The Osteopathic Approach to the Child with Scoliosis

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http://www.osteopathiccenter.org/scoliosis.html

The term scoliosis means a distortion of the body structure into a curvature. This is usually recognized in the spine but may also be found in the pelvis, and occasionally in the mechanism of the cranial bones.

Spinal scoliosis may be structural due to a bony developmental defect as for example the absence of a rib on one side, or an incomplete development of a vertebra. It may be the result of a neuromuscular disease such as cerebral palsy in which the spinal muscles are more spastic on one side than the other or a paralytic condition in which the muscles are much weaker on one side. In these conditions the spinal muscles exert a greater contraction or side-bending force on one side of the spine than the other. Abdominal surgery in infancy or childhood may leave a scar on one side of the abdominal wall which may, as the child grows, cause a curvature in the back because the soft tissues around the scar are hardened with fibrous tissue and cannot lengthen equally with those of the other side.

But these structural causes of scoliosis are rare. Far more common are the idiopathic adolescent functional spinal curvatures. "Idiopathic" means that the cause is unknown, "adolescent" implies that it is most commonly found as the child enters the adolescent or teenage years; and functional indicates that there is no bony deformity.

There are however some causative factors recognized by the osteopathic physician that are responsive to osteopathic manipulative treatment. In order to appreciate them regard this patient as a dynamic unit of function from head to feet and not merely a vertebral column with an unusual curve in it. Examining the standing patient from the back the level of ears, the shoulders, the scapulae or shoulder blades, the crests of the ilia are noted for their symmetry, is one side higher than the other. If the patient then bends one knee but keeps the weight equally on two feet it is possible to observe side-bending in the lumbar area - do they move symmetrically or is the side bending greater to one side. Next ask the patient to balance on one leg and note how far the pelvis drops on the opposite side. Is the range of motion equal to that when standing on the other leg. Less motion indicates restriction of physiological motion in the sacroiliac joint. How far can the patient bend forward toward touching the toes without bending the knees. As the patient uncurls note whether the rib cage is symmetrical on the two sides. A prominence of one side may be the earliest evidence of a scoliosis of the spine. Is there freedom of motion to permit elevation of the straight arms beside the head.

Is the scoliosis still evident when the patient is seated? Standing behind the seated patient place hands on the front of the chest or the sides of the chest to note whether the ribs move symmetrically. Asymmetric expansion on one side may be due to scoliosis. The patient is then examined lying on the back, to evaluate leg length symmetry, pelvic balance, symmetrical motion of the sacrum within it, and to evaluate the spinal muscles for symmetrical tension or vertebral rotation.

The cranial mechanism is then palpated for distortion of position or asymmetry of motion. The question may be asked, what has the head to do with a spinal curvature. From a functional point of view the body hangs from the head and distortion of the cranial mechanism, commonly from a long or traumatic birth, predisposes to curvature in the spine by way of unequal fascial drags on the body. Orthodontic treatment which endeavors to change and intends to improve the relationship of the jaws may also induce or aggravate spinal curvatures.

The diagnosis will also include a standing X-ray which not only evaluates the nature and degree of the spinal curvature, but also provides a study of the equality of leg lengths.

The treatment will include osteopathic manipulative treatment to the pelvis and the head, the rib cage, the abdominal wall and the fascial mechanism of the body as well as the area manifesting the spinal curve. If there is an anatomical shortness of one leg a corrective lift might be added to that shoe. In addition to, but not in place of the manipulative treatment some simple exercises may be given to perpetuate the benefit of the treatment.

Carrying a backpack must be carefully monitored. If used it must not be overloaded and must be equally balanced across both shoulders.

The fitting of a brace may be indicated in a severe structural scoliosis. Surgery may be indicated if the condition has rapidly deteriorated or structural anomalies exist. But in our experience if osteopathic treatment is administered first these more drastic measures are needed less frequently.