
DR VIEWPOINT

Scoliosis—a new contributing factor to consider

With the advent of school examinations for scoliosis, more and more cases are being discovered among the preteen and teenage population. When scoliosis is found, an intensive search for the cause must be undertaken, and this search should include consideration of orthodontic appliances.

Usually, the sacral base and the occipital base are essentially parallel, even in scoliosis, when they may be tilted. The exception is when injuries to the vertebral column between the occiput and the sacrum disrupt the functional integrity of the spinal unit. Therefore, in scoliosis, parallelism of these bases should be the first check, to rule out disruptive injury as a cause.

Next, causes of unleveling, or tilting, of the sacral and occipital bases must be sought. Obvious problems affecting the sacrum, such as a short leg or pelvic asymmetry, must be considered. Causes for occipital base unleveling are more obscure. They include severe soft-tissue and osseous injuries to the neck and birth trauma at the occipital condyles. Another possible cause is persistent force on the occiput that causes a tendency toward unleveling. This force is transmitted to the sacral base via the vertebral column and through the dural tube, causing the pelvis to adapt to the unleveling tendency exerted on the sacrum by the occiput, thus producing scoliosis.

Recently, I have found that orthodontic corrective braces that cross the midline between the maxillae can contribute to and perhaps may cause scoliosis. This effect occurs when the braces are applied so that one maxilla is fixed in relative internal rotation and the other in relative external rotation. The hard palate is flexible, and minute physiologic motion persists throughout the osseous cranium. Thus, when braces fix the maxillae, a tension pattern can be introduced in the hard palate that transmits to the sphenoid and then to the occiput, causing eventual unleveling of that bone. Diagnosis can be made either by palpation or by the observation of asymmetry in the hard palate, one side being high and arched while the other is low and flat.

Mobilization of the maxillae and cranial base by interrupting the transmidline fixation of the maxillae and by craniosacral osteopathic mobilizing techniques is often beneficial in the overall management of scoliosis. This may require referral for craniosacral treatment. **FCM**

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