Post Stroke Spasticity Rehab Helper

Summary

The spasticity is the most common post stroke effects. We construct simple open sourse Arduino -based Post Stroke Spasticity Rehab Helper.

The Project Description is under construction. It will be ready in 3-5 days.

Stroke is 18+ (not 60+ as earlier!) now. Stroke is leading cause of disability. The spasticity is the most common post stroke consequence.

The rehabilitation of lost motor functions must be made as soon as possible. The assisted rehabilitation is maximally effective in the first 1- 2 months.   
We construct simple and chip rehabilitation robotics device - Post Stroke Spasticity Rehab Helper. The base of the Rehab Helper is Arduino Nano and 10 micro servos SG90. You can assemble the Rehab Helper with 2, 4, 6, 8 or 10 servos, for 1-2-3-4-5 fingers.

Every mechanism is 5-bar linkage than convert rotational motions of servos to 2-dimensional motion. The top of linkage is equipped by swivel, for the finger holder is attached to the swivel. The fingers are fixed with medical adhesive plaster.

User can control the amplitude of massage and movement mode (16 preprogrammed).

The servos are controlled by Arduino Nano board. The Rehab Helper has LED indicator (it shows the amplitude and mode number), potentiometer (amplitude control) and push button ( mode number). 16 modes are preprogrammed in memory. Every finger holder movement is 64 point interpolation of curve. Program code is free (GPLv2). All schematics, fugures, photo are open for private use.