

SteadyHand Progress Report #1

Date: 9/10/2026

Client: Dr. James Sohn

Advisor: Dr. Shawn Gomez

Team:

Anna Wood

Mara Van Dyke

Tess Brazee

Sam Anderson

Ben Pytlik

Miti Patel

Problem statement

Severe joint pain in the hands due to arthritis and other inflammatory conditions is now frequently treated using low-dose radiation therapy (LDRT). Current LDRT protocols require high setup reproducibility across 6 treatment sessions. Existing positioning systems are overly complex, use complicated indexing systems, and compress digits 2-5 together. This causes significant discomfort for patients and creates unnecessarily long setup times.

This project aims to develop a hand positioning device to be used in a clinical setting that minimizes setup time and patient discomfort while ensuring exact hand placement for each treatment session.

Brief status update

In the first week, the team roles were assigned. The team had a meeting with Dr. Sohn where the details of the project and improvements that can be made on current designs were discussed. Dr. Sohn shared resources on these topics for the team to review and a biweekly meeting schedule was established with Dr. Sohn. Research was conducted on osteoarthritis in hands, low-dose radiation treatment techniques, and current designs of hand placement devices for low-dose radiation treatment. The introduction meeting was scheduled with Prof. Gomez.

Difficulties / advice requests

N/A

Current design

The Dexalign Hand Positioner is pictured below. We will be trying to create a simpler solution for faster setup times.



<https://cqmedical.com/Products/radiotherapy/Functional--Low-Dose-RT/Dexalign-Hand-Positioner.htm>

Materials and expenses

Item	Description	Manufacturer	Mft Pt#	Vendor	Vendor Cat#	Date	#	Cost Each	Total	Link
Category 1										
									\$0.00	
									\$0.00	
Category 2										
									\$0.00	
									\$0.00	
								TOTAL:	\$0.00	

Goals

Major team goals for the next week

1. Hold a team meeting to review design specifications, do research, and brainstorm design ideas.
2. Complete Product Design Specifications draft.

Next week's individual goals

- Anna Wood
 - Review the presentation Dr. Sohn shared with us and make note of important specifications that should be included in our PDS

- ## Timeline

[illegible]

Client			X													
Advisor		X														
Website																
Update	X	X	X													

Filled boxes = projected timeline

X = task was worked on or completed

Detailed accomplishments

Previous week's goals and accomplishments

- Anna Wood
 - Created a schedule with important dates and responsibilities for the team
 - Helped the group find a weekly meeting time
 - Reviewed all project information on the BME website and the reference materials posted
 - Prepared for the meeting with Dr. Sohn by coming up with questions
- Mara Van Dyke
 - Researched hand osteoarthritis and studies on low dose radiation therapy
 - Contributed questions for client meeting with Dr. Sohn
 - Prepared BPAG expense sheet
- Tess Brazee
 - Scheduled meetings with Dr. Sohn and Prof. Gomez within the first week.
 - Completed background research on osteoarthritis and low-dose radiation treatment
 - Created questions for the meeting with Dr. Sohn after reviewing the PDS and background information
- Sam Anderson
 - Researched osteoarthritis and the existing products that help with hand placement in low-dose radiation therapy
 - Prepared questions for the meeting with Dr. Sohn
- Ben Pytlik
 - Attended the initial meeting with Dr. Sohn
 - Prepared questions for the meeting with Dr. Sohn
 - Updated website with team information
- Miti Patel
 - Researched current devices used for low dose radiation treatments
 - Helped create questions for the client meeting with Dr. Sohn

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Anna Wood	9/10/26	Research	1.5	1.5	1.5
Mara Van Dyke	9/10/26	Research, coming up with questions	2	2	2

Tess Brazee	9/10/26	Question brainstorm, research, emailing, meeting with Dr. Sohn	2	2	2
Sam Anderson	9/10/26	Came up with questions to ask Dr. Sohn, research low-dose radiation therapy	1.5	1.5	1.5
Ben Pytlik	9/10/26	Created questions, research, website, meeting with Dr. Sohn	2	2	2
Miti Patel	9/10/26	Research, coming up with questions	1.5	1.5	1.5