Dynamic Chiropractic

PEDIATRICS

The Pettibon System and the Pediatric Patient

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Safe and effective treatment protocols for adjusting infants and children have been developed for doctors using the Pettibon system, the basic principles of which have been adapted to the specific needs of the pediatric patient. Drs. Ian Horseman and Mark Morningstar have been instrumental in developing the protocols for the Pettibon system for pediatrics, as well as the care of the child with scoliosis. I would like to extend my appreciation for their contribution to this article.

What Is the Pettibon System?

The Pettibon system is a comprehensive method of evaluation and management that consists of warm-up exercises, spinal mobilization techniques and neuromuscular rehabilitation procedures designed to retrain neuromuscular control of the spine and posture. In the process, patients also are given an extensive home rehabilitation protocol to promote patient independence and empowerment.

This system incorporates a variety of adjunct adjustment tools to aid the practitioner. One of their adjustment tools is designed to deliver a precise vectored adjustment to the upper cervical spine.

Another device allows the practitioner to perform an occiput adjustment in the -Z plane, while the device actively blocks the upper cervical spine.

Weighting Systems

Finally, the core of the rehabilitation program is considered to be the weighting system. The weighting system consists of varying amounts of weight placed in specific anatomic locations to induce reflex postural corrections. For example, an anterior headweight is used to cause the patient's righting reflexes to compensate for the added external weight by actively retracting the head in space, so that it is balanced over the pelvis. To complete the system, shoulder and hip weights can be used to induce shoulder and/or hip rotation. Patients are then radiographed while wearing this equipment to confirm postural corrections.

Two previous studies have demonstrated the corrective effects of this weighting system. Research studies relating to the Pettibon system are ongoing, with four studies currently in review and two in preparation. The goals of treatment in the Pettibon system are patient-oriented. Sagittal balance, spinal motion, functional outcome assessments and strength testing are among the hallmarks of Pettibon outcome measures; patients are discharged from care upon maximum chiropractic improvement.

Pettibon Pediatric Equipment and Protocols

As with adults, the most clinically important region of the spine to correct in the pediatric patient is the area between the skull and C1. In infants, due to normal development of the fetus in the "whole body flexed position," the most common presentation is the skull flexed on the atlas, resulting in a loss of normal extension of the skull on atlas. This skull/atlas relationship often is expressed as forward head banging in infants. This flexed occiput can easily be adjusted by blocking the atlas

with a specific instrument and gently extending the occiput while activating the small drop mechanism, allowing for a precise and comfortable correction.

The same instrument also can be used for the more serious presentation of the extended occiput on C1, usually associated with breech births. The baby may express this less common loss of flexion of the skull with backward head banging. The drop mechanism is activated with the occiput well-supported in the flexed position while C1 is immobilized. It also can be adapted for adjusting the atlas in lateral flexion and or rotation.

The Pettibon system also instructs the doctors how to obtain and analyze plain-film X-rays on infants and toddlers, ensuring that accurate diagnosis and precise and safe adjustments are provided and obtained. In addition, the Pettibon system has developed equipment specific to the needs of the child. Special tips for adjusting instruments and modifications to equipment utilized for adults have been designed to ensure the comfort and safety of the child.

Care of the Child With Scoliosis

Given the relative invasiveness of conventional scoliosis treatment, many parents opt for effective alternatives to treatment, such as surgery or full-time bracing. In response to this growing demand, the Pettibon system recently has begun treating scoliosis patients using a combination of both treatments. For example, some types of braces, such as the Boston brace, have demonstrated good long-term benefit. The weakness of bracing, however, lies in its low compliance rate. Bracing is a necessary component of treatment, considering the compressive gravitational effects on the unbalanced, buckled spine. However, bracing does not address the basic spinal dysfunction commonly seen in scoliosis patients. Sagittal spine alignment, for example, is not addressed by most brace types. Considering that it's been suggested that the long-term health of the spine is more related to sagittal alignment, Drs. Horseman and Morningstar state that "the use of the Pettibon system in conjunction with bracing treatment may provide for a more comprehensive treatment protocol for the pediatric patient."

Adding the Pettibon system to conventional bracing treatment gives the practitioner the ability to manage scoliosis patients with slightly higher curvature magnitudes than typical bracing treatment is indicated for. Preliminary data has shown that combining these treatments can produce promising short-term outcomes in curvature reduction, respiratory improvement, visual posture improvement, and rib hump reduction.

For more information regarding the Pettibon pediatric and scoliosis modules, the reader should visit www.pettiboninstitute.org.

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