

## Chiropractic vs. Medical Management of Scoliosis: Let's Look at the Numbers

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For more than 100 years, chiropractors have been treating adolescents with [idiopathic scoliosis](#). Both myself and my colleagues, current and former, have realized and reported within the profession remarkable and often dramatic positive results. But only recently has the viability of chiropractic treatment for scoliosis been documented through research and reported in the indexed medical literature.

According to the Mayo Clinic, "Scoliosis is a sideways curvature of the spine that occurs most often during the growth spurt just before puberty. While scoliosis can be caused by conditions such as cerebral palsy and muscular dystrophy, the cause of most scoliosis is unknown. Most cases of scoliosis are mild, but severe scoliosis can be disabling. An especially severe spinal curve can reduce the amount of space within the chest, making it difficult for the lungs to function properly. Children who have mild scoliosis are monitored closely, usually with X-rays, to see if the curve is getting worse. In many cases, no treatment is necessary. Some children will need to wear a brace to stop the curve from worsening. Others may need surgery to straighten severe cases of scoliosis."<sup>1</sup>



Three-dimensional lateral curvatures of the spine affect 2-3 percent of the adolescent population.<sup>2</sup> Utilizing 2000 U.S. Census Bureau statistics, the number of adolescents in the United States is 41,747,962. If 2.5 percent of all adolescents have scoliosis based on the 2-3 percent estimate, this equates to 1,043,699 (1.04 million) children facing issues as a result of scoliosis.<sup>3</sup> Yet keep in mind that "only 10% of adolescents diagnosed with scoliosis have curve progression requiring medical intervention."<sup>4</sup>

Lou, et al., state: "Brace (orthotic) treatment is recommended for growing children with curves of 25-45 [degrees] Cobb angle. Surgery is the final treatment option for curves greater than 45° and its goals are to obtain safe correction, to produce a solid spinal fusion of the curve region, and to bring the spine and body into a more balanced position."<sup>2</sup> However, they conclude, "Although brace treatment for scoliosis has been used for more than fifty years, its effectiveness is still debatable. ... Most studies used the amount of curve progression (as measured by the Cobb angle) to determine the effectiveness of brace treatment. Some defined success as 5° or less curve progression."<sup>2</sup>

Bracing in adolescent males had unsuccessful results in 76 percent of the cases, with 46 percent requiring surgery for idiopathic scoliosis.<sup>2</sup> The overall surgical rate for failed bracing was 23 percent when used as a treatment for idiopathic scoliosis.<sup>6</sup> "A retrospective review of 16,536 individual costs and charges, including overall reimbursements, for 125 consecutive patients who were managed surgically for the treatment of adolescent idiopathic scoliosis by three different surgeons between 2006 and 2007.... The mean age of the patients was 15.2 years." Costs ranged from \$29,995 to \$33,652, averaging \$31,832.50 per case.<sup>7</sup>

The total number of hospital discharges in 2009 for idiopathic scoliosis for children under 18 years of age was 6,709. However, the estimated number of children undergoing spinal fusion was 38,000, with 85 percent being a result of idiopathic scoliosis. That means the total number of children being operated on is 32,300, with a national price tag of more than \$1 billion (\$1,028,189,750).

Scoliosis bracing is estimated to be used for 30,000 children. If we take the same statistic of 85 percent for idiopathic scoliosis, the approximate number of children braced for idiopathic scoliosis is 25,500. According to MG Labs, a prosthetic and orthotic lab in New York, the national average cost of a thoracolumbosacral orthosis is \$2,100. That places the national cost for bracing at over \$53 million (\$53,550,000).

The estimated number of physician visits for scoliosis is 600,000.<sup>9</sup> Again, if we take the 85 percent statistic for idiopathic scoliosis, the number of physician visits is 510,000. Omitting X-rays, MRIs and other required services for scoliosis, the average cost for a doctor's visit is conservatively \$100, averaging both primary and specialist care. This would be for a range of E&M codes for initial visits including 99203-99204 and 99205. The national price tag is thus \$51 million. (Note: For this review, we aren't considering the negative sequelae of radiation exposure for tracking the scoliosis as the adolescent matures.)

While allopathic medicine is still entrenched in the debatable practice of bracing and eventual surgery with the inevitable progression of scoliosis, there are proven solutions. A 2011 study concluded that as a result of chiropractic spinal adjusting and chiropractic spinal manipulation, a thoracolumbar curvature (scoliosis) averaged a 17.2° reduction that was maintained for 24 months, the length of the study. Across all spinal groups, an average 10° reduction persisted for 24 months, again the length of the study. It was also concluded that pain scales reduced by 60 percent at 24 months and function improved by 70 percent, while respiratory capacity increased by 7 percent.<sup>10</sup>

The real issue is that if adolescents have their curvatures reduced by between 10° and 17.2°, then a significant amount of bracing and surgery will no longer be an option because it will not be indicated. As bracing has been deemed questionable in the literature and now the literature reflects chiropractic as a highly effective modality, the standard of care across professions should be chiropractic care for scoliosis as the *first-line treatment option* and should be standardized in every discipline.

Considering the overall national cost of idiopathic scoliosis of \$1,132,739,750 (\$1.13 billion), excluding imaging studies and the research results on chiropractic care, the conclusion is that as a society our money can be better spent while simultaneously helping our children. The question remains, "Will politics and prejudice or facts rule the day?"

### References

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