

## Description

## Too little too late for delayed cord clamping?

**Hannah Tizard – Midwife Blackpool Teaching Hospitals NHS Foundation Trust and Midwifery Consultant for All4Maternity**

In November 2018 the RCM published their new Blue Top Guideline 'Midwifery care in labour guidance for all women in all settings'. This intensive work completed by a multi-disciplinary Expert Advisory Group the Nottingham Maternity Research Network utilised the well established approach of examining '*high-quality, systematic review evidence'* in order to produce the new guidance.

As part of an independent working group dedicated to ensuring newborn physiology is not compromised I feel committed to translating new evidence for delayed and optimal cord clamping (OCC) into practice. In this blog I explore the Blue Top guideline 'Evidence Summary' relating to delayed cord clamping (DCC) in the section titled 'Third Stage of Labour'.

In the guideline they cite McDonald et al. (2014):

> "There is good evidence that delayed cord clamping (between one and three minutes after birth) can have positive effects on neonatal outcomes such as higher birthweight, early haemoglobin concentration, and increased iron reserves up to six months after birth."

I felt frustrated to see that the low threshold for 1-3 minutes of DCC at birth cited using the above research, mainly due to the fact it is outdated. This led me to question the validity of using an approach which uses only systematic review evidence. In my reflection I considered numerous things which I discuss below.

I appreciate the reasons for relying on systematic reviews to inform practice, because they are, at the time of publication generally exhaustive, but I can see flaws in this process. New evidence accumulates rapidly and as highlighted by Clark, Donovan and Schoettker (2006) this may lead clinicians to be 'concerned when their experience or knowledge of recently published research is not reflected in the current version of a guideline'.



In addition it may be confusing to women and families who are knowledgeable about OCC to read a guideline which is not reflective of newer research. This may lead to a scenario where patient values and preferences may be compromised by those working clinically. In particular the reference to 1 minute cord clamping is particularly harmful. Due to the pressures on services and resistance to change in practice, it is quite likely the arbitrary 1 minute DCC will be actioned.

From the perspective of the Nottingham Maternity Research Network, being involved the task of systematically searching and reviewing relevant literature is challenging, especially due to the rate of which research is being published. This is why using a *'high-quality, systematic review evidence'* strategy is preferable. This also eliminates tensions of agreeing on appropriate search methods in the pursuit of rigor and comprehensiveness. In discussion's with the Research Network following the publication of the Blu Top Guideline they state that it is not possible to selectively include certain papers at this stage as there is potential for bias as there is the possibility that there may also be studies

that have different outcomes.

The compromise is that valuable new research is not included until someone completes an appropriate new systematic review.

So the new 2015-2018 evidence which indicates DCC should be for at least three minutes to allow the infant the benefit of improving crucial iron stores for brain mylination to support ongoing neurodevelopment is not included. As a consequence with no mention of this newer research, the guideline lacks depth and completeness.

For your reference here are some of the newer papers which show the benefits of DCC of at least 3 minutes:

**Effect of Delayed Cord Clamping of Term Babies on Neurodevelopment at 12 Months: A Randomized Controlled Trial (2018)**

**Effects of Delayed Cord Clamping on 4-Month Ferritin Levels, Brain Myelin Content, and Neurodevelopment: A Randomized Controlled Trial (2018)**

**Effects of Delayed Umbilical Cord Clamping vs Early Clamping on Anemia in Infants at 8 and 12 Months A Randomized Clinical Trial (2016)**

**Effect of Delayed Cord Clamping on Neurodevelopment at 4 Years of AgeA Randomized Clinical Trial (2015)**

**Effect of delayed versus early umbilical cord clamping on neonatal outcomes and iron status at 4 months: a randomised controlled trial (2011)**

It is disappointing that systems have to work this way, not only do we face barriers of translating evidence into practice, but we also face challenges of translating evidence into guidelines. Unfortunately finite resources available for guideline development and paucity to further more sophisticated reviews of the literature contribute to the increasing likelihood that a guideline may be out of date at the point of publication. Unfortunately at this time,  it is not possible to have a process whereby guidance is continually updated.

The Blue Top Guideline mentions an important concept developed by Miller et al. (2016) in the Lancet Series of ‘Too much too soon and too little too late’. Unfortunately, DCC of 1-3 minutes **IS** ‘too little too late’ for newborn babies.



**References**

Andersson, O., Hellstrom-Westas, L., Andersson, D. and Domellof, M. (2011). Effect of delayed versus early umbilical cord clamping on neonatal outcomes and iron status at 4 months: a randomised controlled trial. *BMJ*, 343(nov15 1),

pp.d7157-d7157.

Andersson, O., Lindquist, B., Lindgren, M., Stjernqvist, K., Domellöf, M. and Hellström-Westas, L. (2015). Effect of Delayed Cord Clamping on Neurodevelopment at 4 Years of Age. *JAMA Pediatrics*, 169(7), p.631.

Clark, E., Donovan, E. and Schoettker, P. (2006). From outdated to updated, keeping clinical guidelines valid. *International Journal for Quality in Health Care*, 18(3), pp.165-166.

Hodnett, E., Downe, S. and Walsh, D. (2012). Alternative versus conventional institutional settings for birth. *Cochrane Database of Systematic Reviews*.

KC, A., Rana, N., Målqvist, M., Jarawka Ranneberg, L., Subedi, K. and Andersson, O. (2017). Effects of Delayed Umbilical Cord Clamping vs Early Clamping on Anemia in Infants at 8 and 12 Months. *JAMA Pediatrics*, 171(3), p.264.

McDonald, S., Middleton, P., Dowswell, T. and Morris, P. (2013). Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes. *Cochrane Database of Systematic Reviews*.

Miller, S., Abalos, E., Chamillard, M., Ciapponi, A., Colaci, D., Comandé, D., Diaz, V., Geller, S., Hanson, C., Langer, A., Manuelli, V., Millar, K., Morhason-Bello, I., Castro, C., Pileggi, V., Robinson, N., Skaer, M., Souza, J., Vogel, J. and Althabe, F. (2016). Beyond too little, too late and too much, too soon: a pathway towards evidence-based, respectful maternity care worldwide. *The Lancet*, 388(10056), pp.2176-2192.

Olsen, O. and Clausen, J. (2012). Planned hospital birth versus planned home birth. *Cochrane Database of Systematic Reviews*.

Rana, N., KC, A., Målqvist, M., Subedi, K. and Andersson, O. (2018). Effect of Delayed Cord Clamping of Term Babies on Neurodevelopment at 12 Months: A Randomized Controlled Trial. *Neonatology*, pp.36-42.

Rana, N., KC, A., Målqvist, M., Subedi, K. and Andersson, O. (2018). Effect of Delayed Cord Clamping of Term Babies on Neurodevelopment at 12 Months: A Randomized Controlled Trial. *Neonatology*, pp.36-42.

**Category**

1. All4Maternity Blog
2. News & Views

**Tags**

1. delayed cord clamping
2. optimal cord clamping

**Date Created**
28th December 2018