Device for Maxillomandibular Fixation Following Facial Fractures

Week – October 21 – October 27

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Team Members: Ashley Phillips – Co Team Leader
Nina Lewis – Co Team Leader
Joe Ferris – Communications
Sara Karle – BWIG
Emily Maslonkowski – BSAC

Problem Statement
Currently, the most common technique of fixating the jaw after a facial fracture is called maxillomandibular fixation (MMF), which requires wiring the mouth shut with the use of arch bars and wires. It has been proposed to us to design a device which will mimic the function of MMF, but be easier and faster to apply while maintaining an adequate cost of application. Our design needs to securely hold the lower jaw tight to the upper jaw, but also needs to have an emergency quick release system. The device should also be safe for the patient during application and for the 4-6 weeks of healing.

Last Week’s Goals
• Finish written report
• Contact other orthodontist offices in the area to try to get a hold of brackets and elastics and to figure out prices
• Receive the skull in the mail
• Meet with our client to discuss our final design decision
• Do further research on forces in the jaw
Accomplishments

- Completed and handed in our written report and design notebooks
- Met with our advisor Fri., Oct. 21 to go over the positive and negative things about our presentation
- Joe researched information on making our own brackets for the braces design
- Sara contacted her orthodontist and may be getting brackets and other materials to test our design
- Emily sent e-mails to her orthodontist and attended the BSAC meeting
- Nina and Ashley continued finding orthodontists in the area and calling their offices
- Joe received the model skull in the mail
- All group members met with our client on Weds., Oct. 26 at 3:30pm at the UW hospital

This Week’s Goals

- Obtain materials for the braces design
- Create a method to measure jaw forces
- Look into a possible “rip-cord” as a quick release
- Determine ways to bring down cost of braces design, i.e. new brackets, reuse brackets

Difficulties

- We would like to find a more cost effective way to use the braces design, since this is the only con to this design
- Calculating the forces of the jaw

Activities/Accomplishments

<table>
<thead>
<tr>
<th>Group Member</th>
<th>Weekly Accomplishments</th>
<th>Time (hrs)</th>
<th>Running Total (hrs)</th>
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<tr>
<td>Ashley Phillips</td>
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<td>Joe Ferris</td>
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