Changes in clinical and radiographic parameters after a two-week regimen of chiropractic manipulation combined with soft tissue therapy and neuromuscular rehabilitation in 7 adult idiopathic scoliosis patients

CASE PRESENTATION

The first phase of care, aimed at addressing soft tissue deformations and improving spinal flexibility, consisted of six parts: active spinal mobility exercises, passive vibration therapy, active spinal traction exercises, massage therapy, passive flexion-distraction therapy, and mobilization therapy.

1. Active spinal mobility exercises are performed with the patient seated upon a chair with a seat that pivots in a 360-degree range of motion. Initially, the patient performs general stretching exercises, followed by spinal range of motion exercises. Lastly, repetitive lateral bending exercises are performed in the direction of the convexity of each curve with the patient's hand positioned at the apex.

2. Passive vibration therapy consists of the patient lying supine with a cylinder below the cervical and/or lumbar lordosis that oscillates at a frequency of 4 Hertz, which may have a lengthening effect upon the spine, as well as additional supports and/or wedges designed to create a "mirror-image" position of the patient's typical posture.

3. Active spinal traction exercises are performed by the patient in a standing position. While positioned in this device, the patient bends the knees to gently traction the spine, then straightens the legs and repeats this maneuver 60 to 100 times. These axial traction exercises are performed in a manner to emphasize the cervical lordosis and ideal sagittal spinal alignment. Repetitive loading and unloading of the spine may have a beneficial effect upon the intervertebral discs.

4. Massage therapy was performed, focusing primarily on the paraspinal muscles along the convexity of the curve(s).

5. The patient was positioned supine on a specialized table. Lateral traction straps and raised wedges were used to create a "mirror-image" of the patient's postural configuration. While in this position, a motor flexes the lower section of the table repeatedly by approximately 30 degrees, then returns, providing continuous passive motion that intermittently axially tractions and then relaxes the spine. This intermittent axial traction combined with the "mirror-image" positioning may have a beneficial effect upon the soft tissues surrounding the spine and the intervertebral discs.

6. The patient was positioned supine with a motorized wedge placed underneath the shoulders, torso, and/or pelvis. This wedge has an electric motor that raises and lowers approximately ½-inch six times per second. The goal is to duplicate the effect of CMT; for instance, by placing it underneath the right side of the torso, the rotation of the thoracic spine and rib cage may be addressed. Additional foam wedges were positioned beneath the patient for stability and to enhance a "mirror-image" effect.