Mid Essex Hospital Services NHS
NHS Trust

MANAGEMENT OF CORD PROLAPSE	CLINICAL GUIDELINES Register No: 04267 Status: Public

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Document History Review:

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1.0	Julie Bishop	July 2003
2.0	Julie Bishop	July 2006
3.0	Louise Hagger and Katie Johnson	December 2007
3.1	Sarah Moon – Front sheet, points 2.0; 12.0 and Appendix A	April 2010
4.0	Sarah Moon	April 2011
5.0	Sarah Moon	29 September 2014
6.0	Sarah Moon	7 November 2017

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1.0 Purpose

1.1 This guideline is designed to aid midwives and obstetricians in the identification and management of cord prolapse.

1.2 Cord prolapse is defined as a prolapse of the umbilical cord along side or past the presenting part in the presence of ruptured membranes. It may be seen at the vulva or felt in the vagina.

1.3 The incidence of cord prolapse is reported to range from 0.1% to 0.6%.

1.4 Reported perinatal mortality ranges between rate of 91/1000.

2.0 Equality and Diversity

2.1 Mid Essex Hospital Services NHS Trust is committed to the provision of a service that is fair, accessible and meets the needs of all individuals.

3.0 Risk Factors

3.1 The following list details risk factors associated with cord prolapse:

General	Procedure Related
Multi-parity	Artificial rupture of membranes
Prematurity <37 weeks gestation	Vaginal manipulation of fetus with ruptured membranes
Fetal congenital abnormality	External cephalic version
Breech presentation	Internal podalic version
Low birth weight < 2.5kg	Stabilising induction of labour
Multiple pregnancy particularly with malpresentation of the second twin	
Unengaged presenting part	
Polyhydramnios	
Low lying placenta, other abnormal placentation	

3.2 Immediate vaginal examination or speculum examination should be carried out following membrane rupture in these high risk groups and if there is evidence of CTG abnormality.

4.0 Antenatal Management

4.1 With transverse, oblique or unstable lie, elective admission to hospital after 37+6 weeks of gestation should be discussed and women should be advised to present quickly if there are signs of labour or suspicion of membrane rupture.

4.2 Women with non-cephalic presentations and preterm pre-labour rupture of the membranes should be offered admission.

4.3 Artificial membrane rupture should be avoided whenever possible if the presenting part is mobile. If it becomes necessary to rupture the membranes, this should be performed with arrangements in place for immediate caesarean delivery.

4.4 Vaginal examination and obstetric intervention in the context of ruptured membranes and a high presenting part carry the risk of upward displacement and cord prolapse. Upward pressure on the presenting part should be kept to a minimum in such women.

4.5 Rupture of membranes should be avoided if, on vaginal examination, the cord is felt below the presenting part. When cord presentation is diagnosed in established labour, caesarean section is usually indicated.

4.6 Selective ultrasound screening can be considered for women with breech presentation at term who are considering vaginal birth.

5.0 Suspected Cord Prolapse

5.1 Cord presentation or prolapse should be excluded at every vaginal examination in labour and after spontaneous rupture of membranes if risk factors are present.

5.2 In addition to the national guidance for fetal heart rate monitoring in labour, the fetal heart rate should be auscultated after every vaginal examination in labour and after spontaneous membrane rupture.

5.3 Cord prolapse should be suspected when there is an abnormal fetal heart rate pattern, especially if such changes commence soon after membrane rupture, either spontaneous or artificial.

5.4 Speculum and/or digital vaginal examination should be performed when cord prolapse is suspected.

5.5 When spontaneous rupture of membranes occurs, if there is normal fetal heart rate monitoring and there are no risk factors for cord prolapse, then a routine vaginal examination is not indicated.

6.0 Aims of Management of Cord Prolapse

5.1 When cord prolapse is diagnosed before full dilatation, assistance should be immediately called and preparations made for immediate birth in theatre.

5.2 To prevent vasospasm, there should be minimal handling of loops of cord lying outside the vagina.

5.3 To prevent cord compression, it is recommended that the presenting part be elevated either manually or by filling the urinary bladder.

5.4 Cord compression can be further reduced by the mother adopting the knee–chest or left lateral (preferably with head down and pillow under the left hip) position.

5.5 Tocolysis can be considered while preparing for caesarean section if there are persistent fetal heart rate abnormalities after attempts to prevent compression mechanically, particularly when birth is likely to be delayed.

5.6 Caesarean section is the recommended mode of delivery in cases of cord prolapse when vaginal birth is not imminent in order to prevent hypoxic acidosis.

5.7 Expediate delivery.

5.8 Keep clear, accurate, contemporaneous records in the patient's healthcare records.

5.9 The case should be discussed with the consultant on-call to plan management of care.

7.0 Management of Cord Prolapse

7.1 Call for assistance and summon the following staff:

- Obstetric registrar and SHO
- Anaesthetist and Operating Department Practitioner (ODP)
- Paediatric registrar and Senior House Officer (SHO)
- Alert Neonatal Unit (NNU)
- Labour Ward Co-ordinator
- Second midwife
- Scribe

(Refer to the 'Management of postpartum haemorrhage'; register number 04234).
(Refer to Appendix A)

7.2 Maintain visual and verbal communication with the patient to aid cooperation and gain consent for any procedures that may follow.

7.3 If a syntocinon infusion is in progress turn it off immediately.

7.4 Manual replacement of the prolapsed cord above the presenting part to allow continuation of labour. This practice is not recommended.

7.5 Cord compression can be further reduced by positioning the woman onto all fours to adopt the knee chest position (head down; buttocks raised) as this elevates the presenting part out of the pelvis to prevent occlusion of the cord.

7.6 If an epidural is in situ it may be more appropriate to position the patient into an exaggerated simm's, which is when the patient is on her left lateral, head down tilt, knees to chest and pillows in-between her legs and under her hip.

7.7 With a gloved hand insert two fingers onto the presenting part and apply continuous digital pressure which manually elevates the presenting part above the pelvic inlet to relieve cord compression.

7.8 If cervix fully dilated and good descent of presenting part vaginal delivery may be appropriate by encouraging maternal effort or via instrumental delivery.

7.9 Avoid stimulation of the cord as this will cause spasm and hence metabolic acidosis.

7.10 Simultaneously commence or delegate for initiation of maternal baseline observations, blood pressure, pulse, respirations, temperature and oxygen saturations. Apply facial oxygen 100% at 15 litres/minute via reservoir mask.

7.11 A caesarean section is the recommended mode of delivery in cases of cord prolapse when vaginal delivery is not imminent, to prevent hypoxia–acidosis.

7.12 A category 1 caesarean section should be performed with the aim of delivering within 30 minutes or less if there is cord prolapse associated with a suspicious or pathological fetal heart rate pattern but without unduly risking maternal safety.

7.13 Verbal consent is satisfactory for category 1 caesarean section.

7.14 A category 1 caesarean section should be performed with the aim of achieving birth within 30 minutes or less if the cord prolapse is associated with a suspicious or pathological fetal heart rate pattern but without compromising maternal safety.

7.15 Category 2 caesarean birth can be considered for women in whom the fetal heart rate pattern is normal, but continuous assessment of the fetal heart trace is essential. If the cardiotocograph (CTG) becomes abnormal, re-categorisation to category 1 birth should immediately be considered.

7.16 Following consent cannulate with two wide bore cannulae and obtain blood for full blood count, group and save and clotting if emergency caesarean section indicated.

7.17 Discussion with the anaesthetist should take place to decide on the appropriate form of anaesthesia. Regional anaesthesia can be considered in consultation with an experienced anaesthetist.

7.16 Prepare for and transfer to theatre.

7.17 If there is a delay in transfer to theatre, catheterise the patient with an indwelling catheter and fill the maternal bladder with 500mls normal saline. This will distend the bladder and elevate the presenting part out of the pelvis, relieve pressure on the cord and reduce uterine activity. Clamp the catheter until emergency delivery of the baby by caesarean section commences.

7.18 Have readily available fully equipped resuscitaire, call for paediatric assistance; be prepared for asphyxiated baby. A practitioner competent in the resuscitation of the newborn should attend all deliveries with cord prolapse. Paired cord blood samples should be taken for pH and base excess measurement.

7.19 Monitoring of the fetal heart is essential to prevent heroic procedures after fetal demise.

7.20 Ultrasound confirmation of the fetal heart must be confirmed.

7.21 Vaginal birth, in most cases operative, can be attempted at full dilatation if it is anticipated that delivery would be accomplished quickly and safely.

7.22 Breech extraction can be performed under some circumstances, such as after internal podalic version for the second twin.

7.23 Delayed cord clamping can be considered if a baby is uncompromised at birth. However, immediate resuscitation should take priority over DCC when the baby is unwell at birth.

8.0 Cord Prolapse in the Community and in the Midwifery-led Units

(Transfer of mother and babies to different care settings'; register number 06029)

8.1 Women should be advised, over the telephone if necessary, to assume the knee–chest face-down position while waiting for hospital transfer. During emergency ambulance transfer, the knee–chest position is potentially unsafe and the exaggerated Sims position (left lateral with pillow under hip) should be used.

8.2 All women with cord prolapse should be advised to be transferred to the nearest consultant-led unit for delivery, unless an immediate vaginal examination by a competent professional reveals that a spontaneous vaginal delivery is imminent. Preparations for transfer should still be made.

8.3 The presenting part should be elevated during transfer by either manual or bladder filling methods. It is recommended that community midwives carry a Foley catheter for this purpose and equipment for fluid infusion.

8.4 On confirmation of a cord prolapse in the community or Midwifery-led Units, immediately assist the woman to a room easily accessible to the ambulance service.

8.5 Position the woman onto all fours to adopt the knee-chest position to elevate the presenting part out of the pelvis.

8.6 With a gloved hand insert two fingers onto the presenting part and apply continuous digital pressure which manually elevates the presenting part above the pelvic inlet to relieve cord compression.

8.7 To prevent vasospasm, there should be minimal handling of loops of cord lying outside the vagina.

8.8 In the event of a true obstetric emergency arising at either of the Midwife-led Units or Community, the responsible midwife would dial 999 and state; **"This is an obstetric emergency"** and this would instigate the call being place as a 'priority'.
(Refer to the guideline entitled 'Transfer of mothers and babies to different care settings'; register number 06029)

8.9 If a cord prolapse occurs at a Midwifery-led Unit the senior midwife must contact the on-call midwife to attend the MLU in preparation for transferring the woman to CLU

8.10 Notify the Labour Ward Coordinator of the emergency situation regarding the diagnosis of a cord prolapse.

8.11 Ensure full explanation is given to the woman and her birth partner regarding the situation and immediate plan of care.

8.12 If a second midwife is present the following should be undertaken:

- Catheterise the patient with an indwelling catheter and fill the maternal bladder with 500mls normal saline as this will distend the bladder and elevate the presenting part

out of the pelvis, relieve pressure on the cord and reduce uterine activity. Clamp the catheter until emergency delivery of the baby by caesarean section commences

- Cannulate with wide-bore cannula if preparation for admission to Consultant-led Unit

- Maintain accurate documentation of events

8.13 Ensure contemporaneous record keeping is maintained regarding events that occur. (Refer to the Guideline for Maternity Record Keeping including Documentation in Handheld Records; register number 06036)

8.14 Ensure the completion of the emergency transfer proforma and risk event form. (Transfer of mother and babies to different care settings'; register number 06029)

9.0 Management of Cord prolapse Before Viability

9.1 Expectant management should be discussed for cord prolapse complicating pregnancies with gestational age at the limits of viability.

9.2 Uterine cord replacement may be attempted.

9.3 Women should be counselled on both continuation and termination of pregnancy following cord prolapse at the threshold of viability.

10.0 Staffing and Training

10.1 All midwifery and obstetric staff must attend annual mandatory training which includes skills and drills training, including the management of cord prolapse, PPH, maternal resuscitation and early recognition of the ill patient.
(Refer to 'Mandatory training policy for Maternity Services (incorporating training needs analysis. Register number 09062)

10.2 All midwifery and obstetric staff are to ensure that their knowledge and skills are up-to-date in order to complete their portfolio for appraisal.

11.0 Professional Midwifery Advocates

11.1 Professional Midwifery Advocates provide a mechanism of support and guidance to women and midwives. Professional Midwifery Advocates are experienced practising midwives who have undertaken further education in order to supervise midwifery services and to advise and support midwives and women in their care choices.

12.0 Infection Prevention

12.1 All staff should follow Trust guidelines on infection prevention by ensuring that they effectively 'decontaminate their hands' before and after each procedure.

12.2 All staff should ensure that they follow Trust guidelines on infection prevention. All invasive devices must be inserted and cared for using High Impact Intervention guidelines to reduce the risk of infection and deliver safe care. This care should be recorded in the Saving Lives High Impact Intervention Monitoring Tool Paperwork (Medical Devices)

13.0 Audit and Monitoring

13.1 Audit of compliance with this guideline will be considered on an annual audit basis in accordance with the Clinical Audit Strategy and Policy (register number 08076), the Corporate Clinical Audit and Quality Improvement Project Plan and the Maternity annual audit work plan; to encompass national and local audit and clinical governance identifying key harm themes. The Women's and Children's Clinical Audit Group will identify a lead for the audit.

13.2 The findings of the audit will be reported to and approved by the Multi-disciplinary Risk Management Group (MRMG) and an action plan with named leads and timescales will be developed to address any identified deficiencies. Performance against the action plan will be monitored by this group at subsequent meetings.

13.3 The audit report will be reported to the monthly Directorate Governance Meeting (DGM) and significant concerns relating to compliance will be entered on the local Risk Assurance Framework.

13.4 Key findings and learning points from the audit will be submitted to the Clinical Governance Group within the integrated learning report.

13.5 Key findings and learning points will be disseminated to relevant staff.

14.0 Guideline Management

14.1 As an integral part of the knowledge, skills framework, staff are appraised annually to ensure competency in computer skills and the ability to access the current approved guidelines via the Trust's intranet site.

14.2 Quarterly memos are sent to line managers to disseminate to their staff the most currently approved guidelines available via the intranet and clinical guideline folders, located in each designated clinical area.

14.3 Guideline monitors have been nominated to each clinical area to ensure a system whereby obsolete guidelines are archived and newly approved guidelines are now downloaded from the intranet and filed appropriately in the guideline folders. 'Spot checks' are performed on all clinical guidelines quarterly.

14.4 Quarterly Clinical Practices group meetings are held to discuss 'guidelines'. During this meeting the practice development midwife can highlight any areas for future training needs will be met using methods such as 'workshops' or to be included in future 'skills and drills' mandatory training sessions.

15.0 Communication

15.1 A quarterly 'maternity newsletter' is issued to all staff to highlight key changes in clinical practice to include a list of newly approved guidelines for staff to acknowledge and familiarise themselves with and practice accordingly. Midwives that are on maternity leave or 'bank' staff have letters sent to their home address to update them on current clinical changes.

15.2 Approved guidelines are published monthly in the Trust's Staff Focus that is sent via email to all staff.

15.3 Approved guidelines will be disseminated to appropriate staff quarterly via email.

15.4 Regular memos are posted on the guideline and audit notice boards in each clinical area to notify staff of the latest revised guidelines and how to access guidelines via the intranet or clinical guideline folders.

16.0 References

Royal College of Obstetricians and Gynaecologists (2014) Umbilical Cord prolapse; Green Top Guideline 50: November; London:RCOG.

Lindsay, P. (2004). Presentation and prolapse of the umbilical cord. IN Henderson, C. Macdonald, S. (2017) Mayes midwifery a textbook for midwives 15th Edition. London: Elsevier Health Sciences

Houghton, G. (2006) Bladder filling: an effective technique for managing cord prolapse. British Journal of Midwifery. Vol 14. No 2. p 88-89.

Appendix A

Mid Essex Hospital Services NHS Trust
Women's and Children's Division

CODE RED

Code **RED** emergencies that require urgent 'crash call' responses using the 4444 emergency call number.

Initiating an emergency

- Co-ordinator/senior staff member to initiate code
- Dial 4444
- Specify code **RED**
  (Refer to below criteria)
- Give location to switchboard (i.e. maternity obstetric theatre/delivery room)

Code RED for obstetric emergencies

- Grade 1 emergency section
- Major/ massive haemorrhage
- Maternal fitting

Code RED switchboard will fast bleep the following:

- Labour ward co-ordinator (#6555 2017)
- On call obstetric registrar
- On call obstetric SHO
- On call anaesthetist
- On call anaesthetic assistant
- On call paediatric registrar
- On call paediatric SHO
- Theatre scrub team

****** In the event of a cardiac arrest you will still need to dial 2222******

Amended October 2013