

Approximating Surface Matrix Band for Dentist to Use for Patients

[Project Page](#)

Date: September 6th, 2024 - September 12th, 2024

Client: Dr. Donald Tipple

Advisor: Prof. Beth Meyerand

Team:

Roshan Patel - rgpatel3@wisc.edu (Team Leader)

Keleous Lange - krlange@wisc.edu (Communicator & Co-BPAG)

Tanya Predko - tpredko@wisc.edu (BWIG & Co-BPAG)

Joseph Koch - jmkoch7@wisc.edu (BSAC)

Problem statement

Surface matrix bands are devices used by dentists to separate adjacent teeth during restorations of interproximal cavities (cavities found in-between two teeth). The matrix band serves to support the restoration material, to provide shape and contour to the tooth being restored, and to protect the adjacent tooth. Ideally, the width of the space between the two adjacent teeth is just large enough to fit one matrix band in order to ensure close proximal contact area, which prevents food impaction and decay. In the case of two cavities on two adjacent teeth, this process is tedious, as the dentist must complete the process from start to finish for each adjacent tooth individually. The goal of this project is to create a dental matrix band that effectively partitions adjacent teeth for more efficient tooth restoration procedures on interproximal cavities by making it possible to complete two adjacent restorations simultaneously.

Brief status update

The team is conducting background research into the device. Additionally, team, advisor, and client meetings have all been scheduled for Friday, September 12th.

Summary of weekly team member design accomplishments

- Roshan Patel
 - Initial team meeting
 - Agreed upon a time for the client meeting
- Keleous Lange
 - Initial team meeting
 - Discussed team meeting time with client
- Tanya Predko
 - Met with the team and assigned roles; determined a time to meet with the team and advisor.
 - Performed background research on dental surface matrices.
- Joseph Koch
 - Initial team meeting
 - Background research on project

Difficulties / advice requests

There are no difficulties at this time.

Current design

Materials and expenses

Item	Description	Manufac-turer	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	

Major team goals for the next week

1. Attend the first meeting with the client to understand the goal/problem.
2. Do preliminary research after being briefed on the project and past accomplishments.
3. Begin working on the Product Design Specifications document.

Next week's individual goals

- Roshan Patel
 - Attend client meeting
 - Do preliminary research on the project
- Keleous Lange
 - Attend client meeting
 - Conduct/discuss research with team
- Tanya Predko
 - Begin working on the PDS.
 - Meet with the client.
 - Conduct additional research based on the product design specifications specified by the client.
- Joseph Koch
 - Meet with the client.
 - Continue background research.

Timeline

[illegible]

Website															
Update	X														

Filled boxes = projected timeline
X = task was worked on or completed

Previous week’s goals and accomplishments

- This is our first week, so there were no previous goals or accomplishments

Activities

Name	Date	Activity	Time (h)	Week Total (h)	Sem. Total (h)
Roshan Patel	9/11/2025	-			
Keleous Lange	9/11/2025	-			
Tanya Predko	09/11/2025	-			
Joseph Koch	09/11/2025	-			