The Brace Cap: An Orthodontic Bracket Covering Ligature Tie

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Orthodontic brackets often have sharp edges that poke the inside of patients' cheeks and sometimes even the inner lip, creating cuts and sores within the patient's mouth. Currently, there is no sufficient solution design to prevent such injuries available on the market. My goal was to design a solution for this problem to improve the quality of life for orthodontic patients. Where in the solution provides protection while eating and sleeping as well. I have used 3-D CAD programming to create an appropriate solution. Creating a design of ligature ties, the brace cap, which would come up and wrap around the top of the bracket, covering all of the sharp edges. It wasn't possible to test the design on humans in a clinical setting due to the risk surrounding Covid-19. However, I was able to gain references from orthodontists claiming the validity of the design of the brace cap. The next stage for this project would be to get a prototype manufactured and clinically tested. This product when ready will provide pain relief to orthodontic patients with great convenience.

Awards Won: