

## **ArmAble: A game based therapy for stroke rehabilitation**

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Indian Institute of Technology (IIT), Hyderabad-incubated startup BeAble Health Pvt. Ltd has developed a gamified arm rehabilitation device for rehabilitation of stroke victims and motor rehabilitation of victims with upper motor deficit caused due to neurological disorders such as cerebral palsy, multiple sclerosis, traumatic brain injury, fracture, frozen shoulder etc.

The device was developed under Biotechnology Ignition Grant (BIG) funded by DBT's Biotechnology Industry Research Assistance Council (BIRAC) granted during year 2017.

Arm Able is a device that constitutes fun and engages games designed according to needs of patients receiving rehabilitation therapy. This gamified device allows patients to play interactive games as a part of their therapy. The ArmAble allows the patients to perform a more number of repetitions in a shorter time. These repetitions create new connections in the brain by engaging the neuroplasticity of the brain and thus, increase the chances of recovery of the arm function. It is affordable and provides data based quantified progress and recovery of stroke patients.

The stroke remains one of the leading causes of disability throughout the world. In India, the current incidence of stroke is around 10 lakh per year. India also reports 10 lakh cases of spinal cord- and traumatic brain injuries.

Patients who do not undergo rehabilitation after medical treatment have lesser chances of recovery and are unfortunately left disabled. Experts are of opinion that rehabilitation is of critical importance to such patients.

The technology has been awarded with the DBS NUS Social Venture Challenge, Asia 2018 and remained winner-NBEC, C-Camp, 2018. Technology has also been granted with one patent.