DEFERRED CORD CLAMPING (DCC) - CLINICAL GUIDELINE

Summary: Deferred Cord Clamping

Are there any contraindications to DCC? (See Section 2.3)

Yes → Clamp and cut the cord immediately after birth whilst initiating skin to skin

No

Is there meconium?

Yes → If the baby is born in good condition and cries immediately DCC is appropriate. However if they do not cry, avoid stimulation as normal and separate the cord for transfer to the resuscitaire

No

Has the baby been born in good condition?

Yes → DCC for three minutes unless the baby’s condition deteriorates

No → Assess and stimulate baby on warmed towels on mother’s abdomen or at the foot of the bed. Remember, whilst the cord is still pulsating the neonate is receiving an oxygenated blood supply. If ventilation is necessary consider initiating this with the cord intact. Cord separation is only necessary when transfer to the resuscitaire is required. Timing of cord separation for a compromised infant should ultimately be decided on a case by case basis.

Key Considerations

- **Warmth** – Ensure the baby is kept warm during DDC, use warmed towels from the resuscitaire or skin to skin to achieve this

- **Maternal or Neonatal Deterioration** – In the event that the condition of either the mum or baby deteriorates i.e. maternal PPH or neonatal respiratory distress DCC should be abandoned and emergency measures initiated. DCC should never be performed at the expense of the health of mother or baby.

- **Third Stage Management** - Syntometrine/Syntocinon or Carbetocin can be administered as normal if required
1. **Aim/Purpose of this guideline**

To inform all Midwives and Obstetricians on the topic of Deferred Cord Clamping (DCC) including rationale, contraindications and guidance on when to implement. DCC is a routine part of a physiological third stage. It can also be safely implemented when active management is required. There is a growing body of evidence to support DCC and it is now recommended by the Royal College of Midwives (RCM), World Health Organisation (WHO) and the UK Resuscitation Council. DCC has clear benefits to both mum and baby, alongside a discussion on management of the third stage of labour, parents should be informed that DCC will:

- Increase their baby’s blood volume by up to 40% and subsequently improve iron stores for the first 6 months of life. Iron is essential for brain development.
- Ensure baby receives stem-cell rich cord blood
- Increase their baby’s weight as they receive a normal circulating blood volume
- Maximise the amount of oxygenated blood their baby receives and help establish breathing
- Stabilise blood pressure

Although the benefits are present for all babies the findings have more significance for babies that are: premature, have a low birth weight or are born to an anaemic mother. In preterm infants DCC has additionally been shown to decrease infant sepsis, intraventricular haemorrhage, rates of neonatal blood transfusion and the incidence of necrotising enterocolitis.

For the mother DCC can decrease the volume of the placenta, reduce rates of feto-maternal transfusion (important for rhesus negative mothers) and assist in creating a calm and unhurried environment.

2. **The Guidance**

2.1. **Active Management of Third Stage of an Uncompromised Baby at any Gestation**

- Following delivery of the baby give oxytocic
- Wait for three minutes or sooner if cord pulsations cease
- Clamp and cut the cord
- Wait for signs of separation before attempting CCT
- The position of the baby during DCC is not thought to influence the amount of blood the baby receives

2.2. **DCC for Babies Requiring Resuscitation**

- Those neonates requiring positive pressure ventilation and resuscitation would especially benefit from DCC. A policy of ‘wait a minute’ may be appropriate. Consider that neonatal assessment and stimulation usually
happens during this first minute which can be carried out on warm towels on the delivery bed or on the mother’s abdomen.

- Should transfer to the resuscitaitre be deemed necessary the cord should be promptly clamped and cut. In these situations ‘cord milking’ towards the baby is an appropriate alternative. Remember that while the cord continues to pulsate the baby is still receiving oxygenated blood.

- Timing of cord clamping for a compromised infant should ultimately be decided on a case by case basis, being mindful of the clinical context

2.3. Contraindications to DCC
- Severe Fetal Growth Restriction (FGR)
- If a neonate is at significantly increased risk of polycythaemia i.e. born to a poorly controlled diabetic mother or suffering severe FGR
- Severe fetal distress in 1st stage
- Meconium Stained Liquor, unless in good condition and cries immediately
- Maternal Haemorrhage
- Vasa Previa

2.4. Operative Vaginal Delivery
DCC should be performed at instrumental delivery as for spontaneous vaginal birth. Good communication with the neonatal team is crucial during this time and if at any point they feel that DCC should be abandoned this should be respected.

2.5. Caesarean Section (CS)
- Upon delivery of the baby Carbetocin/Oxytocin should be given
- Cord clamping should be deferred for 45 seconds, there is some evidence to suggest that transfusion is complete at this point
- Short DCC at CS may reduce maternal bleeding by allowing more time for separation before the surgeon removes the placenta. Heavy bleeding not controlled by Green Armitage clamps should prompt immediate cord clamping and placenta removal.

2.6. Cord Blood Sampling
A delay of three minutes does not appear to adversely affect the validity of umbilical cord blood gas analysis. Samples should, however, be taken immediately after cord clamping. If this is not possible blood should be taken from a segment of cord isolated between two clamps.

2.7. Documentation
The timing of DCC must be documented in the maternal delivery notes.
3. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>• Correct management of DCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>• Maternity Risk Management Midwife</td>
</tr>
</tbody>
</table>
| Tool                    | • Was DCC performed when contraindicated  
                          • Was DCC offered to women having a CS  
                          • At CS was DCC performed for 45 seconds |
| Frequency               | • 1% or 10 sets, whichever is the greater, of all health records of women who have delivered will be audited once over the 3 year lifetime of the guideline or sooner if indicated. |
| Reporting arrangements  | • Clinical Audit Forum  
                          • During the process if the audit compliance is below 75% or other deficiencies identified, this will be identified at the next Obstetric Risk Management Forum or Clinical Audit Forum and an action plan agreed |
| Acting on recommendations and Lead(s) | • Action leads will be identified and a time frame for the action to be completed  
                          • The action plan will be monitored by the Maternity Risk Management Midwife |
| Change in practice and lessons to be shared | • Required changes to practice will be identified and actioned within an agreed time frame  
                          • A lead member of the Forum will be identified to take each change forward where appropriate  
                          • Maternity Risk Management Newsletter. |

4. Equality and Diversity

1.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the Equality and Diversity website.

1.2. Equality Impact Assessment

The Initial Equality Impact Assessment Screening Form is at Appendix 2.
Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>DEFERRED CORD CLAMPING (DCC) - CLINICAL GUIDELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>18th June 2015</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>30th November 2015</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>30th November 2018</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Elizabeth Cowan Midwife</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872 252879</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>This guideline gives guidance to Midwives and Obstetricians in the management of DCC of the baby’s umbilical cord at delivery</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>Delayed, deferred, cord, clamping, DCC, new-born, physiological, placenta, 3rd, third, stage</td>
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<tr>
<td>Target Audience</td>
<td>RCHT</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Medical Director</td>
</tr>
<tr>
<td>Date revised:</td>
<td>18th June 2015</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>New Guideline</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Maternity Guidelines Group Obs and Gynae Directorate Divisional Board for noting</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Head of Midwifery</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>Not Required</td>
</tr>
<tr>
<td>Signature of Executive Director giving approval</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet</td>
</tr>
<tr>
<td>Document Library Folder/Sub Folder</td>
<td>Clinical/Midwifery and Obstetrics</td>
</tr>
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## Links to key external standards

**CNST 5.2 & 5.4**

- Rabe H, Diaz-Rossello J, Duley L, Dowswell T. Effect of timing of
umbilical cord clamping and other strategies to influence placental transfusion at preterm birth on maternal and infant outcomes. Cochrane Database of Systematic Reviews 2012, Issue 8. Art. No.: CD003248

- RCOG. (2015) Clamping of the Umbilical Cord and Placental Transfusion

Training Need Identified? Yes, Multidisciplinary TOME training day.

Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
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<tbody>
<tr>
<td>18th June 2015</td>
<td>V1.0</td>
<td>Initial Issue</td>
<td>Elizabeth Cowan Midwife</td>
</tr>
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</table>

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This document is to be retained for 10 years from the date of expiry.

This document is only valid on the day of printing

Controlled Document

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# Appendix 2. Initial Equality Impact Assessment Screening Form

Name of service, strategy, guideline, policy or project (hereafter referred to as *policy*) to be assessed: DEFERRED CORD CLAMPING (DCC) – CLINICAL GUIDELINE

<table>
<thead>
<tr>
<th>Directorate and service area: Obs and Gynae Directorate</th>
<th>Is this a new or existing Procedure?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New</td>
</tr>
</tbody>
</table>

| Name of individual completing assessment: Elizabeth Anderson | Telephone: 01872 252879 |

1. Procedure Aim*  
To provide all health professionals guidance on Deferred Cord Clamping for the neonate

2. Procedure Objectives*  
To maximise the amount of oxygenated blood the baby receives through the cord at delivery

3. Procedure – intended Outcomes*  
Improved neonatal outcomes

4. How will you measure the outcome?  
Compliance Monitoring Tool

5. Who is intended to benefit from the Procedure?  
All new-born babies and their mothers

6a. Is consultation required with the workforce, equality groups etc. around this procedure?  
No

b. If yes, have these groups been consulted?  
N/A

c. Please list any groups who have been consulted about this procedure.  
N/A

*Please see Glossary
### 7. The Impact
Please complete the following table.

Are there concerns that the policy **could** have differential impact on:

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
<tr>
<td><strong>Sex (male, female, trans-gender / gender reassignment)</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
<tr>
<td><strong>Race / Ethnic communities / groups</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
<tr>
<td><strong>Disability - learning disability, physical disability, sensory impairment and mental health problems</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
<tr>
<td><strong>Religion / other beliefs</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
<tr>
<td><strong>Marriage and civil partnership</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
<tr>
<td><strong>Pregnancy and maternity</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
<tr>
<td><strong>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</strong></td>
<td>X</td>
<td></td>
<td>All new-born babies and their mothers</td>
</tr>
</tbody>
</table>

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this **excludes** any policies which have been identified as not requiring consultation. or
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended.  
<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

9. If you are not recommending a Full Impact assessment please explain why.

N/A

---

Signature of policy developer / lead manager / director  
Elizabeth Cowan

Date of completion and submission  
18th June 2015

Names and signatures of members carrying out the Screening Assessment

1. Elizabeth Anderson
2. [Signature]
Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead,  
c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department,  
Knowledge Spa, Truro, Cornwall, TR1 3HD  

A summary of the results will be published on the Trust’s web site.  

Signed: Elizabeth Anderson  

Date: 18th June 2015