

## Development of Physiotherapy-Treadmill (PhyMill) as Rehabilitation Technology Tools for Kid with Cerebral Palsy

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### ABSTRACT

Main problems with the motor function for Cerebral Palsy (CP) kids are delayed or arrested on motor development. Therapeutics typically emphasize sound-inhibitory exercises, balance training, and preparatory tasks while walking, sitting, and standing to enhance the functioning of children with CP. The treadmill training is used for repeated tasks-specific walking. The focus is to increase the strength of lower extremity, walking speed, or endurance. In this study, we developed the physio-treadmill device for CP kids called *PhyMill*. This *PhyMill* is mainly constructed from the aluminum profile connected to connector made by polylactic acid (PLA) material equipped with an automatic control system. The height of the device can be adjusted according to the user's height. *PhyMill* offers three operating modes, the first one allowing you to control the movement of the patient forward and backward. The height of the device can be adjusted automatically according to the user's height is the second mode. The third mode is a special display screen to attracts the attention of the patient. The protection when using this device is also highlighted by supporting the user with an adjustable harness. Treadmill exercise for non-ambulatory children with CP as rehabilitation technology tools is a promising technique for the treatment of partial body weight support.

### KEYWORDS:

Children; Cerebral palsy; Gait; Treadmill training; Rehabilitation

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