

Pediatric Anesthesia Research Team
Clinical Support Building, Child and Family Research Institute
950 W. 28th Avenue
Vancouver, British Columbia
V5Z 4H4 Canada
January 8th, 2018

Dear Dr. Mark Ansermino and Dr. Guy Dumont,

In the attached document we present our Engineering Recommendation Report for our Engineering Physics Capstone Project: *Development of a Low-Cost Syringe Pump for Low-Resource Anesthesia*. Today, January 8th, 2018, we officially submit this report documenting our project process, results, and future recommendations. This document is meant to serve as a guide for the continuation and expansion upon the project, which we have undertaken as part of ENPH 479, an upper level engineering project & design course. This project was planned from July-August 2017, and was developed starting September under the supervision of Dr. Jon Nakane, Dr. David Jones, and Bernhard Zender.

The report outlines our design strategy for creating a reliable, low-cost syringe pump, and the key components we designed to implement our novel approach. We also highlight the performance of our pump design and document the strengths and areas for improvement. We believe you will be most interested in the *Results* section, which presents the reliability and accuracy of our pump, and the *Recommendations* section, which outlines our suggestions for future changes and improvements to the system.

We hope the following report will be a useful reference to future students or employees who work on this project, and we suggest you keep it on file. Thank you for the opportunity to work under your guidance and to take on an exciting challenge.

Best Regards,



Akshiv Bansal



Ian Thompson