Guideline for the Management of Shoulder Dystocia

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1.0 Introduction

1.1 Definition of Shoulder Dystocia

Shoulder dystocia is defined as a vaginal cephalic delivery that requires additional obstetric manoeuvres to deliver the fetus after the head has delivered and where routine axial traction has failed to deliver the shoulders.
Shoulder dystocia occurs when either the anterior or less commonly the posterior fetal shoulder impacts on the maternal symphysis, or sacral promontory respectively.
Shoulder dystocia occurs in 0.58 - 0.7% of vaginal deliveries.

Routine traction is defined as "that traction required for delivery of the shoulders in a normal vaginal delivery where there is no difficulty with the shoulders" RCOG 2012.
Axial traction is traction in line with the fetal spine i.e. without lateral deviation.

1.2 Perinatal/Maternal morbidity and mortality

There can be significant perinatal mortality and morbidity related to shoulder dystocia even when it is managed appropriately. Maternal morbidity is also increased. It is recognized that not all brachial plexus injuries are due to excess traction. Good management requires that steps should be taken to ensure appropriate management of shoulder dystocia. It is essential that good record keeping standards are maintained. A high level of awareness and training is recommended to all birth attendants.

Perinatal morbidity includes:

- Brachial plexus injury which is the most important fetal complication, occurring in 2.3-16% of shoulder dystocia's with <10% suffering permanent neurological damage
- Fractures to the clavicle or humerus
- Fetal hypoxia and related injuries
- Fetal demise

Maternal morbidity includes:

- Postpartum hemorrhage
- Third and fourth degree tears
- Uterine rupture

1.3 Risk Factors Associated with Shoulder Dystocia

There is limited predictive value from the pre-natal and intrapartum risk factors associated with shoulder dystocia. Most cases are unexpected. However, clinicians should be aware of any existing risk factors in labouring women and must always be alert to the possibility of shoulder dystocia.

Pre-Labour risk factors:

- Macrosomia greater than 4.5Kg
- Previous shoulder dystocia
- Diabetes Mellitus
- BMI >30
- Induction of labour

Intrapartum risk factors:

- Prolonged 1st / 2nd stage of labour
- No change in cervical dilatation for more than two hours following a period of normal active phase dilatation
- Oxytocin Augmentation
- Instrumental delivery

2.0 Objective

To provide guidance for staff caring for women who have a shoulder dystocia.

3.0 Scope

This guideline applies to all medical and midwifery staff working on the maternity unit and midwifery staff in community.

4.0 Main body of the document

4.1 Management of Shoulder Dystocia

Timely management of Shoulder Dystocia requires prompt recognition. The midwife / Doctor should routinely observe for:

- Difficulty with delivery of the face and chin
- The head remaining tightly applied to the vulva or even retracting (Turtle neck sign)
- Failure of restitution of the fetal head
- Failure of the shoulders to descend

A diagnosis of shoulder dystocia is made when the shoulders fail to deliver with the next contraction following delivery of the head with the use of routine axial traction (as described above)

Shoulder Dystocia should be managed systematically.

At all times avoid strong downward traction (excessive persistence with downward traction is the commonest cause of brachial plexus injury).

Maternal pushing should be discouraged, until the shoulders are disimpacted as this may further exacerbate impaction of the shoulders.

Fundal pressure should not be used.

Spend approximately 30 seconds on each manoeuvre – be prepared to re-evaluate and move on – do not lose situational awareness.

The **RCOG Algorithm for the management of shoulder dystocia** is an acknowledged method for managing this emergency situation and provides a systematic approach to performing manoeuvres for disimpaction of the shoulders.

Call for help

- Summon help and Dial 2222 (Ask for code yellow: Obstetric registrar, Obstetric SHO, neonatal team, theatre team, anaesthetist). Additional available midwives will be required to assist with manoeuvres, scribe and provide support to the woman and her birth partner.

McRoberts' manoeuvre

- Perform McRoberts Manoeuvre – Lie the woman flat and position her thighs to her abdomen, abducted not further than the width of the maternal shoulders.
- This straightens the lumbosacral angle, rotates the maternal pelvis towards the mother's head and increases the relative anterior-posterior diameter of the pelvis. Ensure the woman's legs are well supported.
- Make one further effort at this point to deliver the shoulders with routine axial traction.

Suprapubic pressure

- Suprapubic pressure should be applied from the side of the fetal back in a downward and lateral direction just above the maternal symphysis pubis. The aim is to dislodge the impacted shoulder towards the oblique plane of the pelvic inlet and reduce the bisacromial diameter of the fetal shoulders.
- Continuous pressure or intermittent (rocking) pressure for 30 seconds.
- Routine axial traction should be applied to the fetal head when assessing if the manoeuvre has been successful.

Consider episiotomy (if it will make internal manoeuvres easier)

- Episiotomy may aid manoeuvres by facilitating access but will not disimpact the shoulders as it is a bony impaction.
- If episiotomy is difficult do not waste time in attempting one.
- Document if episiotomy performed.

Deliver posterior arm or internal rotational manoeuvres

Try either manoeuvre first depending on clinical circumstances and operator experience.

<u>Internal rotational manoeuvres:</u>

For internal manoeuvres, the woman should be brought down to the end of the bed or the end of the bed should be removed.

All fours position can be considered before attempting internal manoeuvres in slim mobile women where there is limited assistance – for example in the community setting.

- Enter the vagina posteriorly with whole hand.
- Move hand towards posterior aspect of anterior shoulder.
- Attempt to push anterior shoulder into oblique diameter. If this works, remove hand and attempt delivery of the head with routine traction
- If this fails:
    - Enter the vagina posteriorly
    - Place fingers from the second hand on the anterior aspect of the posterior shoulder and continue to rotate in the same direction.
- If this fails:
    - Remove the second hand from the anterior aspect of the posterior shoulder (last in first out) and drop the fingers of the first hand down to the posterior aspect of the posterior shoulder. Attempt to rotate the shoulder in the opposite direction. Continue to push shoulder to complete a rotation of 180 degrees.
    - In this manoeuvre, the posterior shoulder becomes the anterior shoulder and allows delivery to be accomplished.

<u>Deliver posterior arm:</u>

- Insert whole hand posteriorly into vagina with hand at the side of the fetal abdomen in a downward direction into the sacral hollow (use the whole hand – adopt the Pringle ® position).
- Gradually place the hand along the fetal humerus to the elbow.
- Grasp forearm and hand and gently pull the arm out in a straight line across the infant's chest and face.
- Following delivery of the posterior arm, the anterior shoulder can usually be delivered in the normal fashion.
- If there is difficulty, rotate the body 180 degrees so that the delivered posterior shoulder comes around to the anterior position.

Inform consultant obstetrician and anaesthetist at this point if baby not delivered.

All fours position:

If above manoeuvres fail to release the impacted shoulder, roll the woman over onto hands and knees (if able). In this position, the posterior shoulder is delivered first, then the anterior shoulder.

If the shoulders have still not delivered, repeat all manoeuvres again.

Failure of all manoeuvres to deliver the baby

If all manoeuvres have failed, the choice lies between:

- Symphysiotomy – a surgical procedure to divide the cartilage of the symphysis pubis
- Cleidotomy – surgical division of the clavicle, or bending with a finger
- Cephalic replacement with caesarean section (Zavanelli manoeuvre).

4.2 Post delivery

- Following delivery by whatever method, any trauma to the vagina, cervix or perineum will be repaired
- Observe for signs of uterine rupture, and be aware of the increased risk of postpartum haemorrhage
- Assess the condition of the new born infant, and commence resuscitation as appropriate. Baby should be reviewed by paediatrician and referred for consultant neonatal review if any concerns.
- Obtain cord blood samples for analysis
- The woman should be debriefed, and the implications for future pregnancies should be discussed prior to discharge.

4.3 Process for the follow up of the new born if a Brachial Plexus injury is actual or suspected

If an injury to the baby is suspected the infant will be reviewed and assessed by the paediatrician. The paediatrician will speak to the parents regarding the injuries and future management. They will document in the records their findings and the plan of care for the baby. Appointments will be made for review in paediatric outpatients.

The baby will be referred to the paediatric physiotherapist if required following paediatric assessment.

Please follow the Yorkshire and Humber neonatal brachial plexus injury guideline https://www.networks.nhs.uk/nhs-networks/yorkshire-humber-neonatal-odn/guidelines-1/guidelines-new/neurology/neonatal-brachial-plexus-injury

5.0 Associated documents and references

Royal College of Obstetricians and Gynaecologists (RCOG). Green-top guideline No 42. Shoulder Dystocia (2012) [online] https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_42.pdf

Politi S, D'emidio L, Cignini P, Giorlandino M, Giorlandino C. Shoulder dystocia: an Evidence-Based approach. Journal of Prenatal Medicine. 2010 Jul;4(3):35-42. https://europepmc.org/article/PMC/3279180

T Draycott et al. PROMPT course manual. Published by the RCOG Press. IBSN 978-1-904752-55-4 (2008)

6.0 Training and resources

Training will be delivered as outlined in the Maternity Training Needs Analysis. This is updated on an annual basis.

7.0 Monitoring and audit

Any adverse incidents relating to the management of shoulder dystocia will be monitored via the incident reporting system. Any problems will be actioned via the case review and root cause analysis action plans. The action plans are monitored by the risk midwife to ensure that improvements in care are made. The trends and any root cause analysis are discussed at the monthly risk meetings to ensure that appropriate action has been taken to maintain safety.

The guideline for the Management of Shoulder Dystocia will be audited in line with the annual audit programme, as agreed by the CBU. The audit action plan will be reviewed at the monthly risk management meetings on a quarterly basis and monitored by the risk midwife to ensure that improvements in care are made.

8.0 Equality and Diversity

The Trust is committed to an environment that promotes equality and embraces diversity in its performance as an employer and service provider. It will adhere to legal and performance requirements and will mainstream equality, diversity and inclusion principles through its policies, procedures and processes. This guideline should be implemented with due regard to this commitment.

To ensure that the implementation of this guideline does not have an adverse impact in response to the requirements of the Equality Act 2010 this policy has been screened for relevance during the policy development process and a full equality impact assessment is conducted where necessary prior to consultation. The Trust will take remedial action when necessary to address any unexpected or unwarranted disparities and monitor practice to ensure that this policy is fairly implemented.

This guideline can be made available in alternative formats on request including large print, Braille, moon, audio, and different languages. To arrange this please refer to the Trust translation and interpretation policy in the first instance.

The Trust will endeavor to make reasonable adjustments to accommodate any employee/patient with particular equality, diversity and inclusion requirements in implementing this guideline This may include accessibility of meeting/appointment venues, providing translation, arranging an interpreter to attend appointments/meetings, extending policy timeframes to enable translation to be undertaken, or assistance with formulating any written statements.

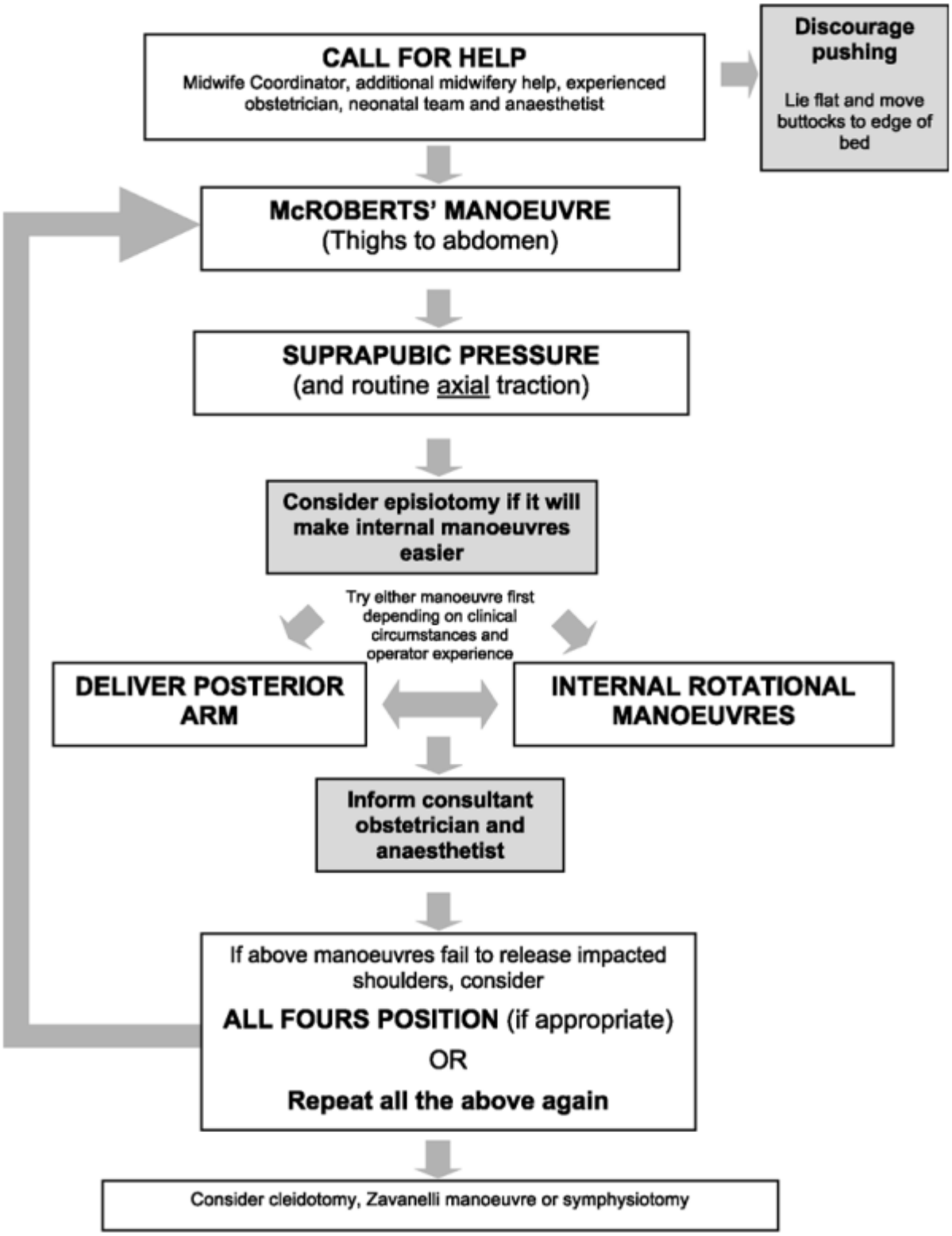
8.1 Recording and Monitoring of Equality & Diversity

The Trust understands the business case for equality, diversity and inclusion and will make sure that this is translated into practice. Accordingly, all guidelines will be monitored to ensure their effectiveness.

Monitoring information will be collated, analysed and published on an annual basis as part of Equality Delivery System. The monitoring will cover the nine protected characteristics and will meet statutory employment duties under the Equality Act 2010. Where adverse impact is identified through the monitoring process the Trust will investigate and take corrective action to mitigate and prevent any negative impact.

Appendix1

Algorithm for the management of Shoulder Dystocia



Baby to be reviewed by neonatologist after birth and referred for Consultant Neonatal review if any concerns

DOCUMENT ALL ACTIONS ON PROFORMA AND COMPLETE CLINICAL INCIDENT REPORTING FORM.

Appendix 2

Barnsley Hospital NHS
NHS Foundation Trust

Name: ……

D.O.B: ……

Unit No: ……

NHS Number:……

Proforma for Shoulder Dystocia

(Contains RCOG minimum dataset - MUST be completed fully for all cases and MUST be filed with the partogram as a contemporaneous record of the care given). Please photocopy for continuous audit.

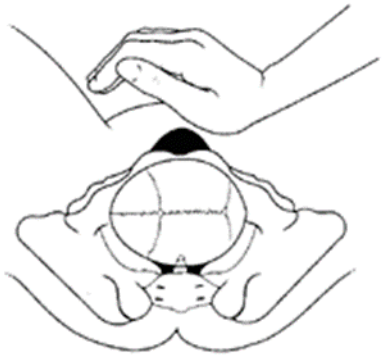
Date:				
Called for help at:		**Emergency Call via switch board at**		
Staff present at delivery of head		**Additional Staff attending at delivery of shoulders:**		
Name	Role	Name	Role	Time arrived:

Procedures used to assist delivery	**Performed By:** **Print Name**	**Time**	**Order Done**	**Details**	**Reason if not performed**
McRoberts Position					
Suprapubic Pressure				**From maternal Left / Right** *(Circle as appropriate)*	
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					
Other manoeuvres used:					

Mode of delivery of head:	Spontaneous		**I**nstrumental – vacuum / forceps.					
Time of delivery of head:	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.					
Weight:	Apgar @	1 Min		5 Min		10 Min		
Cord Gases:	Art pH:	Art BE:	Venous pH:	Venous BE:				
Explanation to parents given:		By Whom:		DATIX Completed				
Neonatologist Called:	Yes		No		Name:	Time Arrived:		
If not called Reason:								
Baby Assessment after birth. (May be done by midwife).								
Assessment undertaken by: *(Print Name)*				Time				
Any sign of arm weakness?	Yes		No		Any sign of potential bone fracture?	Yes		No
Baby admitted to neonatal unit	Yes		No		**If yes to any of these questions for follow up by Consultant Neonatologist**			
Print Name		Designation						
Signature:								

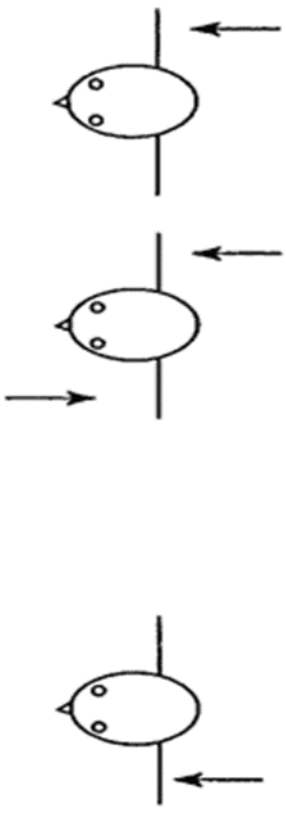
Appendix 3

Suprapubic pressure diagram



Appendix 4

Internal manoeuvres diagram



Rubin II
At vaginal examination apply pressure as indicated. If shoulders move into the oblique diameter, attempt delivery.

Rubin II + Woods corkscrew maneuver
If unsuccessful, add the Woods corkscrew maneuver and continue rotation in the same direction. Use both hands and apply pressure as indicated. If shoulders now move into the oblique, attempt delivery. If this is unsuccessful, continue rotation 180 degrees and deliver.

Reverse Woods corkscrew maneuver
If the last maneuver is unsuccessful, change to reverse Woods corkscrew maneuver. Slide fingers down to back of posterior shoulder and attempt 180-degree rotation in the opposite direction.

NOTE: *Rubin I = suprapubic pressure.*

Appendix 5

Version	Date	Comments	Author
1	14/05/2012		Maternity guideline group
2	25/06/2015		Maternity guideline group
3	31/10/2018		Maternity guideline group

Review Process Prior to Ratification:

Name of Group/Department/Committee	Date
Reviewed by Maternity Guideline Group	03/03/2020
Reviewed at Women's Business and Governance meeting	23/04/2020
Approved at Paediatric Governance meeting	10/09/2021
Approved by CBU 3 overarching Governance	29/09/2021

Archived	Date

Trust Approved Documents (policies, clinical guidelines and procedures)

Approval Form

Please complete the following information and attach to your document when submitting a policy, clinical guideline or procedure for approval.

Document type (policy, clinical guideline or procedure)	Guideline
Document title	**Guideline for the Management of Shoulder Dystocia**
Document author (Job title and team)	Practice Educator Midwife/ Maternity Guideline Group
New or reviewed document	Reviewed
List staff groups/departments consulted with during document development	**Senior midwives, consultant obstetricians, paediatric consultants**
Approval recommended by (meeting and dates):	Reviewed by Maternity Guideline Group — 03/03/2020 Reviewed at Women's Business and Governance meeting — 23/04/2020 Approved at Paediatric Governance meeting — 10/09/2021 Approved by CBU 3 overarching Governance — 29/09/2021
Date of next review (maximum 3 years)	29/09/2024
Key words for search criteria on intranet (max 10 words)	Shoulder dystocia
Key messages for staff (consider changes from previous versions and any impact on patient safety)	
I confirm that this is the <u>FINAL</u> version of this document	**Name: Charlotte Cole** **Designation: Practice Educator Midwife**

FOR COMPLETION BY THE CLINICAL GOVERNANCE TEAM

Approved by (group/committee):	**CBU3 Governance**
Date approved: 29/09/2921	
Date Clinical Governance Administrator informed of approval: 25/10/2021	
Date uploaded to Trust Approved Documents page: 26/10/2021	