

Sudden Infant Death

Syndrome (SIDS);

The Chiropractic Perspective

Dr. Dennis Woggon, BSc, DC



A recent study (1) indicated that the medical mystery of SIDS was solved. It stated that “babies who die of SIDS have serious abnormalities in a brain region that controls breathing and heart rate. The researchers found that all 31 SIDS babies had defects in the brain's ability to use serotonin, a neurotransmitter that plays a key role in regulating a baby's breathing and heart rate.” The team found abnormalities in neurons that make or use serotonin in the lowest part of the brainstem. Of course, the medical profession has a solution, but there is a Chiropractic perspective.

Sudden Infant Death Syndrome or SIDS is the largest single cause of death in infants from 2 weeks to 1 year. Approximately 6,000 babies die every year. This affects 2 / 1,000 births. SIDS usually occurs between 2 and 4 months but it can happen from 1 week to 12 months. 90% of SIDS occurs in the 1st 6 months. It occurs more frequently in winter and usually between midnight and 6 AM. In Europe, stomach sleeping was discouraged as it increased SIDS. Finally in 1992, the medical profession in the US finally realized that stomach sleeping increased SIDS. SIDS decreased by 40%.

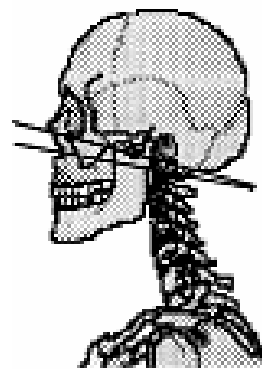
There is increasing information that instability at the CO – C1 level is related to SIDS. Cervical rotation and extension is a non-physiological motion. Towbin first brought this to the attention of the Chiropractic Profession, with great acceptance, but little understanding. Adults cannot turn their head and extend at the same time. Babies do have this ability. It would appear that stomach sleeping with extension causes a disruption in breathing.

Koch et al looked at high cervical stress and apnoea. The aim of this study was to investigate vegetative reactions in infants after mechanical irritation of the suboccipital region. The investigation is based on 199 infants who were observed while being treated with a suboccipital impulse (manual therapy). The results revealed vegetative reactions in more than half of all cases. The frequency of such vegetative reactions observed was as follows: flush 48.7% (n = 97), apnoea 22.1% (n = 44), hyperextension 13% (n = 26), and sweating 7.5% (n = 15). It is pointed out that approximately 25% of all the infants examined reacted by apnoea due to a mechanical irritation of the suboccipital region. “This symptom was part of an extensive vegetative reaction. This method of inducing an apnoea has not yet been described; from this it follows that there are close relations to sudden infant death” (2).

In another study, L. E. Koch et al did research on heart rate changes in response to mild mechanical irritation of the high cervical spinal cord region in infants. They found alterations in the heart rate were monitored before, during and after

the application of a unilateral mechanical impulse to the high cervical spinal cord region which was administered strictly in connection with the so called manual therapy. The investigation is based on a survey of 695 infants between the ages of 1 and 12 months. A notable change in the heart rate was evident in 47.2% of all examined infants (n= 695). In 40.1% of these infants, the change in heart rate was characterized by heart rate decrease of 15-83% compared to control conditions. Infants in their first 3 months of life responded more often with a severe bradycardia (50-83% decrease), older infants (7-12 months) more often with a mild bradycardia (15-49.9% decrease). This comparison revealed a significantly increased occurrence of severe bradycardia in the younger age group compared to the group of children >3 months (significance 0.0017). In 12.1% (n= 84) of the infants, the bradycardia was accompanied by an apnea. We discuss the hypothesis that mechanical irritation of the high-cervical region serves as a trigger that may be involved in sudden infant death (SID). (3)

In 1979, Gilles, discussed infantile atlanto-occipital instability and its relationship to Sudden Infant Death Syndrome. He found that 10 / 11 of SIDS deaths had atlas inversion or C0- C1 extension malposition. The 11th had alar ligament damage.

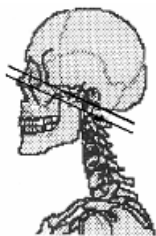


In 1991 Schneier did flexion and extension X-rays on 50 babies who had died from SIDS. All of the cases had atlas inversion, which is an extension malposition of the occiput and the atlas. (5)

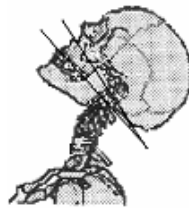
The question is, what is the normal relationship between the occiput (C0) and C1 (atlas)?

It is apparent that this subluxation complex must be evaluated and corrected.

Kapandji states that there should be 15 degrees of motion of the atlas and occiput in flexion and extension. (6)



Normal



Extension

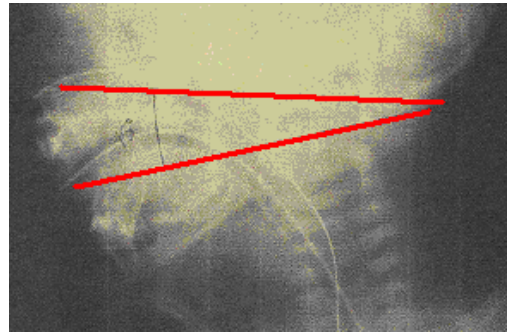
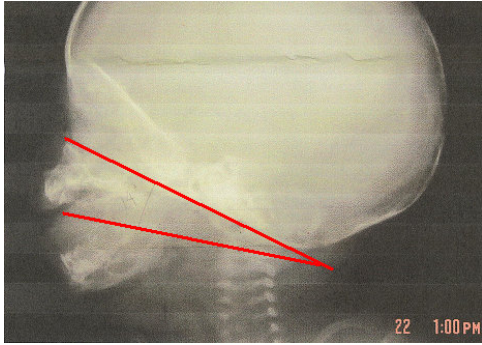


Flexion

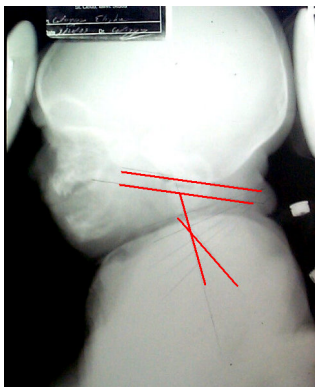
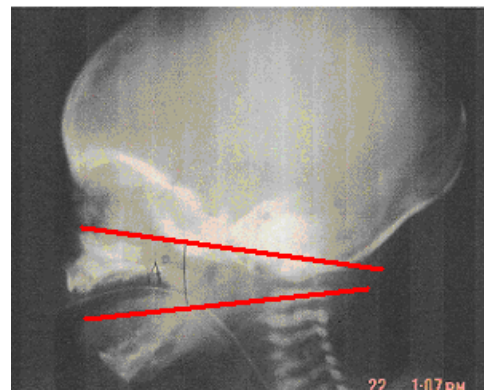
The problem appears to be an extension malposition subluxation of C0 and C1.

It is also known as an anterior occiput.

The following x-rays were taken at a Coroner's office in Washington. They indicate an abnormal angle of extension malposition.



It is interesting to note that the extension Malposition or subluxation in these x-rays was about 14 – 15 degrees in an extension.



This is an x-ray of a normal 3 month old baby

It would appear that there might be a correlation between CO and C1 malposition relative to SIDS. The subluxation pattern would be an anterior Occiput or an extension malposition of Occiput on Atlas.

Could this abnormal functional subluxation be linked to SIDS? Would it be possible for our Chiropractic research departments to evaluate this? Can we as a profession correlate this clinically? What is the best way to treatment for this type of subluxation in a baby?

This should be evaluated thoroughly by the Chiropractic profession. It is recommended that further study be explored in this field. Proper Chiropractic care may be able to be an effective way in the prevention of SIDS.

References:

- 1) November 1, 2006, Marian Willinger, National Institute of Child Health and Human Development, part of the National Institutes of Health in Bethesda, Md.
- 2) Koch LE, Biedermann H, Saternus KS. Forensic Sci Int 1998 Oct 12;97(1):1-9
Institute of Forensic Medicine, University of Gottingen, Germany
- 3) Koch LE, Koch H, Graumann-Brunt S, Stolle D, Ramirez JM, Saternus KS.
General Practitioner, Liliencronweg 6, D-24340, Eckernforde, Germany
- 4) Gilles, American Journal Disabled Child; 133:30, 979
- 5) Alanto-Occipital Hypermobility In Sudden Infant Death Syndrome Schneier, Burns Chiropractic: The Journal of Chiropractic Research and Clinical Investigation, Volume 7, Number 2, July 1, 1991)
- 6) Physiology of the Joints, Volume 3, pp 384