week 8 Work on design; order materials and parts.
Week 9 Work on prototype.
Week 10 Work on prototype.
Week 11 Work on prototype.
Week 12 Test prototype.
Week 13 Work on presentation.
Week 14 Final Project Presentation.

**Activities:**

- **Richard:** Class Meeting 11/3
  - Website update ½ hr
  - Reading current device’s patent 1 hr
  - Total: 1 ½ hrs

- **Ann:** Class Meeting 11/3
  - Reading current device’s patent 1 hr
  - Total: 1 hr

- **Becky:** Class Meeting 11/3
  - Reading current device’s patent ¾ hr
  - Sketches of possible integrated designs ¾ hr
  - Total: 1 ½ hrs

- **Lynn:** Class Meeting 11/3
  - Patent research 1 hr
  - Figure editing and mechanical sketching 1 ½ hr
  - Progress Report ½ hr
  - Total: 3 hrs

**Team Total Hours this week:** 7 hrs
**Team Total Hours to date:** 76 ¾ hrs

**Expenses**
- $16.36 at Home Depot for mechanical research