CLINICAL PRACTICE GUIDELINE

Cord prolapse: Umbilical

This document should be read in conjunction with this Disclaimer

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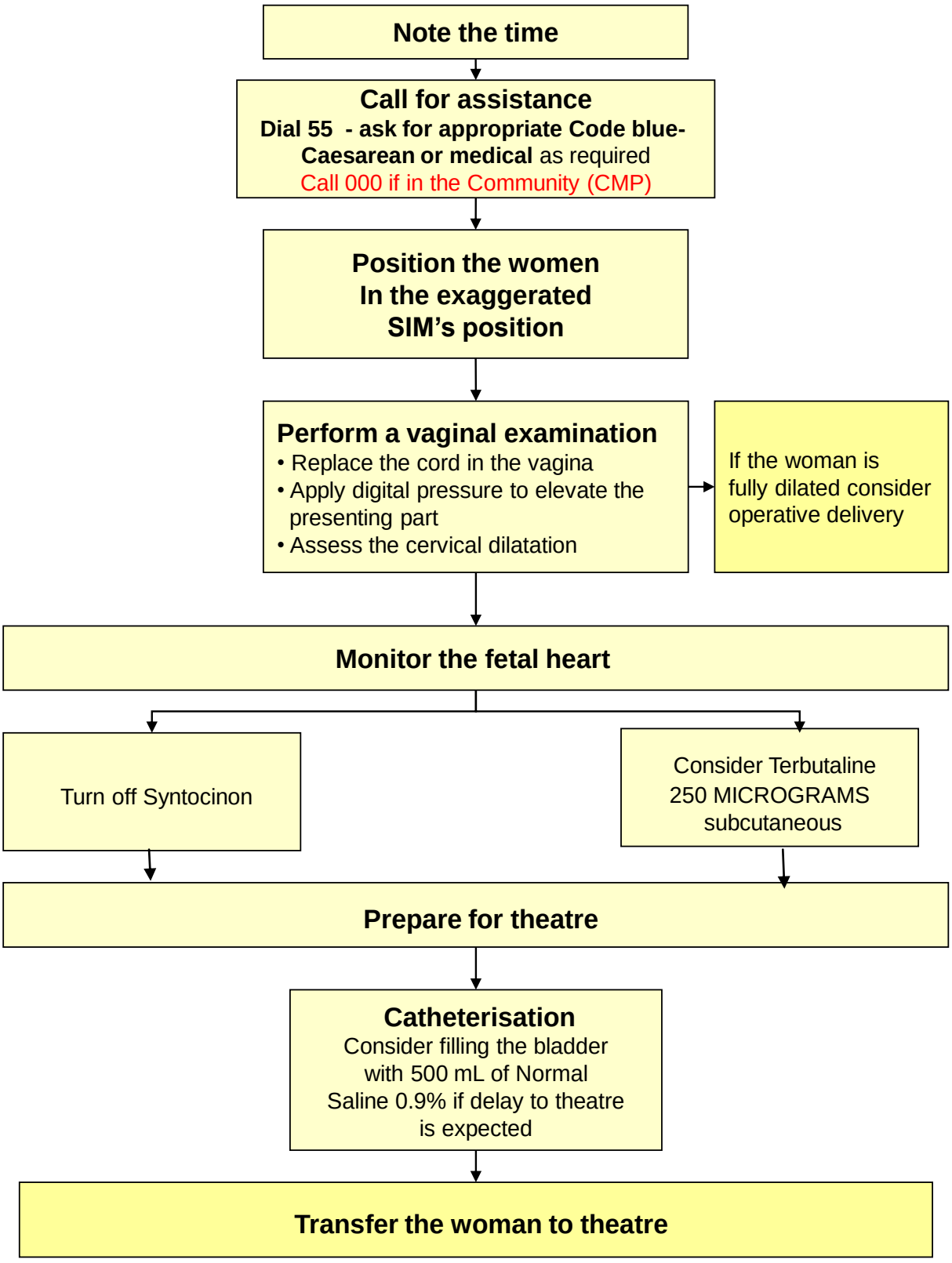
Cord prolapse quick reference guide (>23 weeks)

Management algorithm for cord prolapse >23 weeks gestation



Aim

- To guide management of umbilical cord prolapse.

Note: Care is individualised to the gestation (<23 weeks; 23-25 weeks; or ≥25weeks gestation).

Background information

Umbilical cord prolapse occurs in 0.2 - 0.4% of births.[1] Obstetric interventions, such as amniotomy, induction of labour, external cephalic version and the insertion of an intrauterine pressure transducer are associated with up to 47% of umbilical cord prolapses.[1-3] Risk factors connected to umbilical cord prolapse include malpresentation/malposition[3], low birth weight[3], multiple gestation[1, 3, 4], multiparity[3], polyhydramnios[1, 3], prematurity[1, 3], contracted pelvis or pelvic tumours[4], and an abnormally long umbilical cord.

Perinatal mortality and morbidity has fallen significantly as a result of advances in management of prolapsed cord and neonatal intensive care support.[4] A shorter delivery interval time after diagnosis of cord prolapse is associated with lowered perinatal mortality. Other factors such as the degree of cord compression, the length of the umbilical cord prolapsed, and the location of the woman when the event occurs can influence the outcome.[4]

Definitions[5]

Umbilical cord presentation: the umbilical cord lies in front of the presenting part, the membranes are intact.

Umbilical cord prolapse: the cord lies in front of the presenting part and the membranes are ruptured

Occult umbilical cord presentation/ prolapse: the cord lies trapped beside the presenting part, rather than below it.

Cord prolapse in hospital / Family Birth Centre

Key points

1. The Registrar should be informed of all women presenting to MFAU/LBS in labour at high-risk for umbilical cord prolapse.
2. All women who are high risk for cord prolapse should immediately have a speculum examination and / or digital vaginal examination following spontaneous rupture of membranes.[6]
3. Management of cord prolapse depends on parental/medical consultation which includes fetal gestation and viability.
4. If no cord pulsation or fetal heart is heard, the presence or absence of a fetal heart beat should be confirmed by Ultrasound Scan.
5. Manual elevation of the fetal presenting part decompresses cord occlusion.[4, 6]
6. Reduce potential umbilical cord spasm by minimal handling of the cord,[6] and prevention of the cord becoming cold or drying.[7]
7. If delay in birth is expected, catheterisation of the bladder should be performed. 500mL of Sodium Chloride 0.9% is infused into the bladder and the catheter is clamped. This elevates the presenting part[6] and may reduce contractions.[4]
8. Expectant management should be considered in cases with associated risks of fetal prematurity.[4]
9. Delay in delivery time interval may increase the risk of perinatal morbidity and mortality.[4] The measures described on the following pages, whilst potentially useful, should not result in unnecessary delay.[6]

Management of cord prolapse

	PROCEDURE	ADDITIONAL INFORMATION
1	**Call for assistance**[6] Press the emergency assist bell. Dial 55, call a **CODE BLUE MEDICAL** as required If the fetus is potentially viable, call a **Code Blue – Caesarean Section**. The type of code depends on the gestation.	Management for cord prolapse is as follows: **Less than 23 weeks gestation:** • The gestation is below viability – do **NOT** call an emergency code. • Notify the obstetric medical team. • Unless a previous management plan has been confirmed by the obstetric team transfer the woman to the Labour and Birth Suite for ongoing care.

PROCEDURE	ADDITIONAL INFORMATION
	23 to 25 weeks gestation: • **Dial 55, CODE BLUE MEDICAL** should be called. This allows medical and midwifery staff to assess the situation on the ward and make a management decision in consultation with the parents. • A decision is made by senior medical staff if a caesarean section is to be performed.[6] • If the decision is made for a Caesarean Section birth, then **dial 55, call a Code Blue – Caesarean Section.**
	Equal to or more than 25 weeks gestation: • **Dial 55, CODE BLUE - CAESAREAN SECTION** should be called. This informs the anaesthetic, obstetric, paediatric, and Labour and Birth Suite staff to go immediately to theatre rather than the ward. • Prepare and take the woman to theatre.[6] • Verbal consent is appropriate in this situation.[6]
2 Note the time the code is called	
3 Position the woman Place the woman into the exaggerated Sims position.[6]	The woman lies on her left side in a semi-prone position, with her right knee and thigh drawn up: her left arm lies along her back while the hips and buttocks are elevated on a wedge or pillow. This relieves pressure on the umbilical cord.[5]

	PROCEDURE	ADDITIONAL INFORMATION
4	**Cord Management**	
4.1	Cord protrusion from the vagina: • If able, replace the cord back into the vagina • If the cord cannot be replaced into the vagina with minimal handling, apply warmed soaked normal saline gauze over it.	Over handling of the umbilical cord risks continued cord compression and vasospasm.[4, 6] Reduction of temperature and cooling can cause spasm of the cord.[7]
4.2	If the cord remains in the vagina: • Apply digital pressure to the presenting part[6] • Assess pulsation of the cord • Assess vaginal dilatation, presentation and station of the presenting part.	Elevation of the presenting part decreases decompression of the cord.[4] Provides information on fetal well-being. Information allows medical staff to make a decision regarding mode of birth.
4.3	If the cervix is fully dilated: • Consider operative birth	Prepare equipment for assisted birth if the birth is anticipated to be managed quickly and safely, taking care to avoid impinging the cord where possible[6]
4.4	If birth is not imminent and the fetus is potentially viable i.e. gestation equal to or more than 25 weeks gestation: • Prepare the woman for emergency caesarean section and transport to theatre. • For gestation between 23-25 weeks prepare the woman for theatre until medical decision is made	Assisted vaginal birth should not be attempted if the presenting part is not engaged or the cervix is not fully dilated.[4] Reassess cervical dilatation prior to commencing a caesarean section as the woman may be suitable for an assisted birth, particularly in the multiparous woman.[8] Caesarean section may be done for women between 23-25 weeks gestation depending on the clinical situation with consultation between the parents and senior medical staff.

	PROCEDURE	ADDITIONAL INFORMATION
5	**Fetal assessment**	
	Auscultate the fetal heart rate as soon as possible.	Continuous fetal heart rate monitoring should be initiated to allow constant assessment of fetal well-being.
	An ultrasound should be done immediately if: • No cord pulsation can be felt • Fetal heart rate cannot be found on auscultation.	
6	**Intravenous therapy (IVT)**	
	• If intrapartum, cease Syntocinon infusion immediately	Ceasing oxytocin may decrease contractions which cause pressure on the cord.[5]
	• Insert intravenous cannula – commence Compound Sodium Lactate Solution intravenously.	
7	**Administering Terbutaline**	
	Consider administration of Terbutaline 250 micrograms subcutaneously for women in established labour.	Tocolysis may be advocated to inhibit uterine activity.[6] Contractions can exacerbate cord compression.[1]
8	**Urinary catheterisation**	
	Consider catheterisation of the bladder if delay to theatre is expected: • Attach a standard infusion set to a 16 g indwelling catheter	A full bladder can inhibit uterine activity and reduce compression on the cord by raising the presenting part.[1]
	• Instil a Sodium Chloride 0.9% infusion into the catheter until the distended bladder is visible above the symphysis pubis	500 – 700 mL of solution (warmed or at room temperature) is generally enough to fill an empty bladder.[5] Caution is advised if the woman has not recently voided.
	• Clamp the catheter and attach to a drainage bag	
	• Remove the clamp and allow urine to drain when the time is appropriate in theatre	The infusion clamp should be removed and the bladder emptied just before entering the peritoneal cavity during caesarean section.[4]

	PROCEDURE	ADDITIONAL INFORMATION
9	**Documentation**	
	Detailed notes of the incident should be documented in the medical record.	
10	**Support and Debriefing**	
	Explanation of the management should be given to the woman and support people during the incident as appropriate.	Follow up discussion after the birth by medical and midwifery staff is essential to reduce adverse psychological outcomes.[5]

Cord prolapse in the community (Community Midwifery Program)

Management

1. Call 000 and the support midwife if not already present
2. Follow Management of Cord Prolapse >23 weeks as applicable to the community setting from point 2.
3. Inform the support hospital of the imminent transfer for cord prolapse. Ensure immediate transfer on arrival of ambulance
4. Explain the circumstance to the woman in a calm manner, and reassure her.

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Related WNHS policies, procedures and guidelines

KEMH Clinical Guidelines; O&G: Clinical Deterioration; Emergency Procedures

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