

Natural Sciences(None)

Hip-Knee-Ankle-Foot Orthosis Using a Medial Single Hip Joint: A Clinical Study of a Paraplegic Child

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Abstract

This study describes and discusses a clinical experience with a hip-knee-ankle-foot orthotic (HKAFO) system using a medial single hip joint (MSH-KAFO). The MSH-KAFO (WalkaboutR) was invented by Stewart MacKay in 1992. It has many merits compared with other HKAFO systems because the hip joint is compact and removable. This system was clinically tested with a paraplegic child (female, 14 years old) whose condition was the result of a thoracic spinal cord injury. Her functional level was T-6. A few days after she began to use the MSH-KAFO, she was able to stand without any support and initiated parallel bar ambulation on the third day. On the seventh day, she was able to ambulate using two Lofstrand crutches with moderate assistance from the physical therapist. The functional level attained was lower than that of others, because she had severe scoliosis, spasticity in her hip flexor and triceps suare muscles, and flexion contractures in her knee joints. It was concluded that MSH-KAFO is most suitable for patients without deformities, contractures, or spasticity in the spine or lower extremities.
