WEEKLY SPONSOR COMMUNICATION

TO:	VICTOR NUNEZ, AESCULAP
FROM:	BRIAN LOUGHRAN
EDITOR:	CASSIE CHRISTMAN
TEAM NAME AND NUMBER:	AESCULAP 1
DATES COVERED IN THIS COMMUNICATION:	OCTOBER 18, 2016 TO OCTOBER 24, 2016
WEEK NUMBER:	8 OF 15

Overview

This week was a week of sorting through all the good feedback we received from the midterm presentation and using that information to generate ideas that will lead us closer to a final product. Some of the feedback that we found important was the need for ratchet integration and paddle quick connect features, as well as improving our FEA model.

Accomplishments

1. Cassie and Alexis researched the paddle quick connect system ideas. After our final presentation last semester, it was recommended to us that we look into a bayonet connector as an option for the paddle quick connect system; however, because of the complicated geometry on both the paddle and handle required for this kind of connection, we decided there are less expensive and more efficient options. Cassie looked into ball plungers, which use a spring and ball system for quickly locking and unlocking our paddle design. Alexis researched spring clips, which function similarly to ball plungers, but do not require a coiled spring. We plan on choosing a final design next week. We would greatly appreciate any insight you have on which would be better for our design just to give the team some direction.

2. Christian and I researched ratchet designs. We are continuing with the socket wrench idea that we presented at the midterm because of its ease of use and our familiarity associated with the design. However, if we are unable to make it work mechanically, we will pursue a simpler design for the ratchet system. We also looked at several previously filed and expired patents to get an idea of what kind of dimensioning would go into designing our own ratchet system. Shown in Exhibit 1 is an example of a ratchet system that we were looking into.

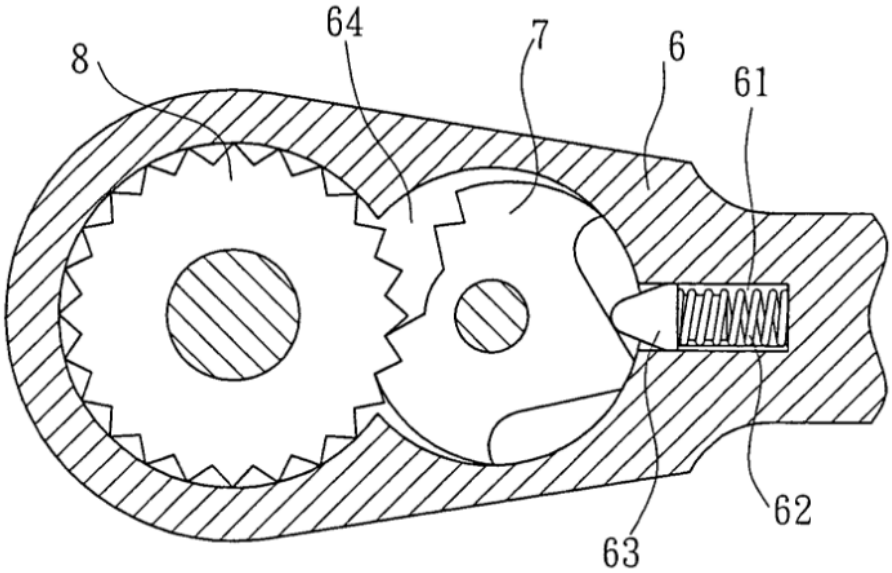

Exhibit 1 – Schematic of potential ratchet system design

3. We also had a class presentation in which we discussed the FDA, ASME, and ISO standards we will be abiding by. Much of the research was conducted last semester and recompiled to meet the presentation format, but it was good to look at all the standards once again at this point in the design process.

Next Steps

1. We will make a definite decision between the spring clip design and the ball plunger by the end of the week considering the feedback you have on our paddle quick connect system.
2. We will begin dimensioning a potential ratchet system design, which will then require a stress analysis of the mechanism.
3. Christian is planning a call for next week with Chris Good to talk about the FEA model.

Questions

1. We were unsure about being able to sterilize the ball plunger, spring clip, and ratchet systems. How can we know if autoclaving will be effective in sterilizing components? Are there specific design constraints in making a sterilizeable medical device?
2. Do you have any preference between the ball plunger mechanism or the spring clip mechanism?