

Tracheotomy tube security device

Client: Dr. Timothy McCulloch

Team Members: Katie Pollock (Leader)

Becca Clayman (Communicator)

Kim Safarik (BWIG)

Paul Fossum (BSAC)

February 27 to March 5, 2009

Problem Statement

In patients who have had a tracheotomy performed, a major post surgery problem is discomfort from the tracheotomy collar. The collar must be secured tightly to keep the tracheotomy tube in place so the patient can breathe. However, if the collar is kept at the proper tension, it can cause ulcers on the patient's skin. Our goal is to design a tracheotomy strap that is comfortable, easy to clean, and equipped with monitoring devices to ensure that proper pressure is exerted on the tube and neck.

Last Week's Goals

- Assemble a powerpoint for our presentation.
- Produce detailed drawings of each design element that we can scan in and put in the presentation (if not hand drawn, complete with paint, powerpoint, or some other computer application).
- PRACTICE for the presentation.

Summary of Accomplishments

- The team met with Prof Thompson on Friday to discuss the status of our project. Although we have currently selected water to be our pressure bag filler of choice, we will explore air more as well. We will also be looking into the one way valves and mechanisms on spirometers.
- The team has been practicing individually practicing their portions of the project. We finished assembling the materials we will be passing around on Thursday night, as well as polished up our presentation.
- The team will be writing the paper in sections. Each person will be mainly responsible for the topics they presented in class. We will then meet to compile and polish the individual sections.

- The team will be presenting portions of the project as outlined below. Becca will be doing the background. Katie will be doing the design and matrix for the front strap connections. Kim will be doing the back pressure design and matrix. Paul will be doing the strap and matrix, final design selection (compilation of previous presenter's conclusions) and future work for the project.

This week's goals

- Present the project to the class.
- Complete the mid-semester report.
- Begin ordering materials for the project.

Project Difficulties

None to report at this time.

Activities –Team total should be added to each individual total

Member	Activity	Hours	Cumulative
Katie Pollock	Progress Report	.25	5.25
	Work on powerpoint and beginning drawings	2	
Becca Clayman	Drawings and powerpoint completions	2	3.25
Kim Safarik	Update Website	.25	2.5
	Errands to get presentation materials	.5	
	Scan pictures into powerpoint	.5	
Paul Fossum	BSAC meeting	1	2
TEAM	Met with advisor	.5	15.325
	Project practice	1.5	
	Assembly of presentation materials	1	

Project Schedule

Number	Task	Start	End	Duration	1/23	1/30	2/6	2/13	2/20	2/27	3/5	3/13	3/20	3/27	4/3	4/10	4/17	4/24	5/1	5/8	
1	Assign teams and duties	1/23/09	1/21/09	1	█																
2	Research project statement and contact client	1/23/09	1/30/09	7	█	█															
3	Initial Brainstorming Client meeting, obtained basic materials	1/30/09	2/13/09	14		█	█														
4	Refined materials	2/4/09	2/5/09	1			█														
5	brainstorming	2/5/09	2/27/09	22			█	█	█												
6	PDS	2/13/09	2/20/09	7				█													
7	Design Matrix	2/21/09	2/27/09	6					█												
8	Select final Idea Work on mid semester presentation	2/27/09	2/28/09	1						█											
9		2/27/09	3/5/09	7						█											
10	Mid semester report	3/5/09	3/13/09	7							█										
11	Mid semester presentation	3/5/09	3/13/09	7							█										
12	Order materials	3/2/09	3/14/09	12								█									
13	Spring break	3/14/09	3/22/09	8									█								
14	Fabrication of strap Comfort testing/safety evaluation	3/23/09	4/10/09	18										█	█						
15		4/10/09	4/17/09	7												█					
16	Redesign	4/17/09	4/24/09	7													█				
17	Final testing	4/24/09	4/25/09	1														█			
18	Final presentation	4/24/09	5/1/09	4															█		
19	Report	5/1/09	5/8/09	8																█	█

We are currently on schedule. We will be presenting our project on Friday and will then begin work on the mid semester report and ordering materials. A more readable copy of the Gantt chart is attached.

Expenses

None incurred at this time