

## ASQ Biomedical Division Grant Application Guide

1. **Who we are:** (persons who will be using the grant and working on the project)
2. **Overall Responsible Person/Institution:** (responsible party and company-institution affiliation)
3. **What the project is:** (brief verbal description)
4. **Planned Start and Planned Completion Dates**
5. **Previous work and related background:** (related projects, previous work, additional project detail)
6. **Project cost breakdown:** (what the overall project costs are, and how much of the cost is being requested in the grant)
7. **Detailed description and other information:** (pictures, schematics, flow diagrams, papers, etc.)

An abbreviated example from a previous successful grant proposal is attached.

send completed application to **College Grants/Scholarship Chair** as listed at <http://www.asq.org/biomed/leadership/index.html>

**Date:** November 9, 2006

**Deleted:** November 8, 2006

**Re:** ASQ Grant Proposal

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**Who we are: (persons who will be using the grant and working on the project)**

We are senior engineering students at Miami University in the first semester of our senior design project, Jessica Burgard, Kevin Freeman, Joseph Rosing, Alex Smith, and Kristen Sylvester

**Overall Responsible Person/Institution: (responsible party and company- institution affiliation)**

Michael Bailey-Van Kuren, Professor, Miami University of Ohio

**What the project is: (brief verbal description)**

This project focuses on the development of special needs children. Young children with decreased oral muscle tone do not have the level of control necessary to develop the everyday skills that other children unaffected by such diseases have. The specific area concerned here is in regards to drinking, more specifically, transitioning from a bottle to a normal cup. The goal of this endeavor is to design a spill-proof cup that will allow these children to gain the necessary skills and allow them to develop their drinking ability to be able to drink from a normal cup without any problems.

**Previous work and related background: (related projects, previous work, additional project detail)**

Through research and interviews with speech pathology professors, we determined some of the major obstacles in designing a spill proof cup. Currently, there is no research that links this type of design to the needs of children with reduced oral muscle tone. Spill proof cups that are on the market require an amount of suction that children with these disorders are unable to provide. We are now starting to gather quantitative research. At this point, we are ready to begin the assembly of the testing apparatus. We have already gathered qualitative data, and now we must focus on quantitative data in order to develop our design. The final presentation and demonstration of the product will be in May, 2006. Ultimately, the design will be presented at a conference to be determined in the spring.

**Project cost breakdown: (what the overall project costs are, and how much of the cost is being requested in the grant)**

With this data, we will be able to quantitatively compare commercial no spill cups and have a basis for our design. Once we have finalized a design, funding will be needed for materials to create and test the design.

ITEM	COST
In-line Sensor	\$ 1500.00
Production Materials	\$ 1000.00
Conference Costs for Presenting Paper (Faculty Advisor)	\$ 2500.00
<b>Total</b>	<b>\$ 5000.00</b>

Detailed description and other information: (pictures, schematics, flow diagrams, papers, etc.)

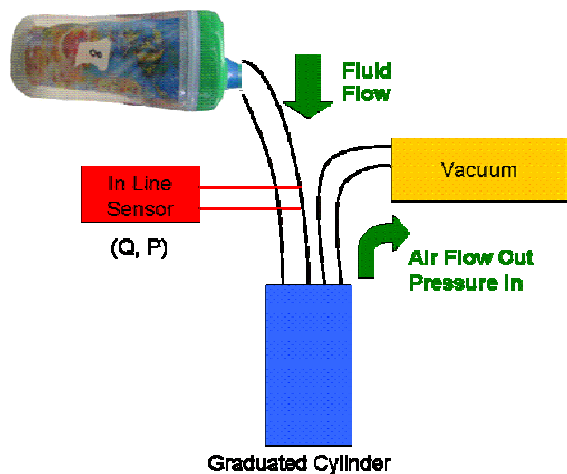


Figure 1: Testing Apparatus Block Diagram

Spill proof cups that are on the market require an amount of suction that children with these disorders are unable to provide. We are now starting to gather quantitative research. In order to do this we are conducting an experiment that needs an in-line sensor to measure pressure, temperature, and flow rates. With this data, we will be able to quantitatively compare commercial no spill cups and have a basis for our design.