

# Osteopathic Manipulative Medicine (OMM) in the Treatment of Plagiocephaly and Torticollis: A Case Study

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## Abstract

Plagiocephaly and torticollis are common problems seen in infants and more studies are needed to support the effectiveness of OMM for these diagnoses. Two infants were brought for evaluation to a family medicine residency clinic with concerns of asymmetry of the head and decreased neck movement/flexibility. The diagnoses and typical treatments were discussed with the mothers, including positional maneuvers at home, referral to physical therapy, and referral to plagiocephaly specialist at our tertiary care center. Our goal was to determine the utility of OMM in infants with these issues. Mothers were given the option of adding OMM to the treatment and wanted to pursue this option. Infant A was also experiencing significant feeding difficulties and reflux symptoms at initial presentation. Infants were treated with “whole body” OMM, including treatment of the sacrum, pelvis, spine, diaphragm, neck musculature, and head. Both infants also underwent treatments by our local physical therapy group and continued positional maneuvers at home. Infant A was ultimately referred to a plagiocephaly specialist and did use a helmet for a short time. Following treatment, visual improvement was observed in the severity of the plagiocephaly in both infants. Osteopathic manipulative medicine could be a useful tool in the management of plagiocephaly and torticollis in infants, particularly if there are feeding issues or GERD symptoms. This case study adds further support and could help motivate more frequent use of OMM in the pediatric population. In the future, I would add measurements of head asymmetry and neck mobility.

## Methods

This was a two-patient case study performed in a residency clinic with the goal of determining the utility of OMM in infants with plagiocephaly and torticollis.

OMM was initiated at the initial presentation of plagiocephaly and torticollis in two three-month-old infants. Treatments, consisting of craniosacral therapy, muscle energy, and myofascial release, were performed approximately every one and a half to three weeks. Infants were followed until approximately one year of age.



Figure 1: Visual progression of plagiocephaly in infant A from treatment #1 on 12/31/19 (top left) to treatment #4 on 2/14/20 (bottom right)



Figure 2: Visual progression of plagiocephaly in infant B from treatment #1 on 7/31/20 (left) to treatment #7 on 10/28/20 (right)

Photographs were taken after each treatment with the mothers' permission to track progression of the plagiocephaly.

## Results

Visual improvement was observed in the severity of the plagiocephaly. Improvement was noted in neck mobility and symmetric rotation and side bending of the head and neck.

Infant A also had noticeable improvement in feeding habits and a decrease in gastroesophageal reflux (GERD) symptoms immediately following treatments

## Discussion

The results of this study indicate that OMM may in fact be beneficial in the management of infants with plagiocephaly and torticollis, both in decreasing the severity of asymmetry and by helping improve other symptoms that infants with these conditions may have as a result of altered feeding and swallowing mechanics. The results of this case study are limited by the sample size of two. Infant A in this case study did ultimately utilize a helmet for definitive management. Both infants were comanaged with physical therapy, which is part of our standard treatment. Further studies with larger sample sizes are needed. In addition, measurements of the head should be recorded with further studies.

## Conclusion

Osteopathic manipulative medicine could be a useful tool in the management of plagiocephaly and torticollis in infants, particularly if there are feeding issues or GERD symptoms. A team approach, including physicians, physical therapists, and active parental engagement appears to be beneficial.

## Literature Review

Lessard, Sylvie, et al. “Exploring the Impact of Osteopathic Treatment on Cranial Asymmetries Associated with Nonsynostotic Plagiocephaly in Infants.” *Complementary Therapies in Clinical Practice*, vol. 17, no. 4, Nov. 2011, pp. 193–198.

Filisetti, Monica, et al. “Positional Plagiocephaly from Structure to Function: Clinical Experience of the Service of Pediatric Osteopathy in Italy.” *Early Human Development*, vol. 146, July 2020,