3-D Electrical Cast

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The purpose for this project is to create a 3-D Printer Cast and incorporate the T.E.N.S. Unit to treat Carpal Tunnel Syndrome, and allow full arm mobility. The procedure is to first get the subject's measurements. Design the cast using the Auto CAD software, for the measurements that were given. Print the cast using the 3-D Printer after it is done the cast needs to be in a solution to harden the wax for 2-3 hours. Input the T.E.N.S. Unit on to the subject's arm. Have the subject answer questions before and after the treatment. See if the subject can work and receives treatment at the same time. Pictures and videos will be taken and compared. Observing both the 15 and 30 minute treatments, it resulted the 15 minute treatment was best option of the subject. The 30 minute treatment was too long for the subject when working. When the arm is strait down the subject did not feel the electrical pulses from the T.E.N.S. Unit. When the subject woke up the next morning did not feel pain from the Carpal Tunnel Syndrome in the arm that was treated. After each treatment the subject's fingers felt cold. In conclusion, the creations of the 3-D Printer Cast with the T.E.N.S. Unit reduce the pain of Carpal Tunnel Syndrome. The 15 minute treatment was the best for the subject, due to the short time for everyday use. The 30 minute treatment was long; subject felt the cast to be heavy and bulky.

Awards Won: