

Paediatric Chiropractic Care and Improved Range of Motion: A limited case series

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Abstract: *Objective/Clinical Features:* This limited case series presents two infants who were born via long or assisted labours, who went on to experience issues related to range of motion. They underwent subluxation-based chiropractic care using diversified techniques which were modified for their age and tensile strengths.

Intervention/Outcome: A reduction in subluxation listings was concomitant with an increase in range of motion and/or a resolution of shoulder dystocia and other subjective improvements self-reported by parents.

Conclusion: Birth is a significant event for both mother and baby. Given the prevalence of restricted range of motion in infants, chiropractic care may be considered a positive care modality for infants who have limited range of motion or birth trauma. Further research is required.

Indexing Terms: Chiropractic; Subluxation; breastfeeding; case report; case series; infant range of motion; ROM

Introduction

Regardless of whether a chiropractor is vitalistic or mechanistic in their focus, posture correction and reduction of spinal pain are core to the chiropractic offering. For those who practice subluxation-based chiropractic care, improving range of motion is also essential because without restoring biomechanics and normal function to the spine we are allowing subluxated states to remain, along with their subsequent stress on the nervous system. Posture, spinal pain and range of motion may be three distinct factors, but they go together hand in hand when it comes to resolving broader manifestations; their relationship underpinned by the nervous system.

When looking through the specific lens of paediatric chiropractic care for infants and neonates, it becomes a particularly poignant issue as range of motion (ROM) may be a result of birth trauma, or issues like torticollis. Research indicates that ROM is restricted in a range of 79-90% of newborns making the issue common (and the argument that infants do not require

... the prevalence of restricted range of motion in infants, suggests that safe and gentle chiropractic care may be considered a positive care modality for infants with limited range of motion'



chiropractic care almost completely moot). (1) The prevalence of restricted motion is even greater in the population of infants who were born with assistance (83.3%). (1)

Subluxation-based chiropractic care is focused on ensuring optimal nervous system function, including biomechanical function and adaptability, and is vital for early childhood development.

The following case series follows two infants who presented for subluxation-based chiropractic care following birth-trauma.

Case 1 – Difficulty With Cervical Spine Rotation

Patient details

An 18-day-old male was presented for care with parents raising primary concerns that he was unsettled at night. While he fed well, the parents were concerned with the spinal health and comfort of the child following a vaginal birth assisted with forceps and vacuum suction extraction.

Examination

Presentation revealed mild tension at all levels on the left side of the spine. Moderate vertebral subluxations were noted about C2, C5 and C6 on the left and the sacroiliac joint on the right. They were graded as severe at C1 bilaterally and at C2 on the right. It was also noted that the infant favoured looking to the left and was exhibiting a mild banana shaped posture (convex to the right). He was subsequently diagnosed with a vertebral subluxation complex and placed on a care plan. The frequency of care for each phase of recovery was determined by agreement with parents' dependant on objective findings of subluxation grading at each progress exam.

Management

The infant's initial care plan included one session per week for eight weeks followed by a reassessment.

Adjustments were performed to all subluxations using gentle sustained contact technique in the direction to reduce all noted vertebral subluxations, Dural balance and cranial tension were addressed using techniques taught in seminars by *Inspirial Resources Australia*.

Outcomes

At the first review the vertebral subluxations had reduced to moderate tension at C1 bilaterally and C2 on the right. This was a significant change from the infant's initial presentation.

In addition to reduced vertebral subluxations findings the mother also noted that sleep, reflux, and feeding were also markedly improved, none of which were symptoms that the mother had brought the child in for chiropractic care. While the infant still favoured looking to the left it was significantly less severe than at the beginning of care. The banana shape posture had resolved, and the infant was now doing better at tummy time.

The mother remarked that breast feeding also improved greatly, even though she thought it to be going well prior to care, 'it's even better now'.

By the second review, the mother noted that tummy time was still improving despite the infant not liking it. He could now handle around three minutes at a time.

The mother's remark regarding care was that she only brought the infant in because of the neck turning difficulty, but then found that all these other things had improved.

Case 2 – Shoulder Dystocia

Patient details

A three-week-old male was presented for care, having had shoulder dystocia from birth. In addition to the shoulder condition, he was feeding worse on the right side. Parents presented him for care to address the shoulder issue and to ensure the spinal health and comfort of the infant.

History and Examination

The first notable report was that the infant was born via a long labour. While there was no brachial plexus injury concomitant with his shoulder dystocia, he was exhibiting a banana shape body posture, convex to the left with accompanying left head-turn preference. He did have full cervical spine range of motion bilaterally. Intra-oral examination revealed muscles at floor of his mouth (*mylohyoid*) were moderately hypertonic to palpation.

Vertebral subluxation findings revealed severe grading at C1 on both sides and at C2 on the left. He had moderate vertebral subluxations at C2 on the right and mild vertebral subluxations at T1- sacroiliac on the left side. He was subsequently placed on a chiropractic care plan. The frequency of care for each phase of recovery was determined by agreement with parents' dependant on objective findings of subluxation grading at each progress exam.

Management

The infant's chiropractic care plan included two sessions per week for four weeks followed by a reassessment. Adjustments were performed to all subluxations using gentle sustained contact technique in the direction to reduce all noted vertebral subluxations, Dural balance and cranial tension were addressed using techniques taught in seminars by *Inspirial Resources Australia*. Oral Soft Tissue Therapy (STT) was performed with gentle massage of hypertonic oral muscles.

Home-care instructions included maintenance of a tummy time schedule and oral soft tissue therapy.

Following reassessment the care plan was revised to one session per week for nine visits followed by another reassessment. At the end of the first care plan, the mother had her infant's oral restrictions surgically released by a dentist.

Outcomes

Due to unforeseen circumstances, there was a time gap of 4 weeks between the first and second visit.

At the second visit, it was noted that oral muscles were still hypertonic to palpation, this time *mylohyoid* was severely hypertonic. Tongue mobility to passive elevation was mildly restricted. The cervical spine range of motion had decreased on the right to 25%, and the infant still exhibited the banana shape, convex to the left, with the corresponding head-turn preference. The remainder of the visits followed the original care plan schedule.

After the 8th session the review was undertaken as planned. The infant's posture was much improved, as were the feeding outcomes and the mother was very happy with his progress. However, improvement was still possible with the head-turning preference for the left still somewhat present.

These findings were concomitant with significant reductions in vertebral subluxations which now were graded as moderate at C1 and C2 on the left, and mild at C1 and C2 on the right.

Discussion

Despite non-resolution of the tethered oral tissues (TOTs) in the latter of the two case reports (indicating that the TOTs were a significant limiting factor to successful breastfeeding in this case), the resolution of the postural concerns and range of motion issues within a relatively quick time frame and with only gentle interventions was a positive outcome of care in both cases.

One drawback of the second case report however was non-adherence to the suggested care plan timing, which may have adversely affected outcomes in the earlier weeks of this case.

While case report data never affords us the ability to see what would have happened should intervention not have occurred, it is important to nurture the infant or neonatal nervous system from birth onwards. This includes resolving convex posture and any other postural concerns as they may arise. The nervous system, whether infant or adult, remains interconnected and contiguous to every other system in the body. Thus, it is worthy of our best care.

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About

Nik Dukovac is a chiropractor, co-owner of Better Back Chiropractic and Adelaide Family Chiropractic in South Australia, and Founder of *MotusPro*, an online platform to assist people who have failed to gain confidence with their lower back despite trying various therapies. He is passionate about paediatric chiropractic care. The first person voice in this report is that of Dr Dukovac.

Reference

1. Fludder C, Keil B. Instrument-assisted delivery and the prevalence of reduced cervical spine range of motion in infants. Chiropractic Journal of Australia. 2018;46(2):162–71.

ASRF definition of subluxation

'A vertebral subluxation is a diminished state of being, comprising a state of reduced coherence, altered biomechanical function, altered neurological function and altered adaptability.'

