
WEEKLY SPONSOR COMMUNICATION

TO: VICTOR NUNEZ, AESCULAP
FROM: CASSIE CHRISTMAN
EDITOR: CASSIE OBZUD
TEAM NAME AND NUMBER: AESCULAP 1
DATES COVERED IN THIS COMMUNICATION: MARCH 28, 2016 TO APRIL 3, 2016
WEEK NUMBER: 7 OF 15

Overview

This week we shared the ideas we each had for the distractor's subcomponents: handle, distraction method, impaction handle attachment, and paddle design. We decided the distraction method is the most important subcomponent and will be focusing on its design first.

Accomplishments

1. We created a long list of the design ideas we each generated for each of the subcomponents of the distractor: handle, distraction method, impaction handle attachment, and paddle design. These ideas can be found in Appendix A. After some discussion, we decided we should initially focus on the distraction method because it will dictate the design of the distractor's other subcomponents. From our compiled list of sixteen ideas for the distraction method, we chose to focus on the eight ideas listed in Exhibit 1. The names for the ideas are arbitrary and will make more sense once we create detailed sketches of them, which will be included in a future brief. By our next meeting, each of us will create three, more-developed designs based on our initial concept designs, so we have a finalized and manageable list of ideas to rate.

Scissor Lift	Scissor Jack	Internal Expansion	Nesting Antenna
Tweezers	Plier Distractor	Plier Distractor with "S" Handles	Spring Assist

Exhibit 1 Narrowed List of Distraction Method Ideas

Next Steps

1. We will evaluate the list of customer needs you gave us to determine which ones should be weighted higher so we can establish an accurate system to rank our designs. This rating system will take the form of a selection matrix.

2. We will then review everyone's focused distraction method ideas and utilize the selection matrix to determine which of the distraction method designs we will pursue.

Project Related Questions

1. Of the initial instrument requirements you presented us with, are there any you feel are more important than others? We will use this to establish the weighting system for our selection matrix. For your convenience, the original list you gave us can be found in Appendix B.
2. At what point during the procedure, does the surgeon utilize the impaction handle?

Appendix A: Ideas from Initial Concept Generation

Actuating Mechanism	Name(s)	Distraction Method	Name(s)
Steering Wheel	Brian	Plate-Balloon-Plate	Brian, Cassie
Ergonomic Steering Wheel	Brian	Scissor Lift	Christian
Thumb Dial	Christian	Scissor Jack	Christian
Chuck Key	Brian	Wedge	Christian
Perpendicular Lever	Brian	Turning Spoon	Christian
Parallel Lever	Christian	Parallel Cross Bar	Christian
Hand Pump	Brian	Tapered Blade	Christian
Bicycle Pump	Brian	Internal Expansion	Christian
T shaped Turning	Christian	Grabbing	Christian
Crank	Christian	Nesting Antennae	Jadon
Slider	Christian	Tweezers	Cassie
Button	Christian	Column Screw	Jadon
Trigger	Christian	Double screw	Jadon
Slanted Pliers	Cassie	Pliers distractor	Jadon
Whole Hand Trigger	Jadon	Pliers distractor with "s" handle	Jadon
Top Dial	Jadon	Spring assist	Jadon

Impaction Handle Design	Name(s)	Impaction Handle Connection	Name(s)	Paddle Design	Name(s)	Paddle Connection	Name(s)
Collapsible Scissor Handle	Brian	Screwable	Christian	Tape Measurer	Brian	Magnets	Christian
Connection Magnet	Brian	Magnetic	Christian			Internal Clip	Christian
Rubber Cover	Christian	Clamp	Christian			Button in a Hole	Christian
Attachable Plate	Christian	Clip	Christian			Rods	Christian
Putty Platform	Christian	Button-Pop	Christian, Cassie			Jam them on	Christian
Nail	Jadon	Circular Clamp	Christian			Clamping	Christian
		Slit Lock	Cassie			Slit Lock	Jadon, Cassie

						Ring & snap	Cassie
--	--	--	--	--	--	-------------	--------

Appendix B: Original Instrument Requirements

The instrument must meet the following requirements as determined by the market and our surgeon customers:

- ... must be made of standard medical grade materials.
- ... must be cleanable and sterilizable.
- ... must apply a distraction force that is parallel to the axis of the spine at the site of surgery.
- ... must withstand a compression force of at least 1000N distributed across the instrument paddles.
- ... must have a ratchet system to maintain the applied distraction force without constant input from the surgeon.
- ... must have interchangeable paddles that align with standard anterior device sizes.
- ... must have a “quick connect” system to attach paddles to the instrument.
- ... must have an impaction handle that can be easily (i.e. using one hand) removed.
- ... must have a narrow profile to maximize visualization of the surgical site during use.
- ... must have a spring that closes / resets the paddles upon release of the instrument handles.