Guideline for the Management of a Birth Complicated by Shoulder Dystocia

INITIATED BY:	Cwm Taf Morgannwg University Health Board Guideline Group
APPROVED BY:	Integrated Business, Obstetrics, Gynaecology, Sexual Health & Quality And Safety Group
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Contents

Definition

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 axial traction has failed.

Shoulder dystocia occurs when either the anterior or less commonly the posterior fetal shoulder impacts on the maternal symphysis, or sacral promontory, respectively.

There is a wide variation in the reported incidence of shoulder dystocia but occurs between 0.58 and 0.70% of vaginal births. [1-2]

Rationale

Shoulder dystocia is a life-threatening emergency, and must be recognised quickly and managed efficiently to reduce neonatal hypoxia and effectively to reduce neonatal injury.

Risk Factors

Pre-labour	**Intrapartum**
Previous shoulder dystocia	Prolonged first stage of labour
Macrosomia greater than 4.5kg	Secondary arrest
Diabetes mellitus	Prolonged second stage of labour
Maternal obesity	Oxytocin augmentation
Induction of labour	Instrumental delivery

Although certain risk factors have been identified, their predictive value is relatively low. Consequently the midwife/obstetrician must be prepared for the possibility of shoulder dystocia at all births.

Remember!
Majority of shoulder dystocia's are unpreventable and unpredictable so all clinicians and midwives should have mandatory annual training on PROMPT.

Complications

- Brachial Plexus injury
- Neonatal injuries – fracture of the clavicle /or humerus
- Hypoxia and stillbirth
- Maternal trauma
- Postpartum haemorrhage

Prevention of shoulder dystocia

- Induction of labour doesn't prevent shoulder dystocia in macrosomia with no evidence of diabetes
- Induction of labour can reduce the incidence of shoulder dystocia in gestational diabetes
- Elective CS or vaginal delivery can be appropriate after previous shoulder dystocia. It should be shared decision between the woman and the health professional

Warning signs

Timely management of shoulder dystocia requires prompt recognition. The birth attendant 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.

Routine axial traction should be used to diagnose shoulder dystocia and documented but downward and any other traction should be avoided. Axial traction is traction in line with the fetal spine i.e. without lateral deviation.

There is no evidence that the use of the McRoberts' manoeuvre before delivery of the fetal head prevents shoulder dystocia. Therefore, prophylactic McRoberts' positioning before delivery of the fetal head is not recommended to prevent shoulder dystocia [(1)]

Management

Shoulder dystocia should be managed systematically using the PROMPT Shoulder Dystocia Algorithm (see appendix 1).

Immediately after recognition of shoulder dystocia, additional help should be called. Note the delivery time of the fetal head.

Fundal pressure and extensive traction of the fetal neck should not be used as this increases morbidity.

McRoberts' manoeuvre is a simple, rapid and effective intervention and should be performed first.

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

An episiotomy is not always necessary as it should only be performed if unable to gain access to perform internal manoeuvres.

Management for Shoulder Dystocia in the CLU and AMU

The manoeuvres described below do not need to be carried out in any particular order.

Clinical judgement should always guide the birth attendants in the progression of procedures used. It is essential to record accurately all manoeuvres used on the PROMPT shoulder dystocia pro forma completed and filed in the woman's notes (Appendix 2).

All attendants must be prepared for PPH/neonatal resuscitation.

Call for Help!	**This is an Obstetric Emergency!** Activate emergency bell Call 2222 PCH (or 999 outside of OU) Ask for senior Obstetrician, senior Midwife, Paediatrician, and Anaesthetist**.** **Discourage pushing.**
McRoberts Manoeuvre	Lie woman flat and move buttocks to end of bed. Remove end of bed if possible for better access. Support woman's legs in hyper flexed position, thighs to abdomen
Suprapubic pressure	Applied correctly and continuously, exert pressure on the posterior aspect of the anterior shoulder.. This rotates the anterior shoulder to the wider oblique diameter. This will resolve the shoulder dystocia, so the birth is possible with routine traction

Evaluation for Episiotomy	Confirm if able to gain access of whole hand into sacral hollow. If not, episiotomy may be required
Delivery of posterior arm	**Pringles' manoeuvre:** introduce whole hand into sacral hollow (as if putting hand inside a glass) and feel for baby's posterior arm. If baby's arm is flexed across chest, grasp wrist of posterior arm and deliver in straight line. If baby's posterior arm is straight, flex at the elbow, then grasp wrist and deliver arm in straight line. Remember to release the wrist once out of the vaginal cavity to stop over extension of the posterior arm.
Internal Manoeuvres	Pringles' manoeuvre: introduce whole hand into sacral hollow (as if putting hand inside a glass). Rotation is usually easier if the attendant presses on the anterior or posterior aspect of the posterior shoulder. Rotation into a wider pelvic diameter should be achieved. If pressure in one direction does not free the obstruction rotation in the opposite direction can be attempted. Whilst attempting to rotate the fetal shoulders from inside the pelvis a colleague can be instructed to perform suprapubic pressure to assist rotation. Ensure that you are pushing with and not against each other.
All fours McRoberts	Individual circumstances should guide the professional whether to try the all fours technique before attempting internal rotation or removal of the posterior arm. This may be more useful for the more mobile woman (no epidural) or used as a first line manoeuvre for the community setting.

Shoulder Dystocia in the Community Setting

Manoeuvres should be carried out as described above where possible with use of the Community PROMPT Wales algorithm (see appendix 3) to allow

for times to be documented easily at the time of the emergency then fully documented later on the shoulder dystocia proforma.

Calling for emergency ambulance transfer should NOT be delayed, if the baby is born quickly and in good condition, then the woman and baby should still be transferred for paediatric assessment.

The activation of the transfer policy in any emergency situation should NEVER be delayed – these are time critical incidents.

As per the All Wales Midwifery Led Care Guidelines, all midwives must be prepared for PPH/neonatal resuscitation and follow guidelines for obstetric/ neo-natal transfer to consultant led unit.

Methods of Last resort

If the above manoeuvres are unsuccessful the following techniques have been described as "last resort" manoeuvres.

- Deliberate clavicle fracture. Direct upward pressure on the midportion of the fetal clavicle will result in fracture and reduction of shoulder-to-shoulder distance. This should be considered by the community midwife within the community setting as a last resort.

- Zavanelli manoeuvre. Replace the fetal head vaginally. This is usually performed under general anaesthesia. The fetal head is flexed and replaced within the vagina to allow Caesarean section to be performed. Tocolysis may be valuable in this situation. It must be noted that the maternal safety of this procedure is unknown and should only be considered as a last resort given that the fetus will have irreversible hypoxia – acidosis by this stage.

- Symphysiotomy (partial surgical division of the maternal symphysis pubis ligament) is associated with a high incidence of serious maternal morbidity and poor neonatal outcome.

Documentation

All cases of shoulder dystocia should have a PROMPT pro forma completed (Appendix 2). This should clearly document who was present and times of arrival, manoeuvres carried out in what order and by whom. Which shoulder was the anterior shoulder at time of delivery. Documentation of manoeuvres used and the time intervals are essential. This will also assist in planning for subsequent pregnancies.

A Datix incident reporting form should also be completed.

Debriefing

The woman and her birth partner(s) should be given the time as soon as possible for a health professional whom was present during the emergency to explain events and answer any questions they may have. All professionals involved should also be given the opportunity for a debrief of the events.

Postnatal Care

Postnatal care should take place in the most appropriate setting depending on mode of birth, woman's well-being etc. The baby should be reviewed by the paediatric team, assessing for any injuries to the baby and cord gases should be taken from the umbilical cord following delivery of the placenta. The new-born examination should be completed by a paediatrician prior to discharge home.

Training Requirements

Every professional is required to attend annual PROMPT training days and regular obstetric emergency drills.

Auditable Standards

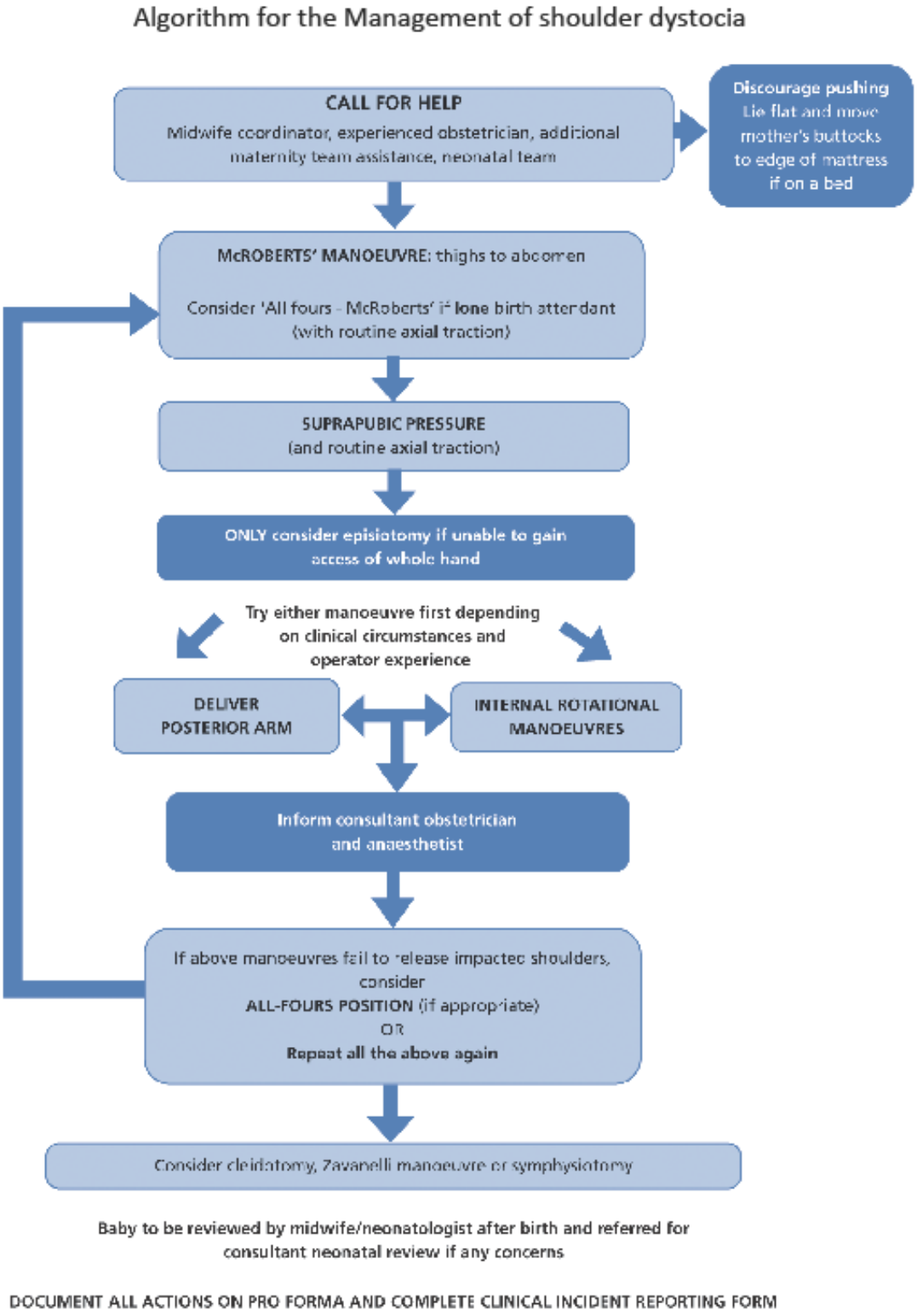
- 100% compliance is required with pro forma documentation
- All staff should attend annual emergency training updates

References

PROMPT (PRactical Obstetric Multi-Professional Training) Course Manual 3rd edition 2017

RCOG (2012) Shoulder Dystocia, Green Top guideline no 42 http://www.rcog.org.uk

Appendix 1: Shoulder Dystocia Algorithm



Appendix 2: Shoulder Dystocia Pro forma

PROMPT

SHOULDER DYSTOCIA DOCUMENTATION

Date ..... Time .....

Person completing form .....

Designation .....

Signature .....

Mother's Name _____

Date of birth _____

Hospital Number _____

Consultant _____

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

Maternal position when shoulder dystocia occurred - please circle (i.e. prior to any procedures to assist)	Semi-recumbent	Lithotomy	Side-lying	All fours	Kneeling	Standing	Squatting	Other ...

Procedures used to assist birth	By whom	Time	Order	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					
Description of traction	Routine (as for normal vaginal birth)	Other -		Reason if not routine	
Other manoeuvres used					

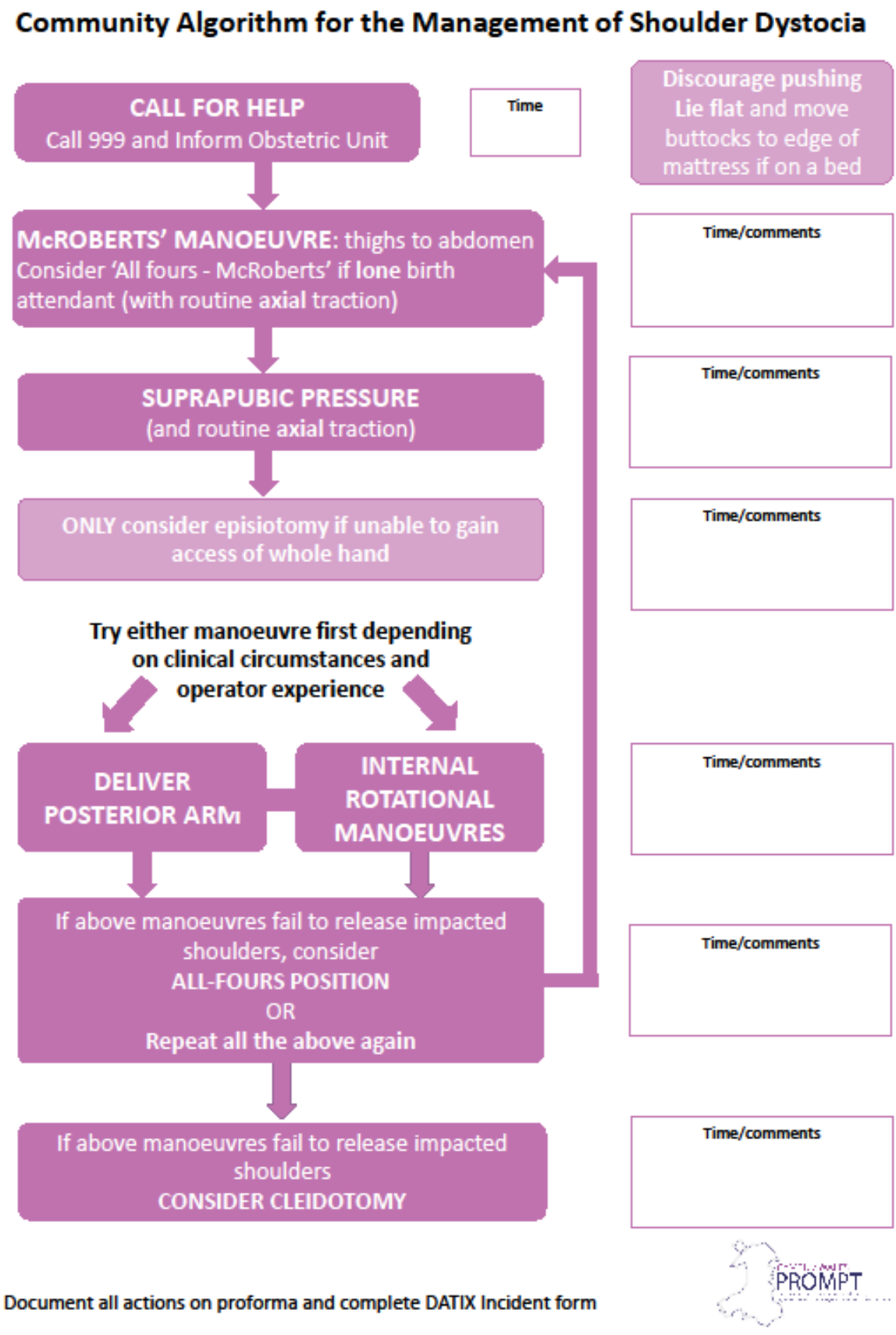
Mode of birth of head	Spontaneous		Instrumental – vacuum / forceps	
Time of birth of head		Time of birth of baby		Head-to-body birth interval
Fetal position during dystocia	Head facing maternal **left** **Left** fetal shoulder anterior		Head facing maternal **right** **Right** fetal shoulder anterior	
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	Risk incident form completed if clinical concerns	Yes / N/A

Neonatologist called: **Yes / No** Time arrived: ..... Neonatologists name: .....

Baby assessment at birth (maybe done by M/W):			If yes to any of these questions, for review and follow up by Consultant neonatologist
Any sign of arm weakness?	Yes	No	
Any sign of potential bony fracture?	Yes	No	
Baby admitted to Neonatal Intensive Care Unit?	Yes	No	
Assessment by			

Version 4.2

Appendix 3: Community Shoulder Dystocia Algorithm



Appendix 4: Annual auditable standards

The following standards will formulate the annual record keeping audit plan:-

1. Documentation of the event and completion of the proforma
2. Family debrief following birth
3. DATIX incident reporting
4. Emergency declared and emergency call instigated, Neonatal team requested to attend (Proforma for evidence)
5. Staff attendance at annual training (PROMPT staff compliance)