

# ***Bronchoalveolar Lavage Trap***

*Group 17*

*Client: Christopher Green, M.D.*

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*Team: Laura Zeitler (Team Leader)*

*Kim Kamer (BSAC)*

*Ali Johnson (BWIG)*

*Elise Larson (Communicator)*

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## **Problem Statement:**

In order to diagnose respiratory problems in immunosuppressed patients, bronchoalveolar lavage is used to obtain a bronchiole fluid sample. A bronchoscope is guided through the respiratory tract and wedged into a bronchiole, which is then flushed with saline solution. The solution is then extracted with a vacuum and accumulates in the sterile collection trap. In the current procedural setup, the lavage trap is free-hanging and unstable. Manipulation of the bronchoscope and surrounding movement can displace the trap resulting in loss of sample to the vacuum line. To prevent unnecessary expense and patient inconvenience from sample loss, a new trap needs to be developed.

## **Last Week's Goals**

- Go to polymer lab
- Work on mid-semester report
- Research and be ready to order materials
- Meet with client to go over design and align specifications with design

## **Summary of Accomplishments**

- Met with client, confirmed direction of project, and answered questions
- Contacted polymer lab and set up time to meet with TA
- Created computer generated images of main component of design
- Finalized and practiced mid-semester presentation
- Began work on mid-semester paper

## **This Week's Goals**

- Meet with polymer lab TA, determine if we can fabricate at least a testable prototype on the lab
- Find a device to measure pressure of vacuum in hospital
- Research into materials, using calculations or trial and error to determine necessary weight of ball in cage.
- Finish mid-semester paper

### Project Difficulties

We are unsure of whether we should find the necessary weight of the ball using trial and error and a vacuum source or if there is a calculation we can use to find the right density if we know the exact range of vacuum pressure. Either way, we need to create a prototype to hook up to the vacuum source to test this, and since that requires fabrication and materials we do not have yet, we are hoping to get some help from the polymer lab.

### Activities

Collaboration Group Activities		
Date	Activity	Duration
2/27/09	Advisor meeting, update power point presentation, assign paper tasks, find polymer lab	2 hours
3/3/09	Client Meeting	1.5 hours
3/5/09	Group Presentation Practice	3 hours

Team Member	Date	Activity	Duration
Ali Johnson	3/1/2009	Presentation Images/3D Modeling	3 hr
Elise Larson	3/2/2009	Report/Scheduling	1 hour
		Report	1 hour
Laura Zeitler	3/5/2009	Report	2 hours
	3/5/2009	Progress report	30 minutes
	3/3/2009	Polymer Lab TA e-mail	10 minutes
Kim Kamer	3/4/09	Individual presentation preparation	1 hour

### Expenses

Date	Item	Cost	Comments
N/A	N/A	0.00	No Expenses Yet

