Is Body-Weight Supported Treadmill Training Effective in Developing Independent Gait in Children with Cerebral Palsy?

Clinical Presentation of Cerebral Palsy

• CP describes a group of disorders affecting motor functions that are attributed to disruptions in fetal brain development.
• The most common effects of CP include a lack of muscle coordination and muscle spasticity.
• The different types of CP are diagnosed by:
  o Distribution of symptoms in the body (diplegia, hemiplegia, quadriplegia)
  o Type of impairment seen (spastic, ataxic, hypertonic)
  o Severity (mild, moderate, severe)
• “90% of children with CP have difficulty with ambulation” (Mattern-Baxter, 2010)

Body-Weight Supported Treadmill Training

• BWSTT allows patients to ambulate on a treadmill with the assistance of an overhead harness holding some to all of the patient’s body weight to allow practice of gait mechanics
• PTs can alter amount of body weight supported and speed of gait to progress the program
• The goal is to improve functional ambulation through motor learning and an increase in muscle strength.

Clinical Relevance

• BWSTT equipment might be a beneficial investment for a PT clinic that sees a lot of CP patients
• Ambulation with partial weight bearing could lead to improvements in full weight bearing gait
• Results may differ based on GMFCS score (level I through level IV were tested in references).