

Last month an article was published in the Dutch Journal of Medicine¹ about the adverse effects of a cranial-sacral manipulation on a young baby. This is the second child to die because of a cervical spinal "manipulation". One child died after being held in a Vojta position in rotation, the other after having been held in a cranial-sacral flexion position.

Articles can be downloaded (they are in Dutch and German)

<http://www.ewmm.net/downloads/Vojta.pdf>

<http://www.ntvg.nl/publicatie/overleden-zuigeling-na-ocraniosacraleo-/volledig>

I have summarized the most important conclusions from both articles and will discuss what we can learn from them.

1. Forced rotation and forced deep cervical flexion can lead to an infant's death.
2. Forced manipulations of the spine in young infants can result in very dangerous complications such as; heart frequency drop and apnoea². The vertebral arteries can also be irritated or trapped and can cause a high spinal cord lesion.
3. There is no scientific proof of a positive effect of the manipulation as applied in cranial-sacral therapy or Vojta therapy
4. In the case of the infant being treated with Vojta, the therapist and mother (after instruction) had held the child in the forced rotational position several times during the therapy session and the child had cried and sweated a lot during treatment.³ In the case of the cranial-sacral therapy, the flexion position (Fig 1.) was held for several minutes until the (crying) child started to decompensate, losing faeces and having breathing problems (child's lips had turned blue in 10 minutes). The authors¹ strongly suggest not using manipulations in treating children as long as the evidence is insufficient. Evidence that manipulations are not without risk for adults was published in 2005.⁴

What can we learn from this?

1. Never put babies in positions and hold them firmly if the child protests.
2. Babies that cry, start sweating or flushing are telling us we are doing something that is not good for them. Blue lips are a sign of respiratory distress.
3. Extra care should be taken with infants younger than 3 months.
4. Be very aware that you can obstruct the respiratory system easily because the child skeleton consists of cartilage for the most part. The myelin can be irritated or trapped and can lead to a neurological bradycardia with apnoea. Forced flexion can cause obstruction of the upper airways which are relatively narrow (children have a relatively large tongue and the larynx in anterior position).⁵
5. Always look for alternative and milder treatment options and do not manipulate babies and children.
6. If you wish to hold a child in a certain position, do so for a very short time.
7. Nerve tissue does not respond well to prolonged stretch.

¹ Ned Tijdschr Geneeskd. 2009;153:A290 Overleden zuigeling na 'craniosacrale' manipulatie van hals en wervelkolom Micha Holla, Marloes M. IJland, A.M. (Ton) van der Vliet, Michael Edwards en Carin W.M. Verlaat

² Koch LE, Koch H, Graumann-Brunnt S, Stolle D, Ramirez JM, Saternus KS. Heart rate changes in response to mild mechanical irritation of the high cervical spinal cord region. Forensic Sci Int. 2002;128:168-76.

³ Jacobi G, Riepert Th, Kieslich M, Bohl J. Über einen Todesfall während der Physiotherapie nach Vojta bei einem drei Monate alten Säugling. Klin Padiatr. 2001;213:76-8.

⁴ Ernst E. Adverse effects of spinal manipulation: a systematic review. J R Soc Med. 2007;100:330-8.

⁵ Turner NM, van Vught AJ. Advanced paediatric life support. 2e dr. Maarssen: Elsevier Gezondheidszorg; 2006.

We know that prolonged stretching can have a negative effect on the nervous system. If the nerve is stretched only slightly beyond the protective limits, and for a brief period, nerve function is likely to return rapidly to normal (Lundborg et al 1982).



However, if the strain in the nerve is particularly severe or the pressure stays on for a long period of time, the alterations in nerve function will be permanent. Excessive mechanical stress may cause anoxia and nerve damage, leading to heightened mechano-sensitivity and pain.¹

Fig. 1 copied with permission from first author Micha Holla

In her book *The aware baby*, the developmental psychologist, Aletha J Solter⁶ suggests that babies know what is good for them and can tell you, if you learn to read the signs. Crying is their way of communicating, asking for attention, showing frustration, showing their needs and their pains. Be very aware of this and act appropriately in my opinion.

This book is primarily written for parents but I can recommend it to both parents and health professionals.

Esther de Ru

www.gophysio.info

⁶ *The aware baby- a new approach to parenting* isbn 90 6020 649 5