

Description

A campaign re-born

Physiological transition of the newborn with optimal cord clamping

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This blog post provides an update about the progress and validity of the #BloodtoBaby campaign. Progress is evolutionary and whilst continuing to promote optimal cord clamping for newborns, focus also considers how practice can be improved in other areas;

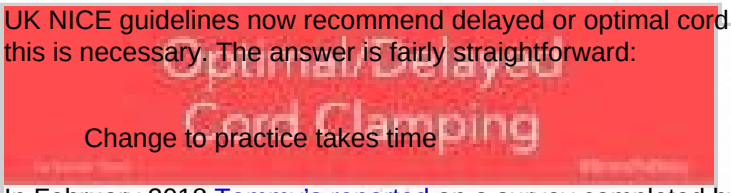
- delayed cord clamping and cord milking at cesarean section
- optimal cord clamping at instrumental deliveries
- optimal cord clamping to reduce preterm mortality
- resuscitation with an intact cord

Hence the new title which encompasses all of the above; physiological transition of the newborn with optimal cord clamping. Today I want to focus on optimal cord clamping at instrumental deliveries and resuscitation with an intact cord.

Continued efforts

The #BloodtoBaby campaign, facilitated by sponsor Inspiration Healthcare continues to be a huge success with over 18K resources printed and delivered free of charge, to individuals across the world, including Australia, New Zealand, Sweden, India and Palestine. The campaign has and continues to support changes to the practice of immediate cord clamping.

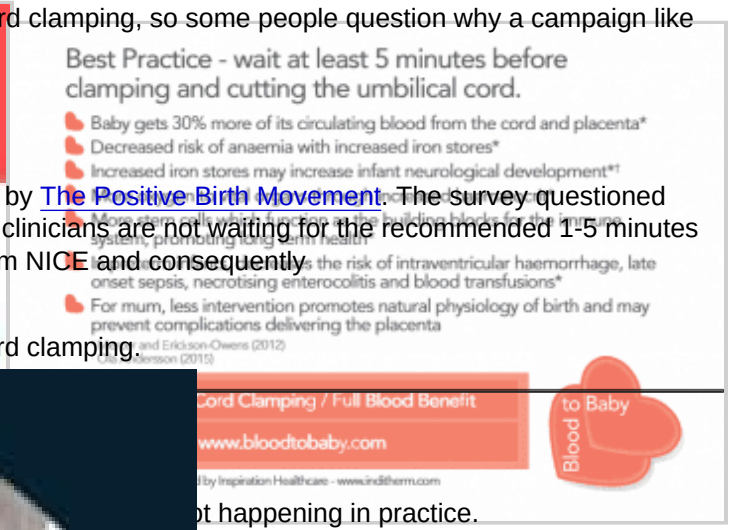
UK NICE guidelines now recommend delayed or optimal cord clamping, so some people question why a campaign like this is necessary. The answer is fairly straightforward:



Change to practice takes time

In February 2018 Tommy's reported on a survey completed by The Positive Birth Movement. The survey questioned over 3500 women and families which highlighted that many clinicians are not waiting for the recommended 1-5 minutes before clamping the umbilical cord, contrary to guidance from NICE and consequently

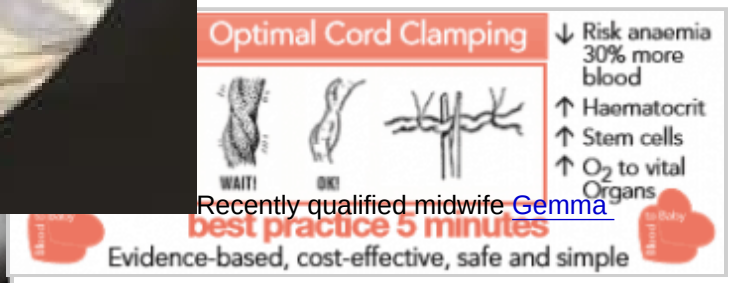
40% of UK babies are not having delayed/optimal cord clamping.

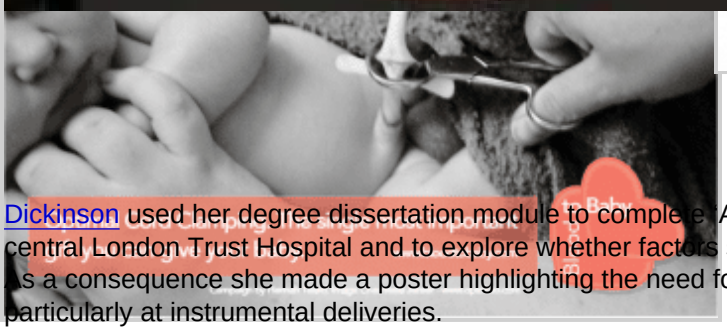


ot happening in practice.

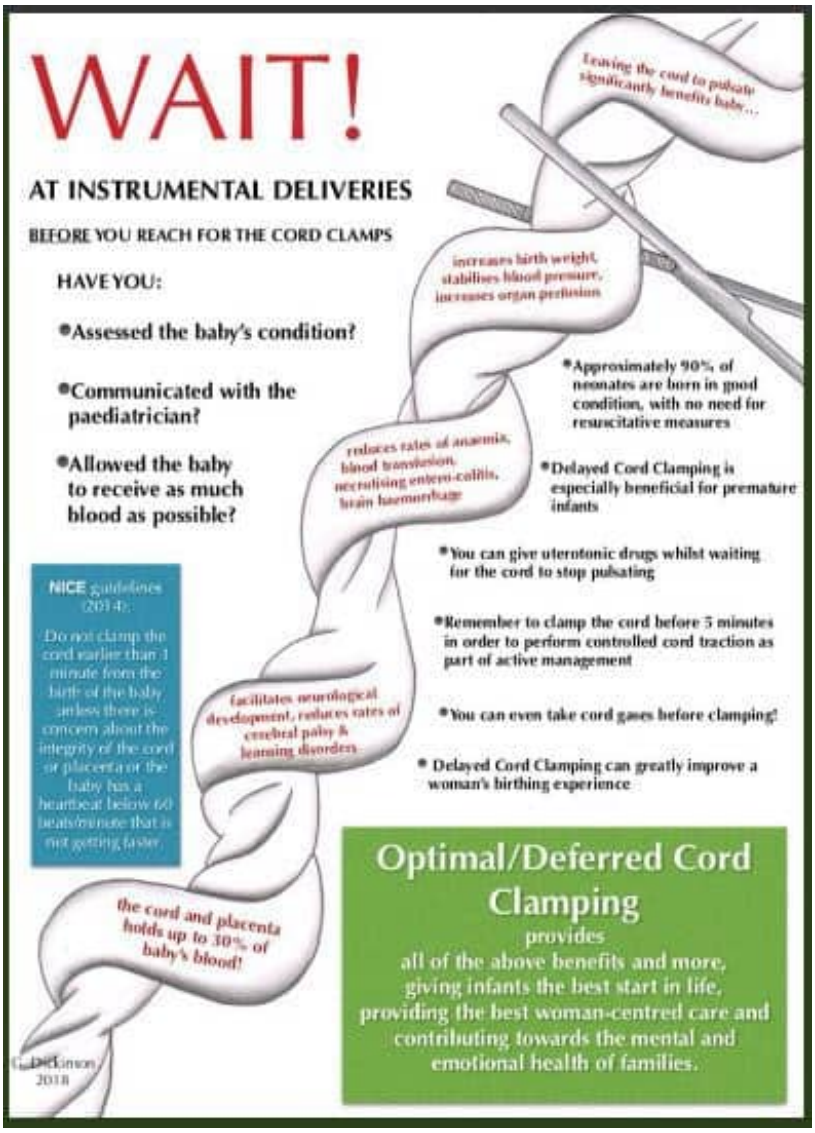


Recently qualified midwife Gemma





Dickinson used her degree dissertation module to complete 'An audit to assess the rates of deferred cord clamping in a central London Trust Hospital and to explore whether factors surrounding birth may impact on timing of cord clamping'. As a consequence she made a poster highlighting the need for practitioners to consider delayed/optimal cord clamping particularly at instrumental deliveries.



Click poster for free PDF download #BloodtoBaby

Gemma comments:

“As a 2nd year student midwife in 2016, I was captivated by Amanda Burleigh and her presentation on optimal cord clamping at King’s College University. I started to become silently outraged at the endless births I witnessed with early cord clamping when on placement, especially at instrumental deliveries. Whenever I asked doctors after instrumental births why they didn’t leave the cord to pulsate when the newborn didn’t need resuscitation, I was greeted with rolling eyes and patronising, feeble excuses. In January 2017 we were given a Public Health assignment to create a poster to display in hospitals, reminding staff of a key issue regularly being forgotten in practice. Naturally I jumped at the idea and created this poster. After wonderful feedback from my hospital and university, I went on to do an audit on cord clamping for my 3rd year dissertation. The Hospital is keen to act upon my significant results and plans are being set in place to develop a local cord clamping guideline, change the hospital computer documentation system and arrange education for the staff! My poster is currently being copied and laminated and I can’t wait to see it displayed.. more importantly I can’t wait to see more and more beautiful umbilical cords left to pulsate.”

Resuscitation with an intact cord

Optimal cord clamping for all babies is the fundamental aim of the #BloodtoBaby campaign and this includes those babies born needing resuscitation at birth. In clinical practice, discussion about newborn resuscitation with an intact cord is fairly infrequent, sometimes contentious, however the evidence to support it is mounting.

New study:

> *Delayed Cord Clamping in Newborns Born at Term at Risk for Resuscitation: A Feasibility Randomized Clinical Trial by Katheria, A., Brown, M., Faksh, A., Hassen, K., Rich, W., & Lazarus, D. et al. (2017). The Journal Of Pediatrics, 187, 313-317.e1.*

Helping to expand knowledge base and understanding in this area (other studies provided as references at the end), this randomised clinical trial suggests infants may benefit if resuscitation could be provided with an intact umbilical cord. Infants identified at risk for resuscitation were randomised to 1- or 5-minute cord clamping. The 5-minute group had greater cerebral oxygenation and blood pressure. The authors acknowledge that further studies are needed to determine whether this translates into improved outcomes over the long term.

As with all change comes challenge. These need to be examined. Indeed lack of appropriate resources in an already underfunded NHS may cause frustration to those seeking to make early change in line with evidence. Bedside resuscitation trolleys such as the LifeStart are priced attractively to compete with traditional stand alone resuscitaires, however there will, for some Trusts, be a long wait for the old models to be discontinued before new improved models can be purchased.

These images are provided by © 2018 Katheria, Sorkhi, Hassen, Faksh, Ghorishi and Poeltler and demonstrate positioning of the bedside resuscitaire, which can be used in any number of positions, two shown below. Their study was focused in an obsteric led hospital setting in the US where vaginal birth is tended to by an obstetrician in lithotomy. Indeed we know that this is not optimal for the birth of the baby, but that's another issue.

The same principals can be applied to birth centre and home birth settings where a bag and mask resuscitation can occur ensuring physiological transition with an intact cord.

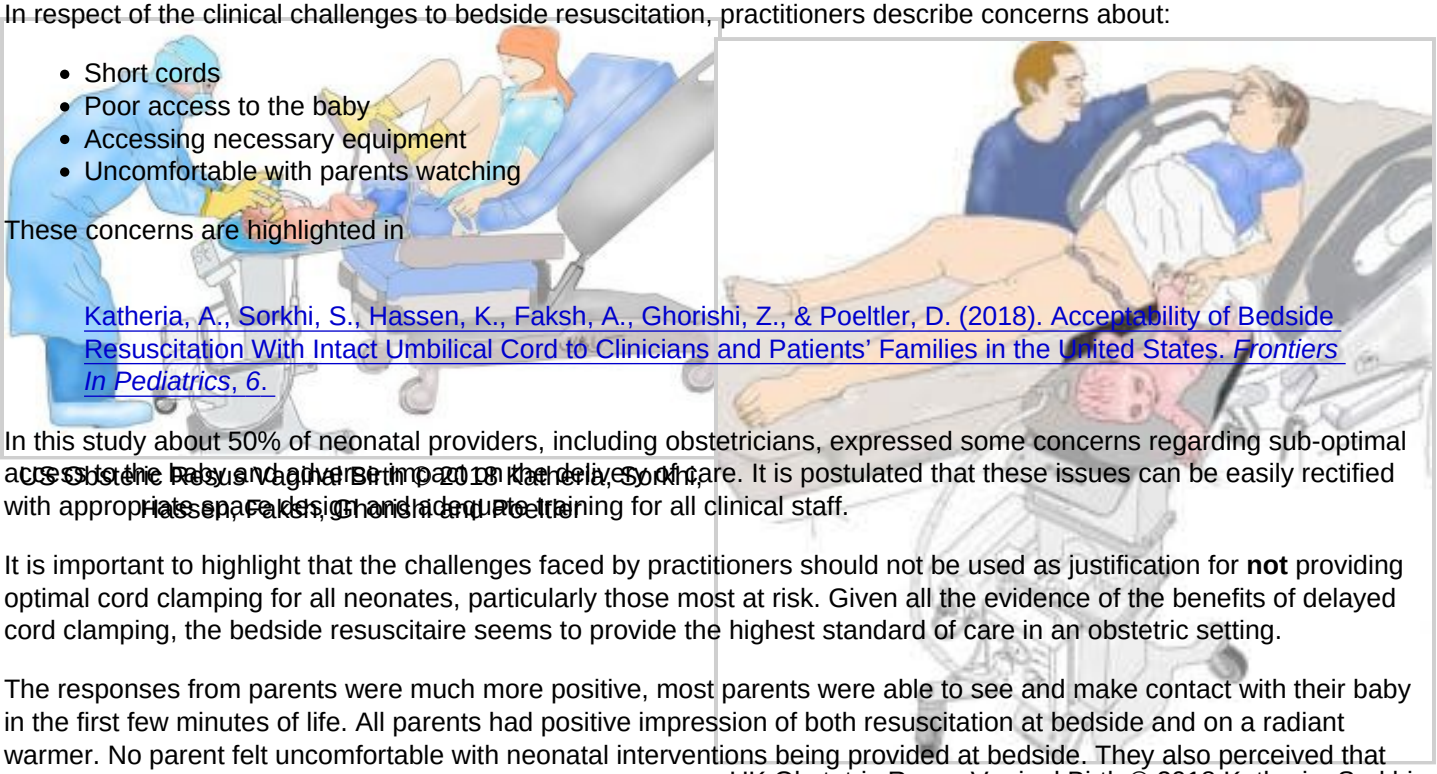
In respect of the clinical challenges to bedside resuscitation, practitioners describe concerns about:

- Short cords
- Poor access to the baby
- Accessing necessary equipment
- Uncomfortable with parents watching

These concerns are highlighted in

> Katheria, A., Sorkhi, S., Hassen, K., Faksh, A., Ghorishi, Z., & Poeltler, D. (2018). Acceptability of Bedside Resuscitation With Intact Umbilical Cord to Clinicians and Patients' Families in the United States. *Frontiers In Pediatrics, 6.*

In this study about 50% of neonatal providers, including obstetricians, expressed some concerns regarding sub-optimal access to the baby and adverse impact on the delivery of care. It is postulated that these issues can be easily rectified with appropriate space design and adequate training for all clinical staff.



US Obsteric Resus Vaginal Birth © 2018 Katheria, Sorkhi, Hassen, Faksh, Ghorishi and Poeltler

UK Obstetric Resus Vaginal Birth © 2018 Katheria, Sorkhi, Hassen, Faksh, Ghorishi and Poeltler

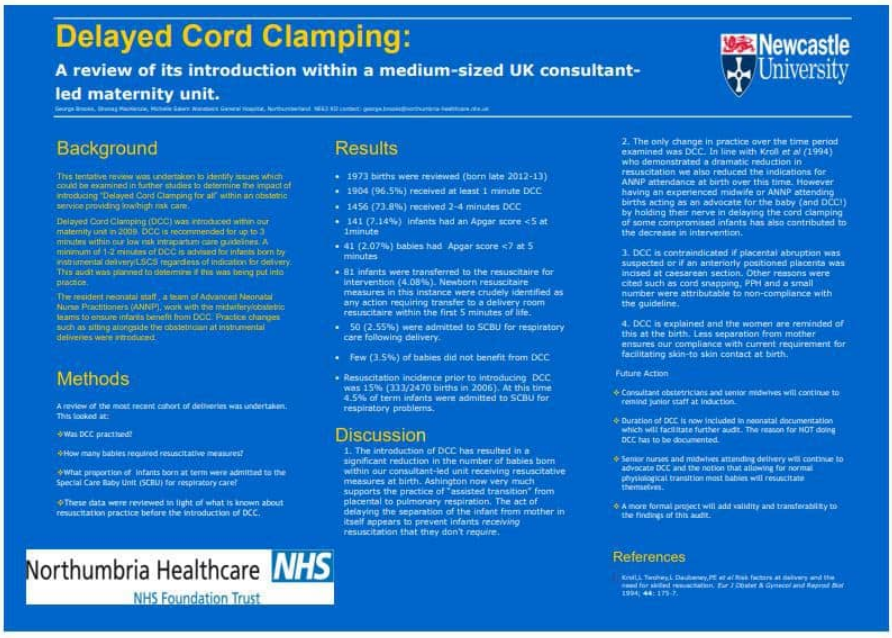
It is important to highlight that the challenges faced by practitioners should not be used as justification for **not** providing optimal cord clamping for all neonates, particularly those most at risk. Given all the evidence of the benefits of delayed cord clamping, the bedside resuscitaire seems to provide the highest standard of care in an obstetric setting.

The responses from parents were much more positive, most parents were able to see and make contact with their baby in the first few minutes of life. All parents had positive impression of both resuscitation at bedside and on a radiant warmer. No parent felt uncomfortable with neonatal interventions being provided at bedside. They also perceived that their close proximity improved communication.

Case study example – optimal cord clamping for all

Trusts such as Northumbria Specialist Emergency Care Hospital in Cramlington; a medium sized consultant led unit have been facilitating optimal clamping for all, including bedside resuscitation since 2009. Their audit review provides a leading case study example demonstrating improved neonatal outcomes, decreased need for resuscitative measures at birth and reduced admissions to the neonatal unit since implementation of delayed cord clamping for all.

Some of the secrets to the successful implementation of this included, having an experienced midwife of neonatal practitioner attend every birth to advocate for the baby and for optimal cord clamping, that allowing for normal physiological transition, most babies will resuscitate themselves. Those that do need additional support can be managed on a specially designed Lifestart resuscitaire, of which there is one in every birth room. In order to ensure the change in practice becomes embedded actions to ensure junior staff and trainee doctors are reminded at induction.



Delayed Cord Clamping:

A review of its introduction within a medium-sized UK consultant-led maternity unit.

Newcastle University

Background

This tentative review was undertaken to identify issues which could be examined in further studies to determine the impact of introducing 'Delayed Cord Clamping for all' within an obstetric service providing low/high risk care.

Delayed Cord Clamping (DCC) was introduced within our maternity unit in 2009. DCC is recommended for up to 3 minutes within our low risk intrapartum care guidelines. A minimum of 1-2 minutes of DCC is advised for infants born by instrumental delivery/LSCS regardless of indication for delivery. This audit was planned to determine if this was being put into practice.

The resident neonatal staff , a team of Advanced Neonatal Nurse Practitioners (ANNP), work with the midwifery/obstetric teams to ensure infants benefit from DCC. Practice changes such as sitting alongside the obstetrician at instrumental deliveries were introduced.

Methods

A review of the most recent cohort of deliveries was undertaken. This looked at:

- Was DCC practised?
- How many babies required resuscitative measures?
- What proportion of infants born at term were admitted to the Special Care Baby Unit (SCBU) for respiratory care?
- These data were reviewed in light of what is known about resuscitation practice before the introduction of DCC.

Results

- 1973 births were reviewed (born late 2012-13)
- 1904 (96.5%) received at least 1 minute DCC
- 1456 (73.8%) received 2-4 minutes DCC
- 141 (7.14%) infants had an Apgar score <5 at 1minute
- 41 (2.07%) babies had Apgar score <7 at 5 minutes
- 81 infants were transferred to the resuscitaire for intervention (4.08%). Newborn resuscitaire measures in this instance were crudely identified as any action requiring transfer to a delivery room resuscitaire within the first 5 minutes of life.
- 50 (2.55%) were admitted to SCBU for respiratory care following delivery.
- Few (3.5%) of babies did not benefit from DCC
- Resuscitation incidence prior to introducing DCC was 15% (333/2470 births in 2006). At this time 4.5% of term infants were admitted to SCBU for respiratory problems.

Discussion

1. The introduction of DCC has resulted in a significant reduction in the number of babies born within our consultant-led unit receiving resuscitative measures at birth. Ashington now very much supports the practice of "assisted transition" from placental to pulmonary respiration. The act of delaying the separation of the infant from mother in itself appears to prevent infants *receiving* resuscitation that they don't require.

2. The only change in practice over the time period examined was DCC. In line with Kroll *et al* (1994) who demonstrated a dramatic reduction in resuscitation we also reduced the indications for ANNP attendance at birth over this time. However having an experienced midwife or ANNP attending births acting as an advocate for the baby (and DCC) by holding their nerve in delaying the cord clamping of some compromised infants has also contributed to the decrease in intervention.

3. DCC is contraindicated if placental abruption was suspected or if an anteriorly positioned placenta was incised at caesarean section. Other reasons were cited such as cord snapping, PPH and a small number were attributable to non-compliance with the guideline.

4. DCC is explained and the women are reminded of this at the birth. Less separation from mother ensures our compliance with current requirement for facilitating skin-to skin contact at birth.

Future Action

- Consultant obstetricians and senior midwives will continue to remind junior staff at induction.
- Duration of DCC is now included in neonatal documentation which will facilitate further audit. The reason for NOT doing DCC has to be documented.
- Senior nurses and midwives attending delivery will continue to advocate DCC and the notion that allowing for normal physiological transition most babies will resuscitate themselves.
- A more formal project will add validity and transferability to the findings of this audit.

References

Northumbria Healthcare NHS
NHS Foundation Trust

An in depth look…

David Hutchon is a retired Obstetrician and Gynaecologist. His research investigating the true effect of prematurely closing the placental circulation with a cord clamp is extensive and seminal. Please see this informative powerpoint presented at the 4th International Neonatal Conference in Poland, 2016 from Professor Hutchon.



Can we do resuscitation on intact cord – David Hutchon 2016

Moving forward with the evidence



This is a perfect time to highlight that the #BloodtoBaby website has had a revamp. I have worked tirelessly on this over the past few weeks and I'm really pleased with the results. Here are some of the new features:

- Completely updated home page with clear access and links to all the areas of the website
- A new evidence library with over 120 references including the links to obtain the research
- An area dedicated to newer research for resuscitation of the newborn with an intact cord which features the work of leading academics in the field of 'Neo-Resus'
- A new FREE online store for you to continue to order #BloodtoBaby and other resources

Over and out – Hannah x

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