Clinical Practice Guidelines:
Obstetrics/Physiological cephalic birth

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Date	July, 2022
Purpose	To ensure consistent management of a physiological cephalic birth.
Scope	Applies to all Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless specifically mentioned.
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Physiological cephalic birth

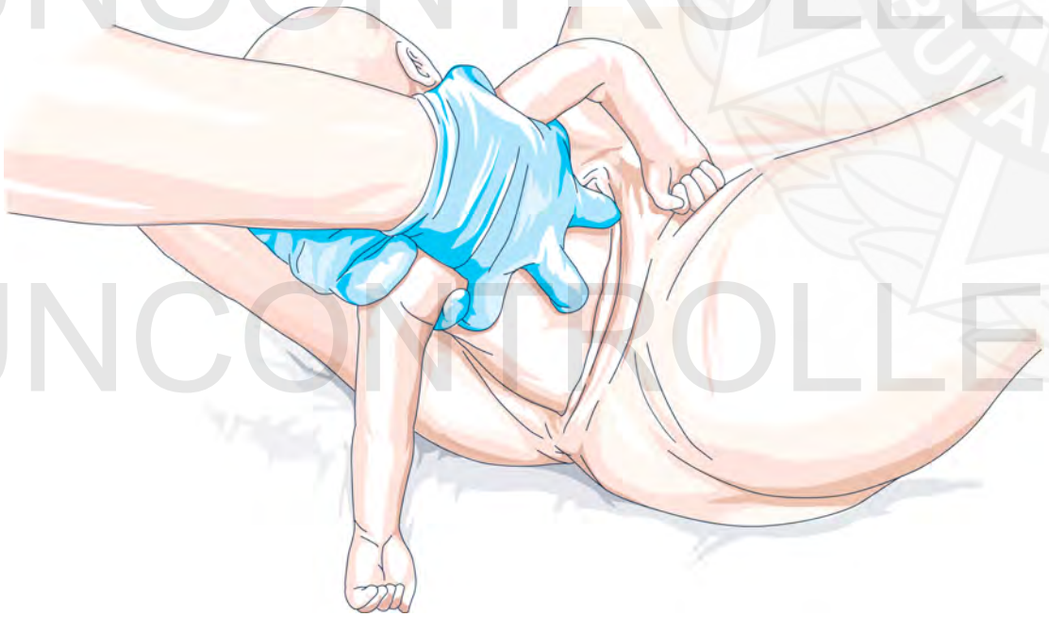
July, 2022

Birth is a critical stage in fetal development, representing a transition from direct maternal support to establishment of the newborn's own respiratory, circulatory and digestive systems.

Labour is defined as the process by which the fetus, placenta and membranes are expelled from the birth canal.

Normal birth is defined by the World Health Organisation as:

- spontaneous in onset
- low-risk at the start of labour
- remaining low-risk throughout labour and birth
- the newborn is born:
  - spontaneously
  - in the vertex position
  - between 37 and 42 completed weeks gestation
- after birth, the woman and newborn are in good condition.[1]



Clinical features

Signs of imminent birth

- loss of operculum plug – when the cervix dilates, the mucous plug ('bloody' show) dislodges from the cervical canal (may have occurred days before)
- increasing frequency and severity of contractions with an urge to push, or open bowels
- membrane rupture (this may not occur and active membrane rupture will be required if the head has been delivered with the membrane intact)
- bulging perineum
- appearance of the presenting part at the vulva.

> ***NOTE** – If birth is imminent due to trauma, refer to **CPG: Trauma in pregnancy**.*

Risk assessment

Gaining adequate antenatal history may pre-empt complications associated with birth, including:

- gestational diabetes (macrosomic baby, shoulder dystocia risk)
- mal-presentation
- multiple pregnancy
- pre-eclampsia
- placenta praevia
- perinatal substance use
- history of obstetric or gynaecological disorder or emergency.
- shoulder dystocia
- postpartum haemorrhage
- prolapsed cord
- uterine inversion

Ensure an aseptic technique and always use appropriate infection control measures.

World Health Organization

The following procedure has been adapted from guidelines provided by the World Health Organisation.[2]

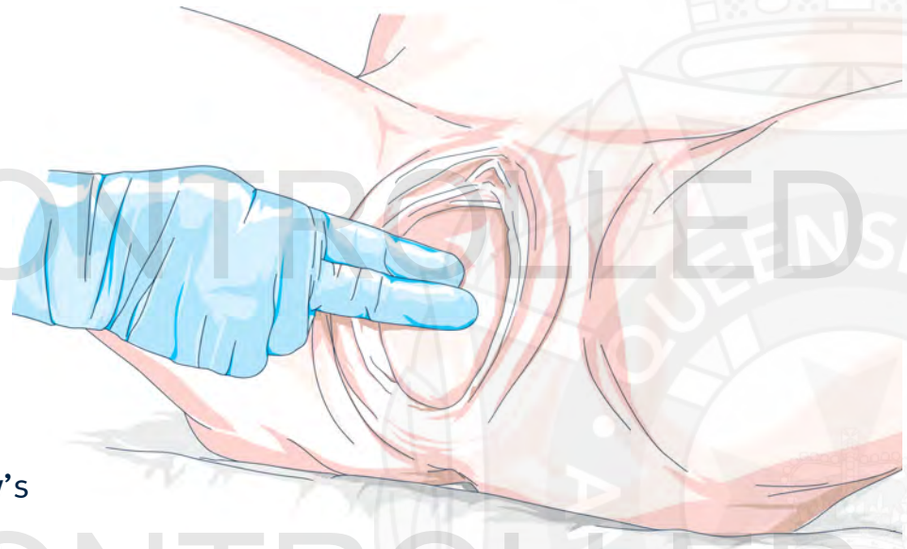
MANAGEMENT [2]

- Assess the birthing parent and fetus and provide basic cares, including adequate history taking.
- If the membranes have ruptured, note the colour of the draining amniotic fluid.
- Cord presentation or prolapse should be excluded by visual inspection and/or asking the birthing parent to feel for the cord.
- Ensure adequate maternal and fetal oxygenation.
- When delivery is imminent, allow the birthing parent to assume the position she prefers and encourage her to push.

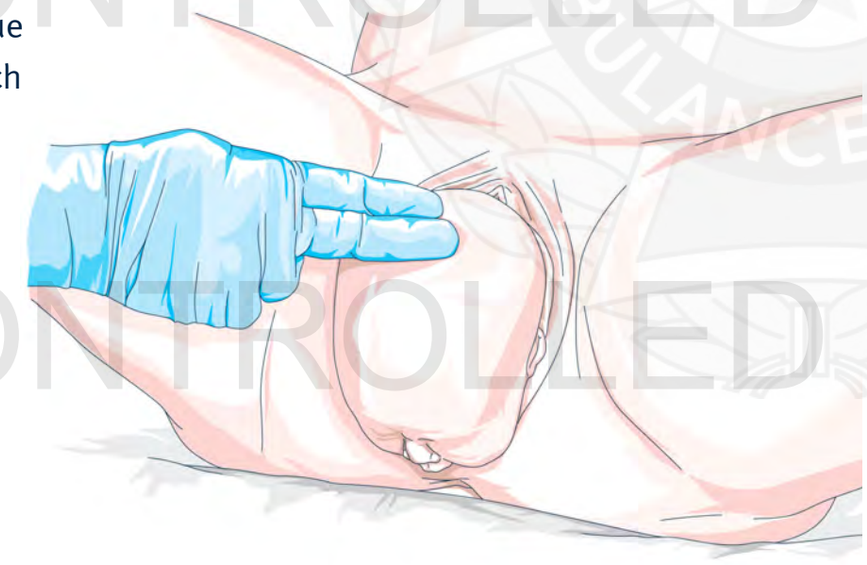
1. Birth of the head

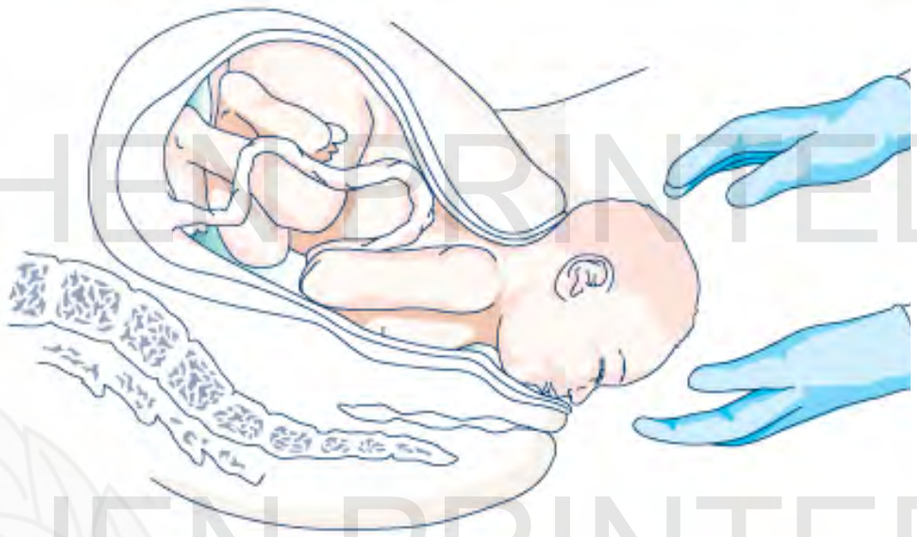
a) Ask the birthing parent to pant or give only small pushes with contractions as the baby's head delivers.

b) To control birth of the head, place the flats of the fingers of one hand against the baby's head to keep it flexed (bent) and prevent explosive delivery of the head.



c) Once the baby's head delivers, encourage the birthing parent to continue pushing with each contraction to deliver the shoulders.

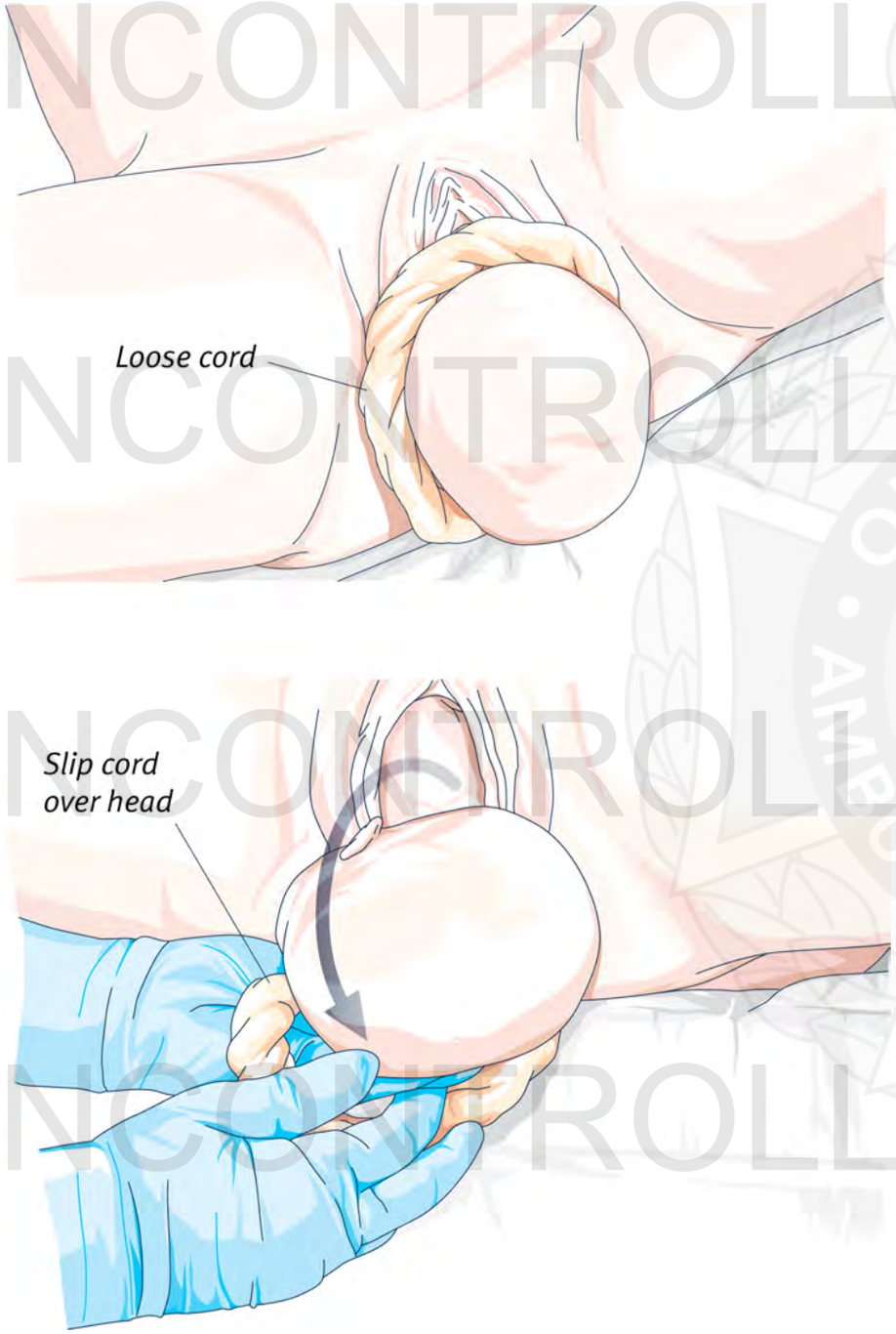




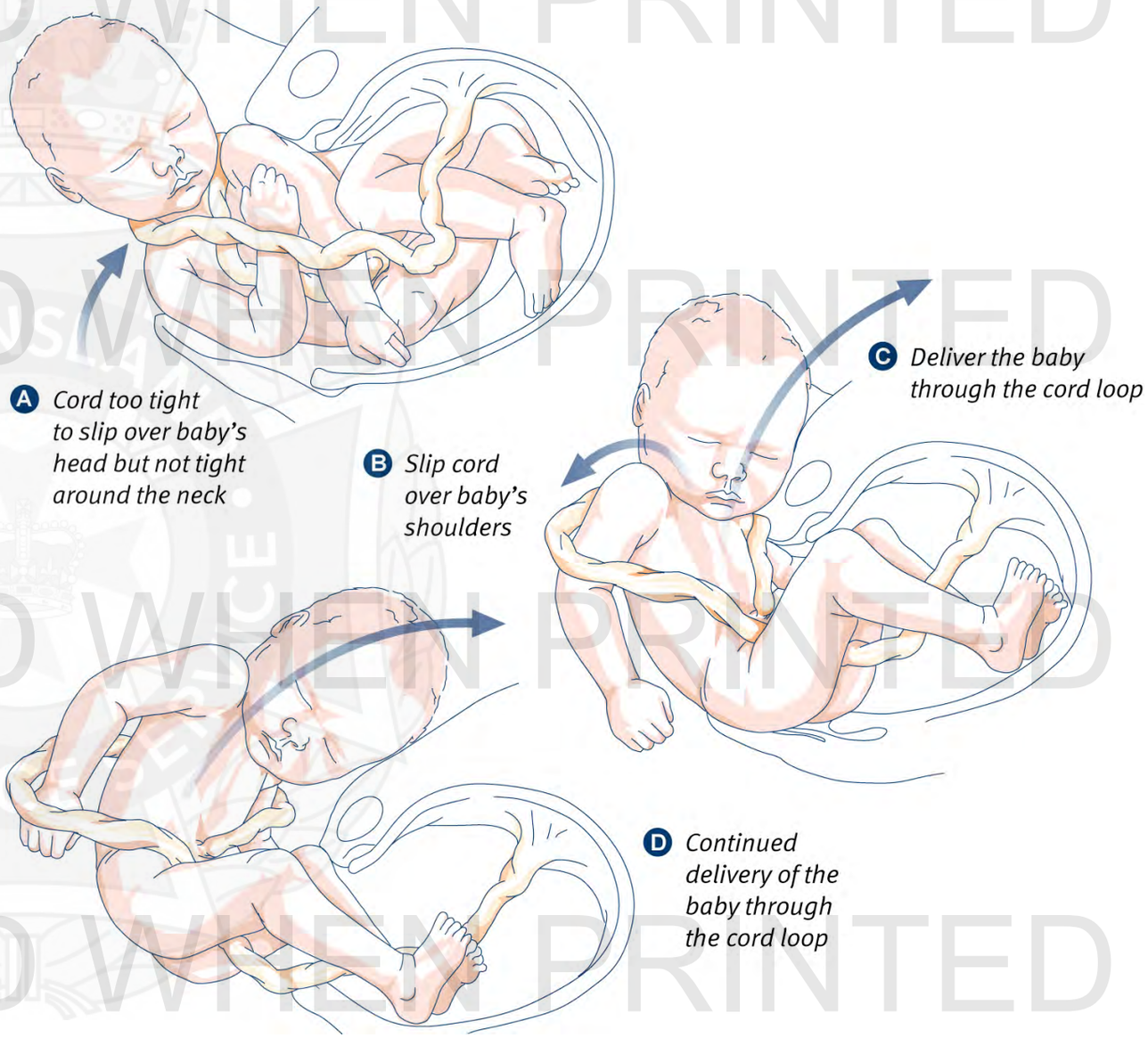
Nuchal cord occurs in 15% to 34% of births,[1] and most babies will deliver without incident. Clamping and cutting the umbilical cord prior to delivery of the neonate should be avoided and only be considered as a last resort.

The essential element for the management of a nuchal cord (cord around the neonate's neck) is avoiding the early clamping or cutting the cord, before the neonate's body is delivered.

d) **If the cord is loosely around the baby's neck**, gently slip it over the baby's head.

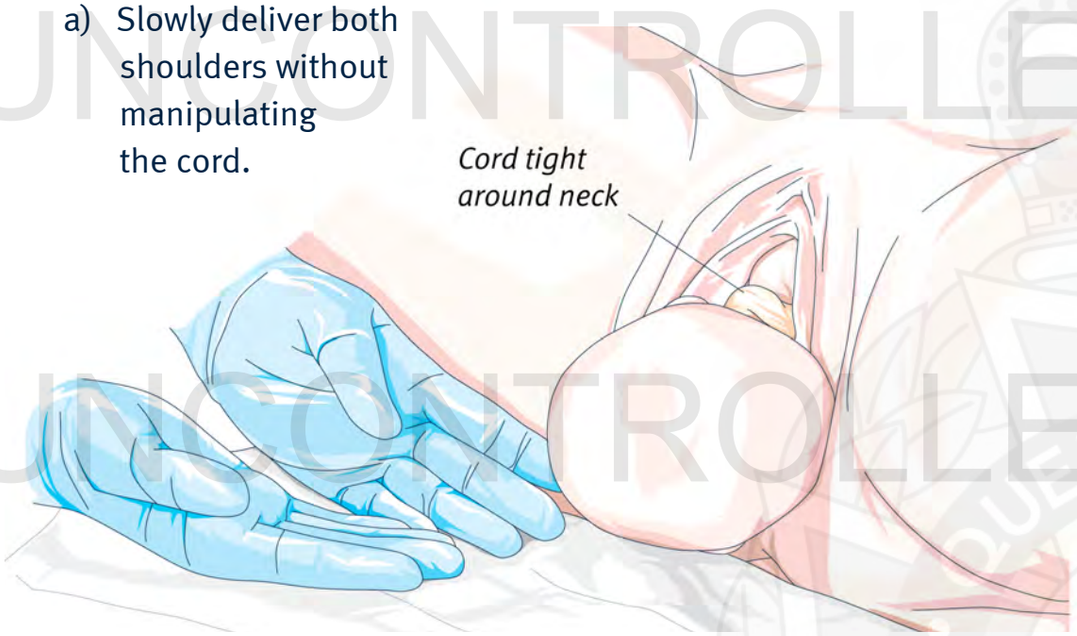


e) **If the cord is too tight to slip over the baby's body but not tight around the neck**, slip it over the shoulders as the baby's body is born and deliver the baby through the cord loop.

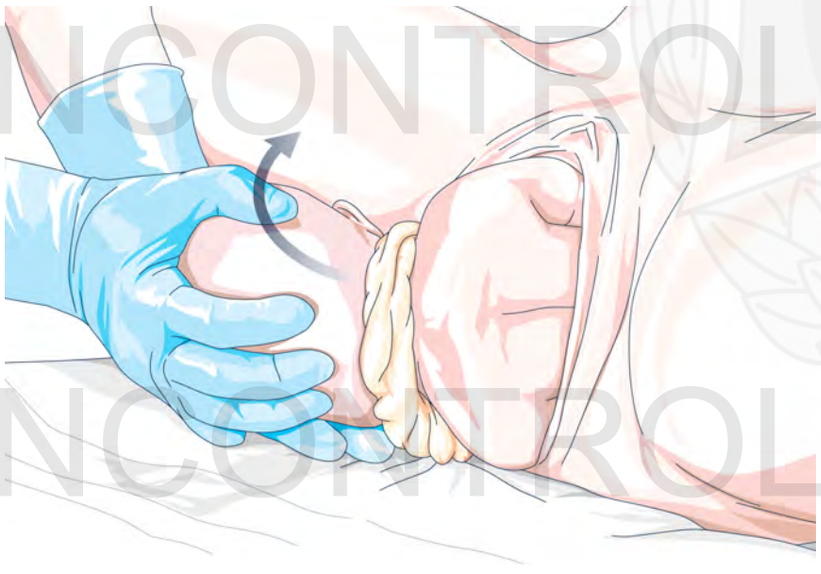


3. **If the cord is too tight to slip back over the shoulders, but has a little give to it**, somersault the baby out, as follows:

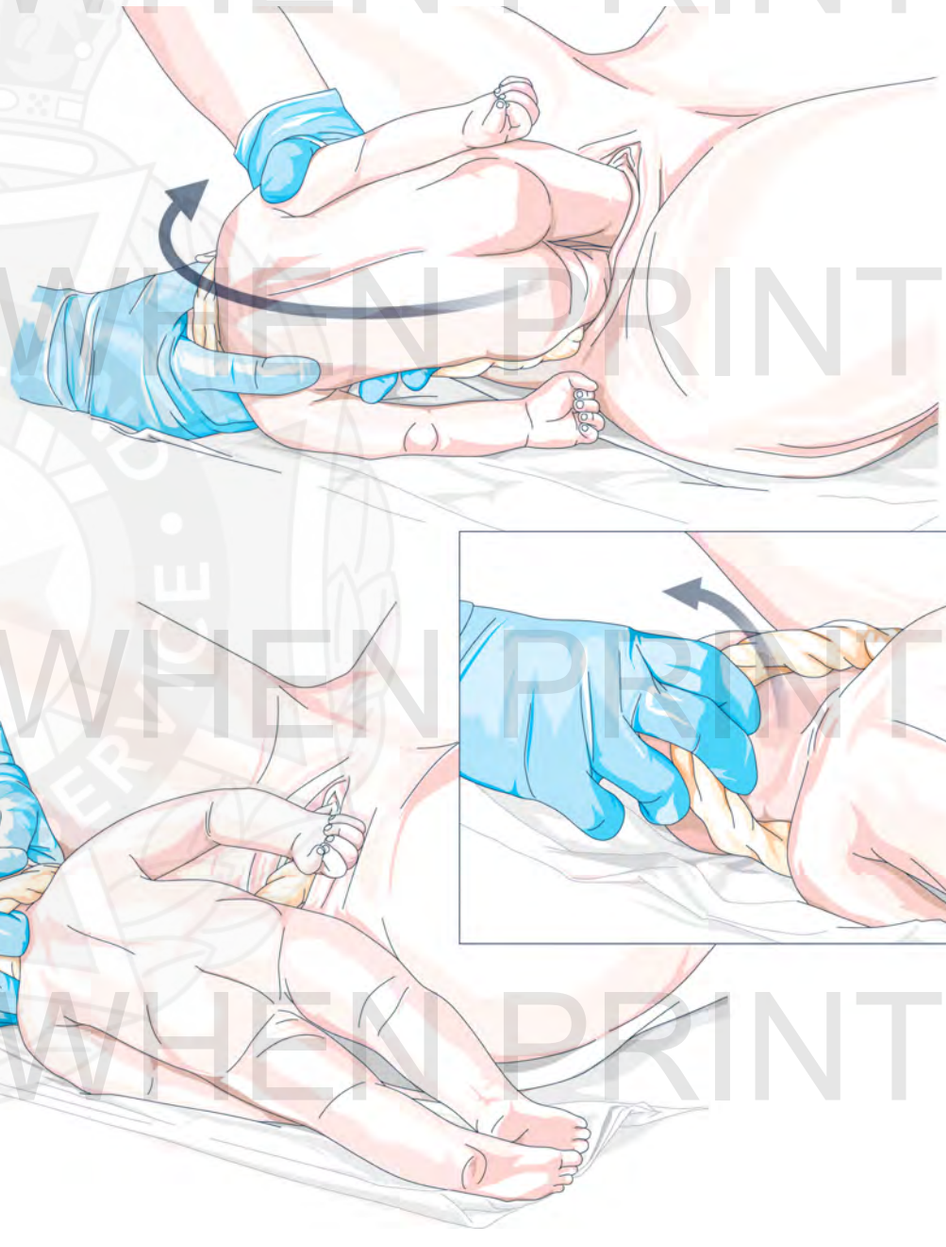
a) Slowly deliver both shoulders without manipulating the cord.



b) As the shoulders are delivered, flex the baby's head so the face is pushed toward the mother's thigh.

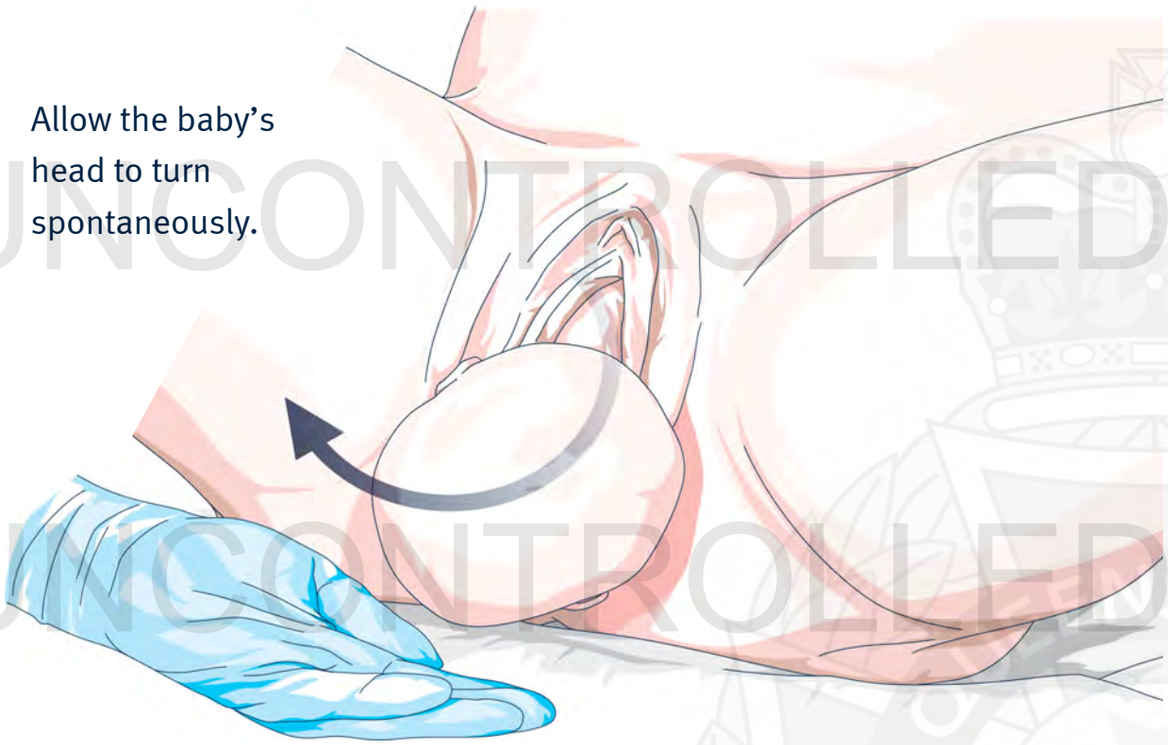


c) Deliver the baby's body flexing torso gently and somersaulting out.

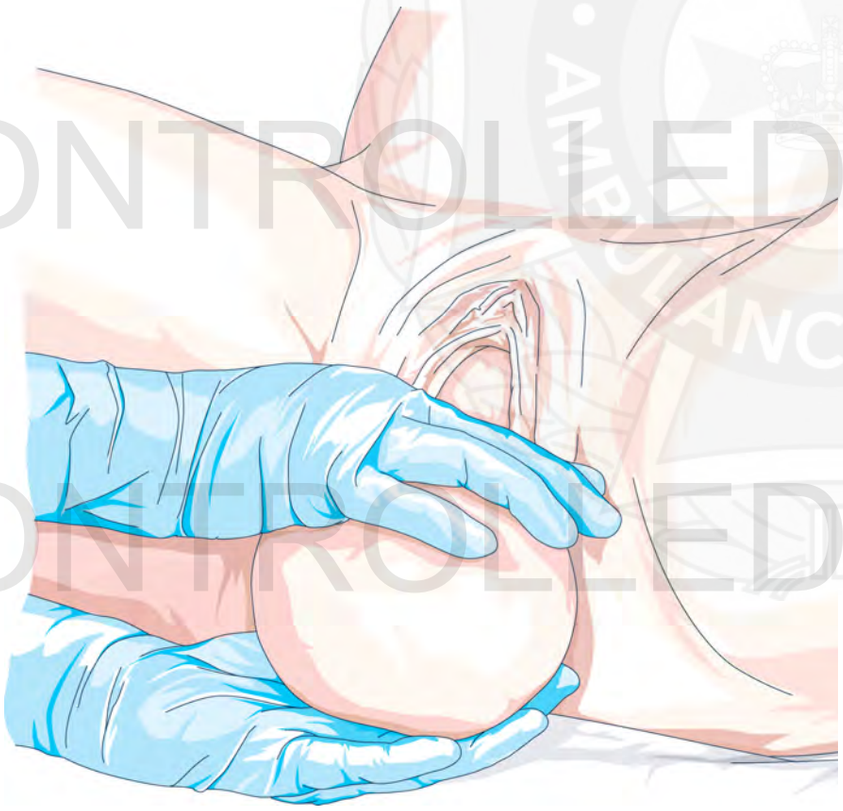


d) Loosen the cord and commence newly born assessment and cares.

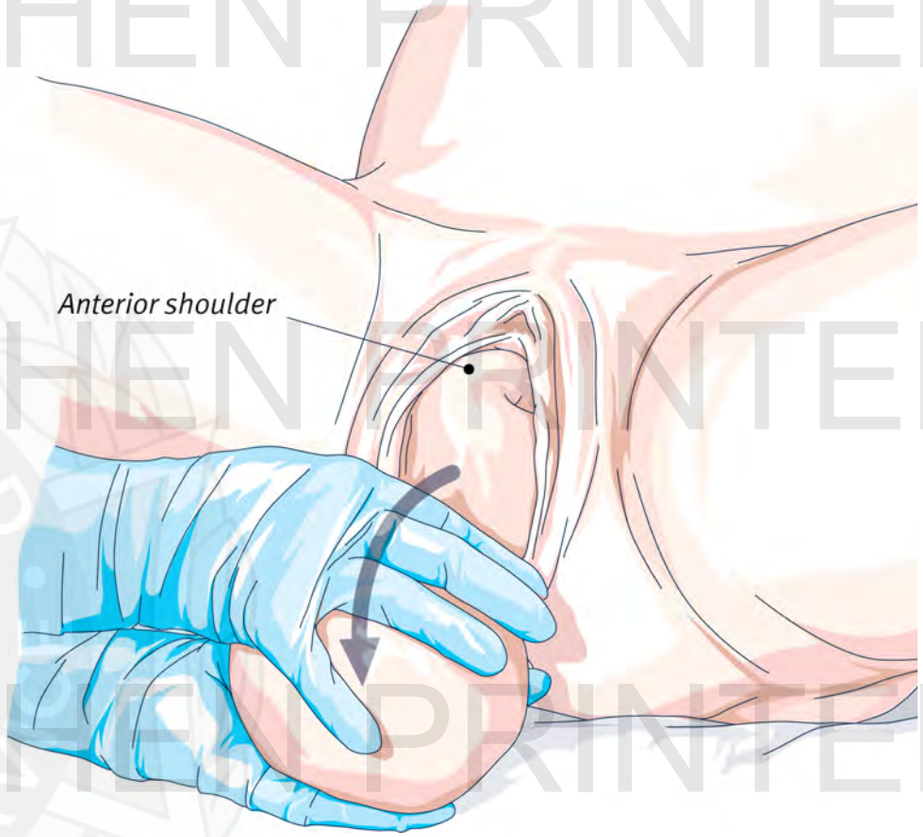
f) Allow the baby's head to turn spontaneously.



g) After the head turns, place a hand on each side of the fetal head. Ask the birthing parent to push gently with the next contraction.

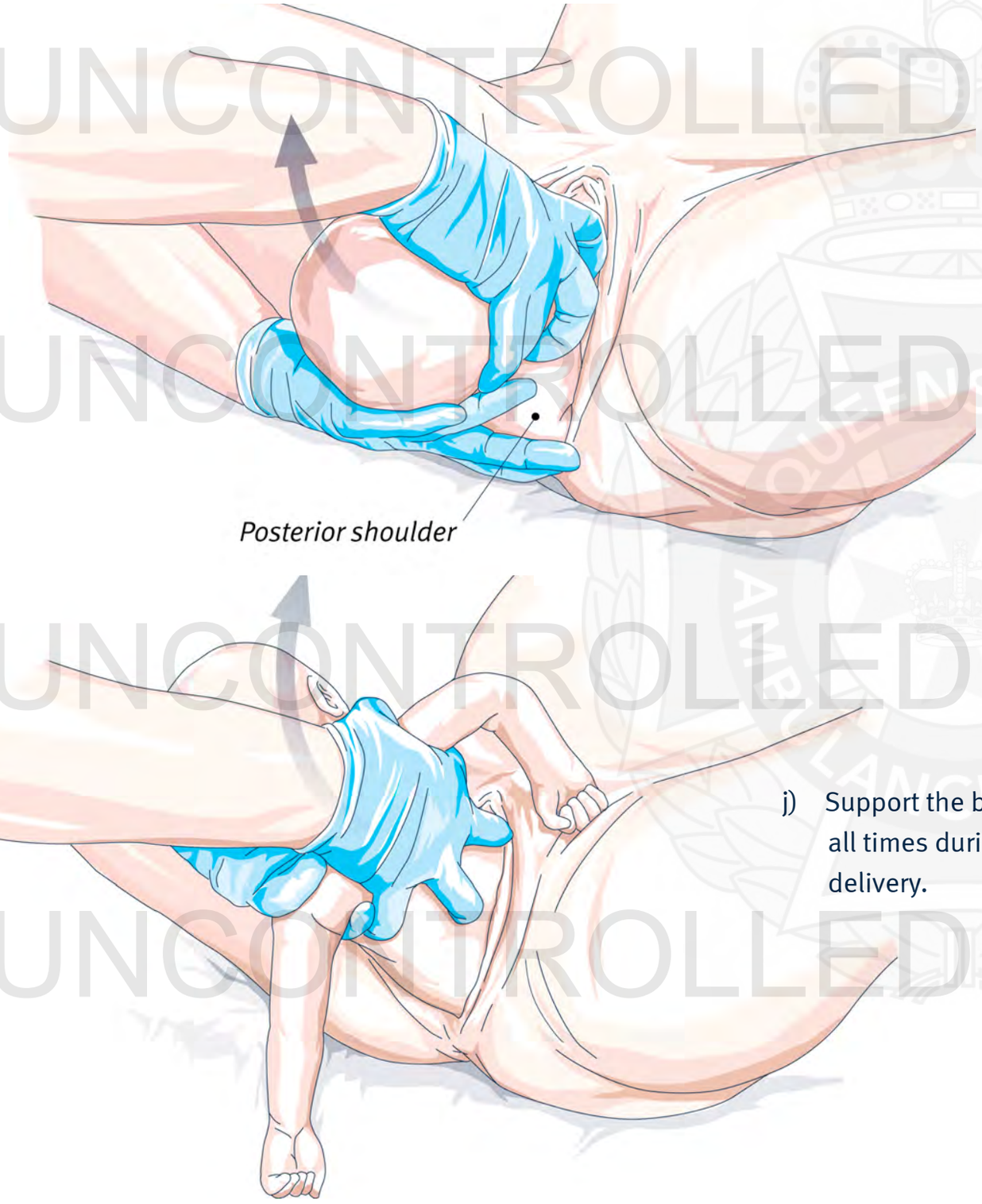


h) Move the baby's head posteriorly to deliver the shoulder that is anterior.



NOTE: *If there is difficulty delivering the shoulders, refer to* ***CPG: Shoulder dystocia.***

i) Lift the baby's head anteriorly to deliver the shoulder that is posterior.



j) Support the baby at all times during the delivery.

k) Place the baby on the birthing parent's abdomen early and ensure skin to skin contact.[3] Ensure both birthing parent and baby are kept warm.

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Additional information

Care of the newly born (post-natal cares)

a) Clean the newborn's mouth and nose of visible blood and mucous with a clean cloth. If an airway obstruction is identified, gently suction the mouth followed by the nares (to decrease the risk of aspiration). Suctioning of the posterior pharynx should be avoided as it can stimulate a vagal response, resulting in apnoea and/or bradycardia. The vast majority of newborns do not require suctioning.

b) Using a soft dry towel, or one of the baby blankets from the QAS 'Maternity Pack', immediately and thoroughly dry the newborn's skin – vigorous drying will assist to stimulate the newborn.

c) Within the first 30 seconds following birth, assess the newborn's:

   a. heart rate (HR) – by listening for an apex beat with a stethescope; **and**

   b. breathing status – by visually assessing the respiration rate and chest rise and fall.

   If the newborn has a HR of greater than 100 and is crying and/or breathing effectively (chest is rising at least 30 times per minute) immediate resuscitation is not indicated; **however**

   If after 30 seconds the newborn has a HR of less than 100 and/or is not breathing effectively, commence resuscitation (refer to *CPG: Resuscitation – Newborn*). Apply an appropriate SpO2 monitor.

d) If practical, place the dry newborn directly on the birthing parent's chest, ensuring skin to skin contact. Skin to skin contact may benefit birthing parent-infant attachment and promote breastfeeding.

e) Apply neonatal SpO2 monitoring on the newborn's (pre-ductal) right hand (refer to *CPP: Assessment/Oximetry – pulse*). Ambulance clinicians should note that SpO2 readings may be lower than normal immediately following birth. The following table gives the expected SpO2 reading in full term newborns during the first ten minutes following birth.[13]

Targeted pre-ductal SpO_2 after birth	
1 minute	60 – 70%
2 minutes	65 – 85%
3 minutes	70 – 90%
4 minutes	75 – 90%
5 minutes	80 – 90%
10 minutes	85 – 90%

f) **At one minute after birth**, complete an APGAR assessment (refer to *CPP: Assessment/APGAR*).

   Resuscitation must be commenced if the newborn presents with any of the following:

   a. Heart rate < 100;

   b. Limp muscle tone;

   c. Slow (< 30/min) or irregular respirations (e.g. gasping); **or**

   d. Centrally pale or blue (cyanosed) or SpO2 reading < 60.

Additional information *(cont.)*

g) Assign and clearly identify one ambulance clinician to be responsible for continual monitoring and ongoing assessment of the newborn.

h) Perform the following neonatal assessments every 5 minutes – at this point all HR assessment should include listening to the newborn's apex beat with a stethoscope:

   a. APGAR (*CPP: Assessment /APGAR*); **and**

   b. VSS/observations – newborn's body position, temperature (via non-contact infrared thermometer if available) and SpO2.

   Resuscitation must be immediately commenced (refer to *CPG: Resuscitation – Newborn*) if the newborn presents with any of the following:

   a. Heart rate < 100;

   b. Limp muscle tone;

   c. Slow (< 30/min) or irregular respirations (e.g. gasping); **or**

   d. Centrally pale or blue (cyanosed), or SpO2 reading lower than expected range (refer to the table on the previous page)

i) Ensure the newborn is kept warm by minimising heat loss – place a beanie on the newborn's head and lay blankets over the birthing parent and newborn.

j) Cord clamping and cutting:

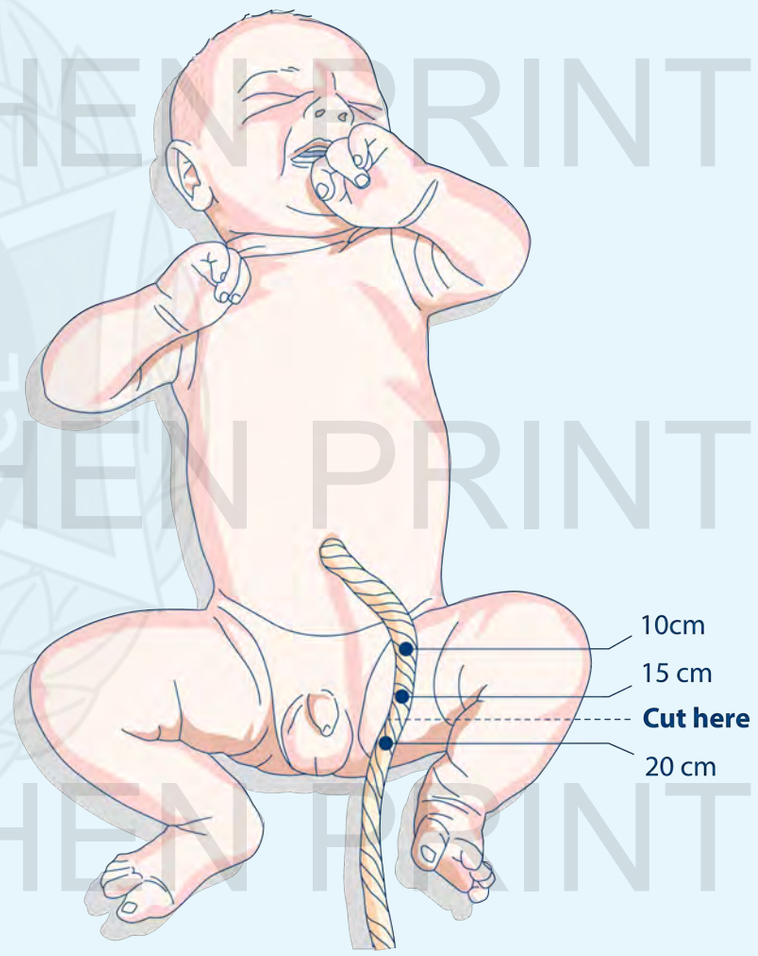
   a. Delayed cord clamping and cutting (3–5 minutes following birth) is recommended for all births while initiating simultaneous essential neonatal care. Oxytocin may be administered prior to, or following cord clamping.[14,15] Immediate cord clamping (less than 1 minute following birth) should only be performed if the newborn needs to be resuscitated.[16]

   b. Some birthing parents may request the cord remain intact with the placenta attached (not clamped or cut). This request should be respected unless the newborn is required to be moved for resuscitation.

   c. If the birthing parent consents, clamp the cord in 3 places:

      1. at least 10 cm from the newborn
      2. at 5 cm further from the baby than the first clamp
      3. at another 5 cm further from the baby than the second clamp

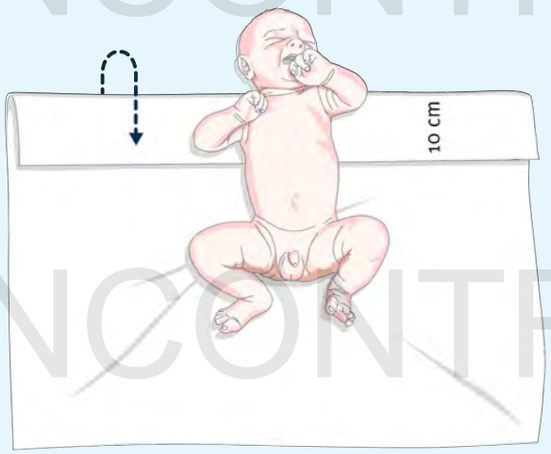
   Cut between the 2 clamps that are furthest from the baby.



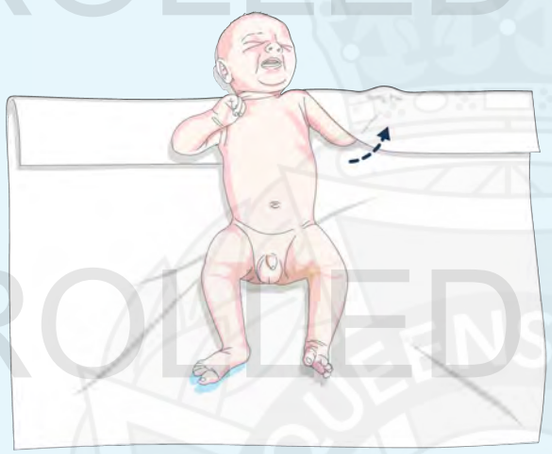
Additional information *(cont.)*

k) Encourage breast feeding to promote the production of maternal oxytocin.

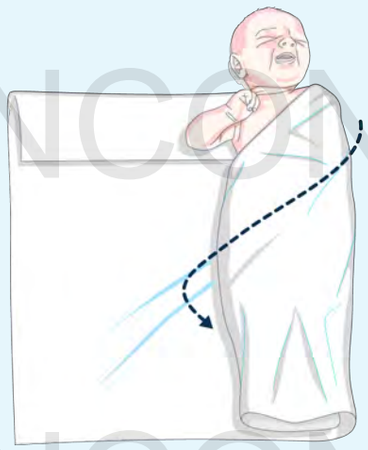
l) If the newborn is unable to be placed on the birthing parent's chest, swaddle the newborn using a dry baby blanket from the QAS 'Maternity Pack'. Skin to skin contact with the other parent may be considered as an alternative.



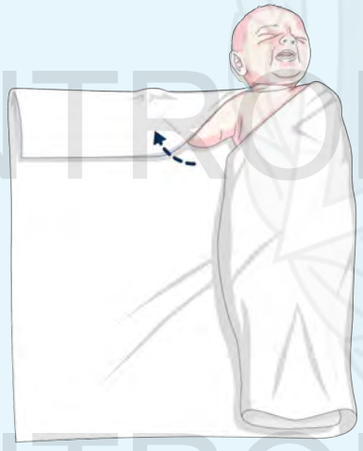
Fold the top of the longer edge down approximately 10 cm and lay the newborn on it with their shoulders in line with the fold.



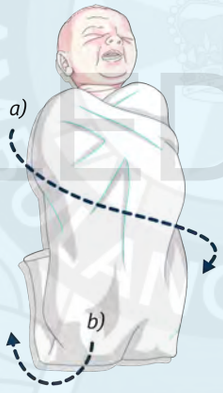
Place one of the newborn's hands under the fold.



Tuck the fold under their leg on the opposite side.



Place the newborn's other hand under the fold.



Bring the other edge of the wrap across the newborn's body and tuck firmly under their back. Fold the excess blanket up and under the newborn's legs.

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Active management of the third stage of labour (oxytocin administration)

a) Promote maternal production of oxytocin by providing a safe, warm environment with uninterrupted skin to skin contact between mother and baby, and encourage breastfeeding.

b) Administer oxytocin (refer to *DTP: Oxytocin*).

c) Observe for and confirm signs of placental separation:

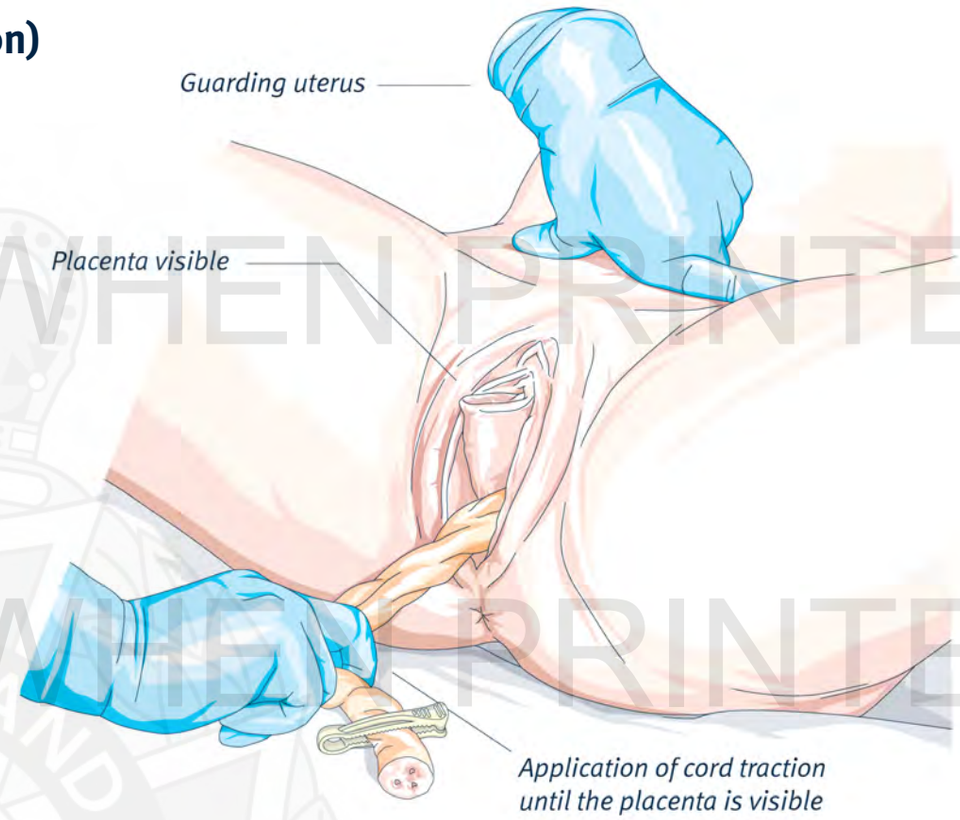
- The uterus rises in the abdomen (observe but do not perform fundal massage at this point)
- The uterus becomes firmer and globular (ballotable)
- Fresh show/trickle of blood
- Lengthening of the umbilical cord.

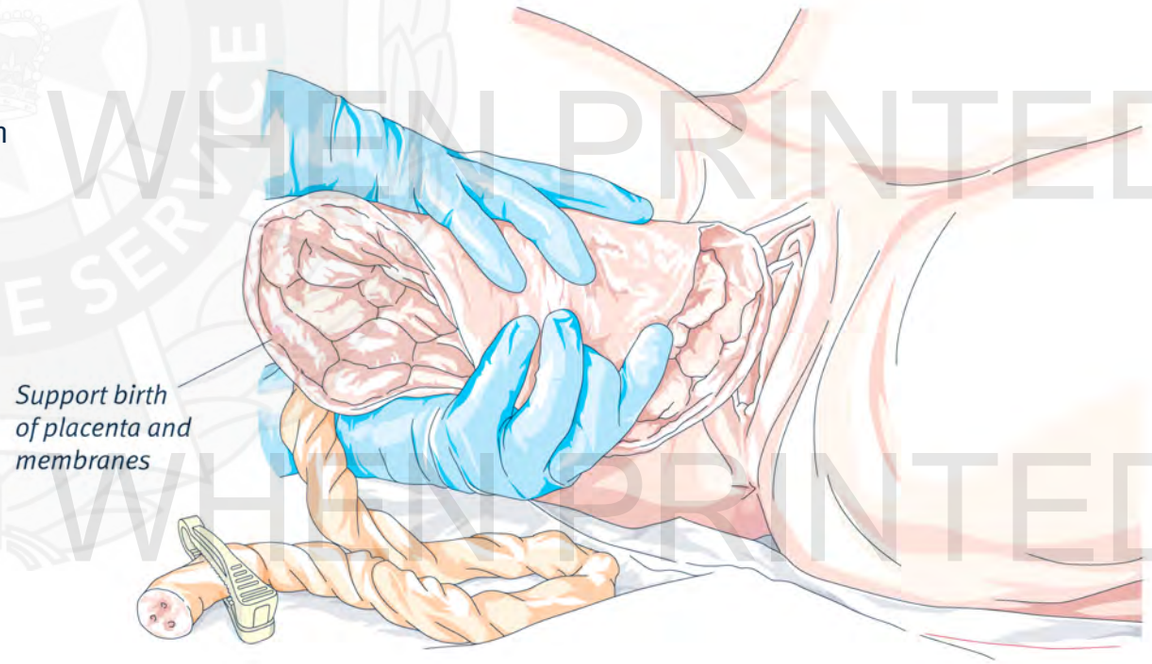
d) Birth of the placenta.

- Assist the birthing parent to birth the placenta by her own efforts. Encourage her to adopt an upright position, bearing down to expel the placenta; **OR**
- Guard the uterus by placing one hand suprapubically and applying steady controlled cord traction until the placenta is visible. Support the birth of the placenta and membranes by gently twisting to strengthen the placenta and limit the chance of retained products – do **not** apply increased traction if resistance is felt, leave and reassess resistance with cord traction after approximately ten minutes.
- Retain the placenta for visual inspection by the midwife and/or doctor.

e) Complete a fundal assessment:

- If the uterus is soft – massage the fundus until it is firm and central.[8] Consider asking the mother to pass urine, as a full bladder can inhibit the contraction of the uterus. Fundal massage must never be performed prior to delivery of the placenta as this can potentiate undesirable complications.
- If the uterus is firm – do **not** massage the fundus as this may cause further bleeding and pain for the birthing parent.





f) Assess the placenta for completeness and integrity; check to see if there are missing parts or ragged membranes that may contribute to excessive postpartum blood loss and document findings.

g) Retain the placenta for visual inspection by the midwife and/or doctor.

h) Assess and estimate blood loss (normally around 200–300 mLs) and document findings.

Physiological management of the third stage of labour (patients refusal of oxytocin administration) [8]

a) Promote maternal production of oxytocin by providing a safe, warm environment with uninterrupted skin to skin contact between birthing parent and baby, and encourage breastfeeding.

b) Assist the mother to birth the placenta naturally by her own efforts. Encourage her to adopt an upright position, bearing down to expel the placenta.

c) Do **not** apply cord traction.

d) Complete a fundal assessment:

- If the uterus is soft – massage the fundus until it is firm and central.[8] Consider asking the birthing parent to pass urine, as a full bladder can inhibit the contraction of the uterus. Fundal massage is only performed **after** delivery of the placenta.
- If the uterus is firm – do **not** massage the fundus as this may cause further bleeding and pain for the birthing parent.

e) Assess the placenta for completeness and integrity; check to see if there are missing parts or ragged membranes that may contribute to excessive postpartum blood loss and document findings.

f) Retain the placenta for visual inspection by the midwife and/or doctor.

g) Assess and estimate blood loss (normally around 200–300 mLs) and document findings.

NOTE: *If blood loss exceeds 500 mL, refer to* ***CPG: Primary postpartum haemorrhage***

Additional information

The QAS supplies a sterile 'Maternity Kit' which contains the following:

- 4 x Umbilical Cord Clamps
- 1 x gown (XL)
- 5 x gauze swab (10 cm x 10 cm)
- 1 x face mask
- 2 x baby blanket
- 2 x combine dressing (20 cm x 20 cm)
- 2 x sealable bag
- 1 x infant cap (beanie)
- 1 x booties set
- 2 x absorbent underlay (60 cm x 40 cm)
- 2 x obstetric pad
- 1 x scissors
- 1 x APGAR Score Label

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CPG: Paramedic safety
CPG: Standard cares

Patient in labour?

N → Continually reassess during transport

Y

Signs of imminent birth?

N → Continually reassess during transport

Y

- allow mother to assume a comfortable position
- prepare equipment
- consider analgesia

Cord prolapsed?

Y → Manage as per: CPG: Cord prolapse

N

Breech presentation

Y → Manage as per: CPG: Breech birth

N

Ensure controlled birth of head

Cord loop around neck? (nuchal cord)

Y → Manage as per: CPP: Nuchal umbilical cord

N

Shoulder obstructed?

Y → Manage as per: CPP: Shoulder dystocia

N

Baby birthed

Is the amniotic fluid clear?
- good breathing/crying
- good muscle tone AND
- HR › 100

N → Manage as per: CPP: Resuscitation – Newly born

Y

Consider:

Oxytocin

CONDUCT POST-BIRTH ASSESSMENT AND CARES:
- Dry baby
- Maintain warmth
- Provide maternal and baby skin to skin contact
- Clamp and cut the cord,when pulsation ceases
- Manage third stage of labour
- APGAR score at 1 & 5 mins

Y → Transport to hospital
Pre-notify as appropriate

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