CORD PROLAPSE – CLINICAL GUIDELINE

1. Aim/Purpose of this Guideline
   1.1. This is to give guidance to all midwives and obstetricians on the recognition and management of an umbilical cord prolapse.

2. The Guidance
   2.1. Definition
   Cord prolapse is defined as the descent of the umbilical cord through the cervix alongside (occult) or past the presenting part (overt) in the presence of ruptured membranes.
   Cord presentation is the presence of the umbilical cord between the fetal presenting part and the cervix, with or without membrane rupture.

   2.2. Incidence
   The overall incidence of cord prolapse ranges from 0.1% to 0.6%.
   With a breech presentation the incidence is 1%.
   Cases involving cord prolapse consistently appear in the perinatal mortality enquiries. Congenital malformations account for the majority of adverse outcomes associated with cord prolapse in hospital settings but birth asphyxia is also associated.
   The principle causes of asphyxia in this context are:
   - Cord compression (preventing venous return to the fetus)
   - Umbilical vasospasm (preventing venous and arterial blood flow to and from the fetus) due to exposure to external environment

   2.3. Risk Factors for cord prolapse
   Any factor which prevents close application of the presenting part to the lower part of the uterus or the pelvic brim.

   2.4. Avoidance of cord prolapse
   50% of cases of cord prolapse are a result of obstetric intervention
   - Artificial Rupture of membranes (ARM) should be avoided if the presenting part is mobile. If ARM is clinically indicated, in the presence of risk factors for cord prolapse, this should be performed with arrangements in place for an immediate caesarean section.
   - Vaginal examinations and obstetric interventions carry the risk of upward displacement and cord prolapse, particularly with a high presenting part and ruptured membranes. Upward pressure should be kept to a minimum in such cases.
   - With transverse, oblique or unstable lie, elective admission after 37+0 weeks gestation should be considered. Such women should be advised to present immediately if there are signs of labour or suspected rupture of membranes.
   - Women with non-cephalic presentations and preterm prelabour rupture of membranes should be offered admission.

   2.5. Diagnosis of cord prolapse
   - Cord presentation or prolapse can occur without physical signs and without fetal heart pattern abnormalities
• Visual inspection or palpation of the umbilical cord on vaginal examination
• Prompt vaginal examination is the most important aspect of diagnosis
• Cord prolapse is suspected if persistent variable decelerations or fetal bradycardia occur, particularly following rupture of membranes

2.6. **Management**
This obstetric emergency requires immediate corrective measures to prevent fetal asphyxia. A coordinated team approach is essential.

2.6.1. **Management in the community setting**
Perinatal death has been described with normally formed term babies, particularly with planned home births. Perinatal mortality is increased by more than tenfold when cord prolapse occurs outside compared with inside hospital. Delay in transfer to hospital appears to be an important contributing factor.

- Call ‘999’ and ask for an emergency ambulance
- Institute measures to relieve cord compression
- Contact Delivery Suite and inform them of the situation and expected time of arrival. An ultrasound scan is to be available upon arrival to Delivery Suite.
- During the ambulance transfer, attempt to maintain elevation of the presenting part, taking into consideration the woman’s and the midwife’s safety
- If delivery is imminent proceed with delivery, prepare for neonatal resuscitation, do not stand down ambulance until woman and baby are safely delivered

2.6.2. **Management in the in the consultant unit**

- Call for help, clearly stating ‘cord prolapse’
- Summon for cord prolapse box
- Stop oxytocin if being administered
- Institute measures to relieve cord compression.
- Coordinator to arrange for theatre to be prepared and the theatre team assembled
- Consider administering a tocolytic: Terbutaline 250mcg subcutaneously

2.6.3. **Options to relieve cord compression**

- Tip the head of the bed down. Position the woman to encourage the fetus to gravitate towards the diaphragm- knee-chest position or exaggerated Sims position.
- Manual elevation of the presenting part by inserting a gloved hand in the vagina and pushing it upwards and above the pelvic brim

OR

- Insert a Foleys catheter and rapidly fill the bladder with 500mls Normal Saline to elevate the fetal presenting part. Clamp the catheter. The clamp must be released and the bladder drained before delivery.

- To prevent vasospasm of the cord there should be minimum handling of loops of cord lying outside the vagina
• Continuous fetal monitoring should be undertaken and the maternal pulse palpated to differentiate. If fetal viability is in doubt, an ultrasound scan should be undertaken.

2.6.4. Where immediate vaginal delivery is not imminent or possible
• Transfer to theatre for Emergency Caesarean Section immediately
• If the fetal heart rate pattern is abnormal and indicates the need for urgent intervention, a Category 1 Caesarean Section should be performed
• A Category 2 Caesarean Section is appropriate when the fetal heart rate classification does not meet the above BUT continuous assessment of the fetal heart is essential
• Successful measures to relieve cord compression can allow regional anaesthesia to be the technique of choice
• Obtain consent. This may be verbal in the case of a Category 1 Caesarean Section.
• Establish IV access. Take bloods for full blood count, group and save.

Vaginal birth, in most cases operative, can be attempted if the cervix is fully dilated and the fetal presentation, position and station indicate this to be most expedient.

A practitioner competent in neonatal resuscitation should be present for delivery
Paired cord blood samples should be obtained.

2.7. Extreme Preterm Cord prolapse
Expectant management should be discussed when the gestation is at the limits of viability - 23+0 to 24+6 weeks.
Women should be counselled who are between 23+0 to 24+6 weeks by the obstetric consultant and neonatologist on whether to continue with the pregnancy at the threshold of viability.

2.8. In all cases of Cord prolapse
• Document times of events, personnel in attendance and actions taken
• Communicate with the parents throughout
• Postnatal debriefing should be offered
• Complete a clinical incident (DATIX) report

2.9. Telephone management of a woman in the community setting
• Advise the woman (over the telephone if necessary), to adopt the knee-chest position whilst waiting for the ambulance
• Arrange 999 ambulance transfer to the consultant led unit
• Consider requesting the community midwife to attend but this must not delay transfer
• During the ambulance transfer, advise that attempts be made to maintain elevation of the presenting part, taking into consideration the woman’s safety
• Advice the ambulance crew that if vertex visible allow delivery to progress
• All measures taken must not cause unnecessary delay in transfer
• Offer debrief of the woman, partner and ambulance crew
3. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>Record keeping by health care professionals. The results will be inputted onto an excel spread sheet. The audit will be registered with the Trust’s Audit Department.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Maternity Risk Management Midwife</td>
</tr>
<tr>
<td>Tool</td>
<td>• Was syntocinon stopped at the diagnosis of cord prolapse? • Was Terbutaline considered? • Where possible, was the fetal heart continuously monitored and the maternal pulse taken to differentiate the two? • If a Category 1 C/S performed, was decision to delivery time achieved within 30 minutes? • Were paired cord blood samples taken and filed in the secure store envelope?</td>
</tr>
<tr>
<td>Frequency</td>
<td>A cord prolapse is a fairly rare occurrence so each case will be reviewed individually through the Maternity Risk Management Meeting</td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>The results will be reviewed at the time of the Maternity Risk Management Meeting</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Any deficiencies identified will be discussed at the Maternity Risk Management Forum and Clinical Audit Forum and an action plan developed. An action plan lead will be identified and a time frame for the action. The action plan will be monitored by the Maternity Risk Management and Clinical Audit Forum</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>Required changes to practice will be identified and actioned within a time frame agreed on the action plan A lead member of the forum will be identified to take each change forward where appropriate The results will be distributed to all staff through the Risk Management Newsletter/Audit Forum as per the action plan</td>
</tr>
</tbody>
</table>

4. Equality and Diversity

4.1. 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.

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

<table>
<thead>
<tr>
<th><strong>Document Title</strong></th>
<th>CORD PROLAPSE - CLINICAL GUIDELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date Issued/Approved:</strong></td>
<td>31st May 2015</td>
</tr>
<tr>
<td><strong>Date Valid From:</strong></td>
<td>31st May 2015</td>
</tr>
<tr>
<td><strong>Date Valid To:</strong></td>
<td>31st May 2018</td>
</tr>
</tbody>
</table>
| **Directorate / Department responsible (author/owner):** | Sally Budgen  
Deliver Suite Coordinator  
Obs and Gynae Directorate |
| **Contact details:**      | 01872 252361                      |
| **Brief summary of contents** | This is to give guidance to all midwives and obstetricians on the recognition and management of an umbilical cord prolapse. |
| **Suggested Keywords:**   | Cord, prolapse, presentation, umbilical, asphyxia, tocolytic, Terbutaline, LSCS, Caesarean, Category 1, Preterm, prelabour |
| **Target Audience**       | RCHT  
PCH  
CFT  
KCCG |
| **Executive Director responsible for Policy:** | Medical Director |
| **Date revised:**         | 31st May 2015                     |
| **This document replaces (exact title of previous version):** | Umbilical cord prolapse - Guideline for the management of |
| **Approval route (names of committees)/consultation:** | Maternity Guidelines Group  
Obs and Gynae Directorate  
Divisional Board for Noting |
| **Divisional Manager confirming approval processes:** | Head of Midwifery |
| **Name and Post Title of additional signatories:** | Not Required |
| **Signature of Executive Director giving approval:** | {Original Copy Signed} |
| **Publication Location (refer to Policy on Policies – Approvals and Ratification):** | Internet & Intranet  
✓ Intranet Only |
| **Document Library Folder/Sub Folder:** | Clinical/Midwifery & Obstetrics |
Links to key external standards | None
---|---

Related Documents:
- RCOG Green Top Guideline No. 50 (2014)
- NICE CG132 (2011)Caesarean Section Clinical Guideline
- NICE CG 190 Intrapartum Care (2014) Care of healthy women and babies during childbirth

Training Need Identified?
All midwives and obstetrics will attend the training in obstetric multidisciplinary emergencies (TOME) day, annually, where they will receive an update in the management of a cord prolapse.

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>2008</td>
<td>1.0</td>
<td>Initial guideline</td>
<td>Sally Budgen Delivery Suite Coordinator</td>
</tr>
<tr>
<td>2010</td>
<td>1.1</td>
<td>Updated in line with RCOG guideline</td>
<td>Sally Budgen Delivery Suite Coordinator</td>
</tr>
<tr>
<td>May 2012</td>
<td>1.2</td>
<td>Updated and compliance monitoring added</td>
<td>Sally Budgen Delivery Suite Coordinator</td>
</tr>
<tr>
<td>7th May 2015</td>
<td>1.3</td>
<td>Updated with RCOG guideline No 50(2014)</td>
<td>Sally Budgen Delivery Suite Coordinator</td>
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All or part of this document can be released under the Freedom of Information Act 2000

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
This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.
Appendix 2. Initial Equality Impact Assessment Form

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed (hereafter referred to as policy) (Provide brief description):</th>
<th>CORD PROLAPSE – CLINICAL GUIDELINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate and service area:</td>
<td>Obs and Gynae Directorate</td>
</tr>
<tr>
<td>Is this a new or existing Policy?</td>
<td>Existing</td>
</tr>
<tr>
<td>Name of individual completing assessment:</td>
<td>Elizabeth Anderson</td>
</tr>
<tr>
<td>Telephone:</td>
<td>01872 252879</td>
</tr>
</tbody>
</table>

1. Policy Aim*
   - Who is the strategy / policy / proposal / service function aimed at?
   - This is to give guidance to all midwives and obstetricians on the recognition and management of an umbilical cord prolapse.

2. Policy Objectives*
   - To ensure timely and appropriate management of cord prolapse.

3. Policy – intended Outcomes*
   - To achieve a safe outcome for mother and baby.

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

5. Who is intended to benefit from the policy?
   - Pregnant women and their babies.

6a) Is consultation required with the workforce, equality groups, local interest groups etc. around this policy?
   - 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

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>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>X</td>
<td>All pregnant women</td>
</tr>
</tbody>
</table>

CORD PROLAPSE - CLINICAL GUIDELINE

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### CORD PROLAPSE - CLINICAL GUIDELINE

**Table: Equality Impact Assessment**

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex (male, female, trans-gender / gender reassignment)</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Race / Ethnic communities /groups</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Disability - learning disability, physical disability, sensory impairment and mental health problems</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Religion / other beliefs</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Marriage and civil partnership</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Pregnancy and maternity</strong></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</strong></td>
<td>X</td>
<td></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. **Yes** **No** X

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

N/A

<table>
<thead>
<tr>
<th>Signature of policy developer / lead manager / director</th>
<th>Date of completion and submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sally Budgen</td>
<td>7th May 2015</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Names and signatures of members carrying out the Screening Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Elizabeth Anderson</td>
</tr>
<tr>
<td>2. Sally Budgen</td>
</tr>
</tbody>
</table>

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: **31st May 2015**