

A nuchal cord is rarely a problem: dispelling a common myth

Midwife Rachel Reed assesses the risks of a common condition which many parents fear.

Many parents are concerned that their baby will be born with the umbilical cord around his neck (nuchal cord), and associate this scenario with danger and complications. Most have heard stories about stillbirth, fetal distress or neonatal morbidity in which a nuchal cord has been given as the cause. However, this cultural fear surrounding umbilical cords is not supported by research evidence. About one third of babies are born with a nuchal cord, therefore it is important to address these concerns with parents in the antenatal period.^{1,2,3}

The umbilical cord can become wrapped around the baby's neck during pregnancy as the baby moves, or during labour as the baby rotates through the pelvis.⁴ The umbilical cord is perfectly designed to withstand being stretched and wrapped around the baby. It is covered with Wharton's jelly to protect the blood vessels.⁵ In addition, during labour, the uterus, placenta and umbilical cord move down with the baby so the cord does not need to stretch. It is only as the head is born that the baby's neck moves lower than the uterus. Most cords are long enough to accommodate the additional few inches required as this happens.

There are three types of nuchal cord.

A loose nuchal cord

This is the most common type of nuchal cord and is not associated with any complications for the baby.^{6,7,8,9,10} As the baby is born he will birth through the cord loop, or the cord can be unwrapped by his mother (or someone else) after birth. However, it is common practice for midwives to loop a loose cord over the baby's head before the birth of his body.^{11,12} This practice may cause the umbilical blood vessels to vasoconstrict, reducing blood flow.⁵ In extreme cases

traction on the cord could cause it to tear, interrupting oxygen flow to the baby and resulting in blood loss from the torn cord.¹³

A tight nuchal cord

Occasionally a nuchal cord can become tight during the last part of labour as the baby's head and neck move beyond the uterus and through the vagina. This may happen if the cord becomes trapped against the pelvis and/or is wrapped around the neck a number of times. As the cord is stretched tightly, the blood vessels in the cord are compressed and blood flow is reduced until the baby's body is born, releasing the tension. This can be associated with short-term complications, and the baby may require help with breathing.^{4,15,16} However, it is unclear whether signs of low oxygen levels after birth are a result of the tight cord, or the result of clamping and cutting the cord before birth, which is the common management in this situation to unwrap the cord.

Once the cord has been cut, the baby is no longer receiving oxygen from his mother's blood. In addition, if the cord is clamped before birth, up to a third of his blood volume is trapped in the placenta but correspondingly unable to transfer across to him following birth, resulting in reduced blood volume.¹⁷ This makes the baby more likely to require resuscitation, and less able to respond to it.

This situation can become very worrying if there is a delay in the birth of baby's body, for example during a shoulder dystocia.¹⁸ Unfortunately, because early cutting of

the cord is so common, there has been no research examining outcomes for babies with a tight nuchal cord who are not subjected to an interruption of their placental circulation.

A tight and short nuchal cord

Very rarely, a nuchal cord can be tight and very short.¹⁹ This will become evident because the baby's body will not birth after the head despite contractions. The cord becomes tighter, and if left may snap because the uterus is stronger than the cord. However, a technique called the somersault manoeuvre¹⁹ can assist a baby to birth without further descent of the head and cutting of the cord.

Checking for a nuchal cord

Considering the lack of evidence supporting interventions to manage a nuchal cord, the need to check for a cord can be questioned. Commonly, midwives will check for a nuchal cord following the birth of the baby's head. In order to do this the mother will be instructed not to push, and the midwife will put her fingers into the woman's vagina to feel around the baby's neck.¹³ This can be painful and distressing, as well as likely to cause anxiety if a cord is identified. It can be argued that if it is best to leave a nuchal cord alone, there is no benefit in checking to see if it is there.

Unfortunately, until evidence-based practice is implemented widely, the issue of nuchal cords needs to be discussed with parents before birth and their wishes communicated to their caregivers.

What to tell parents

- In antenatal sessions, let parents know that a third of all babies have the cord around their neck.
- This is almost always fine and nothing needs to be done. The cord is stretchy and rubbery and protects the blood vessels taking oxygen to the baby.
- Once the baby is born, the mother or the midwife can unwrap the cord.
- Only very occasionally will a nuchal cord prevent the baby descending once the head is born, in which case the midwife can use a 'somersault' manoeuvre to free the baby so that the cord can remain intact.¹⁹ If this manoeuvre is unsuccessful, the worst case scenario is that the cord snaps as the baby descends, and requires clamping.
- If the baby is slow to breathe at birth, an intact cord continues to provide oxygen and enables normal blood volume to be resumed. It may be helpful for the mother to stimulate her baby by talking to him. Some hospitals will provide resuscitation, should it be necessary, next to the mother so that the cord can remain intact for longer. Women can discuss this with their midwife antenatally.
- Women can/may want to discuss management of nuchal cord with their midwife during pregnancy. Some may want to state clearly the umbilical cord is not to be cut without their explicit verbal consent.

References

- Peregrine E, O'Brien P, Jauniaux E. Ultrasound detection of nuchal cord prior to labor induction and the risk of Cesarean section. *Ultrasound Obstet Gynecol* 2005;25(2):160-4.
- Schaffer L, Burkhardt T, Zimmermann R, et al. Nuchal cords in term and postterm deliveries - do we need to know? *Obstet Gynecol* 2005;106(1):23-8.
- Sheiner E, Abramowicz JS, Levy A, et al. Nuchal cord is not associated with adverse perinatal outcome. *Arch Gynecol Obstet* 2006;274(2):81-3.
- Rhoades DA, Latza U, Mueller BA. Risk factors and outcomes associated with nuchal cord. A population-based study. *J Reprod Med* 1999;44(1):39-45.
- Coad J, Dunstall D. *Anatomy and physiology for midwives*. 3rd edition London: Churchill Livingstone; 2011.
- Adinma JI. Effect of cord entanglement on pregnancy outcome. *Int J Gynaecol Obstet* 1990;32(1):15-8.
- Kumari S, Saxena A, Monga D, et al. Significance of cord problems at birth. *Indian Pediatr* 1992;29(3):301-5.
- Dhar KK, Ray SN, Dhall GI. Significance of nuchal cord. *J Indian Med Assoc*. 1995;93(12):451-3.
- Larson JD, Rayburn WF, Crosby S, et al. Multiple nuchal cord entanglements and intrapartum complications. *Am J Obstet Gynecol* 1995;173(4):1228-31.
- Nelson KB, Grether JK. Potentially asphyxiating conditions and spastic cerebral palsy in infants of normal birth weight. *Am J Obstet Gynecol* 1998;179(2):507-13.
- Mercer JS, Skovgaard RL, Peareara-Eves J, et al. Nuchal cord management and nurse-midwifery practice. *J Midwifery Womens Health* 2005;50(5):373-9.
- Jackson H, Melvin C, Downe S. Midwives and the fetal nuchal cord: a survey of practices and perceptions. *J Midwifery Womens Health* 2007;52(1):49-55.
- Clapp JF, Stephanchak W, Hashimoto K, et al. The natural history of antenatal nuchal cords. *Am J Obstet Gynecol* 2003;189(2):488-93.
- Assimakopoulos E, Zafrakas M, Garmiris P, et al. Nuchal cord detected by ultrasound at term is associated with mode of delivery and perinatal outcome. *Eur J Obstet Gynecol Reprod Biol* 2005;123(2):188-92.
- Martin GC, Green RS, Holzman IR. Acidosis in newborns with nuchal cords and normal Apgar scores. *J Perinatol* 2005;25(3):162-5.
- Mercer J, Skovgaard R. Fetal to neonatal transition: first do no harm. In: Downe S, editor. *Normal childbirth: evidence and debate*. Edinburgh: Churchill Livingstone; 2004. pp. 141-60
- Flamm BL. Tight nuchal cord and shoulder dystocia: a potentially catastrophic combination. *Obstet Gynecol* 1999;94(5 Pt 2):853.
- Schorn MN, Blanco JD. Management of the nuchal cord. *J Nurse Midwifery* 1991;36(2):131-2.
- Reed R, Barnes M, Allan J. Nuchal cords: sharing the evidence with parents. *Br J Midwifery* 2009;17(2):106-9.



Resources for Healthcare Professionals and Practitioners

Birth Room Bundle for only £999 (code 3231)

£999 + Delivery



Kaya Birthing Stool

Birth Room Bundle

Save £55.95 purchasing all your Birth Room equipment as a bundle

Contents Include:
 Kaya Birthing Stool - £430
 Birthing Ball - £19.95
 Large Birth Mat - £395
 Large Bean Bag - £180
 Howes Birth Mirror - £30



Birthing Ball and Large Birth Mat



Howes Birth Mirror



Large Bean Bag



Caboo NCT Carrier for only £44.99 (code 4462)

- Easy to adjust and padded back cross provides excellent support
- less fabric for a lighter carrying experience
- Suitable for premature babies (2.27 kgs+)
- Complies with EN13209-2:2005, TR16512 and the T.I.C.K.S. for safe carrying

For more information on these products or our complete range, please contact

professional@nctshop.co.uk or call **0845 8100 100**

www.nctprofessional.co.uk

0845 8100 100