1. **Introduction and who the guideline applies to:**

This document sets out the procedures and processes to follow in the Obstetric emergencies listed below with the intention of providing safe and effective care to these patients.

**Scope:**

These guidelines are for the use of all staff involved in the management of shoulder dystocia. This includes midwifery, obstetric and anaesthetic staff.

**Risk Management:**

A clinical incident reporting form must be completed for all obstetric emergencies. Please refer to the Maternity Services Risk Management Strategy for details.

**Related documents:**

<table>
<thead>
<tr>
<th>Document</th>
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<tbody>
<tr>
<td>Maternity Records Documentation Policy</td>
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<tr>
<td>Patient case note documentation policy (trust wide)</td>
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<tr>
<td>Thermal protection of the newborn</td>
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<tr>
<td>Erb’s palsy – neonatal management</td>
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<tr>
<td>Resuscitation of the newborn</td>
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</table>

**Guideline Development Methodology:**

Extensive literature searches were undertaken of the Cochrane, CINAHL, MEDLINE, and Embase databases. Few papers were identified of appropriate trials on which to base recommendations on management of emergencies. A textbook and Guidelines search was performed, and the following texts chosen to support recommendations:


RCOG (2012) Shoulder Dystocia Green Top Guideline RCOG
https://www.rcog.org.uk/globalassets/documents/guidelines/gtg_42.pdf Last accessed 22/3/19
2. Guidance:

**Definition:**
Shoulder dystocia is defined as a vaginal cephalic birth that requires additional obstetric manoeuvres to assist the birth of the infant after gentle traction has failed.

**Diagnosis:**
Diagnosis occurs when, after emergence of the fetal head, further progress towards delivery is prevented by impaction of either the anterior shoulder on the symphysis pubis or less commonly the posterior shoulder over the sacral promontory.

**Background:**
There can be a high Perinatal mortality and morbidity, though recent data suggest neonatal outcomes including Brachial plexus injury can be improved by multidisciplinary simulation Training (Crofts et al 2016, Weiner et al 2016) Maternal morbidity is also increased. Particularly postpartum haemorrhage (11%) and 4th degree perineal tears (3-8%).

**Antenatal prediction:**
Antenatal prediction of fetal macrosomia and maternal risk factors remain unreliable indicators for shoulder dystocia, and should not be used in isolation to decide on mode of delivery.

1. Maternal diabetes with fetal macrosomia consistently seems to be associated with shoulder dystocia, and antenatal diagnosis of these is an important aim of antenatal care.

2. Clinical fetal weight estimation is unreliable and third trimester ultrasound scans have at least a 10% margin for error for actual birth weight and a sensitivity of just 60% for macrosomia (>4.5Kg).

3. Induction of labour for suspected macrosomia in non-diabetic women does not decrease the rate of Caesarean section or reduce maternal complications.

4. There remain no nationally agreed thresholds of fetal weight to recommend delivery in women with or without diabetes.

5. Clinicians should be aware of pre-pregnancy and antenatal risk factors, and these should be clearly documented in the patient’s antenatal health record:

<table>
<thead>
<tr>
<th>Pre-labour risk factors</th>
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<tbody>
<tr>
<td>Previous shoulder dystocia</td>
</tr>
<tr>
<td>Maternal obesity</td>
</tr>
<tr>
<td>Macrosomia &gt;4.5 kg</td>
</tr>
<tr>
<td>Diabetes mellitus, pre-existing or gestational</td>
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</table>

6. If a large baby is suspected then this should be indicated in the
7. Planned caesarean section should be considered for the small group of women with pre-existing or gestational diabetes, regardless of treatment, and suspected fetal macrosomia (estimated fetal weight >4.5Kg).

Over 50% of shoulder dystocias occur in babies under 3500g

Recurrence:
The recurrence rate of shoulder dystocia is variable and unpredictable. The reported incidence varies between 1-16%. There is no evidence to support elective caesarean section for a subsequent delivery when there has been a previous shoulder dystocia. Either caesarean section or vaginal delivery is appropriate after a previous shoulder dystocia.

- Factors such as severity of neonatal and maternal injuries, fetal size and maternal choice should be considered when considering mode of delivery following a previous shoulder dystocia.

Intrapartum recognition:
There remain no reliable criteria for intrapartum recognition for shoulder dystocia, although a list of risk factors seems to be agreed in the literature. Risk factors ought to be easily identifiable by staff to assist with anticipation of shoulder dystocia.

Several risk factors have been proposed including:

- Macrosomia
- Prolonged 1st stage of labour
- Oxytocin augmentation
- Prolonged latent phase
- Secondary arrest
- Prolonged 2nd stage
- Assisted vaginal delivery / midcavity forceps

Warning signs:

- Head retraction following birth of head (the turtle sign)
- Difficulty with delivery of face and chin
- Failure of shoulders to descend
- Anterior shoulder fails to release with maternal effort or when routine axial traction applied
- Restitution does not occur with next contraction

Anticipation:
a. If a large baby is anticipated a record should be made in the antenatal health record as well as the labour record.
b. A discussion between an experienced Obstetrician and the patient should be documented, and, where applicable, an intrapartum care plan should be completed.

c. If shoulder dystocia is anticipated there should be a clear plan of who should be present at the birth.

d. The registrar on duty on delivery unit should be informed when the woman enters the second stage of labour.

e. As not all cases can be anticipated all birth attendants should be conversant with the techniques required to facilitate delivery complicated by shoulder dystocia.

**Immediate management:**

When shoulder dystocia occurs a fire drill approach should be taken, including calling appropriate help and keeping the woman and partner informed.

1. **Call for help immediately** emergency buzzer if in hospital – clearly stating the problem and whom you want to help:
   - Experienced obstetrician (ST3 or above)
   - Core midwife, and further midwifery assistance
   - Anaesthetist
   - Crash call neonatal resuscitation team

   The lead practitioner will co-ordinate activities. Roles should include someone to keep records of manoeuvres used and for how long.

   Ask the mother to stop pushing, as at this point since further impaction of shoulders may occur. Note the time the head was born.

   Remember cord pH declines at a rate of 0.04 per minute after emergence of the head.

2. **Explain to the mother and partner briefly but clearly the problem and proposed actions.**

3. **Draw mother’s buttocks to the edge of the bed and position the woman in McRoberts position** as it is the single most effective intervention and should be performed first.

   **McRoberts position** involves Lying the mother flat removing pillows from under her back and hyperflex the mother’s legs against her abdomen (so knees are near ears) resulting in straightening of the sacrum in relation to the lumbar spine, anterior...
rotation of the symphysis with a decrease in the angle of inclination which may disimpact the shoulder. The maternal buttocks should be lifted of the bed during hyperflexion of hips.

Attempt routine axial (in line with the fetal spine) traction to assess if shoulders have been released

If the shoulder has not been released move on to the next manoeuvre do not continue to apply traction to baby’s head

4. **Use suprapubic pressure** on the side of the fetal back to try to reduce the fetal bisacromial diameter and to rotate the anterior shoulder into the wider oblique of the pelvis disimpact shoulder: apply downwards. There is no evidence that rocking is better than continuous pressure or that it has to be performed for 30 seconds to be effective

If anterior shoulder not released after suprapubic pressure and routine axial traction another manoeuvre should be attempted
5. If this is not successful internal manipulation is required and **episiotomy** should be considered. Episiotomy will not relieve bony obstruction but may allow more room to facilitate internal manoeuvres.

6. The choice is between all-fours position and internal manipulation. In slim mobile women with no epidural and a single midwife all-fours positions may be appropriate. In cases where women are less mobile with epidural in place and a senior obstetrician present internal manipulation is appropriate.

7. Internal manoeuvres are either delivery of posterior arm and internal rotational manoeuvres.

8. The decision to use internal rotation rather than posterior arm delivery should be left to the attending practitioner and the clinical circumstances.

9. Internal manoeuvres start with inserting the whole hand into the sacral hollow, scrunch up hand as if putting on bracelet.

10. Internal rotation or delivery of the posterior arm can then be attempted using whole hand.

11. Delivery of the posterior arm will reduce the diameter of the shoulders by the width of the arm. Once birth assistants hand placed in vagina posteriorly may feel the hand and forearm of the posterior fetal arm, practitioner can then take hold of wrist with fingers and thumb and gently release the posterior arm in a straight line.

Once delivered gentle axial traction should be applied and baby’s body should be born if dystocia resolved.

If the baby is lying with its posterior arm straight against its body in front of the fetal abdomen it may be possible for birth practitioner to put pressure with thumb at the antecubital fossa which will cause the forearm to flex and it can be grasped and swept out over the chest. This allows for increased space in the pelvis, and with supra pubic pressure and axial traction on the fetal head the shoulder may disengage from behind the symphysis pubis.
12. **Internal Rotational Manoeuvres**

Aims to move the bisacromial diameter out of narrowest diameter of pelvis and into oblique diameter.

This is achieved by either pressing on the anterior aspect (front) or posterior aspect (back) of the posterior (lowermost if woman in supine position) shoulder. Pressure on the posterior aspect of posterior shoulder reduces diameter by abducting the shoulders. Rotation should move shoulders into wider oblique of mothers pelvis resolving the shoulder dystocia and aided by axial traction release the shoulder.

If Pressure in one direction has no effect try the opposite direction pressing on the other side of fetal posterior shoulder or change the hand you are using.

While attempting to rotate shoulders internally a colleague can attempt suprapubic pressure to assist your rotation but ensure pushing with and not against each other.

13. If manoeuvres fail try them again or change the position of the woman.

14. **All Fours Position**

Positioning woman in flexed all fours with thighs against abdomen similar effect as McRoberts position and individual circumstances will guide use of this position for example at Home birth, mobile woman without epidural.

The change of position itself may release the shoulder.

Remember if preforming internal manoeuvres in all fours the posterior shoulder and arm are uppermost and entering the whole hand into the sacral hollow is often more easy to accomplish.
Additional manoeuvres

15. Cephalic replacement (the Zavanelli procedure) should be used only as a last resort, which in the rare cases can be lifesaving. Reported success rates vary. However, a high proportion of babies have irreversible hypoxic acidosis by this stage.

16. Symphysiotomy has been described as a useful technique. Performing this rather uncommon procedure in any emergency situation may carry a substantial risk.

17. Cleidotomy (bending the clavicle with a finger or surgical division) should be considered a manoeuvre of last resort.

18. Keep accurate records of time and manoeuvres used and actions taken, to include:

- Delivery time of the head
- Direction of the baby at birth ie which shoulder was anterior at the time of dystocia
- The time assistance called for and the time assistance arrived
- Staff in attendance
- The manoeuvres performed, by whom, time and sequence
- Description of traction used
- Whether an episiotomy was performed/extended after delivery of the head
- The time of delivery of the rest of the body
- Condition of the baby (including Apgar score)
- Cord gases
- Review of baby by paediatrician
- Explanation to parents
- All cases of actual and suspected brachial plexus injury and shoulder dystocia should be recorded in the patients’ case notes and via E3
- All suspected or actual injuries to the baby identified after delivery by the neonatologist will require follow up with neonatal services. A follow up plan should be made by the neonatologist prior to discharge from hospital.
- Clear documentation and filing of relevant documentation in case notes, including the completed proforma and completion of incident form.

Avoid

Fundal pressure and excessive downward traction on the head and neck can result in brachial plexus damage and damage to the cervical vertebrae.

Avoid jerky movements also associated with brachial plexus injury

So do not pull quickly do not pull hard do not pull downwards.

The combination of McRoberts manoeuvre and suprapubic pressure resulting in disimpauction of the fetal shoulders may be
3. **Training:**

Training for the management of shoulder dystocia (“skills drills”) is provided within Maternity as part of multidisciplinary education. Details are held in the Clinical management Group Training Needs Analysis.

4. **Case review / Monitoring compliance:**

These are based on a review of incident forms and outcomes by the Risk Manager. Cases with brachial plexus injury are then reviewed in conjunction with the clinical lead and referred to the Perinatal Risk Group if appropriate.

5. **Supporting References:**


6. **Key Words:**

Shoulder dystocia McRoberts Suprapubic pressure Internal manoeuvres
Algorithm for the management of shoulder dystocia

**CALL FOR HELP**
Core midwife, additional midwifery help, experienced obstetrician, Neonatal SHO or SpR

**MCRBOERTS’ MANOEUVRE**
(thighs to abdomen)

**SUPRAPUBIC PRESSURE**
(and routine traction)

Consider episiotomy if it will make internal manoeuvres easier

Try either manoeuvre first depending on clinical circumstances

**DELIVER POSTERIOR ARM**

**INTERNAL ROTATIONAL MANOEUVRES**

Inform consultant obstetrician and anaesthetist

If above manoeuvres fail to release impacted shoulders, consider ALL-FOURS POSITION (if appropriate) OR Repeat all the above again

Consider cleidotomy, Zavanelli manoeuvre or symphysiotomy

Baby to be reviewed by Neonatologist

**DOCUMENT ON PRO FORMA, E3 AND COMPLETE CLINICAL INCIDENT REPORTING FORM**
Algorithm for the Management of Shoulder Dystocia in a Stand Alone Birth Centre or Community Setting

1. Call for Help
   999 for a paramedic ambulance, 2nd midwife (if not present)
   Inform consultant unit
   Contact Midwife co-ordinator on receiving Labour ward to notify of transfer and to arrange Obstetrician (ST3 or above) and Neonatologist to be present on arrival

2. Discourage pushing
   Move buttocks to edge of bed

3. Microblocks manoeuvre
   (Thighs to abdomen)

4. Suprapubic pressure
   (and routine traction)

5. Consider episiotomy if it will make internal manoeuvres easier

6. Deliver posterior arm

7. Internal rotational manoeuvres

8. If above manoeuvres fail to release impacted shoulders consider ALL FOUR POSITION (if appropriate) OR repeat all the above again

9. Transfer to hospital as soon as ambulance available, even if delivery successful
   Neonatologist to review after delivery

DOCUMENT ON PROFORMA, E3 AND COMPLETE CLINICAL INCIDENT REPORTING FORM
### Shoulder Dystocia Documentation

From RCOG Guideline No. 42

**Date** ........................................... **Time** ...........................................

**Person completing form (& designation)** ...........................................

**Signature** ...........................................

**MOTHERS NAME** ...........................................

**DATE OF BIRTH** ...........................................

**HOSPITAL NUMBER** ...........................................

**CONSULTANT** ...........................................

<table>
<thead>
<tr>
<th>Called for help at:</th>
<th>Emergency call via switchboard at:</th>
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</table>

**Staff present at delivery of head:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Time arrived</th>
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**Additional staff attending for delivery of shoulders:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Time arrived</th>
</tr>
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<tbody>
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</table>

**Procedures used to assist delivery**

<table>
<thead>
<tr>
<th>By Whom</th>
<th>Time</th>
<th>Order</th>
<th>Details</th>
<th>Reason if not performed</th>
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**McRoberts’ Position**

From Maternal left / Right (Circle as appropriate)

**Suprapubic Pressure**

Enough access / tear present / already performed (Circle as appropriate)

**Episiotomy**

**Delivery of Posterior Arm**

Right / Left arm (Circle as appropriate)

**Internal Rotational Manoeuvre**

**Description of rotation**

**Description of traction**

Routine axial (as normal vaginal delivery) Other-

Reason if not routine axial:

**Other manoeuvres used**

**Mode of delivery of head**

Spontaneous Instrumental – Vacuum / Forceps

**Time of delivery of head**

Time of delivery of Baby Head-to-body delivery interval

**Fetal position during dystocia**

Head facing the maternal left Head facing the maternal Right

Left fetal shoulder anterior 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: Incident Form completed Yes

**Neonatologist called?** Yes Neonatologist arrived........... Name...........................................

**If Neonatologist not called or didn’t arrive, give reason** .................................................................

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**Baby assessment after birth** (may be done by midwife)

Any sign of weakness? Yes No

Any sign of potential bony fracture? Yes No

Baby admitted to Neonatal Intensive Care Unit? Yes No

**Assessment by:** ...........................................

If YES to any of these questions for review or follow up by Consultant Neonatologist.

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Please note that this may not be the most recent version of the document; a definitive version is in the Policy and Guidelines Library.