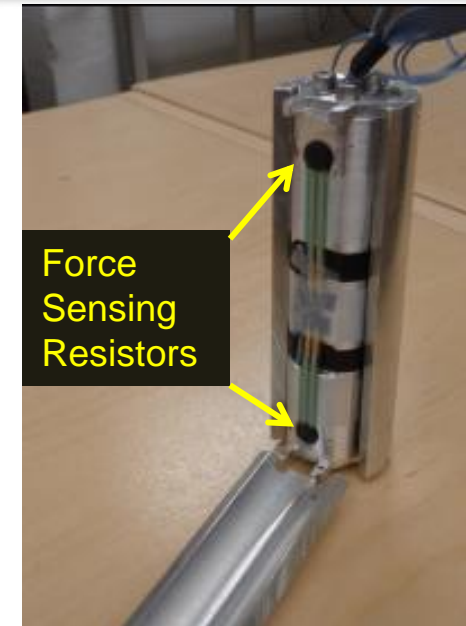


Objective

- Develop a mechanical handle to measure patients' grip strength during rehabilitation therapy using the RiceWrist
- Devise a means of relaying this information to the patient and therapist in real-time



Importance

- Enables therapist to monitor patients' grip strength across rehabilitation sessions
- Integrates with RiceWrist's assist as needed control feature to allow the participant to rehabilitate the wrist more effectively
- Provides additional motivation for the patient from feedback on improved grip strength

Methods

- Cylindrical aluminum handle houses force sensors to measure grip strength
- Six Force Sensing Resistors (Interlink FSR 400) are spaced in two vertically spaced equilateral triangles on the handle
- Microprocessor unit (TI MSP 430 G2553 on TI LaunchPad) acquires the analog signals from the sensors and converts it to a digital signal for MATLAB to process and relay to the therapist and patient

Results

- Created an effective design using inexpensive and lightweight materials and sensors
- Implemented code to communicate between the microprocessor and MATLAB for live streaming of data