**Team 5 - Palatal Obturator Fixation System for Pediatric Cleft Palate Patients**

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**NEED:**
3D-printable obturator needs fixation system available for 3rd world country applications

**DESIGN INPUTS:**
Attachment maintained thru:
R1: Mastication ($F_{max} = 300N$)
R2: Swallowing ($F_{max} = 6.5N$)

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**SOLUTION - DESIGN & BUILD**

**Design Components:**
- **3D printed obturator:** Custom Fit
- **Orthodontic wire:** Stainless Steel Wire (24g)
- **Orthodontic brackets:** Stainless Steel (24g Opening)

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**TESTING RESULTS:**
- **Compresssion 30-April-2021 (T vs F):** PASS
- **Detachment:** Lvl 0
- **Tension 23-April-2021 (T vs F):** PASS
- **Detachment:** Lvl 1

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**FUTURE:**
- **Rev.:** Long term use/wear needs experimentation
- **Impact:** Operation Smile can provide more patients treatment & patients have improved quality of life