

1. Introduction and Who Guideline applies to

This document sets out the procedures and processes to follow in the event of a cord prolapse with the intention of providing safe and effective care to this patient group.

These guidelines are for the use of all staff involved in the management of cord prolapse. This includes midwifery, obstetric and anaesthetic staff.

Risk Management:

A clinical incident reporting form must be completed for all obstetric emergencies. Please refer to the Maternity Services Risk Management Strategy for details.

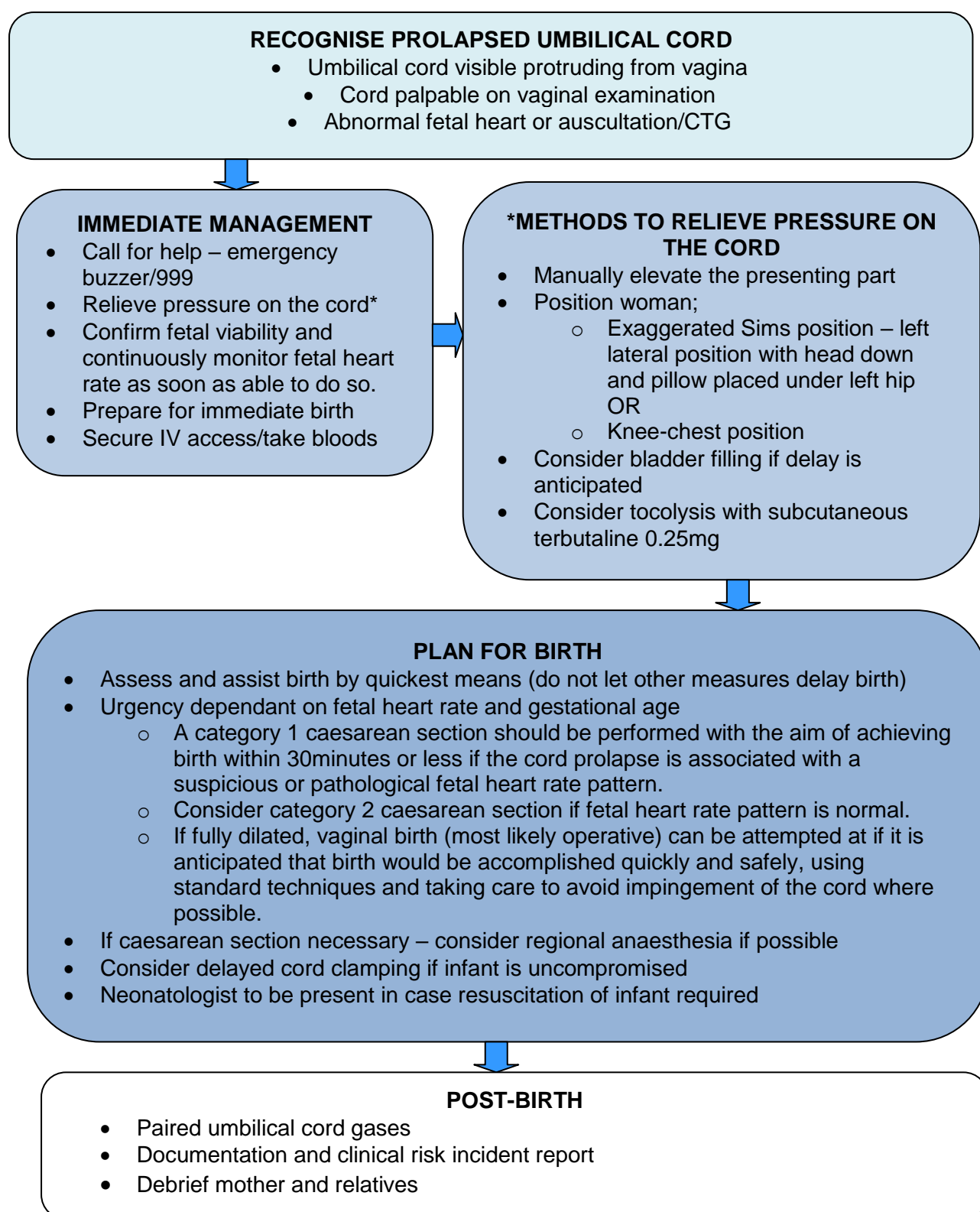
Related documents:

- [Maternity Records Documentation UHL Obstetric Policy](#)
- [Operative Vaginal Delivery UHL Obstetric Guideline](#)
- [Caesarean section & enhanced recovery obstetric guideline](#)
- [Resuscitation at Birth UHL Neonatal Guideline](#)
- [Transfer of Babies to Neonatal Unit from Home or Community Hospital UHL Obstetric and Neonatal Guideline](#)

What's new?

- Added, to discuss elective admission to hospital after 37+0 in patients with transverse, oblique or unstable lie.
- Removed the following statement - Whilst it is important to prevent compression of the cord by the fetal head, Staff safety is paramount. It is unnecessary to push the weight off the cord where the CTG is normal or suspicious. This has been replaced by; Maintain digital pressure on the presenting part to avoid cord compression.
- Now added - to continuously monitor fetal heart rate as soon as able to do so once fetal viability is confirmed.
- A category 1 caesarean section should be performed with the aim of achieving birth within 30 minutes or less, this has been changed from 15 minutes.
- When transferring from community - Bladder filling can be used to elevate the presenting part during transfer. Manual decompression is not appropriate for use during transfer.

Algorithm for the management of umbilical cord prolapse
(Modified from the PROMPT Cord Prolapse algorithm Removed pathway for IUFD)



2. Identification and management of Cord Prolapse

Definition:

Cord Prolapse has been 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 presenting part and the cervix, with or without membrane rupture.

Cord prolapse is an obstetric emergency as birth asphyxia, secondary to compression of the cord between the presenting part and the pelvis or vasospasm of the cord vessels, increases perinatal morbidity and mortality.

The overall incidence of cord prolapse ranges from 0.1 to 0.6%. However in breech presentation, the incidence is increased at 1%.

Risk Factors for Cord Prolapse:

A high presenting part due:

- Multiparity
- Malpresentation; e.g. breech, transverse, oblique or unstable lie
- Pre-term labour <37 weeks
- Low birth weight <2.5kg
- Fetal congenital abnormalities
- Second twin and multiple pregnancy
- Polyhydramnios
- Unengaged presenting part
- Anencephaly
- Low lying placenta
- Pelvic tumours
- Long cord

Procedure-related:

- Artificial Rupture of Membranes (ARM) with high presenting part
- Vaginal manipulation of fetus with ruptured membranes
- During external cephalic version

Prevention:

Discuss elective admission to hospital after 37+0 in patients with transverse, oblique or unstable lie. Advise these women to present urgently to hospital if any signs of labour or suspicion of Spontaneous rupture of membranes.

Recommend inpatient care to women with non-cephalic presentation and pre-term pre-labour rupture of membranes.

Avoid ARM when the presenting part is mobile or high. If it is necessary to perform ARM with a high presenting part, arrangements should be in place for immediate caesarean section if required.

During vaginal examination in patients with ruptured membranes, minimise upward pressure on the presenting part to avoid upward displacement of presenting part and possible cord prolapse.

ARM 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.

Consider ultrasound examination with colour flow doppler to confirm cord presentation if clinically suspected or in women with breech presentation considering vaginal birth.

Diagnosis:

At each vaginal examination in labour (and after SRM if risk factors present) cord presentation or prolapse should be excluded.

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.

If there is suspicion of cord prolapse, speculum and/or digital vaginal examination should be performed to confirm.

In Hospital Management:

Assess and assist birth by quickest means (do not let other measures delay birth).

Ring the emergency bell for help and summon the obstetric registrar, core midwife, anaesthetist, maternity theatre staff and neonatologist.

Following recognition of cord presentation or prolapse, the presenting part should be elevated to minimise cord compression. This can be achieved by maternal positioning, digital elevation of the presenting part or bladder filling.

- Maternal positioning - knee-chest or left lateral (with head down and pillow under left hip) position
- Digital elevation - keep the fingers in the vagina, pushing the weight of the presenting part off the umbilical cord.

Maintain digital pressure on the presenting part to avoid cord compression.

Bladder filling - If a longer delivery interval is anticipated this may be considered. Ensure bladder is emptied before filling. Fill bladder with 500ml of sterile 0.9% sodium chloride using a Foleys catheter and then clamp the catheter. Remember to empty the bladder before any method of birth.

Avoid handling the cord to prevent vasospasm.

Replacing the prolapsed cord above the presenting part to allow continuation of labour is NOT advised.

Confirm fetal viability and continuously monitor fetal heart rate as soon as able to do so.

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. Avoid unnecessary delay.

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. Verbal consent is satisfactory for category 1 caesarean section.

Category 2 caesarean section can be considered for women in whom the fetal heart rate pattern is normal, but continuous CTG is essential. If CTG becomes abnormal, re-categorisation to category 1 may be appropriate.

Vaginal birth, likely operative, can be attempted at full dilatation if it is anticipated that birth would be accomplished quickly and safely, using standard techniques and taking care to avoid impingement of the cord where possible.

Stop any oxytocin infusion. Tocolysis using terbutaline 0.25mg subcutaneous injection may also be considered to reduce uterine contractions.

During transfer to theatre, the woman should adopt either the exaggerated Sims or the knee-chest position on the bed and the member of staff pushing up the presenting part should resume this once the woman has been safely transferred to the theatre table. It may be necessary to swap the member of staff performing the manoeuvre to prevent muscular strain or injury.

Anaesthesia:

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.

The use of temporary measures, as described above, can reduce cord compression, making regional anaesthesia the technique of choice if there is no evidence of severe fetal compromise. However, repeated attempts at regional anaesthesia should be avoided.

The degree of urgency should be clearly communicated to the anaesthetist.

Fetal monitoring:

Continue fetal monitoring in order to confirm viability immediately prior to planning mode of delivery.

Paired cord blood samples: Take paired cord blood samples for pH and base excess, document results and communicate them to the Neonatal team.

Initial management in the community:

Dial 999 for obstetric emergency ambulance transfer to hospital labour ward.

Advise woman to assume the knee-chest face-down position until the ambulance arrives.

During ambulance transfer the woman should adopt the exaggerated Sims position (left lateral with pillow under hip), as the knee–chest position is unsafe during ambulance transfer.

Bladder filling can be used to elevate the presenting part during transfer. Manual digital decompression is not appropriate for use during transfer.

Transfer to the nearest consultant-led unit for delivery, unless an immediate vaginal examination by a competent midwife reveals that a spontaneous vaginal delivery is imminent. Assess and assist birth by quickest means (do not let other measures delay birth). Preparation for transfer should still be made.

Do not attempt to auscultate fetal heart during transfer, it is dangerous on a moving ambulance and abnormalities cannot be acted on.

Inform the accepting delivery suite that transfer is being made to and to notify NICU and theatre team.

Debriefing:

Postnatal debriefing should be offered to all women with cord prolapse as this can reduce the incidence of post-traumatic stress disorder, fear of further childbirth and postnatal depression.

Documentation:

Complete a clinical incident form where local incident data relating to cord prolapse will be reviewed, with appropriate action taken if applicable.

3. Education and Training

Management of cord prolapse is discussed as part of mandatory obstetric emergency training

4. Monitoring Compliance

None

5. Supporting References

Extensive literature searches were undertaken of the Cochrane, CINAHL, MEDLINE, and Embase databases. Few papers were identified of appropriate trials on which to base recommendations on management of emergencies. A textbook search was performed, and the following texts chosen to support recommendations:

Dewhursts Textbook of Obstetrics and Gynaecology for Postgraduates, 8th edition (2012) ed. K Edmond, Oxford: Blackwell

Turnbull's Obstetrics 3rd Edition (2001) eds. Geoffrey Chamberlain. Edinburgh: Churchill Livingstone

Obstetrics and the Newborn 3rd Edition (1997) eds. NA Beischer, EV Mackay, PB Colditz

Fundamentals of Obstetrics and Gynaecology 9th Edition (2010) Derek Llewellyn-Jones. London: Mosby

RCOG (2014) reviewed (2017) Umbilical Cord Prolapse, Green Top guideline no 50 <http://www.rcog.org.uk>

PROMPT (Practical Obstetric Multi-Professional Training) Course Manual 3rd edition 2017

Bush, M. et al. Umbilical cord prolapse. In: *UpToDate*. Accessed 08 May 2022

6. Key Words

Exaggerated Sims, Umbilical cord, Vagina

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs. As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

Contact and review details			
Guideline Lead (Name and Title) C Roy – Consultant S Salim – ST3			Executive Lead Chief medical officer
Details of Changes made during review:			
Date	Issue Number	Reviewed By	Description Of Changes (If Any)
July 2014	1	Original working party made up of Consultant Obstetricians, Anaesthetists and Midwives	
April 2019	2	N Ling	Safety measures inserted to prevent injury to staff
May 2022	3	C Roy S Salim Maternity guidelines group Maternity Governance Committee	<ul style="list-style-type: none"> • Added, to discuss elective admission to hospital after 37+0 in patients with transverse, oblique or unstable lie. • Removed the following statement - Whilst it is important to prevent compression of the cord by the fetal head, Staff safety is paramount. It is unnecessary to push the weight off the cord where the CTG is normal or suspicious. This has been replaced by; Maintain digital pressure on the presenting part to avoid cord compression. • Now added - to continuously monitor fetal heart rate as soon as able to do so once fetal viability is confirmed. • A category 1 caesarean section should be performed with the aim of achieving birth within 30 minutes or less, this has been changed from 15 minutes. • When transferring from community - Bladder filling can be used to elevate the presenting part during transfer. Manual decompression is not appropriate for use during transfer.