

## Assistive Kitchenware Design for Hemiparetics

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**Abstract :** Hemiparesis affects about eight out of ten stroke survivors, causing weakness or the inability to move one side of the body. One-sided weakness can affect arms, hands, legs, or facial muscles. People with one-sided weakness may have trouble performing everyday activities such as eating, cooking, dressing, and using the bathroom. Rehabilitation treatments, exercises at home, and assistive devices can help with mobility and recovery. Historically, such treatments and devices were developed within the fields of medicine and biomedical engineering. However, innovators outside of the traditional medical device community, such as Industrial Designers, have recently brought their knowledge and expertise to assistive technologies. Primary and secondary research was done in three parts. The primary research collected data by talking with several occupational therapists currently attending to stroke patients, and surveys were given to patients with hemiparesis and hemiplegia. The secondary research collected data through observation and testing of products currently marketed for single-handed people. Modern kitchenware available in the market for people with an acquired brain injury has deficiencies in both aesthetic and functional values. Object design for people with hemiparesis or hemiplegia has not been meaningfully explored. Most cookware is designed for use with two hands and possesses little room for adaptation to the needs of one-handed individuals. This project focuses on the design and development of two kitchenware devices. These devices assist hemiparetics with different cooking-related tasks such as holding, grasping, cutting, slicing, chopping, grating, and other essential activities. These intentionally designed objects will improve the quality of life of hemiparetics by enabling greater independence and providing an enhanced ability for precision tasks in a cooking environment.

**Keywords :** assistive technologies, hemiparetics, industrial design, kitchenware

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