

## عنوان مقاله:

The Effect of Modified Floor Reaction Ankle Foot Orthoses on Walking Abilities in Children with Cerebral Palsy

## محل انتشار:

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## خلاصه مقاله:

**Objectives:** This study was designed to evaluate the effectiveness of a modified floor reaction ankle foot orthosis (FRAFO) design on gait performance in children with cerebral palsy. **Methods:** Eight children with cerebral palsy wore a modified FRAFO bilaterally for six weeks. Motion analysis was used to assess the immediate effectiveness of the orthosis on improving gait and also following six weeks of gradual orthosis use. Primary outcome measures were walking speed, cadence and stride length, plus hip, knee and ankle joint ranges of motion. A paired T test was used to compare primary outcome measures. **Results:** Cadence, stride length and walking speed were all significantly increased when the children wore the modified FRAFO ( $P < 0.001$  for speed and stride length and  $P = 0.005$  for cadence). The children demonstrated a statistically significant reduction in ankle ROM when using the modified FRAFO. The mean knee joint ROM was increased from  $36.5 \pm 13.32$  degrees when walking with an orthosis at baseline to  $43.5 \pm 1.19$  degrees when walking with an orthosis after six weeks of use. Children with the modified FRAFO also had decreased hip flexion angle at initial contact and an extension shift during stance phase following 6 weeks of orthosis use compared to when initially donning it. **Discussion:** Children with cerebral palsy can benefit from an improvement in gait parameters when walking with a modified FRAFO.

## کلمات کلیدی:

Walking, Modified FRAFO, Cerebral palsy, Temporal spatial parameters, Kinematics, Orthoses

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