

Aligna - Reduced Pain IUD Placement

Progress Report 6

10/9/2026 - 10/15/2026

Team:

Kendra Ohde (ohde@wisc.edu)	Team Leader
Carolyn Randolph (crrandolph@wisc.edu)	Communicator
Ashmita Bhowmik (bhowmik3@wisc.edu)	BSAC
Francesca Angiulli (fangiulli@wisc.edu)	BPAG
Alexis DePuydt (adepuydt@wisc.edu)	BWIG

Advisor:

Prof. Darilis Suarez-Gonzalez (dsuarez@wisc.edu)

Client:

Ms. Reshma Kandipati (kandipati@wisc.edu)

Problem statement

Intrauterine devices (IUDs) are highly effective in preventing pregnancy with no significant impact on fertility post-removal. They serve as a relatively low maintenance form of birth control that lasts up to 10 years. Despite the implementation of pain management techniques such as NSAIDs, the insertion process remains moderately to severely painful for more than half of patients. Our team aims to design a device that will prioritize patient comfort during the IUD insertion process while maintaining the efficacy of the procedure.

Brief status update

This past week the team worked 3D printed two designs for the suctioning component, met with a design consultant to review CAD drawings and potential problems with 3D printing the handle, and discussed next fabrication steps as a team.

Previous Week Individual Goals and Accomplishments

- Kendra Ohde
 - CAD design of device body to fit with syringe
 - Consider design improvements with new feedback
 - Update design documents as needed to be reflective of current prototype
- Carolyn Randolph
 - Suction cup CAD design
 - Consider design improvements based on UHS provider feedback
- Ashmita Bhowmik
 - Meet with team and look over any generated CADs from the last week
 - Update Fabrication Protocols, delegate fabrication tasks, and obtain materials necessary for fabrication
- Francesca Angiulli
 - Coordinate ordering of preliminary materials with the Pharmacy department
 - Do more research on handwheel mechanisms
 - Help with any preliminary prototyping
- Alexis DePuydt
 - Look into materials in more depth
 - CAD help where I can
 - Set up consultation for fabrication

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Carolyn	10/8-15 10/15	CAD sketch for suction collar 3D Printing	4 0.5	4.5	22.5
Ashmita	10/11-10/15 10/15	Developed CAD design of the body of IUD Device Met with Jesse for CAD design feedback	6.5 0.5	7	25
Kendra	10/11-10/14 10/15	Work on CAD design Meeting with design consultant	4 0.5	4.5	21
Francesca	10/08 10/13 10/15	Coordinate materials ordering Practice making handwheel Help with prototyping	1.5 1 0.5	3	20
Alexis	10/12/26 10/14/26	Looked into Jesse's schedule and shared with team Research on materials for prototyping and final fabrication	0.25 1.75	2	19

Major Team Goals For The Next Week

1. Update designs as needed based on design consultation feedback
2. Fabricate design components

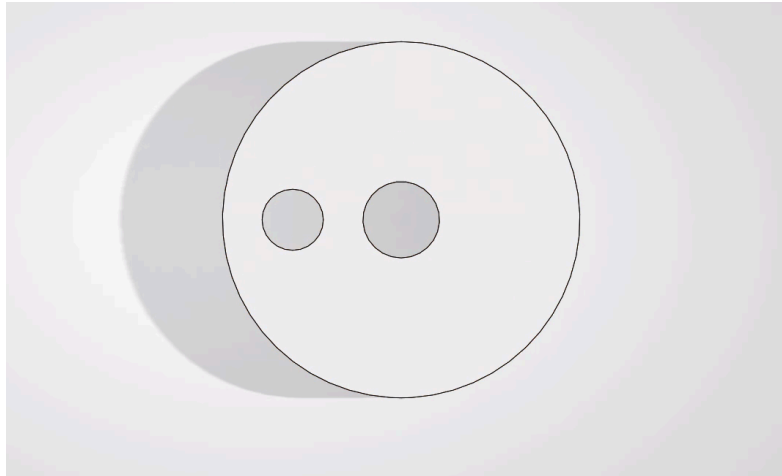
Next Week's Individual Goals

- Kendra Ohde
 - 3D print model and update design changes as needed
 - Start assembly of device if possible
- Carolyn Randolph
 - Edit PDS to be more quantitative
 - Make necessary edits based on print quality
 - Fine-tune testing plan
- Ashmita Bhowmik
 - Get CAD design 3D printed and adjust as needed
 - Obtain materials and start fabricating the sounding parts
 - Work on designing the hand wheel that goes into the device
- Francesca Angiulli
 - Continue coordinating materials purchasing
 - Continue helping with prototyping
 - Help make a testing plans
- Alexis DePuydt
 - Help with 3D printing and adjusting CAD as needed
 - If we have the supplies, start assembling parts that work

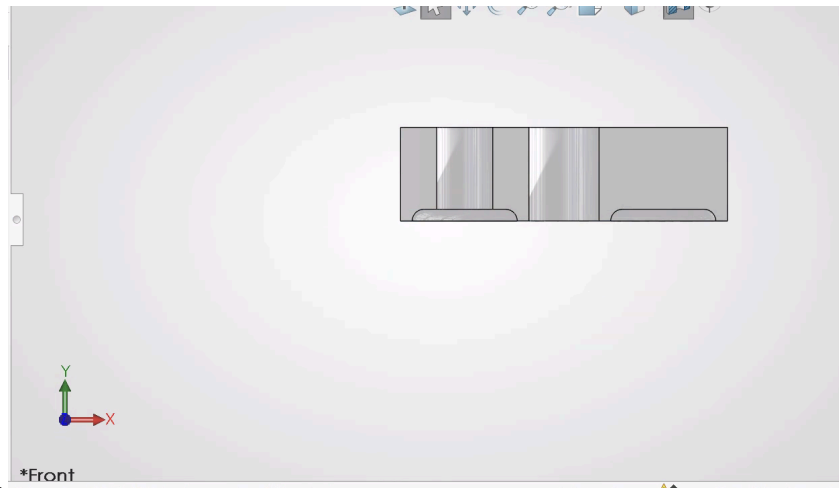
Difficulties / advice requests

Current design

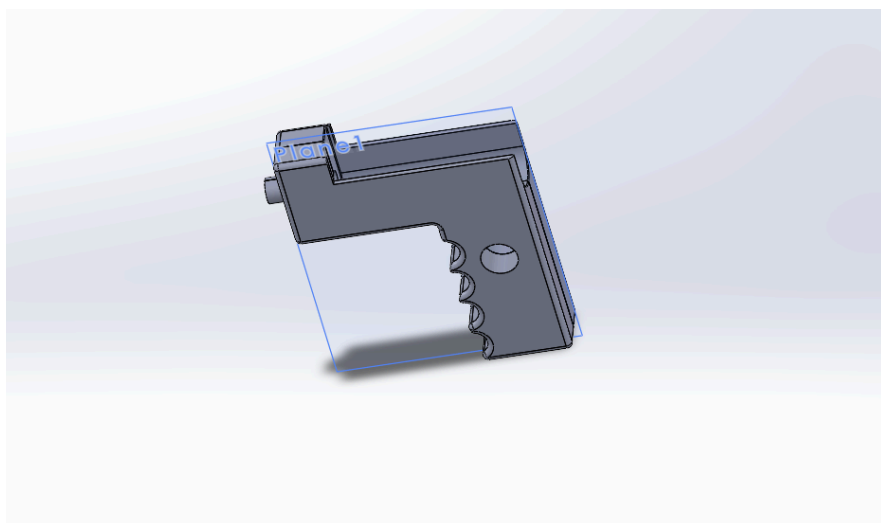
Design Matrix: [link here to full document](#) with criteria descriptions



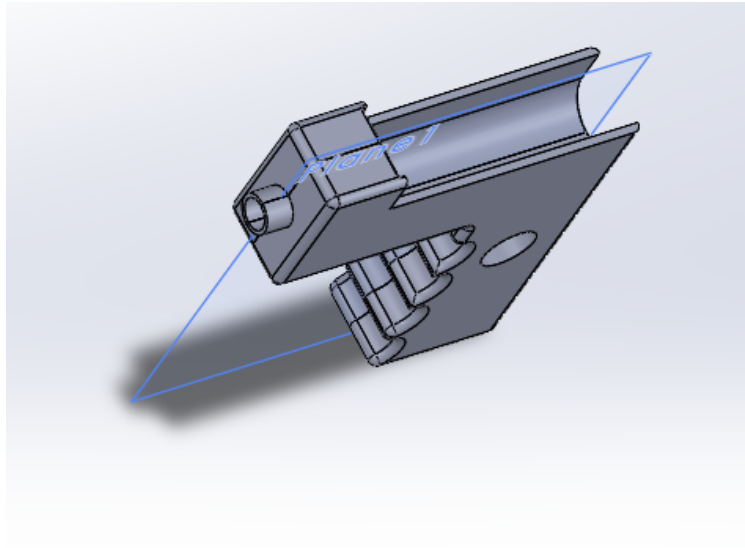
Top view of suctioning collar



Sliced side view of suctioning collar



Handle Side View



Handle Top View

Materials and expenses

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
									\$0.00	
									\$0.00	
Testing										
									\$0.00	
									\$0.00	
								TOTAL:	\$0.00	

Timeline

[illegible]

PDS			X													
Design Matrix				X												
Prelim Presentation					X											
Prelim Deliverables						X										
Final Design						X										
Project Manufacturing						X										
Invention Disclosure Report																
Show and Tell																
Final Poster																
Final Deliverable																

Filled boxes = projected timeline

X = task was worked on or completed

Important Dates:

First PDS Draft Due: September 18th

Design Matrix Criteria and Design Ideas Due: September 25th

Preliminary Presentation: October 2nd

Preliminary Deliverables: October 7th

(Optional) Invention Disclosure Report: October 16th

Show and Tell: October 30th

Final Poster Presentations Due: December 4th

Final Deliverables Due: December 9th

Current References:

1)