CLINICAL GUIDELINE FOR THE MANAGEMENT OF UMBILICAL CORD PROLAPSE

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 rupture¹.

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.

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 section¹.
- 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 cases¹.
- With transverse, oblique or unstable lie, elective admission after 37+6 weeks gestation should be discussed. Such women should be advised to present immediately if there are signs of labour or suspected rupture of membranes¹.
- Women with non cephalic presentations and preterm prelabour rupture of membranes should be offered admission¹.
2.5. Diagnosis of cord prolapse

- Cord presentation or prolapse can occur without physical signs and without fetal heart pattern abnormalities.
- Diagnosis may be made by 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

If in the community setting:

- 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.
- During the ambulance transfer, attempt to maintain elevation of the presenting part, taking into consideration the woman’s and the midwives safety.
- If delivery is imminent proceed with delivery, prepare for neonatal resuscitation, do not stand down ambulance until woman and baby safely delivered.

If in the consultant unit:

- Call for help, clearly stating ‘cord prolapse’,
- 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 the administration of a tocolytic

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 position¹.
- 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 any delivery attempt¹.

To prevent vasospasm of the cord there should be minimum handling of loops of cord lying outside the vagina. In the community setting, consideration for attempting to place the cord back into the vagina should be made on an individual case basis; there is no evidence to support benefit or harm of this practice.

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.

Where immediate vaginal delivery is not imminent or possible, transfer to theatre for
emergency caesarean section should be immediately facilitated.

- If the fetal heart rate pattern is pathological or there is a fetal bradycardia, a category 1 caesarean section should be performed.
- A category 2 Caesarean section is appropriate when the fetal heart rate pattern is suspicious or normal.\(^2\)
- Successful measures to relieve cord compression can allow regional anaesthesia to be the technique of choice.\(^1\)
- 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.\(^2\)

A practitioner competent in neonatal resuscitation should be present for delivery.\(^2\) Paired cord blood samples should be obtained.\(^2\)

2.7. Cord prolapse/ presentation at extreme preterm gestational age.
Expectant management should be discussed when the gestation is at the limits of viability (23 weeks).
Women should be counselled by the obstetric consultant on whether to continuation with the pregnancy at the threshold of viability.\(^1\)

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

2.8. Telephone management of a woman in the community setting
Perinatal mortality is increased by more than tenfold when cord prolapse occurs outside compared with inside hospital.\(^1\)
- 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
- 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.\(^1\)
- Offer debrief of the woman, partner and ambulance crew

2.9. References
1. RCOG Green Top Guideline No. 50 April 2008.
2. NICE CG13 Caesarean Section Clinical Guideline. April 2004
### 3. Monitoring compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>The audit will take into account record keeping by obstetric, anaesthetic and paediatric doctors, midwives, nurse, students and maternity support workers.</th>
<th>The results will be inputted onto an excel spreadsheet</th>
<th>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>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool</td>
<td>Was Syntocinon stopped at the diagnosis of cord prolapse</td>
<td>Was terbutaline considered</td>
<td>If a cat 1 C/S performed, was decision to delivery time achieved within 30 minutes</td>
</tr>
<tr>
<td>Frequency</td>
<td>A cord prolapse is a fairly rare occurrence so each case will be reviewed through the clinical incident review meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>The results will be reviewed at the time of clinical incident review meeting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Any deficiencies identified will be discussed at the maternity risk management and clinical audit forum and an action plan developed</td>
<td>An action plan lead will be identified and a time frame for the action</td>
<td>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</td>
<td>A lead member of the forum will be identified to take each change forward where appropriate.</td>
<td>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.

#### 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>Clinical guideline for the management of umbilical cord prolapse</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date Issued/Approved:</strong></td>
<td>28&lt;sup&gt;th&lt;/sup&gt; August 2012</td>
</tr>
<tr>
<td><strong>Date Valid From:</strong></td>
<td>28&lt;sup&gt;th&lt;/sup&gt; August 2012</td>
</tr>
<tr>
<td><strong>Date for Review:</strong></td>
<td>1&lt;sup&gt;st&lt;/sup&gt; August 2015</td>
</tr>
</tbody>
</table>
| **Directorate / Department responsible (author/owner):** | Sally Budgen  
Delivery 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, cord presentation |
| **Target Audience** | RCHT | PCT | CFT |
| **Executive Director responsible for Policy:** | Medical Director |
| **Date revised:** | June 2012 |
| **This document replaces (exact title of previous version):** | Guideline for the management of umbilical cord prolapse |
| **Approval route (names of committees)/consultation:** | Maternity guidelines meeting  
Obs and gynae directorate |
| **Divisional Manager confirming approval processes** | |
| **Name and Post Title of additional signatories** | |
| **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** | Midwifery and obstetrics |
| **Links to key external standards** | |
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>
</tr>
</thead>
<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>
</tbody>
</table>

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 Screening Form

<table>
<thead>
<tr>
<th>Name of service, strategy, policy or project (hereafter referred to as policy) to be assessed: <strong>Clinical guideline for the management of umbilical cord prolapse</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate and service area: Obs and gynae directorate</td>
</tr>
<tr>
<td>Name of individual completing assessment: Jan Clarkson</td>
</tr>
</tbody>
</table>

1. **Policy Aim***

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 evidence based management of cord prolapse

3. **Policy – intended Outcomes***

To achieve a safe outcome for baby if possible

5. **How will you measure the outcome?***

Compliance monitoring

5. **Who is intended to benefit from the Policy?***

Women and babies

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

b. If yes, have these groups been consulted?

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

**7. The Impact**

Please complete the following table using ticks. You should refer to the EA guidance notes for areas of possible impact and also the Glossary if needed.

- Where you think that the **policy** could have a **positive** impact on any of the equality group(s) like promoting equality and equal opportunities or improving relations within equality groups, tick the ‘Positive impact’ box.
- Where you think that the **policy** could have a **negative** impact on any of the equality group(s) i.e. it could disadvantage them, tick the ‘Negative impact’ box.
Where you think that the policy has **no impact** on any of the equality group(s) listed below i.e. it has no effect currently on equality groups, tick the 'No impact' box.

<table>
<thead>
<tr>
<th>Equality Group</th>
<th>Positive Impact</th>
<th>Negative Impact</th>
<th>No Impact</th>
<th>Reasons for decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Disability</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Religion or belief</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Transgender</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Pregnancy/Maternity</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Sexual Orientation</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
<tr>
<td>Marriage / Civil Partnership</td>
<td></td>
<td>Yes</td>
<td>All pregnant women</td>
<td></td>
</tr>
</tbody>
</table>

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- A negative impact and
- No consultation (this excludes any policies which have been identified as not requiring consultation).

8. If there is no evidence that the policy promotes equality, equal opportunities or improved relations - could it be adapted so that it does? How?

Full statement of commitment to policy of equal opportunities is included in the policy

Please sign and date this form.

**Keep one copy and send a copy to Matron, Equality, Diversity and Human Rights, c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Chyvean House, Penventinnie Lane, Truro, Cornwall, TR1 3LJ**

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

Signed Jan Clarkson  
Date 22\(^{\text{nd}}\) May 2012