

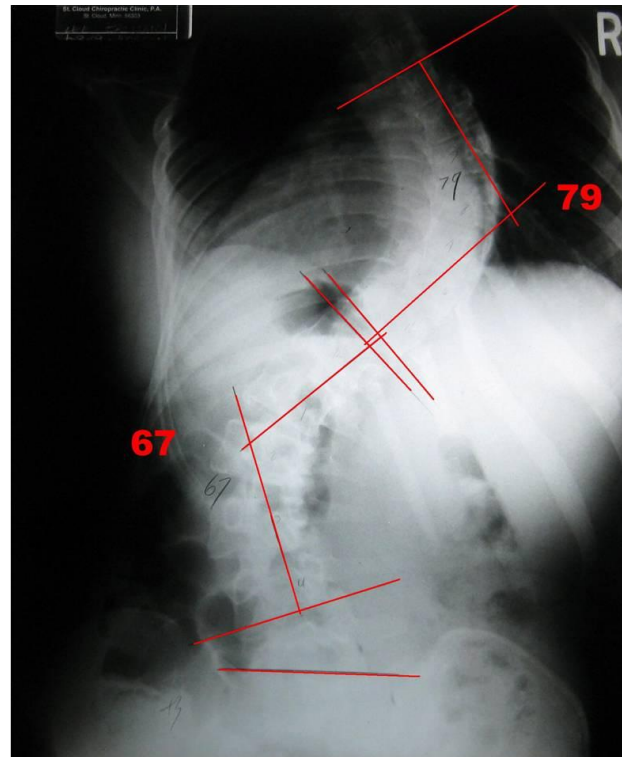
Discussion

According to the NBCE, 2.7 million visits are made to chiropractors annually for scoliosis or scoliosis-related complaints,¹⁵ many adolescents whose parents have self-selected chiropractic care. Similar to the premise that scoliosis-specific exercises are more effective in treating scoliosis than generalized physiotherapeutical approaches, a chiropractic treatment protocol developed specifically for the treatment of scoliosis could be more effective than generalized chiropractic treatment. In this case, the patient utilized chiropractic services for six years which were not effective in halting progression before self-selecting a scoliosis-specific chiropractic protocol that was ultimately effective in reducing the severity of the curvature at skeletal maturity.

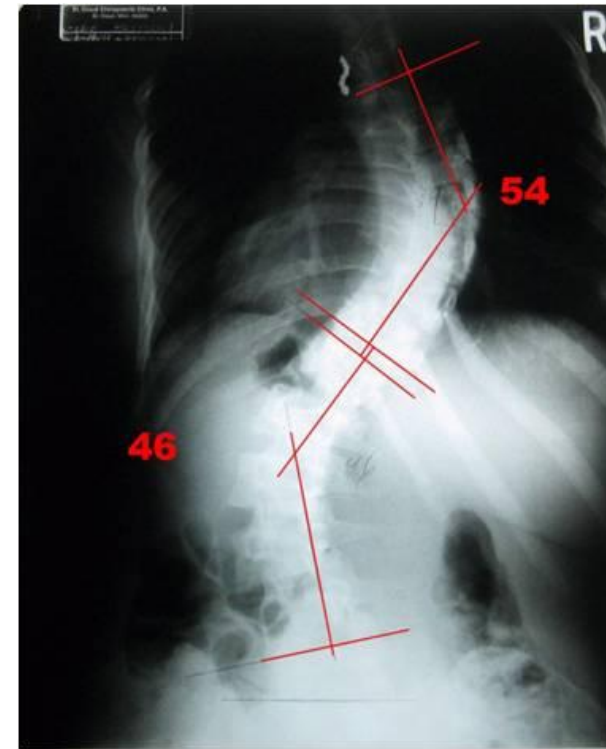
When the patient presented for care in 2009, the periods of most rapid spinal growth were in the past, although the potential for spinal growth remained.¹⁶ Between July of 2009 and January of 2013, the patient's height increased by two centimeters in a linear fashion, then remained stable. This could account for the larger losses of correction observed over the intervals between the first six treatment sessions, compared to the relatively modest losses documented between the last three. Another possible explanation is that the patient's height increased as a result of the treatment, and no actual growth occurred.¹⁷

The spine, as a biomechanical structure, is influenced by the forces acting upon it, such as gravity, and Cobb angle can change as a result of these forces; Beauchamp *et al* documented diurnal variations in scoliosis as high as 20 degrees within a 24-hour period.¹⁸ Lateral curvature of the spine can be influenced by the activity of the muscles and the nervous system, as well as the position of the spine in the coronal and sagittal

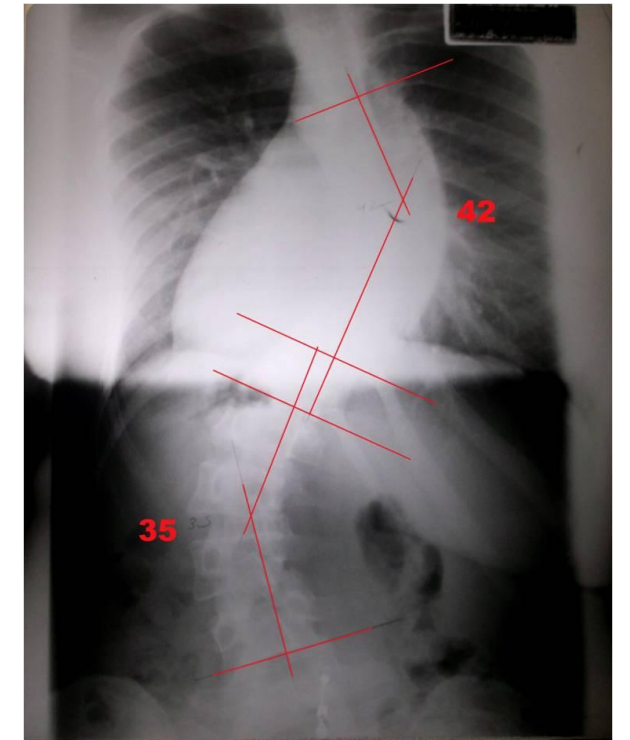
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Pre-Treatment Radiograph



After two weeks of care



After five years

Discussion (continued)

plane. Factors linked to the risk of progression in scoliosis include imbalanced EMG activity of the paraspinal muscles,¹⁹ coronal and sagittal imbalances,^{20,21} and, abnormalities in EEG activity related to adaptation-compensation mechanisms in the CNS.²² We hypothesize that the risk of progression in scoliosis could be reduced by strategies aimed at rehabilitating these measurable functional deficits.

Conclusion

This case study follows a patient with adolescent idiopathic scoliosis who received chiropractic treatment for her scoliosis over a period of eleven years, until skeletal maturity was attained. The thoracic Cobb angle reduced from 79 degrees to 42, and the lumbar Cobb angle reduced from 67 to 43 degrees, representing a correction of 37° (46.8%) and 24° (35.8%) respectively.

This case illustrates the potential of chiropractic to provide an alternative to bracing and surgery. Although the initial Cobb angles were an indication for surgical intervention, at the conclusion of care the patient was no longer considered eligible for surgery. Further independent and prospective study of the described protocols is necessary before definitive conclusions can be drawn.

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