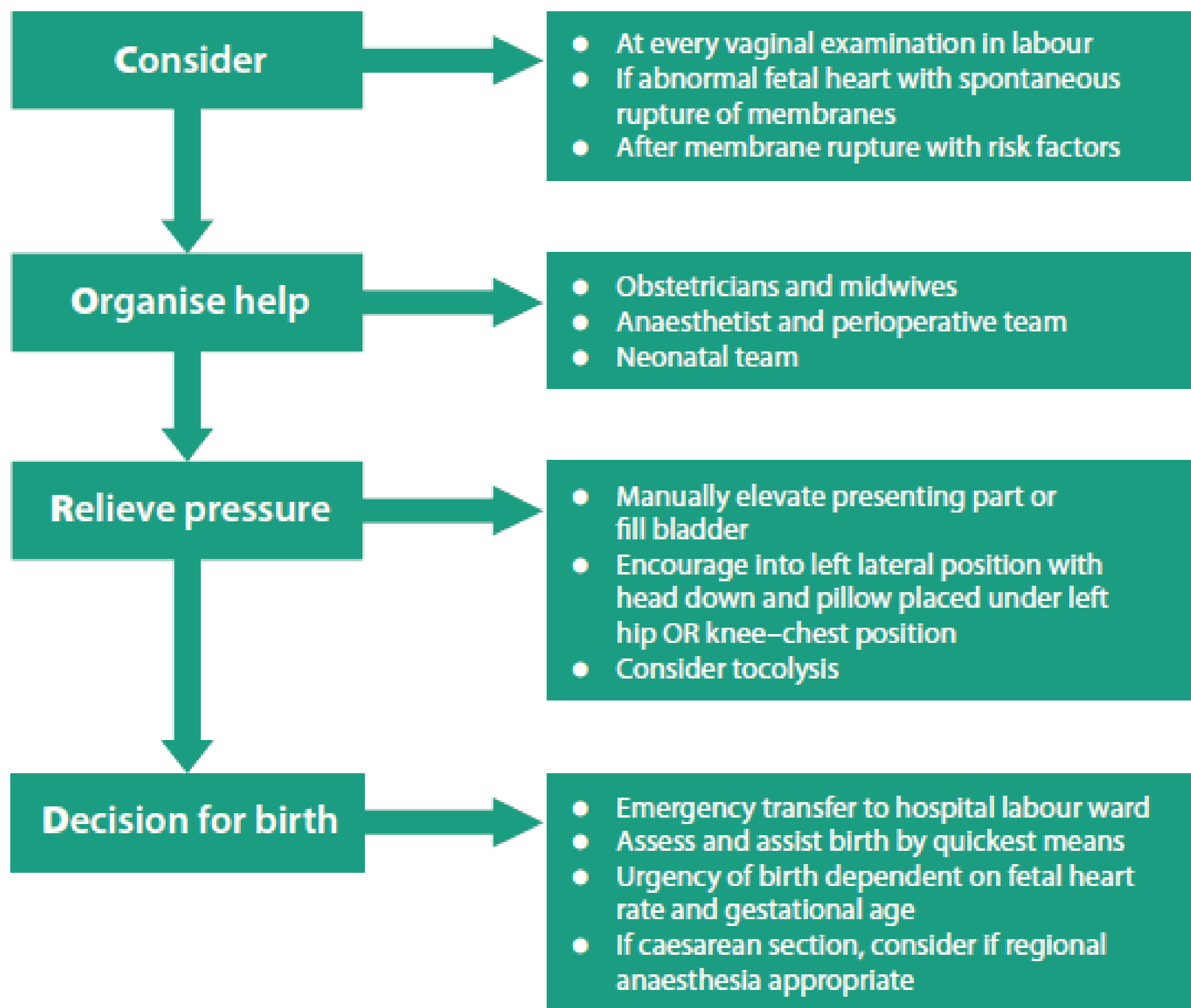
Umbilical cord prolapse

NHS
Lanarkshire

TARGET AUDIENCE	Maternity
PATIENT GROUP	Patients experiencing cord prolapse

Summary



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Definitions:

Cord prolapse	Descent of the umbilical cord through the cervix alongside (occult) or past (overt) the presenting part in the presence of ruptured membranes.
Cord presentation	Presence of the umbilical cord between the fetal presenting part and the cervix (with or without intact membranes).

Incidence:

The incidence of cord prolapse ranges from 1-6/1000 births. The incidence is higher in those with a breech presentation (1/100 births). Perinatal mortality associated with cord prolapse is approximately 9%.

Risk factors:

These include any condition that displaces the head or presenting part from the lower uterine segment or cervix and include:

Antenatal Risk Factors	Intra-partum Risk Factors
Non-vertex presentation	Artificial rupture of membranes (especially high presenting part)
Unengaged presenting part eg. low-lying placenta, cervical fibroid etc	Prematurity
Polyhydramnios	Second twin
Unstable lie is when the longitudinal axis of the fetus (lie) is changing repeatedly after 37+0 weeks	Manual rotation or other vaginal manipulation of the fetus - internal podalic version - disimpaction of fetal head during rotational assisted delivery - placement of a fetal scalp electrode - insertion of an intrauterine pressure catheter or amnioinfusion catheter
External cephalic version	Catheter induction of labour
Preterm premature rupture of membranes	Stabilising induction of labour
Multiparity	
Low birth weight	
Congenital abnormalities	
Cord abnormalities	
Male gender	

Prevention of cord prolapse and or its effects:

Women with non-vertex presentations (transverse/oblique/unstable lie):

- elective admission to hospital after 38+0 weeks' should be offered (see separate guideline)
- women should be advised to present urgently if there are signs of labour or suspicion of membrane rupture
- women with non-vertex presentations and preterm prelabour rupture of membranes should be recommended inpatient care

Mobile/high presenting part:

- Artificial membrane rupture should be avoided whenever possible
- If it becomes necessary to rupture the membranes with a high presenting part, this should be performed with arrangements in place for immediate caesarean section
- Upward pressure on the presenting part should be kept to a minimum in women during vaginal examination and other obstetric interventions in the context of ruptured membranes because of the risk of upward displacement of the presenting part and cord prolapse

Cord presentation:

- Rupture of membranes should be avoided if cord is palpable distal to the presenting part on vaginal examination
- When cord presentation is diagnosed in established labour, caesarean section is usually indicated

Diagnosis:

- Definitive diagnosis is made clinically and is usually made on vaginal examination
- It is diagnosed by the presence of a palpable, soft, pulsatile mass either within the vagina or visibly extruding from the introitus
- It should be ruled out whenever an abnormal CTG is noted, more so in the presence of risk factors
- It should also be ruled out when CTG abnormalities start soon after spontaneous or artificial rupture of membranes

Differential diagnoses:

- limb presentation
- face/brow presentation
- severe caput succedaneum

Role of ultrasound examination:

- Routine ultrasound examination should not be performed for identification of antenatal cord presentation.
- Selective ultrasound screening can be considered for women with breech presentation at term who are considering vaginal birth.
- Should a cord presentation be noted on ultrasound for another indication, this would warrant individualization of care and discussion with a senior obstetrician, including a repeat ultrasound if the woman is not delivered.

Umbilical cord prolapse

Management

Objectives:

- After 26+6 weeks (with fetal heartbeat present):
    - prompt recognition
    - immediate delivery is the priority

- 22+0 – 26+6:
    - Foetal factors, clinical (maternal and fetal) condition and parents' wishes must be taken into consideration
    - Individualized information (see appendix 1) on disability and survival of extremely premature infants[1] must be provided to parents to help them decide.
- Under 22+0:
    - Obstetric and neonatal interventions are not usually indicated
    - Women and families should be counselled on palliative management (comfort-focused) and termination of pregnancy.

Counselling, consent and documentation:

- Pre-emptive counselling should be done whenever possible.
- Ideally, the obstetric and neonatal consultants should be involved in counselling and decision-making. They should be involved as early as possible.
- Even in an emergency situation, giving appropriate information and obtaining informed consent is vital.
- Foetal outcomes (in terms of survival and disability) and maternal risks (such as classical caesarean birth and hysterectomy) should be highlighted. Parents should be actively involved in the decision-making process.
- Even when there is little time to intervene, basic facts should be given to parents.
- Details of discussions with parents must be recorded contemporaneously.

Mode of delivery:

- If the cervix is fully dilated and the vertex at or below the ischial spines, a ventouse or forceps delivery should be performed.
- In the case of cord prolapse in association with a non-vertex second twin, an internal version and breech extraction may be considered.
- In all other cases, a caesarean section should be performed.
- If an intrauterine death has already occurred, aim for vaginal delivery.

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Initial management of cord prolapse in the hospital setting (University Hospital Wishaw)

The following should be performed simultaneously:

1 Call for help

- Call 2222 and ask for obstetric and neonatal emergency
- Call midwifery co-ordinator, obstetric registrar, anaesthetic registrar, neonatal registrar and neonatal midwife
- When help arrives, state ***cord prolapse*** so all understand the emergency

2 Relieve pressure on the cord

- Elevate foot of bed and place patient on all fours (or in left lateral position if epidural in situ)
- If the cord has prolapsed externally, gently replace it into the vagina to prevent vasospasm.
- Perform vaginal examination and ensure the presenting part is pushed upwards to relieve pressure on the cord. No attempt should be made to replace the cord into the uterine cavity as this may cause further direct occlusion or vasospasm.

3 Assess fetal wellbeing

- Commence cardiotocograph (CTG) if not already being undertaken.

4 Plan for birth

- Maintain the all-fours position whilst the woman is being transferred to theatre and until staff are available to facilitate delivery.
- Ensure IV access with a size 14 – 16 gauge venflon.
- Send bloods including a group and save.
- If the cervix is fully dilated and the vertex at or below the ischial spines, an instrumental delivery should be performed. Instrument choice is at the discretion of obstetric staff and should reflect that which enables the quickest delivery. An instrumental delivery should only be undertaken if the pre-requisites for this are met.
- If cord prolapse occurs in the context of a non-vertex second twin, an internal version and breech extraction *may* be considered.
- In all other cases, caesarean birth should be performed.
- If an intrauterine death has already occurred, aim for vaginal delivery.
- If caesarean birth is required, give 30 millilitres sodium citrate orally and 50 milligrams of ranitidine intravenously.
- If the CTG is pathological, a category 1 caesarean section under general anaesthetic should be performed. If the fetal heart rate is normal, a category 2 caesarean section under regional anaesthetic is appropriate.
- If delays are encountered, fill maternal bladder (site a urinary catheter, attach a blood-giving set, fill with 500-750 millilitres of saline and clamp the catheter) and consider administration of 500 micrograms terbutaline subcutaneously.

Initial management of cord prolapse in the community (including University Hospital Hairmyres & University Hospital Monklands)

- Call 999 to arrange immediate hospital transfer.
- Relieve pressure on the cord (as per point 2 above).
- Fill the maternal bladder as above.
- The knee chest position cannot be maintained during ambulance transfer and the patient should be transferred in left lateral position.
- Transfer immediately to theatre on arrival to University Hospital Wishaw and plan for birth as above.

Clinical governance:

- Document all events related to cord prolapse (Proforma attached below).
- Debrief the woman, family and staff involved.
- All staff involved in maternity care should receive training in the management of obstetric emergencies including cord prolapse.
- Report incident using online InPhase incident reporting system.

Umbilical cord prolapse

Cord prolapse documentation proforma – please note this is an example only and is not to be printed for use in clinical practice. It is intended to show the information required to be documented on the BadgerNet system.

Name:
CHI:

Emergency Call: Yes / No: Time called:

Senior midwife called: Yes / No Time called:

Obstetrician called: Yes / No Time called:

Anaesthetist called: Yes / No Time called:

Neonatologist called: Yes / No Time called:

Procedures used in managing cord prolapse			
Elevating the presenting part manually	Yes ☐	No ☐	
Filling the bladder	Yes ☐	No ☐	
Left lateral, head tilted down / knee–chest position	(please circle)		
Tocolysis with subcutaneous terbutaline	Yes ☐	No ☐	
Mode of birth		Mode of anaesthesia	
Normal	☐	General anaesthetic	☐
Forceps	☐	Spinal	☐
Ventouse	☐	Epidural	☐
Caesarean section	☐	None	☐
Other	☐		
Diagnosis-to-birth interval:..............................minutes			
Neonatal outcome			
Apgar scores:	Weight:........................kg		
1 min:	Cord pH	Base excess	
5 mins:	Venous:		
10 mins	Arterial:		
Admission to neonatal intensive care unit (NICU)/special care baby unit (SCBU): Yes ☐ No ☐ Reason:..			
Risk incident reporting form completed: Yes ☐			
Known risk factors? Please state:..			
Mother debriefed Yes ☐ No ☐			

Not to be printed

Diagnosis made at: Home / Hospital Time at diagnosis: ……… Cervical dilatation:

CTG Findings:

Signature: ……………………………Print Name:………………………………………. Date: ……………

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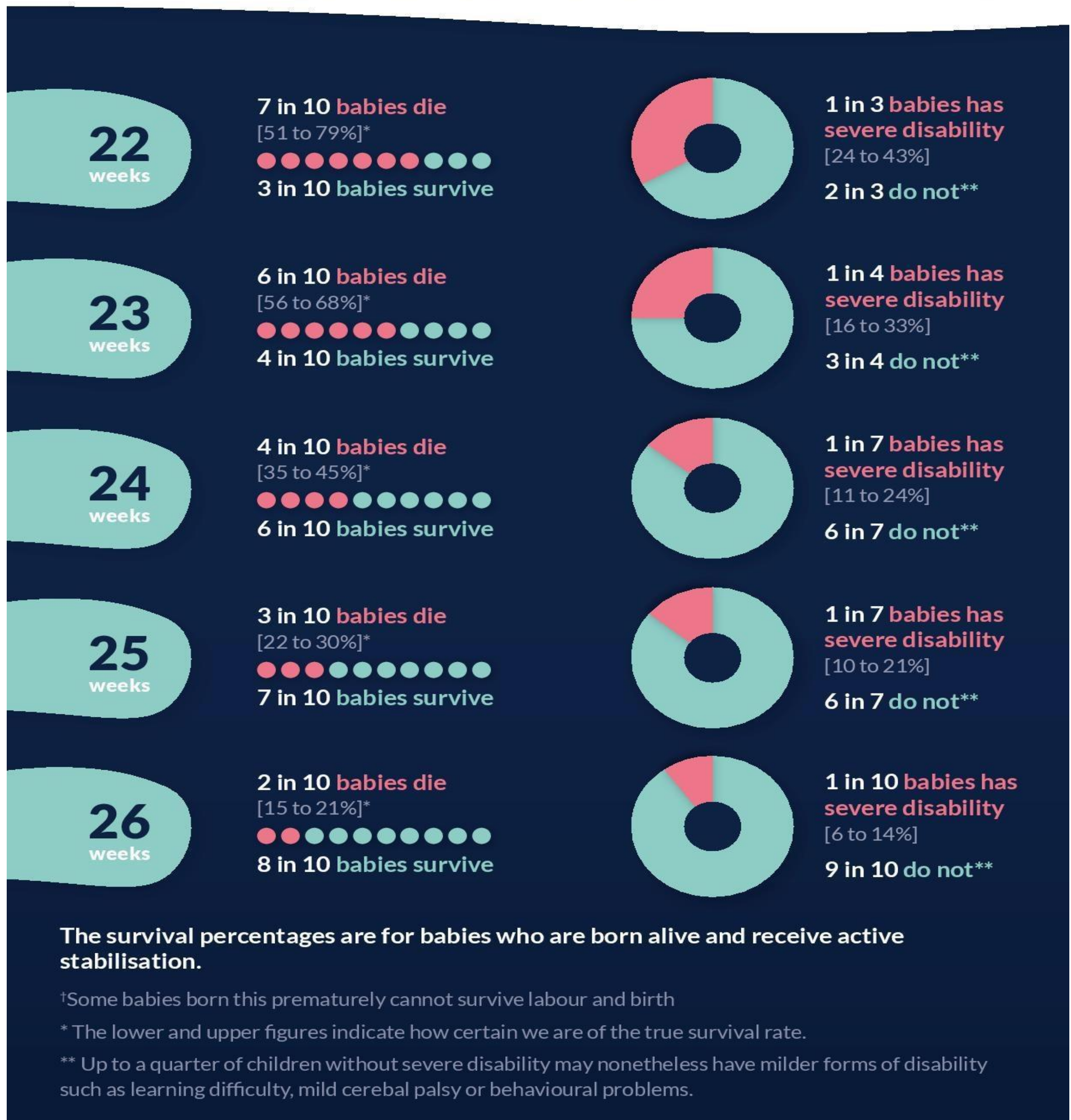
References:

1) Perinatal Management of Extreme Preterm Birth Before 27 weeks of Gestation (2019): A BAPM Framework for Practice.

2) Umbilical Cord Prolapse Green-top Guideline No. 50 November 2014.

Appendix 1



CONSULTATION AND DISTRIBUTION RECORD	
Contributing Author / Authors	D McLellan, S Ragi, C Willocks
Consultation Process / Stakeholders:	Maternity CEG process
Distribution:	All in maternity

CHANGE RECORD			
Date	**Lead Author**	**Change**	**Version**
March 2011	D McLellan	Original	1
March 2014		Update	2
Nov 2016		Update	3
June 2021		Update	4
4.12.24	G Buchanan	Update	5