Mum & Baby Academy

Clinical Review: Assessment

Cord Clamping: The Critical First Few Minutes

Written by: Amanda Burleigh RGN, RM
Reviewed by: Nicky Clark RM, RGN, ADM, Cert Ed (Adults), MA

Date of Preparation: September 2015

CPD CERTIFIED The CPD Certification Service

In association with: Lansinoh

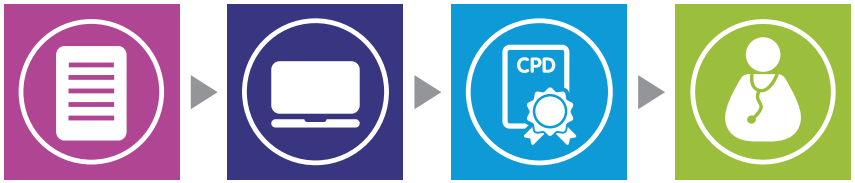
The preparation of the module and the associated materials was developed in partnership with Lansinoh who reviewed and approved the content for scientific and clinical accuracy.

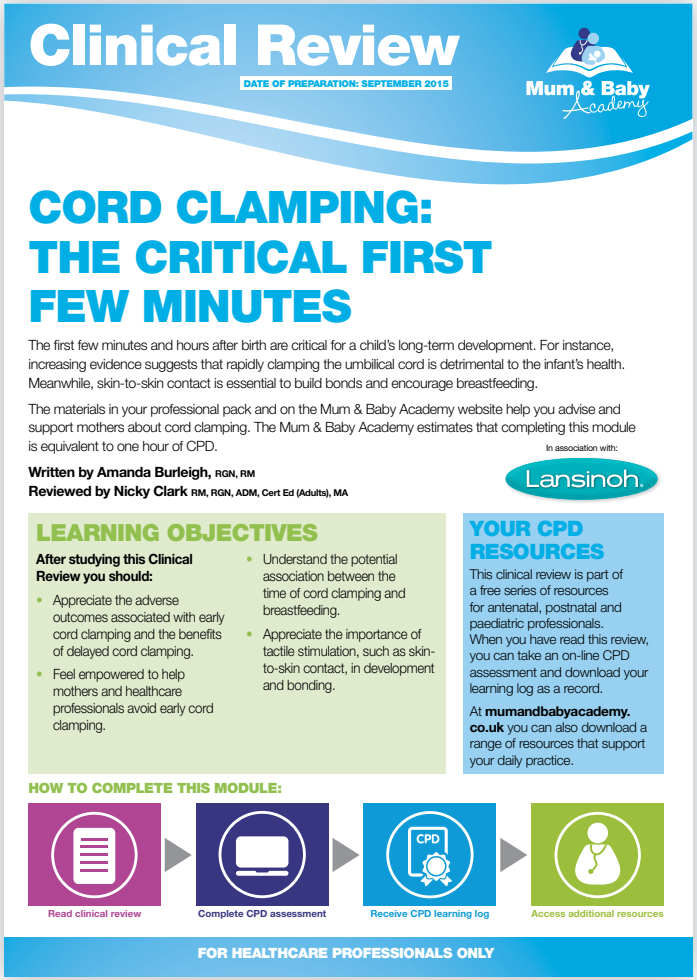
Learning objectives

- **After studying this Clinical Review, completing the online assessment and reviewing the resources, you should:**

- Appreciate the adverse outcomes associated with early cord clamping and the benefits of delayed cord clamping.
- Feel empowered to help mothers and healthcare professionals avoid early cord clamping.
- Understand the potential association between the time of cord clamping and breastfeeding.
- Appreciate the importance of tactile stimulation, such as skin-to-skin contact, in development and bonding.

To track and record your learning please log in




Clinical Review

DATE OF PREPARATION: SEPTEMBER 2015

Mum & Baby Academy

CORD CLAMPING: THE CRITICAL FIRST FEW MINUTES

The first few minutes and hours after birth are critical for a child's long-term development. For instance, increasing evidence suggests that rapidly clamping the umbilical cord is detrimental to the infant's health. Meanwhile, skin-to-skin contact is essential to build bonds and encourage breastfeeding.

The materials in your professional pack and on the Mum & Baby Academy website help you advise and support mothers about cord clamping. The Mum & Baby Academy estimates that completing this module is equivalent to one hour of CPD.

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LEARNING OBJECTIVES

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- Appreciate the adverse outcomes associated with early cord clamping and the benefits of delayed cord clamping.
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YOUR CPD RESOURCES

This clinical review is part of a free series of resources for antenatal, postnatal and paediatric professionals. When you have read this review, you can take an on-line CPD assessment and download your learning log as a record.

At **mumandbabyacademy.co.uk** you can also download a range of resources that support your daily practice.

HOW TO COMPLETE THIS MODULE:

Read clinical review · Complete CPD assessment · Receive CPD learning log · Access additional resources

FOR HEALTHCARE PROFESSIONALS ONLY

Date of publication: September 2015

Pre-learning reflection

Before completing this assessment, please take a moment to answer these questions.
If you log in, your responses will be recorded on your CPD learning log.

Questions:

What is the policy on cord clamping in your hospital?

How confident are you in your knowledge of the benefits of delayed cord clamping?

Do you feel your practice follows the NICE recommendations on cord clamping? If so, have you audited your practice?

Date of publication: September 2015

Background

- The umbilical cord pulsates for several minutes after birth [1] and continues to propel blood into the infant.
- Delayed cord clamping (DCC; also referred to as "deferred" or "late") is generally performed at least one minute after birth or after the umbilical cord stops pulsating. [2]
- DCC has several benefits, including improving neonatal systemic blood pressure and cerebral oxygen perfusion and lowering the risk of necrotising enterocolitis. [3]

References:

[1]Hutchon DJR. *Journal of Obstetrics & Gynaecology* 2012;32:724-9.
[2]WHO. Guideline: Delayed umbilical cord clamping for improved maternal and infant health and nutrition outcomes. Geneva: World Health Organization; 2014.
[3]Leslie MS. *Nursing for Women's Health* 2015;19:164-76.

Date of publication: September 2015

The biological importance of delayed cord clamping

- DCC increases neonatal blood volume by up to 30% for children born at term and by 50% for preterm infants compared with immediate (sometimes called “early”, “immediate” or “premature”) cord clamping.[1]
- DCC is associated with a wide range of neonatal benefits, including: improved systemic blood pressure; improved cerebral oxygen perfusion, and reduced need for blood transfusions and support with drugs that increase the contractility of the heart (inotropic support).
- WHO recommends DCC, not earlier than 1 minute after birth, “for improved maternal and infant health and nutrition outcomes”.[2]

Date of publication: September 2015

References: [1]Leslie MS. *Nursing for Women’s Health* 2015;19:164-76.
[2]WHO. Guideline: Delayed umbilical cord clamping for improved maternal and infant health and nutrition outcomes. Geneva: World Health Organization; 2014.

Long-term outcomes

- DCC seems to be associated with up to a 60% increase in red blood cells, higher haemoglobin levels at 24 to 48 hours of age, and increased serum ferritin levels at 4 to 6 months.[1]
- DCC seems to protect very low birth weight male infants against motor disability at 7 months (corrected age).[2]
- Cord blood is a rich source of stem cells, which seem to be critical in normal development of the central nervous, respiratory, cardiovascular, haematological, immunological and endocrine systems.[1]

Date of publication: September 2015

References: [1]Leslie MS. *Nursing for Women's Health* 2015;19:164-76.
[2]Hutchon DJR. *Journal of Obstetrics & Gynaecology* 2012;32:724-9.

Is delayed cord clamping harmful?

- None of the randomised controlled trials published since 1980 support a link between DCC and symptomatic polycythaemia or hyperbilirubinemia.[1]
- Nevertheless, a Cochrane review concluded that the proportion of infants that required phototherapy for jaundice was 38% lower in the early cord clamping group compared with DCC. The Cochrane review concluded that treatment for jaundice requiring phototherapy should be available.[2]

Date of publication: September 2015

References: [1]Amitay EL, Keinan-Boker L. *JAMA Pediatrics* 2015;169:e151025.
[2]McDonald SJ, Middleton P, Dowswell T, et al. *Cochrane Database of Systematic Reviews* 2013;7:CD004074.

NICE recommendations

- NICE recommends that healthcare professionals do not clamp the cord earlier than 1 minute from the birth unless there is a concern, such as about cord integrity or the baby's heartbeat is below 60 beats per minute and is not increasing.[1]

- The cord should be clamped between 1 and 5 minutes after birth followed by controlled cord traction, which should not normally be attempted until there are signs of separation of the placenta if an oxytocic has been administered.

Date of publication: September 2015

References: [1]NICE. CG190.

Umbilical cord milking

- During umbilical cord milking, a healthcare professional grasps the unclamped umbilical cord and pushes the blood several times toward the infant over, for example, about 20 seconds.
- Umbilical cord milking may improve blood volume more effectively than DCC in premature infants who are delivered by caesarean section. [1]
- Further studies are needed to identify fully the place of umbilical cord milking in practice.

Date of publication: September 2015

References: [1]Katheria AC, Truong G, Cousins L, et al. *Pediatrics* 2015;136:61-9.

Impact on breastfeeding

- DCC seems to facilitate breastfeeding, partly by countering the cognitive and physiological consequences of hypovolaemia.
- Placing the baby immediately on the mother's abdomen during the delay to cord clamping promotes skin-to-skin contact, which enhances mother-baby bonding, helps regulate neonatal temperature and heart rate,[1] and encourages breast feeding.

Date of publication: September 2015

References: [1]Uwins C, Hutchon D. *Pediatric Health, Medicine and Therapeutics* 2014;5:161-71.

Assessment

Question

When is delayed cord clamping usually performed?

- [ ] At least one minute after the birth
- [ ] At least one minute after the birth or after the umbilical cord stops pulsating
- [ ] Less than one minute after the birth
- [ ] Less than one minute after the birth or after the umbilical cord stops pulsating

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Assessment

Answer

When is delayed cord clamping usually performed?

- [ ] At least one minute after the birth
- [x] At least one minute after the birth or after the umbilical cord stops pulsating
- [ ] Less than one minute after the birth
- [ ] Less than one minute after the birth or after the umbilical cord stops pulsating

Date of publication: September 2015

Assessment

Question

DCC is associated with a wide range of benefits for the neonate including:

- ☐ Improved systemic blood pressure
- ☐ Improved cerebral oxygen perfusion
- ☐ Reduced need for blood transfusions and support with drugs that increase the contractility of the heart (inotropic support).
- ☐ All of the above

Date of publication: September 2015

Assessment

Answer

DCC is associated with a wide range of benefits for the neonate including?

- ☐ Improved systemic blood pressure
- ☐ Improved cerebral oxygen perfusion
- ☐ Reduced need for blood transfusions and support with drugs that increase the contractility of the heart (inotropic support).
- ☑ All of the above

Date of publication: September 2015

Assessment

Question

NICE recommends?

- [ ] The cord should be clamped between 1 and 2 minutes after birth followed by controlled cord traction
- [ ] The cord should be clamped between 1 and 3 minutes after birth followed by controlled cord traction
- [ ] The cord should be clamped between 1 and 4 minutes after birth followed by controlled cord traction
- [ ] The cord should be clamped between 1 and 5 minutes after birth followed by controlled cord traction

Date of publication: September 2015

Assessment

Answer

NICE recommends?

- [ ] The cord should be clamped between 1 and 2 minutes after birth followed by controlled cord traction
- [ ] The cord should be clamped between 1 and 3 minutes after birth followed by controlled cord traction
- [ ] The cord should be clamped between 1 and 4 minutes after birth followed by controlled cord traction
- [x] The cord should be clamped between 1 and 5 minutes after birth followed by controlled cord traction

Date of publication: September 2015

Assessment

Question

Umbilical cord milking

- ☐ May improve blood volume more effectively than DCC in premature infants who are delivered by caesarean section
- ☐ May improve blood volume less effectively than DCC in premature infants who are delivered by caesarean section
- ☐ May improve blood volume more effectively than DCC in infants who are delivered by caesarean section
- ☐ May improve blood volume less effectively than DCC in infants who are delivered by caesarean section

Date of publication: September 2015

Assessment

Answer

Umbilical cord milking

- [x] May improve blood volume more effectively than DCC in premature infants who are delivered by caesarean section
- [ ] May improve blood volume less effectively than DCC in premature infants who are delivered by caesarean section
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Date of publication: September 2015

Assessment

Question

DCC seems to be associated with what percentage increase in red blood cells among infants born at term:

- ☐ Up to 40%
- ☐ Up to 50%
- ☐ Up to 60%
- ☐ Up to 70%

Date of publication: September 2015

Assessment

Answer

DCC seems to be associated with what percentage increase in red blood cells among infants born at term:

- ☐ Up to 40%
- ☐ Up to 50%
- ☑ Up to 60%
- ☐ Up to 70%

Date of publication: September 2015

Post-learning reflection

Please take a moment to answer these questions.
If you log in, your responses will be recorded on your CPD learning log.

Questions:

How confident do you now feel regarding advising on delayed cord clamping? Do you have any knowledge gaps? How will you continue to improve your knowledge?

Will your advice to mothers change as a result of completing this module? If not, why not? If so, how?

How could you improve your practice with regards cord clamping? What barriers hinder implementation of best practice? How can you overcome these barriers?

Date of publication: September 2015

References and further reading

Hutchon DJR. Immediate or early cord clamping vs delayed clamping. *Journal of Obstetrics & Gynaecology* 2012;32:724-9.

World Health Organisation. *Guideline: Delayed umbilical cord clamping for improved maternal and infant health and nutrition outcomes*. Geneva: World Health Organization; 2014.

Leslie MS. Perspectives on Implementing Delayed Cord Clamping. *Nursing for Women's Health* 2015;19:164-76.

NICE. *Intrapartum care: care of healthy women and their babies during childbirth* December 2014 https://www.nice.org.uk/guidance/CG190/chapter/1-Recommendations#third-stage-of-labour Accessed July 2015.

Katheria AC, Truong G, Cousins L, et al. Umbilical Cord Milking Versus Delayed Cord Clamping in Preterm Infants. *Pediatrics* 2015;136:61-9.

Amitay EL, Keinan-Boker L. Breastfeeding and childhood leukemia incidence: A meta-analysis and systematic review. *JAMA Pediatrics* 2015;169:e151025.

McDonald SJ, Middleton P, Dowswell T, et al. Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes. *Cochrane Database of Systematic Reviews* 2013;7:CD004074.

Weeks AD, Watt P, Yoxall CW, et al. Innovation in immediate neonatal care: development of the Bedside Assessment, Stabilisation and Initial Cardiorespiratory Support (BASICS) trolley. *BMJ Innovations* 2015;1:53-8.

Uwins C, Hutchon D. Delayed umbilical cord clamping after childbirth: potential benefits to baby's health. *Pediatric Health, Medicine and Therapeutics* 2014;5:161-71.

Pelaez-Nogueras M, Gewirtz J, Field T, et al. Infants' preference for touch stimulation in face-to-face interactions. *Journal of Applied Developmental Psychology* 1996;17:199–213.

Lagercrantz H, Changeux J-P. The emergence of human consciousness: From fetal to neonatal life. *Pediatric Research* 2009;65:255–60.

Hood B. *The Domesticated Brain* Pelican. 2014.

Date of publication: September 2015

Supporting women to continue to breastfeed

- Lansinoh offer a range of breastcare products for mums as well as a full pump, store and feed range for mums' breastmilk.
- The breastcare range has been developed to help breastfeeding women in their breastfeeding journey.
- The Breastpump range brings together manual and electric breastpumps – all with let down and expression phases and importantly, closed system pumps.
- The Breastmilk Storage and feed range is there for mothers who want to easily and hygienically store their precious breastmilk.
- Lansinoh also offer a range of downloadable fact sheets for use in clinic with breastfeeding mothers.

For more information go to www.lansinoh.co.uk/professional

Date of publication: September 2015

In association with:

Lansinoh

Your feedback...

Please rate the overall quality of this CPD module:

Excellent ☐ Good ☐ Fair ☐ Poor ☐

Before completing this module, how likely would you be to suggest delayed cord clamping to colleagues and parents?

Very likely ☐ Likely ☐ Neither likely or unlikely ☐ Very unlikely ☐

After completing this module, how likely would to be to suggest delayed cord clamping to colleagues and parents?

Very likely ☐ Likely ☐ Neither likely or unlikely ☐ Very unlikely ☐

Before completing this module, how likely would to regard Lansinoh as a supporter of education and resources?

Very likely ☐ Likely ☐ Neither likely or unlikely ☐ Very unlikely ☐

After completing this module, how likely would to be to regard Lansinoh as a supporter of education and resources?

Very likely ☐ Likely ☐ Neither likely or unlikely ☐ Very unlikely ☐

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