Government of Western Australia
North Metropolitan Health Service
Women and Newborn Health Service

OBSTETRICS AND GYNAECOLOGY
CLINICAL PRACTICE GUIDELINE

Labour: Shoulder dystocia

Scope (Staff):	WNHS obstetrics and midwifery staff
Scope (Area):	Maternity clinical areas at KEMH, OPH and Community Midwifery Program

This document should be read in conjunction with this Disclaimer

Recognise

Note time of birth of the head.
Discourage pushing until shoulder displacement achieved.

↓

Call for help
Dial 55, Code Blue – Medical & **Paediatric** (KEMH) **/ Neonatal** (OPH)
Allocate person to document proceedings.
State 'this is shoulder dystocia' to arriving team.
Dial 000 if in community (CMP)

↓

1st line

Place woman in the McRobert's position.
Apply suprapubic pressure and gentle traction.

↓

2nd line

Evaluate the need for episiotomy (for internal manoeuvres)

↓

Deliver the posterior arm and shoulder ⟷ **Enter the vagina for internal rotational manoeuvres** ⟷ **Roll onto all fours**

Repeat: If the above manoeuvres are not successful, try repeating them all

Move onto the next manoeuvre if unsuccessful and avoid persistence in any one manoeuvre

Last resort

If all methods fail, attempt last resort manoeuvres: 'Sling' or posterior axillary traction; Zavanelli manoeuvre**;** Symphysiotomy; Deliberate clavicle fracture

After

- **Document** on Shoulder Dystocia Delivery Record (MR 276 or CMP MR 08-B3)
- **Maternal:** Careful examination of genital tract, prepare for and treat PPH
- **Neonatal:** Review by Neonatologist / Paediatrician
- **Debrief**

Note: This flow chart is to be used in conjunction with the detailed guideline on the following pages.

Aim

To assist the safe birth of the baby with minimal morbidity to mother or infant

Background [1]

Shoulder dystocia is defined as a vaginal cephalic birth where additional obstetric manoeuvres are necessary to deliver the baby, after birth of the head and where gentle traction has been unsuccessful.[1]

There can be significant associated perinatal morbidity and mortality despite appropriate management.[1] There is an increase in maternal morbidity due mostly to post-partum haemorrhage (PPH) and third / fourth degree perineal tears.[1] One of the most significant fetal injuries is brachial plexus injury (BPI). Most BPI cases resolve, with less than 10% resulting in permanent injury.[1] BPI may also result from causes other than shoulder dystocia e.g. maternal propulsive forces.[1]

Risk factors associated with shoulder dystocia

Maternal	Fetal	Labour related
• Diabetes mellitus[1, 2] • Maternal obesity[2] BMI >30[1]; excessive weight gain[2] • Prolonged pregnancy[2] • Previous shoulder dystocia[1, 2]; previous large baby[2]	• Suspected macrosomia >4.5kg [1] • AC to HC difference of ≥50mm [3]	• Induction of labour[1] • Oxytocin augmentation[1] • Prolonged/delay first stage[1, 2] • Secondary arrest[1] • Prolonged second stage[1, 2] • Operative vaginal birth[1, 2]

Have a plan for action: Clinicians should be aware of existing risk factors in labouring women and remain alert to the possibility of shoulder dystocia. However, risk assessment for predicting shoulder dystocia is insufficient in preventing and/or predicting the majority of cases.[1]

Warning signs for shoulder dystocia[1]

- Difficulty with birth of the face and chin
- The fetal head retracts against the perineum. Referred to as the 'turtle' sign.
- Failure of the fetal head to restitute
- Failure of the shoulders to descend

Once shoulder dystocia is suspected, the accoucheur must summon help immediately and attempt birth manoeuvres.

If in birth pool, assist woman to exit immediately before performing manoeuvres.

Key points

1. Document risk factors in the notes, especially where multiple are present.[2]
2. Medical and midwifery staff should attend regular drills in the management of shoulder dystocia to familiarise and increase their level of skills at responding to the emergency.[2]
3. Senior obstetric and midwifery staff should be available for second stage[2] and be advised when birth is imminent in cases of high risk for shoulder dystocia.
4. The order of manoeuvres is not as important as ensuring each is employed efficiently and appropriately. Move on to the next manoeuvre if unsuccessful and avoid persistence in any one manoeuvre. Timing and sequence of manoeuvres performed should be documented.
5. **Throughout these manoeuvres the shoulders must be rotated using pressure on the scapula or clavicle. Never rotate the head.**
6. Caesarean section is not routinely advised for a subsequent pregnancy after shoulder dystocia. The decision regarding mode of birth will consider factors such as the severity of maternal or fetal injury, fetal size and maternal choice.[1]
7. **Diabetes:**
    a. For women with gestational diabetes with a normally grown fetus, induction of labour after 38 completed weeks may be offered to reduce the incidence of shoulder dystocia.[1]
    b. For women with pre-existing or gestational diabetes, regardless of treatment, with an estimated fetal weight >4.5kg- consider elective caesarean.[1]
8. Avoid excessive traction at all times. Strong downward traction or jerking without disimpacting the shoulder is associated with neonatal trauma including permanent BPI.
9. Avoid fundal pressure.[1] This is associated with a high rate of BPI, uterine rupture and haemorrhage from potential detachment of a fundal placenta.
10. Use the mnemonic **HELPERR**:
    H = Help
    E = Evaluate for episiotomy
    L = Legs (McRobert's Manoeuvre)
    P = Pressure (Suprapubic)
    E = Enter vagina (Internal manoeuvres)
    R = Remove the posterior arm
    R = Roll the patient onto all fours

    Note- Episiotomy and the final three (internal manoeuvres and 'all-fours') may be considered in a different order depending on clinical situation- see below for details.

Management

- Advise Obstetric Registrar and Midwife Co-ordinator of imminent birth.
- Educate the woman of management should shoulder dystocia occur.[4]
- Ensure the woman's bladder is emptied prior to birth.[4]
- **Note the time of the birth of the head.**

Call for help[1, 2] and prepare

At KEMH: Dial 55:

- **Code Blue - Medical**
- **Code Blue - Paediatric**

At OPH: Dial 55:

- **Code Blue- Medical**
- **Code Blue- Neonatal**

In the community (CMP): Dial 000

Advise that 'this is shoulder dystocia' to the arriving team.[1]

A person should be assigned for documentation, and a staff member also available to support and advise the woman and support persons during the event.

Maternal pushing should be discouraged until shoulder displacement is achieved unless directed by the accoucheur, as it may lead to further impaction of the shoulders.[1, 2]

Move the woman to the end of bed or remove the end of the bed to make vaginal access easier.

Birth manoeuvres (first line)

McRobert's manoeuvre- perform first

Position the woman in the McRobert's position:

- flex and abduct the maternal hips
- position the thighs up onto her abdomen.

This position is successful in up to 90% of cases of shoulder dystocia.[1]

Image © North Metropolitan Health Service 2021

The position flattens the sacral promontory and results in cephalic rotation of the pelvis, helping free the impacted shoulder.

Suprapubic pressure

Simultaneously, while the woman is placed in the McRobert's position:

- Place both hands suprapubically over the posterior aspect of the fetal shoulder with the heel of the hand, and apply continuous pressure in a downward lateral motion just above the maternal symphysis pubis.[2]
- If continuous pressure is not successful, apply the pressure in a rocking intermittent motion.[2]
- Only moderate traction should be applied[2]

There is no evidence to show if continuous pressure or a 'rocking' movement is more effective.[1]

Supra pubic pressure improves the success rate when applied with the McRobert's manoeuvre by reducing the bisacromial diameter and rotating the anterior shoulder into the oblique diameter.[1]

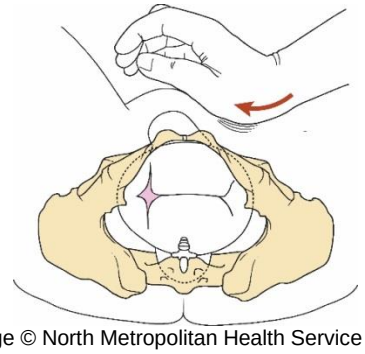


Image © North Metropolitan Health Service 2021

If the above are not successful- (second line manoeuvres)

Perform 'all-fours' or internal manoeuvres.[1]

Individual clinical situations will guide whether to attempt internal manoeuvres before or after 'all-fours'. For a less mobile woman with epidural anaesthesia, internal manoeuvres may be more appropriate. In a mobile woman, 'all-fours' may be more appropriate first.[1]

Rotation of the woman onto all-fours

Rotation of the woman onto all-fours may also facilitate birth by increasing the pelvic diameters and allowing better access to the posterior shoulder.

Note: In a woman who is less mobile (e.g. epidural anaesthesia), proceeding with internal manoeuvres first may be more appropriate before considering 'all fours'.

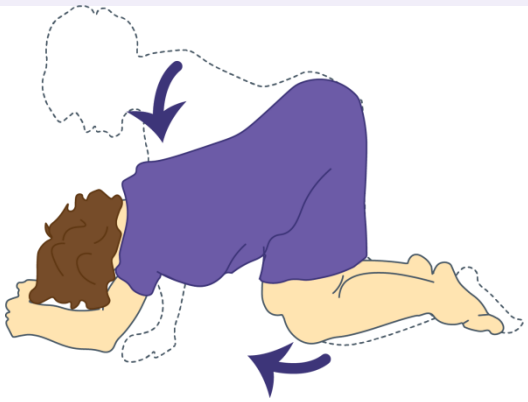


Image © North Metropolitan Health Service 2021

Evaluate the need for episiotomy[2]

Perform an episiotomy to facilitate internal rotational manoeuvres as required.[1, 2]

Shoulder dystocia is a bony impaction, so episiotomy will not release the shoulders.[1]

Deliver the posterior shoulder and arm

There is some evidence which suggests that there may be an advantage in delivery of the posterior arm when compared to internal rotational manoeuvres.

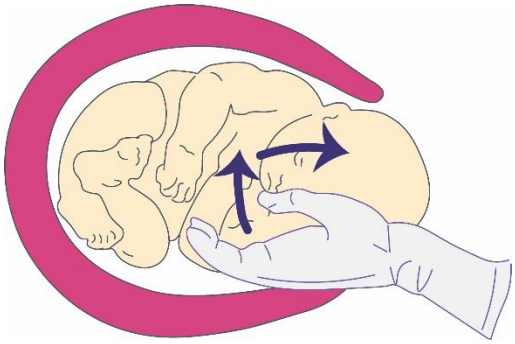
Delivery of the posterior arm

Insert the hand into the vagina along the sacral curve and locate the posterior arm or hand.[2] .

Grasp the fetal wrist[1] or apply pressure to the cubital fossa to flex the elbow in front of the body, and remove the forearm in a sweeping motion over the fetal anterior chest wall and fetal face.[2]

Removing the posterior arm shortens the diameter of the fetal shoulders by the width of the arm.[1]

There is a risk of humoral fractures (reported incidence 2-12%) however trauma may reflect the refractory nature rather than the procedure.[1]



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Internal rotational manoeuvres

(described by Woods and Rubin)

For a less mobile woman with epidural anaesthesia, internal manoeuvres may be more appropriate before 'all fours'.[1]

Clinical judgement and experience should determine the most appropriate management.[1]

- **One hand, fingers behind anterior shoulder:** Insert the hand into the vagina posteriorly and sweep two fingers up to the posterior aspect of the anterior shoulder and push it towards the fetal chest into the oblique diameter of the pelvis.[2]
  - ➢ If this is not successful, move onto the manoeuvre below

This manoeuvre adducts the fetal shoulder girdle, reducing the diameter and rotating the shoulders forward into the oblique diameter.[2]

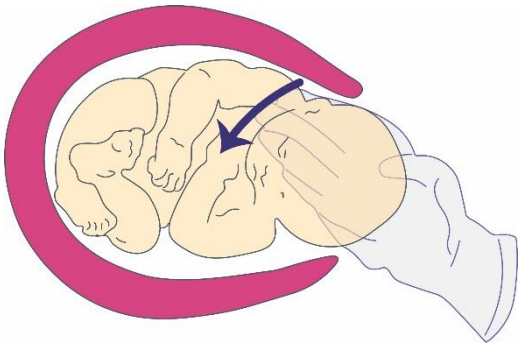
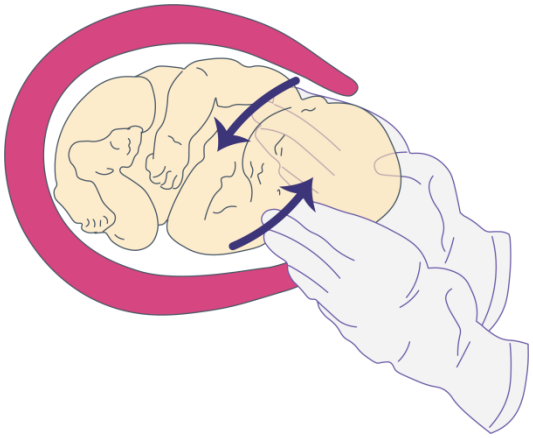


Image © North Metropolitan Health Service 2021

- **Two hands:** While one hand is performing the above, enter the vagina and apply pressure with two fingers to the anterior aspect of the posterior shoulder i.e. maintaining rotation in the original direction.
  - ➢ If this manoeuvre is unsuccessful then the accoucheur moves onto the reverse manoeuvre below.



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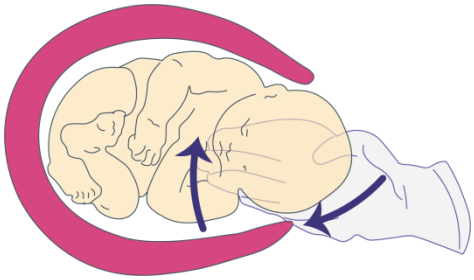
- **Reverse direction of posterior shoulder:** Apply pressure to the posterior aspect of the posterior shoulder and attempt to rotate it through 180° in the opposite direction to the previous manoeuvre.



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Repeat

If previous manoeuvres are not successful, try repeating them all.

Last resort manoeuvres

Inform Consultant Obstetrician[2] (if not already present)

As a last resort an experienced accoucheur may attempt[2]: 'Sling' or posterior axillary traction; Zavanelli manoeuvre (midwife to give a tocolytic); Symphysiotomy ;Deliberate fracture of the clavicle

Assess for morbidity

Maternal:

- Assess the vagina and cervix for soft tissue damage
- Assess blood loss
- Consider ordering a follow-up full blood picture if there has been significant blood loss
- Treat the woman with the prophylactic treatment for PPH i.e. oxytocin infusion, IDC and Misoprostol

Third and fourth degree perineal trauma and PPH are possible complications resulting from shoulder dystocia.[1]

See Clinical Guideline, O&G Restricted Area Guidelines, Postpartum Complications for 'Primary PPH' and 'Oxytocic Prophylactic and Therapeutic Regimes' (Intranet only - available to WA Health employees through Healthpoint).

Neonatal[2]:

- Cerebral hypoxia
- Cerebral palsy
- BPI
- Fracture clavicle and/ or humerus

The neonate should be examined by a Neonatologist/ Paediatrician.[1]

Documentation

Document management of the event on the MR 276 'Shoulder Dystocia Delivery Form' or CMP MR 08-B3 noting:

- time help was called for
- direction the head was facing after restitution
- anterior shoulder at time of the dystocia[1]
- time of birth of the head and time of birth of the body[1]
- type of manoeuvres used, timing and sequence[1]
- staff in attendance and their arrival time[1]
- Condition of the baby at birth (Apgar score)[1]
- Umbilical cord blood[1] gases
- **Maternal**- estimated blood loss, perineal and vaginal examination[1]

Notation of which arm was impacted is beneficial in the event of subsequent nerve palsy developing. Whether the affected shoulder was anterior or posterior at the time of birth is a consideration for BPI; with damage to the posterior shoulder considered unlikely to be due to healthcare professional action.[1]

Debriefing

- Medical and/or midwifery staff should discuss the delivery events with the parents.
- Refer to Psychological Medicine Services as required.
- Debriefing the parents shall be documented.

Post birth management in the community (CMP)

- Document the details of the management retrospectively and as soon after the birth as possible.
- Note which fetal shoulder was impacted, which arm birthed first and the condition of the baby at birth including the details of the neonatal resuscitation required.
- Consider immediate transfer to support hospital as per the Australian College of Midwives (ACM) Guidelines for Consultation and Referral.

References and resources

1. Royal College of Obstetricians and Gynaecologists. Guideline No. 42: Shoulder dystocia (2nd ed.): RCOG. 2012 (last updated 2017). Available from: https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg42/
2. Paterson-Brown S, Howell C, editors. Managing obstetric emergencies and trauma: The MOET course manual. Revised 3rd ed. Cambridge: Cambridge University Press; 2014.
3. Endres L, DeFranco E, Conyac T, Adams M, Zhou Y, Magner K, et al. Association of Fetal Abdominal–Head Circumference Size Difference With Shoulder Dystocia: A Multicenter Study. **AJP Rep**. 2015;05(02):e099-e104.
4. Baxley EG, Gobbo RW. Shoulder Dystocia. **American Family Physician**. 2004;69(7):1707-14.

Related WNHS policies and guidelines (including related forms)

WNHS Clinical Guidelines

Obstetrics and Gynaecology Restricted Area Guideline:

- Postpartum Complications ('Primary PPH' and 'Oxytocic Prophylactic and Therapeutic Regimes' (available to WA Health employees through Healthpoint)

Forms

- MR 276 'Shoulder Dystocia Delivery Record'
- CMP MR 08-B3 'Shoulder Dystocia Delivery Record'

Keywords:	birth of shoulders, shoulder dystocia, intrapartum emergency, turtle sign, McRoberts, internal manoeuvre, HELPERR, birth manoeuvres, Rubin I, rubin II, woods screw, reverse woods screw, posterior arm, posterior shoulder, difficult delivery, suprapubic pressure, code blue, symphysiotomy, Zavanelli manoeuvre, clavicle fracture, MR276, all-fours		
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NSQHS Standards (v2) applicable:	☒ 1: Clinical Governance ☐ 2: Partnering with Consumers ☐ 3: Preventing and Controlling Healthcare Associated Infection ☐ 4: Medication Safety	☐ 5: Comprehensive Care ☐ 6: Communicating for Safety ☐ 7: Blood Management ☒ 8: Recognising and Responding to Acute Deterioration	

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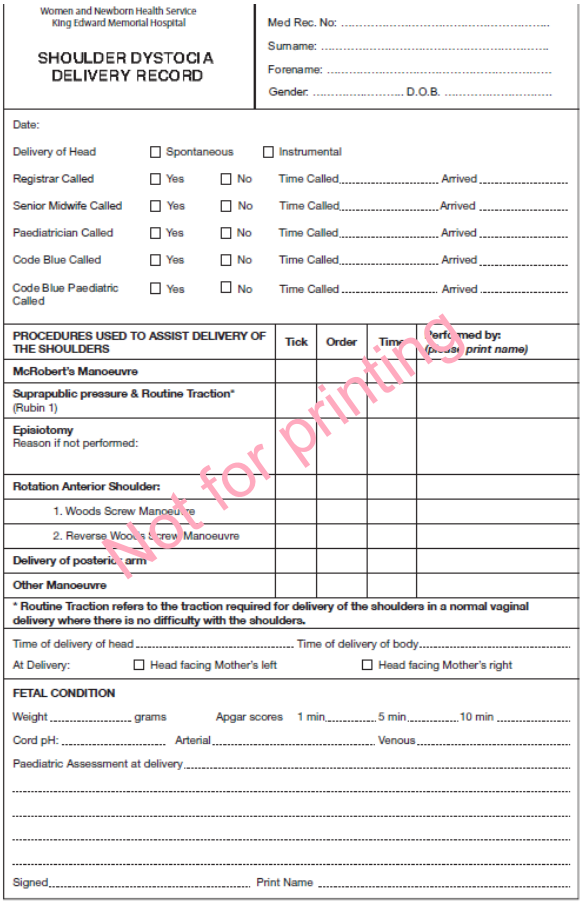
This document can be made available in alternative formats on request for a person with a disability.

Appendix – Shoulder dystocia delivery record

MR 276 (Birth Suite / Centre)



Women and Newborn Health Service
King Edward Memorial Hospital

SHOULDER DYSTOCIA DELIVERY RECORD

Med Rec. No: .....
Surname: .....
Forename: .....
Gender: ..... D.O.B. .....

Date:

Delivery of Head ☐ Spontaneous ☐ Instrumental

Registrar Called ☐ Yes ☐ No Time Called..... Arrived .....

Senior Midwife Called ☐ Yes ☐ No Time Called..... Arrived .....

Paediatrician Called ☐ Yes ☐ No Time Called..... Arrived .....

Code Blue Called ☐ Yes ☐ No Time Called..... Arrived .....

Code Blue Paediatric Called ☐ Yes ☐ No Time Called ..... Arrived .....

PROCEDURES USED TO ASSIST DELIVERY OF THE SHOULDERS	Tick	Order	Time	Performed by: (please print name)
McRobert's Manoeuvre				
Suprapublic pressure & Routine Traction* (Rubin 1)				
Episiotomy Reason if not performed:				
Rotation Anterior Shoulder:				
1. Woods Screw Manoeuvre				
2. Reverse Woods Screw Manoeuvre				
Delivery of posterior arm				
Other Manoeuvre				

* Routine Traction refers to the traction required for delivery of the shoulders in a normal vaginal delivery where there is no difficulty with the shoulders.

Time of delivery of head ..... Time of delivery of body .....

At Delivery: ☐ Head facing Mother's left ☐ Head facing Mother's right

FETAL CONDITION

Weight ..... grams Apgar scores 1 min..... 5 min..... 10 min .....

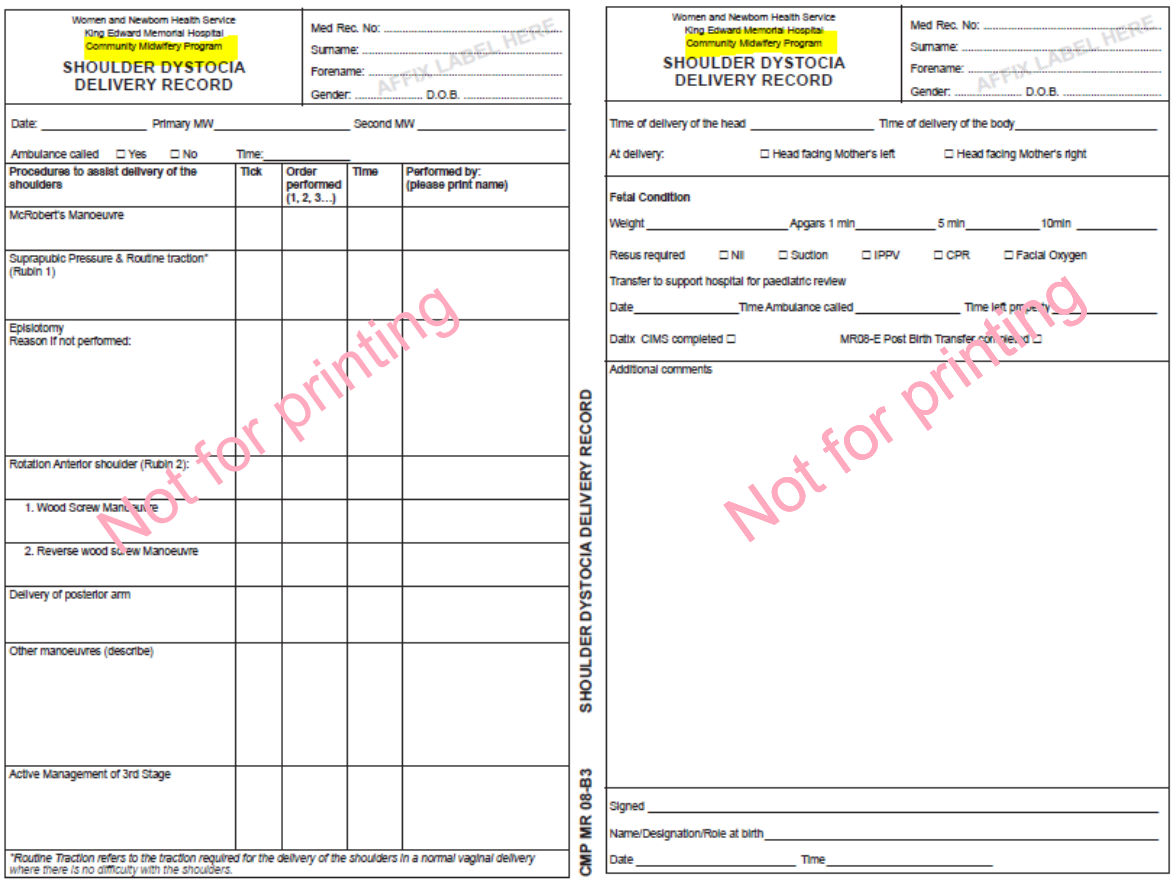
Cord pH: ..... Arterial ..... Venous .....

Paediatric Assessment at delivery .....

Signed..... Print Name .....

SHOULDER DYSTOCIA DELIVERY RECORD MR276

MR 08-B3 (Community Midwifery Program)



Women and Newborn Health Service
King Edward Memorial Hospital
Community Midwifery Program

SHOULDER DYSTOCIA DELIVERY RECORD

Med Rec. No: .....
Surname: .....
Forename: .....
Gender: ..... D.O.B. .....
AFFIX LABEL HERE

Date: _____ Primary MW _____ Second MW _____

Ambulance called ☐ Yes ☐ No Time: _____

Procedures to assist delivery of the shoulders	Tick	Order performed (1, 2, 3...)	Time	Performed by: (please print name)
McRobert's Manoeuvre				
Suprapubic Pressure & Routine traction* (Rubin 1)				
Episiotomy Reason if not performed:				
Rotation Anterior shoulder (Rubin 2):				
1. Wood Screw Manoeuvre				
2. Reverse wood screw Manoeuvre				
Delivery of posterior arm				
Other manoeuvres (describe)				
Active Management of 3rd Stage				

*Routine Traction refers to the traction required for the delivery of the shoulders in a normal vaginal delivery where there is no difficulty with the shoulders.

CMP MR 08-B3 SHOULDER DYSTOCIA DELIVERY RECORD

Women and Newborn Health Service
King Edward Memorial Hospital
Community Midwifery Program

SHOULDER DYSTOCIA DELIVERY RECORD

Med Rec. No: .....
Surname: .....
Forename: .....
Gender: ..... D.O.B. .....
AFFIX LABEL HERE

Time of delivery of the head _____ Time of delivery of the body _____

At delivery: ☐ Head facing Mother's left ☐ Head facing Mother's right

Fetal Condition

Weight _____ Apgars 1 min _____ 5 min _____ 10min _____

Resus required ☐ Nil ☐ Suction ☐ IPPV ☐ CPR ☐ Facial Oxygen

Transfer to support hospital for paediatric review

Date _____ Time Ambulance called _____ Time left pr[illegible]y _____

Datix CIMS completed ☐ MR08-E Post Birth Transfer com[illegible]d ☐

Additional comments

Signed _____

Name/Designation/Role at birth _____

Date _____ Time _____