University Hospitals Plymouth NHS Trust

MATERNITY GUIDELINES

Shoulder Dystocia

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1. Introduction

Shoulder dystocia is defined as a vaginal cephalic delivery that requires additional obstetric manoeuvres to deliver the fetus after the head has delivered and gentle traction has failed.

Most commonly shoulder dystocia occurs when the anterior fetal shoulder impacts on the maternal symphysis pubis, preventing birth of the body. Less commonly, the posterior fetal shoulder can become impacted against the maternal sacral promontory.

It can be associated with significant perinatal morbidity and mortality even when it is managed appropriately. Complications include brachial plexus injury (Erbs Palsy), fractured clavicle/humerus and cerebral hypoxia leading to cerebral palsy. Maternal morbidity associated with shoulder dystocia includes postpartum haemorrhage (11%) and severe perineal tears (third and fourth degree).

2. Diagnosis of Shoulder Dystocia

All birth attendants should routinely look for signs of shoulder dystocia. Timely management of shoulder dystocia requires prompt recognition. Observe for:

- Difficulty with delivery of the face and chin.
- The head remaining tightly applied to the vulva, or even retracting.
- Failure of restitution of the fetal head.
- Failure of the shoulders to descend.

Routine traction in an axial direction can be used to diagnose shoulder dystocia. Any other traction should be avoided.

3. Management of Shoulder Dystocia

Shoulder dystocia should be managed systematically. See appendix 1 for the management of shoulder dystocia flow chart.

Help should be summoned immediately.

- In a hospital setting summon assistance by pulling the emergency call bell (if in maternity theatres, use the call bell behind the resuscitaire).
- Request an "obstetric and neonatal emergency" call be put out via 2222.
- In a community setting dial 999. Inform labour ward (01752 430993).

Ask the mother to stop pushing – continued pushing may increase the risk of neonatal complications, and will not resolve the dystocia.

One person should be instructed to document timing of staff arrival and manoeuvres. See appendix 2 for the shoulder dystocia documentation proforma.

Follow the flow chart in appendix 1.

4. Shoulder Dystocia Manoeuvres

McRoberts' manoeuvre

This is a simple, rapid and effective intervention and should be performed first.

Lie the mother supine and remove any pillows. Bring her to the end of the bed or remove the end to make vaginal access easier. Hyperflex and abduct maternal thighs against her abdomen to increase the functional pelvic diameters. If the mother was in lithotomy at the time of delivery of the fetal head then her legs will need to be removed from the supports to achieve McRoberts' positioning. Apply routine axial traction (traction in line with the axis of the fetal spine) to the baby's head which should deliver the impacted shoulder. Avoid excessive traction on the fetal head.

Suprapubic pressure

This should be used to improve the effectiveness of the McRoberts' manoeuvre.

External manual supra-pubic pressure can be applied by the delivering midwife, but is more commonly applied by an assistant standing on the side of the fetal back. Using the heel of the hand over the posterior aspect of the anterior shoulder, pressure should be applied down and forward to decrease the shoulder diameter and rotate the anterior shoulder into the wider oblique diameter. Ask the mother not to push (if necessary give Entonox to breathe) until shoulder displacement is achieved.

NB: Supra-pubic pressure should be applied in between contractions.

Consider Episiotomy

An episiotomy will not relieve the bony obstruction of shoulder dystocia but may be required to allow the healthcare professional more space to facilitate internal vaginal manoeuvres.

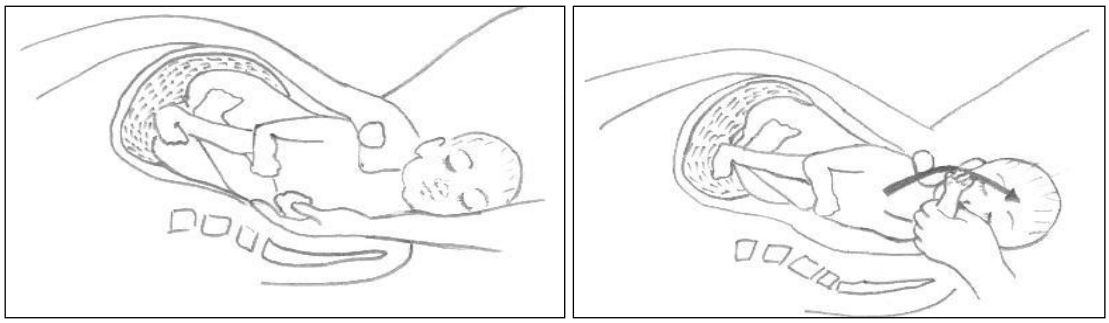
Internal Manoeuvres

If these simple measures fail, internal vaginal manoeuvres must be commenced. The end of the delivery bed should be removed and the woman encouraged to bring her buttocks to the end of the bed to assist the accoucheur with manoeuvres. There is no advantage between delivery of the posterior arm and internal rotation manoeuvres to deliver the anterior shoulder and therefore clinical judgement and experience can be used to decide their order.

Delivery of the Posterior Arm

Delivery of the posterior arm reduces the diameter of the fetal shoulders by the width of the arm.

Enter the vagina posteriorly i.e. at 5 o'clock or 7 o'clock dependant on where the fetal back lies. The whole hand should be inserted into the sacral hollow.



If the fetal posterior arm is flexed, its delivery can be achieved by taking hold of the fetal wrist and releasing the arm in a straight line.

Once the posterior arm is delivered apply gentle axial traction to the fetal head to assess if the shoulder dystocia has resolved.

Internal Rotational Manoeuvres

Internal rotational manoeuvres aim to reduce the shoulder diameter by abducting the shoulder and allowing rotation into the wider oblique diameter of the pelvis.

Consider:

- Rubin 2

Apply internal manual pressure on the posterior aspect of the anterior shoulder, creating enough force to rotate the fetus into an oblique position.

- Woods' screw

Apply pressure to posterior aspect of anterior shoulder and insert second hand to apply pressure to the anterior aspect of the posterior shoulder and attempt further rotation. Continue to rotate shoulder further round to become anterior.

- Reverse Woods' screw

Apply pressure to posterior aspect of posterior shoulder & rotate.

'All fours' position

Placing the woman in the 'all fours' position (i.e. hands and knees) may dislodge the anterior shoulder and facilitate delivery. It may also facilitate access to the posterior shoulder to enable internal manoeuvres to be performed.

Third line manoeuvres

Several third line manoeuvres have been described. These include fetal cleidotomy (breaking the fetal clavicle), maternal symphysiotomy (dividing the anterior fibres of the symphyseal ligament) and the Zavanelli manoeuvre (vaginal replacement of the fetal head followed by a caesarean section). These require careful consideration to avoid unnecessary maternal morbidity and mortality.

5. Contra-indicated Manoeuvres

Fundal pressure should not be used for the treatment of shoulder dystocia. It is associated with an unacceptably high neonatal complication rate and may result in uterine rupture.

Traction on the fetal head alone will not resolve the dystocia and excessive traction should be avoided. Lateral, downward and rapidly applied traction are strongly associated with brachial plexus injury.

6. Post Delivery

Take paired cord blood samples for blood gas analysis.

An explanation of the delivery should be given to the parents.

After a shoulder dystocia delivery, it is important to remember that the mother is at increased risk of:-

- PPH
- Severe perineal tears

Baby to be examined by a member of the neonatal team to exclude possible injuries:

- Brachial plexus injury
- Fractured clavicle
- Fractured humerus.

In cases of suspected or confirmed brachial plexus injury the baby should be reviewed by the consultant neonatologist.

7. Documentation and record keeping

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy. This is in keeping with standards set by professional colleges, i.e. NMC and RCOG.
All entries must have the date and time together with signature and printed name.

The green shoulder dystocia proforma (see appendix 1) must be completed by the lead clinician (midwife or obstetrician) together with accurate and contemporaneous record keeping of the delivery in the patient notes.

It is important to record all sections of the proforma accurately and particularly:

- The time of delivery of the head
- The direction the head is facing after restitution
- The manoeuvres performed, their timing and sequence
- The time of delivery of the body
- The staff in attendance and their arrival time
- Condition of the baby at delivery (Apgar score)
- Umbilical cord blood acid-base measurement

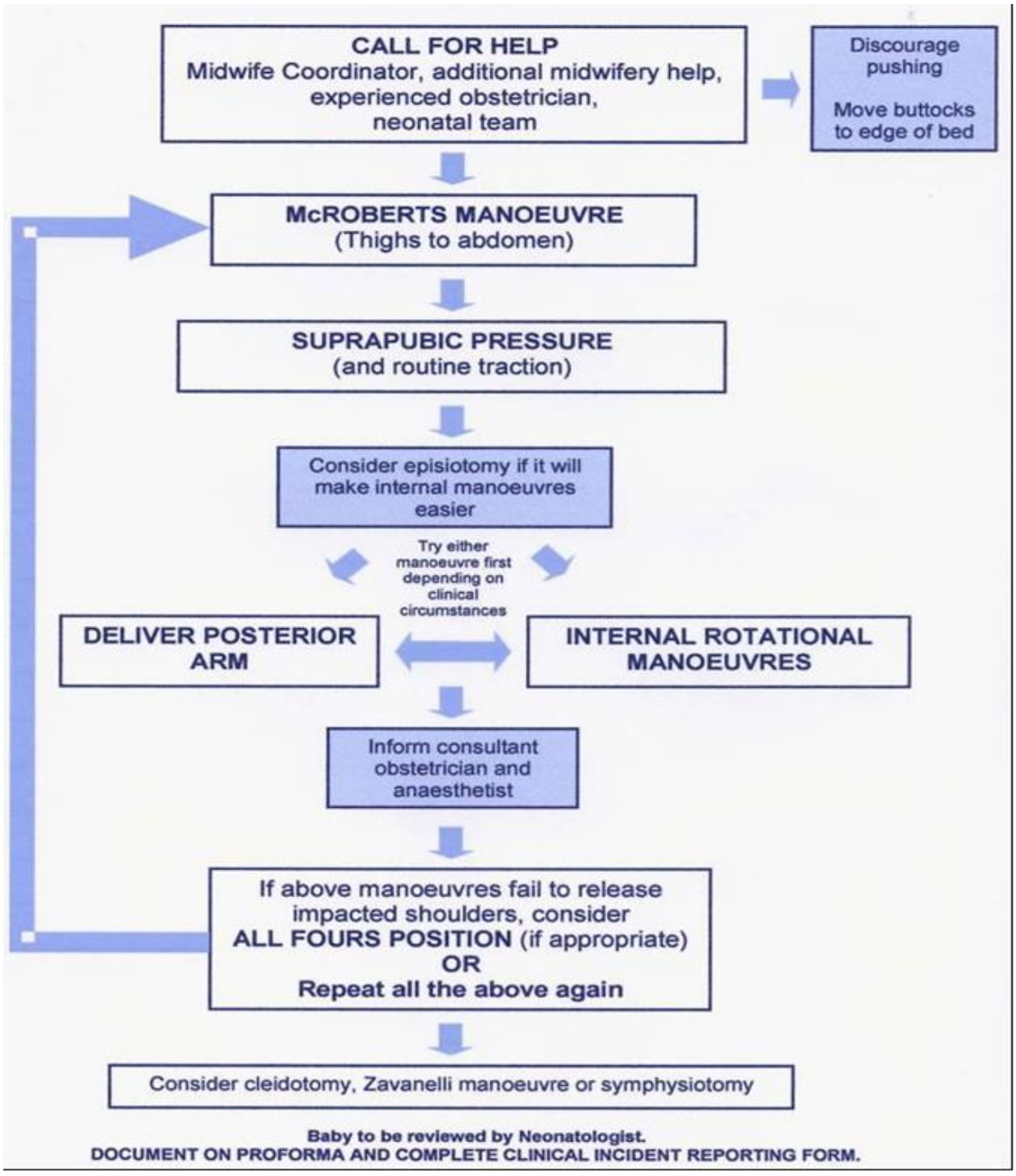
The incident must be reported via the Trust Datix risk management process. As part of the risk management process, the neonatal notes together with maternal notes will be reviewed to ensure any on-going problems are appropriately managed and all cases of shoulder dystocia are subjected to continuous audit.

8. Management of the Newborn with Suspected or Actual injury

Please refer to neonatal guideline: Brachial plexus traction injuries

Appendix 1

Flow chart for management of shoulder dystocia



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Appendix 2

Shoulder Dystocia Documentation Proforma

Consultant:……
Date:……
Time: ……

Mother's Name:……
Date of Birth:……
Hospital Number:……
NHS Number ……..

Called for help at:		Emergency call via switchboard **2222** at:		
Staff present at delivery of head		Additional staff attending for delivery of shoulders		
Name	Role	Name	Role	Time arrived

Procedures used to assist delivery	By whom	Time	Order	Details	Reason if not performed
McRoberts' position					
Suprapubic pressure					
Episiotomy				Enough access/tear present/already performed (circle as appropriate)	
Delivery of posterior arm				Right/Left arm (circle as appropriate)	
Internal rotational manoeuvre					
Description of rotation					
Description of traction	Routine axial (as in normal vaginal delivery)	Other -	Reason if not routine axial:		
Other manoeuvres used					

Mode of delivery of head	Spontaneous		Instrumental – vacuum/forceps		
Time of delivery		Time of delivery of baby		Head-to-body delivery interval	
Fetal position during dystocia	Head facing maternal left Left fetal shoulder anterior		Head facing maternal right Right fetal shoulder anterior		
Birth weight Kg	Apgar	1 min:	5 mins:	10 mins:	
Cord gases	Art pH:	Art BE:	Venous pH:	Venous BE:	
Explanation to parents	Yes	By:	DATIX form completed	Yes	
Neonatologist called? Yes Neonatologist arrived:……					

Name:…… If neonatologist not called or didn't arrive, give reason:……			
Baby assessment after birth (maybe done by MW): Any sign of arm weakness? Any sign of potential bony fracture? Baby admitted to Neonatal Intensive Care Unit? Assessment by……	Yes Yes Yes	No No No	If yes to any of these questions for review and follow up by consultant neonatologist

Person Completing form:……Designation:…… Signature:

Training requirements

Audit of training needs compliance – please refer to TNA policy

Training needs analysis:
Please refer to 'Training Needs Analysis' guideline together with training attendance database for all staff

Cross references

Maternity Hand Held Notes, Hospital Records and Record Keeping
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Maternity/Maternity%20hand%20held%20notes%20and%20hospital%20records.pdf

Brachial Plexus Traction Injuries
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Neonatal/Brachial%20Plexus%20Traction%20Injuries.pdf?timestamp=1540912140846

References

Royal College of Obstetricians and Gynaecologists. Shoulder Dystocia. Guideline No.42. London: RCOG; London

Crofts J, Winter C, Muchatuta N, Draycott T. PROMPT Course Manual. Third Edition. London, RCOG Press;2017.

Author	Guideline Committee		
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