Clinical Practice Guidelines: Obstetrics/Cord prolapse

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Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
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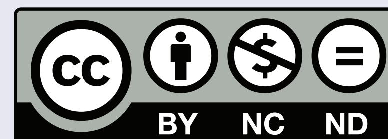

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Cord prolapse

Cord prolapse is an obstetric emergency occurring in 1 in 600 pregnancies and is associated with a high perinatal mortality rate. A decreased prevalence in recent years reflects an increase in preemptive ultrasound diagnosis in the 3rd trimester.[1] It occurs following membrane rupture, when the umbilical cord slips down in front of the presenting part of the fetus and protrudes into the vagina. Diagnosis is made by visualising the cord at the vaginal opening which should appear as a bluish white, shiny, pulsating structure.

This condition worsens as labour progresses and the presenting part descends, compressing the cord and cutting off the fetal blood supply, leading to hypoxia and eventual fetal demise.[2]

The principle of pre-hospital management is to monitor the cord for pulsations and use maternal positioning to prevent compression. If the cord stops pulsating, the pressure from the presenting part will need to be alleviated, either indirectly using gravity (maternal knee-chest position) or directly, by gently pushing the fetus off the cord.[2]

Risk factors for cord prolapse include: [2]

- malpresentation (breech, oblique, transverse or unstable lie)
- pre-term gestational age
- low birth weight
- second twin
- low lying placentation
- pelvic deformities
- uterine malformations/tumors
- external fetal abnormalities
- polyhydramnios
- long umbilical card
- unengaged presenting part
- prolonged labour
- atypical placental cord insertions (velamentous and marginal)

Clinical features

- Umbilical cord visible at, or external to, the vaginal opening.
- Evidence of membranes having ruptured.
- change in fetal movement pattern.
- Meconium in the amniotic fluid (vaginal discharge may be stained green).

Risk assessment

- Caesarean section is the recommended mode of delivery in cases of cord prolapse when vaginal birth is not imminent in order to prevent fetal hypoxic acidosis.[3,5]
- Cord presentation or prolapse should be excluded by visual vaginal examination in labour after spontaneous rupture of membranes (ask mother to feel for the cord).[4,6,7]
- Caution is required if manoeuvring the umbilical cord as pinching can cause vasospasm, use a DRY pad to replace the cord within the opening of the vulva and prevent further prolapse (underwear may be used to hold pad in place).[6,7]

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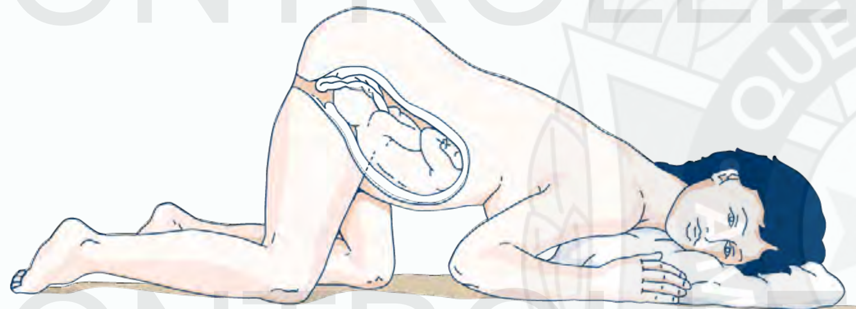
Risk assessment

- 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.
- Use a stretcher or walk the patient to the stretcher. Avoid the use of a stair chair if possible.

Exaggerated Sims position
The exaggerated Sims position is the preferred position for transport



The knee-chest position Sims position
Difficult to appropriately restrain patient for transport

Additional information

- Early notification of obstetrics unit is essential to minimise time to caesarean section.[3]
- Minimise handling of the cord and avoid exposure to the cold to reduce the risk of inducing spasm of the umbilical arteries which may exacerbate poor fetal perfusions.

CPG: Clinician safety
CPG: Standard cares

***Note:** Clinicians must only perform procedures for which they have received specific training and authorisation by the QAS.*

PULSATIVE CORD EVIDENT?
- Umbilical cord presenting at vaginal opening
- Loop of cord hanging down

Y:
- Assist the mother into the exaggerated SIMS position
- Ask the mother to gently push the cord back into the vagina (this must be done carefully to avoid vasospasm) use a dry pad

N:
- Assist mother to assume the knee-chest position
- Carefully attempt to push the presenting part off the cord
- Minimise cord exposure to cold

Transport in exaggerated SIMS position

Transport to hospital
Pre-notify as appropriate

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