

Bronchoalveolar Lavage Trap

Group 17

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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

- Complete prototype by inserting ball and rubber stopper into design
- Test hospital vacuum with prototype
- Start working on final deliverables

Summary of Accomplishments

- Printed initial prototype with 3-d printer, and inserted ball and rubber stopper
- Evaluated design with hospital vacuum testing
 - Results were positive, but not up to our standards
- Updated the dimensions of the design based on testing results
- Resubmitted design to be printed using the 3-d printer

This Week's Goals

- Finish prototype by adding ball and stopper
- Test hospital vacuum with final prototype
- Report results and put together poster for presentation
- Start final paper

Activities

Team Member	Date	Activity	Duration
Laura Zeitler	4/16/2009	Progress Report	20 minutes
	4/21/2009	Solidworks update and send to 3-d printer	1 hour 20 minutes
	4/23/2009	Progress Report	20 minutes

Ali Johnson	4/16/2009	ECB Lab: Prototype Work	1.5 hr
	4/17/2009	Testing at Hospital	1.5 hr
	4/21/2009	Solidworks/Re-dimensioning	45 min
Kim Kamer	4/16/2009	ECB Lab: Prototype Work	1.5 hr
	4/17/2009	Testing at Hospital	1.5 hr
	4/21/2009	Solidworks--changing the dimensions of our prototype	45 min
	4/24/2009	BSAC meeting	30 min.
Elise Larson	4/16/2009	ECB Lab: Prototype Work	1.25 hours
	4/17/2009	Testing at Hospital	1.5 hours
	4/20/2009	Acquiring Parts	1 hour

Expenses

Date	Item	Cost	Comments
3/19/09	Miscellaneous Prototype Supplies	\$3.70	American Science and Surplus Store
3/16/09	First Prototype	\$8.44	Media Center

