



SPIO is proud to introduce SPIO X, a lightweight and versatile TLSO incorporating all the benefits of a traditional SPIO orthotic with a rigid posterior panel system.

SPIO Treatment Plan

Introduction

SPIO X can be utilized for a broad spectrum of children with varying levels of hypotonia. The flexible, low temperature-moldable Kydex panels and stays can be molded to accommodate the dimensions and contours of each child's spine. As a child demonstrates improved trunk control, the TLSO can be transformed by diminishing the support provided over time. Multiple panels worn simultaneously can be replaced by a single, large panels, a single slim panels , and by removing the panels altogether, replacing them with stays. Eventually the TLSO can be worn without any ridged components. It is a progressive TLSO system that can be modified to meet each child's needs, even as those needs change.

Assessment of Trunk Control

A review of milestone attainment is a first step in assessing trunk control. Diminished trunk control has been shown to limit independent sitting, crawling, walking and proper, healthy posture. In addition to posture and locomotion, the stability of the trunk permits the extremities to function; exert force by pushing, pulling, manipulating objects and moving through a full range of motion. Trunk control is essential to maintain balance during these activities as the center of gravity shifts with voluntary movements and externally applied forces. Somewhat less obvious is that compromised trunk control can also negatively impact handwriting, the ability to attend to tasks, contributes to poor coordination and compromises fine motor development. In short, trunk control is essential for the attainment of many developmental milestones.

During the course of typical development, most children learn/acquire greater trunk control through the participation in progressively challenging physical tasks and the successful attainment of a new physical skill is accompanied by learned trunk control.

Children who present with hypotonia, joint laxity or other developmental problems generally lack sufficient trunk control. Specifically, children with Down syndrome, cerebral palsy, spina bifida, torticollis, and other diagnoses associated with tonic dysfunction develop atypically, attaining basic motor milestones at a markedly delayed rate. They cannot meet the demands of progressively challenging tasks.

Treatment Options

Hypotonic children exhibiting developmental delays associated with or characterized by poor trunk control generally benefit from therapy designed to strengthen the trunk. However, such exercise can be grossly limited when the child is unable to provide adequate trunk control necessary to perform progressively physical exercise. In essence, many children require assistance in controlling their trunk so that they can make progress.

SPIO X provides that assistance.

SPIO X is a compression orthotic. The unique SPIO fabric not only provides optimal compression, six times that found in commercially available athletic compression gear, but maintains the same level of compression even after prolonged use. The characteristics of the SPIO fabric permits the orthotics to maintain unmitigated compression levels before, during and after activity, distinguishing it from other compression products. The compression has been shown to facilitate motor control as a byproduct of the compressive, sensory input.

SPIO X is also a paneled product. It is sold with two Kydex X panels, one wide and one slim, and two Kydex stays. SPIO X provides orthotists with five options; five levels of trunk support. The goal is provide the child who lacks sufficient, independent trunk control with just enough support to permit the completion of progressively challenging physical tasks without substituting for his or her own motoric performance.

The five options are:

1. Insert both X- panels into the pocketing back pocket to provide maximal support
2. Insert the wide X-panel to provide significant support
3. Inert the slim X-panel to provide less support
4. Remove the X-panels and mold and affix the two stays when minimal support is required.
5. Use the existing neoprene back alone, with the X-panels or stays to provide compression with mechanical support.

Appropriateness of Use

SPIO X is only an appropriate option when the support initially required by the child is best met by options #1 - #3 above. Progressing to less supportive options is to be utilized as the child demonstrates improved trunk control. Other SPIO products are available if the initial support required by the child matches s that described under #4 and #5.

SPIO X is intended for children who require the degree of support provided by at least the slim X-panel and have been identified as having the capacity to improve their trunk control over time; either through therapy or independently. The progressively diminishing support options that characterize SPIO X may only be utilized if the child is able to enhance his or her trunk control, requiring diminished support.