

## SHOULDER DYSTOCIA

*This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.*

### 1. AIM

- Perform appropriate manoeuvres to free the impacted fetal shoulder in a sequential coordinated process with minimal morbidity to woman and neonate

### 2. PATIENT

- Woman who is unable to deliver the anterior fetal shoulder following the normal amount of axial traction from the birth accoucheur

### 3. STAFF

- Medical and midwifery staff

### 4. EQUIPMENT

- Doppler
- Cardiotocograph (CTG)

### 5. CLINICAL PRACTICE

- Summon immediate help once shoulder dystocia is suspected or confirmed
- Call a Rapid Response, if immediate help is not adequate in skill or number, to facilitate rapid attendance of skilled personnel
- Request immediate paediatric attendance
- Explain clearly and calmly to the woman what is happening
- Discourage maternal pushing
- Note the time of birth of the head
- Ensure a staff member adopts the role of 'scribe' noting time and any manoeuvres
- Avoid lateral and downward traction on the fetal head
- Attempt to free the impacted fetal shoulder by performing the following external manoeuvres for 30 seconds each in turn (refer to Appendix 1):

#### **McRoberts manoeuvre**

- Lay the woman flat and remove her legs from stirrups if she is in lithotomy
- Flex and abduct the woman's hips, positioning her thighs up onto her abdomen ('knees to nipples')
- Assist the woman to maintain this position

#### **Suprapubic pressure (Rubin I manoeuvre)**

- Apply pressure just above the maternal symphysis on the side of the fetal back in a downward and lateral direction to push the posterior aspect of the anterior shoulder towards the fetal chest
- If continuous pressure is not successful, a "rocking motion" may be tried, as no clear difference in efficacy between continuous pressure and rocking 'CPR like' movement has been documented
- Escalate to obstetric consultant attendance (if not already present)
- Consider performing an episiotomy, if possible, where internal manoeuvres are required
- Use the following described methods for internal rotation to disimpact the anterior shoulder (refer to Appendix 1):

#### **Rubin II manoeuvre**

- Insert the fingers of one hand vaginally on the side of the fetal back
- Place fingers on the back of the anterior shoulder at the scapula
- Push the anterior shoulder towards the fetal chest to disimpact the shoulder from under the symphysis

## **SHOULDER DYSTOCIA cont'd**

### **Woods Screw manoeuvre**

- Leave the fingers on the scapula of the anterior shoulder
- Insert opposite hands fingers and place on the anterior aspect of the posterior shoulder
- Attempt to rotate the shoulders to aid delivery

### **Reverse Woods Screw**

- Slide the hand that is on the scapula of the anterior shoulder down to scapula of the posterior shoulder
- Attempt to rotate the shoulders in the opposite direction to aid delivery

### **Removal of the posterior arm**

- Slide your other hand from the anterior aspect of the posterior shoulder to the anterior aspect of the anterior shoulder
- Remove second hand
- Re-insert a hand into the vagina posteriorly, flex the posterior arm at the elbow and sweep forearm across fetal chest until the hand is reachable
- Deliver the posterior arm
- Roll the woman over to an “all fours” position if possible:
  - Attempt to deliver the posterior shoulder using axial flexion
  - Consider this manoeuvre after McRoberts and before internal manoeuvres if the woman is mobile
  - Note that all internal manoeuvres can be attempted in an “all fours” position
- Repeat all manoeuvres again (an experienced accoucher may choose to do these manoeuvres in a different order at any time)
- Attempt auscultation of fetal heart if repeat manoeuvres are unsuccessful
- Consider extreme manoeuvres with as much assistance as possible:
  - Cleidotomy – deliberate fracture of the fetal clavicle
  - Symphysiotomy – intentional division of the fibrous cartilage of the symphysis pubis
  - Zavanelli manoeuvre – reinsertion of the neonatal head into the vagina, proceeding with a caesarean section. Should only be attempted with tocolytic
- Assess for maternal morbidity including perineal tears and postpartum haemorrhage
- Document thoroughly in medical record the time interval from birth of the head to birth of the neonate and the steps and manoeuvres used to deliver the neonate
- Complete the RHW Shoulder Dystocia Proforma (Appendix 2) and file in the woman’s medical record
- Collect cord blood for pH and record the results in the medical record
- Complete electronic rapid response form
- Debrief woman and family
- Facilitate appropriate debrief for staff members

## **6. DOCUMENTATION**

- Medical Record (including electronic rapid response)
- Shoulder Dystocia Documentation Chart

## **7. EDUCATIONAL NOTES**

- The definition of shoulder dystocia is a vaginal vertex delivery that requires additional obstetric manoeuvres to deliver the fetus after the head has delivered. It is an obstetric emergency
- Shoulder dystocia is suspected after the head emerges and then retracts up against the perineum (turtle sign). Additional shoulder dystocia warning signs include:
  - Difficulty with the birth of the face and chin
  - The anterior shoulder fails to deliver with normal lateral flexion and traction
  - The fetal head fails to retribute
  - Failure of the shoulders to descend
  - Prolonged deceleration phase in the first stage of labour
- Diagnosis is made when the shoulders are in the anterior/posterior position and fail to deliver despite routine traction and/or maternal effort
- Reported incidence of shoulder dystocia is approximately 0.58-0.7% of vaginal deliveries
- Perinatal morbidity from shoulder dystocia includes hypoxia, brachial plexus injury and fractures.

## **SHOULDER DYSTOCIA cont'd**

- Brachial plexus injury complicated 2.3-16% of deliveries with fewer than 10% resulting in permanent neurological dysfunction. Almost all brachial plexus injuries associated with shoulder dystocia are Erb palsies which result from the over stretching of the C5-6 nerve routes
- Perinatal mortality may result from severe shoulder dystocia
- Maternal morbidity includes postpartum haemorrhage (PPH) (11%) and perineal trauma (3.8%)
- There are antenatal and intrapartum risk factors associated with shoulder dystocia (see Appendix 3), although these have a low positive predictive value.
- 48% of births complicated by shoulder dystocia occur with neonates with birth weight <4kg
- Where risk factors for shoulder dystocia have been identified, a well-documented plan for birth should be recorded in the medical record
- An obstetric registrar and/or obstetric consultant should counsel women with a history of previous shoulder dystocia in the antenatal period for any subsequent pregnancy
- There is no clear requirement to recommend elective caesarean birth routinely to women with a history of shoulder dystocia. However, factors such as the severity of any previous neonatal or maternal injury, predicted fetal size and maternal choice should all be considered and discussed with the woman and her family when making plans for the next delivery
- Elective caesarean delivery should be considered for the following:
  - estimated fetal weight of 5,000 grams or higher: without diabetes
  - estimated fetal weight of 4,500 grams or higher: with diabetes
- Induction of labour at 37-38 weeks for macrosomic □oetuses is associated with a reduced risk of shoulder dystocia and associated morbidity compared with expectant management <sup>3</sup>
- Excessive force or fundal pressure are unlikely to free the impacted shoulder and may cause fetal or maternal injury
- Routine traction in an axial direction can be used to diagnose shoulder dystocia but any other traction should be avoided. Axial traction is in line with the fetal spine i.e. without lateral deviation.
- Evidence from cadaver studies suggests that lateral and downward traction, and rapidly applied traction, are more likely to cause nerve avulsion and are strongly associated with obstetric brachial plexus injury
- McRoberts manoeuvre straightens the lumbosacral angle, increases the relative anterior/posterior diameter of the pelvis and increases the interspinous diameter. It has a reported success of up to 90%
- Rubins I manoeuvre is aimed to reduce the diameter of the fetal shoulders and rotate the anterior shoulder into the oblique diameter
- The use of episiotomy will not aid the disimpaction of the shoulders as the obstruction is bony, however it may assist with access to facilitate internal manoeuvres
- Rubins II internally adducts the fetal shoulder girdle reducing the diameter and rotating the shoulder into the oblique diameter
- Removing the posterior arm reduces the bisacromial diameter allowing the fetus to drop into the sacral hollow therefore freeing the impaction. However grasping and pulling on the posterior arm risks fractures of the humerus
- The “all fours” position is a safe, rapid and effective technique for the reduction of shoulder dystocia with the pelvic diameters increasing from the semi-recumbent position. The true obstetrical conjugate increases by as much as 10mm and the sagittal measurement of the pelvic outlet increases up to 20mm
- Accurate and comprehensive documentation is essential
- Following any shoulder dystocia, counselling the woman about the event and the 15% recurrence risk is important.
- Annual simulations and team drills with a manikin are recommended for all midwives and doctors involved in the care of labouring women in order to practice the manoeuvres required to free a shoulder dystocia

## **8. RELATED POLICIES / PROCEDURES / CLINICAL PRACTICE LOPs**

- Second Stage of Labour – Recognition of Normal Progress and Management of Delay
- Neonatal Resuscitation at Delivery
- Postpartum Haemorrhage – Prevention and Management
- Third and Fourth Degree Perineal Tears – Repair and Management
- Obesity and Weight Gain in Pregnancy, Labour and Postpartum

## SHOULDER DYSTOCIA cont'd

- Clinical Emergency Response System (CERS) – Management of the deteriorating patient
- Induction of labour policy and procedure
- Induction of labour for women with a post-dates low risk pregnancy
- Diabetes in Pregnancy – Management of Pre-Gestational SESLHDPD/283
- Diabetes Mellitus (GDM) – Gestational – Management  
SESLHDPD/282
- First Stage of Labour - Recognition of normal progress and management of delay
- Assisted vaginal birth guideline – SESLHDGL/050

### 9. RISK RATING

- Medium

### 10. NATIONAL STANDARD

- CC – Comprehensive Care- standard 5

### 11. REFERENCES

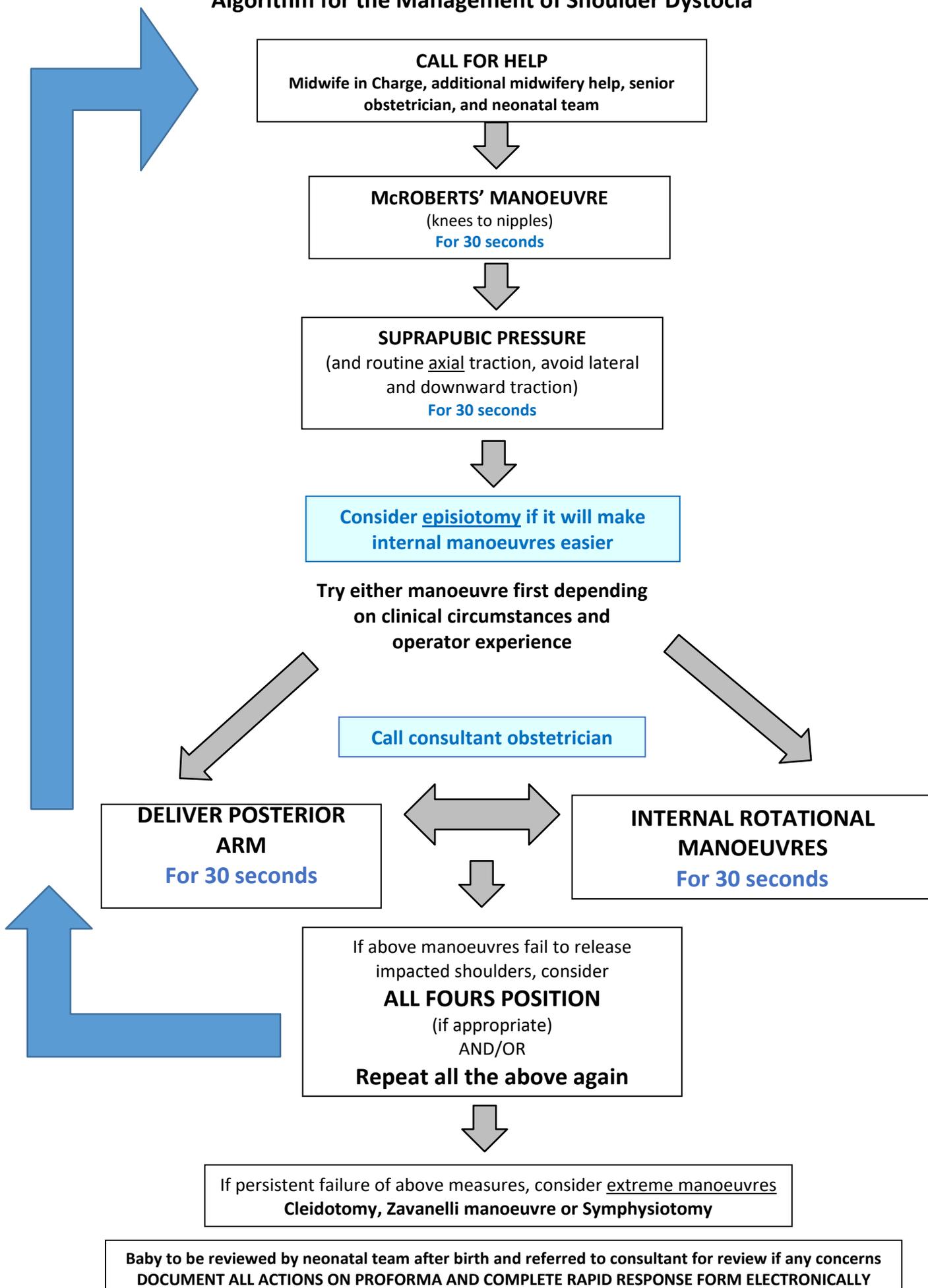
- 1 American Academy of Family Physicians, (2000) *Advanced Life Support in obstetrics course syllabus 4<sup>th</sup> edition*
- 2 RCOG Green Top Guideline No.42 Shoulder Dystocia *2<sup>nd</sup> edition March 2012* updated 2017
- 3 Induction of labour versus expectant management for large-for-date fetuses: a randomised controlled trial. Boulvain, Michel et al. *The Lancet* (2015), Volume 385, Issue 9987, 2600 - 2605
- 4 Shoulder dystocia: Incidence, mechanisms, and management strategies, S. Menticoglou. *International Journal of Women's Health* (2018), Volume 10, 723 – 732
- 5 Shoulder dystocia: prediction and management, Hill et al. *Women's Health* (2016), Volume 12, Issue 2, 251-261
- 6 ACOG Committee on Practice Bulletins – Obstetrics. Practice Bulletin No 178 : Shoulder Dystocia. *Obstet Gynaecol* 2017; 129:e123. Reaffirmed 2019.

### REVISION & APPROVAL HISTORY

Reviewed and endorsed Maternity Services LOPs February 2020  
Amended August 2019 – change to PACE  
Approved Quality & Patient Care Committee 7/7/16  
Reviewed and endorsed Maternity Services LOPs group 7/6/16  
Approved Quality Council (titled *Shoulder Dystocia Guideline*)  
Reviewed November 2006  
Approved Quality Council 19/6/06  
Endorsed Maternity Services Clinical Committee 11/4/06

**FOR REVIEW : JULY 2023**

## Algorithm for the Management of Shoulder Dystocia





Health

FAMILY NAME		MRN
GIVEN NAME		<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
D O B: ____/____/____	M O:	
ADDRESS		
LOCATION / WARD		
COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE		

### MATERNITY RECORD OF LABOUR: SHOULDER DYSTOCIA RECORD

This form is to be used to record all actions used to manage a Shoulder Dystocia.

Fetal head birthed at: Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Time: \_\_\_\_ hrs

Mode of birth of head (tick):  Spontaneous  Vacuum  Forceps (if instrumental complete form xxx)

Fetal position (tick one):  Left fetal shoulder anterior  Right fetal shoulder anterior

Emergency situation explained to the woman and consent obtained for emergency actions:  Yes  No

**H HELP - ESCALATION (Obstetric and Neonatal)**  
**CERS/Emergency Response call at:** Time: \_\_\_\_ hrs  
**Neonatal Advanced Life Support clinician:**  Already present  Called at: \_\_\_\_ hrs  Arrived at: \_\_\_\_ hrs  
 Name: \_\_\_\_\_ Designation: \_\_\_\_\_  
 Attempt each of the manoeuvres for **30 seconds** and move to another if unsuccessful.

<b>E EVALUATE Episiotomy</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>By Whom:</b> _____	<b>Time:</b> ____ hrs
	<b>Details:</b> <input type="checkbox"/> Internal manoeuvres not required – body birthed <input type="checkbox"/> Adequate access for manoeuvres <input type="checkbox"/> Tear present <input type="checkbox"/> Episiotomy prior to birth of head	

<b>L LEGS - McRoberts</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>By Whom:</b> _____	<b>Time:</b> ____ hrs
	<b>Details:</b>	

<b>P PRESSURE – Suprapubic (Rubin's I)</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>By Whom:</b> _____	<b>Time:</b> ____ hrs
	<b>Details:</b> From maternal (tick one): <input type="checkbox"/> Left <input type="checkbox"/> Right Type (tick all relevant): <input type="checkbox"/> Constant <input type="checkbox"/> Rocking (Rubin's I)	

<b>E ENTER manoeuvres</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <i>Discourage pushing</i>	<b>By Whom:</b> _____	<b>Time:</b> ____ hrs
	<b>Details:</b> <input type="checkbox"/> Rubins II (single hand) <input type="checkbox"/> Woods' screw (double hand) <input type="checkbox"/> Reverse Woods' screw	

<b>R REMOVE posterior arm</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <i>Discourage pushing</i>	<b>By Whom:</b> _____	<b>Time:</b> ____ hrs
	<b>Details: (tick one):</b> Fetal Arm: <input type="checkbox"/> Left <input type="checkbox"/> Right	

<b>R ROLL all fours &amp;/or position change</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>By Whom:</b> _____	<b>Time:</b> ____ hrs
	<b>Details:</b>	

<b>Other manoeuvres used</b>	<b>By Whom:</b> _____	<b>Time:</b> ____ hrs
	<b>Details:</b>	

Notes:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



SMR060851

Holes Punched as per AS2828.1: 2019  
BINDING MARGIN - NO WRITING

NHF700580 170220

MATERNITY RECORD OF LABOUR:  
SHOULDER DYSTOCIA RECORD

SMR060.851

**Appendix 2**

	FAMILY NAME	MRN
	GIVEN NAME	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE
Facility:	D.O.B. ____/____/____	M.O.
	ADDRESS	
<b>MATERNITY RECORD OF LABOUR: SHOULDER DYSTOCIA RECORD</b>	LOCATION / WARD	
	COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE	
<b>AFTER BIRTH</b>		
Birth: Time: _____ hrs		
Head – body interval: _____ minutes		
Resuscitation: if required, complete all newborn resuscitation details on SMR110.034		
Paired cord blood samples collected <input type="checkbox"/> Yes <input type="checkbox"/> No Time: _____ hrs		
Record results on ROL SIOC Birth Summary: SMR110.480		
IIMS completed: Date: ____/____/____ IIMS Number: _____		
<b>Clinician who completed the form:</b>		
Name: _____ Signature: _____		
Designation: _____ Date: ____/____/____ Time: _____ hrs		
<b>Details documented verified by most senior clinician present or Midwife Responsible:</b>		
Name: _____ Signature: _____		
Designation: _____ Date: ____/____/____ Time: _____ hrs		
<b>NEONATAL ASSESSMENT</b>		
Newborn check for potential complications specific to shoulder dystocia:		
Any sign of arm weakness? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify: <input type="checkbox"/> Left <input type="checkbox"/> Right		
Any sign of potential bony fracture? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, specify location: _____		
(Please complete and document the full newborn examination in the newborns clinical record)		
<b>Completed by:</b>		
Name: _____ Signature: _____		
Designation: _____ Date: ____/____/____ Time: _____ hrs		
Notes:		
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Holes Punched as per AS2828 1 2019  
BINDING MARGIN - NO WRITING



### Appendix 3

#### FACTORS ASSOCIATED WITH INCREASED RISK OF SHOULDER DYSTOCIA

<b>Pre-labour</b>	<b>Intrapartum</b>
Previous shoulder dystocia	Prolonged first stage
Macrosomia >4.5kg	Prolonged second stage
Diabetes Mellitus (Gestational or Pre-gestational)	Precipitous second stage
Maternal BMI >30	Oxytocin augmentation
Induction of labour	Assisted vaginal delivery
Excessive weight gain in pregnancy	
Abnormal pelvic anatomy	
Short stature	

#### MORBIDITY ASSOCIATED WITH SHOULDER DYSTOCIA

<b>Maternal</b>	<b>Neonatal</b>
OASIS	Brachial Plexus Injury
PPH	Asphyxiation
Uterine rupture	Fractured humerus
Future obstetric issues	Fractured Clavicle
Psychological effects of birth trauma	Death
Bladder damage	
Symphyseal separation	
Lateral femoral cutaneous neuropathy	
Sacroiliac joint dysfunction	