Management of Shoulder Dystocia

Version: 1

Derived from: Management of Shoulder Dystocia (FPH) and Guideline for the Management of Shoulder Dystocia (WPH)

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Ratified by (Committee): Obstetrics and Gynaecology Clinical Governance Committee

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This guideline has been registered with the trust. However, clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using guidelines after the review date.
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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 routine axial traction has failed.\(^1\)

It occurs when the bisacromial diameter (breadth of shoulders) exceeds the diameter (anterior–posterior) of the pelvic inlet.\(^2\) Usually the anterior shoulder impacts on the maternal symphysis. Less commonly, the posterior shoulder impacts on the sacral promontory.\(^4\)

Incidence of shoulder dystocia
It is estimated that shoulder dystocia occurs between 0.6% and 1.4% for infants of birth weight between 2.5kg and 4.0kg and between 5% and 9% for infants weighing between 4.0kg and 4.5kg.\(^2\)

Factors associated with shoulder dystocia:\(^5\)

<table>
<thead>
<tr>
<th>Pre Labour</th>
<th>Intrapartum</th>
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<tbody>
<tr>
<td>• Previous shoulder dystocia</td>
<td>• Prolonged first stage of labour</td>
</tr>
<tr>
<td>• Macrosomia</td>
<td>• Secondary arrest</td>
</tr>
<tr>
<td>• Maternal diabetes mellitus</td>
<td>• Prolonged second stage of labour</td>
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<tr>
<td>• Induction of labour</td>
<td>• Augmentation of labour</td>
</tr>
<tr>
<td>• Maternal BMI &gt;30 kg/m(^2)</td>
<td>• Instrumental delivery</td>
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<tr>
<td>• Maternal short stature</td>
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<tr>
<td>• Abnormal pelvic anatomy</td>
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Antenatal Management
There is no evidence to support that early induction of labour prevents shoulder dystocia for women with suspected macrosomia in the absence of gestational diabetes.\(^4\)

The reported recurrence rate of shoulder dystocia is between 1% and 25%. The decision for method of delivery should be made between the woman and her obstetrician.\(^3\)

Diagnosis of Shoulder Dystocia
Midwives and obstetricians should routinely look for the following signs of shoulder dystocia:\(^4\)

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

Routine traction in an axial direction can be used to diagnose shoulder dystocia. Axial traction is traction in line with the fetal spine, i.e., without lateral deviation. Downward traction on the fetal head should be avoided in the management of all births.\(^4\)

It is not recommended to perform McRoberts manoeuvre before birth of the head as a prophylactic manoeuvre as it is ineffective and it affects counselling for future pregnancies.\(^13\)
Management of Shoulder Dystocia

Shoulder dystocia is an obstetric emergency, which is often unanticipated.
Once the fetal head is delivered it must be assumed that the umbilical cord is
compressed between the fetal body and the maternal pelvis. The fetal pH will fall at a
rate of 0.04 per minute until respiration is established in the neonate. For example, it will
take 7 minutes for the pH to fall from 7.25 to 6.97. One study suggests low rates of
hypoxic ischaemic injury if the head-to-body time is less than five minutes.  

If shoulder dystocia is anticipated, prior to delivery call for the following:
• Obstetric registrar
• Paediatric registrar
• Obstetric anaesthetist
• Senior midwife

The following interventions are based on the recommendations of the using the
HELPERR mnemonic. The mnemonic can be a helpful tool to remember the steps that
need to be taken, however, the steps are not taken in the order of the mnemonic:

Help – call for help
Episiotomy – evaluate for episiotomy
Legs – McRoberts manoeuvre
Pressure – suprapubic pressure
Enter – internal manoeuvres
Remove the posterior arm
Roll – roll the woman onto all fours and repeat manoeuvres

The following is a description of the RCOG algorithm, which sets out the steps to be
taken in the correct order: (see Appendix 3)  

Call for Help
• Press the emergency buzzer
• Ask for a 2222 Obstetric Emergency Call, stating which delivery room
• Clearly state “This is a shoulder dystocia” when help arrives

Ask the mother to stop pushing
Pushing may increase the impaction and will not resolve the dystocia.

Legs - McRoberts’ manoeuvre – this increases the diameter of the pelvic inlet:
• Lie the mother flat and remove any pillows from under her back
• If applicable remove from lithotomy position and straighten the legs prior to
manoeuvre.
• Move her to the end of the bed and/or remove the end of the bed (to make
vaginal access easier)
• With an assistant on either side, hyperflex the woman’s legs so that her knees
are in the knees to chest position.
• Now apply routine axial traction again. If the shoulders aren’t released, stop
traction and move straight onto the next manoeuvre, keeping the mother in
McRoberts.

Suprapubic pressure
This aims to reduce the fetal shoulder-to-shoulder diameter and rotate the anterior
shoulder into the wider oblique diameter of the pelvis. The anterior shoulder is freed to
slip underneath the symphysis pubis with the aid of routine axial traction:
- An assistant applies ‘CPR style’ pressure using the heel of the hand, either constant or rocking pressure.
- Pressure is applied
  - in a downward and lateral direction (‘towards the skirting boards’)
  - just above the symphysis pubis
  - to the posterior aspect of the fetal shoulder
- Apply pressure for a maximum of 30 seconds.
- Apply routine axial traction to assess whether the manoeuvre has been successful.
- If suprapubic is not successful, move on to the next manoeuvre.

Consider Episiotomy if unable to gain vaginal access with whole hand
- Attempt to gain vaginal access posteriorly, into the sacral hollow.
- Using one hand place the tips of all of your fingers and thumb together to make your hand as narrow as possible to gain entry for internal manoeuvres, as if trying to put on a tight bracelet (or reaching for the last crisp at a bottom of a narrow cylindrical container).
- If access cannot be achieved using this technique, then give a medio-lateral episiotomy.

**Internal manoeuvres** – there is no evidence to suggest which order to perform the following internal manoeuvres. The order should be decided on clinical judgement and experience.

**Internal rotational manoeuvres**
- Apply pressure to the posterior (back) aspect of the posterior (lowermost) shoulder. The shoulders should be rotated into the wider oblique diameter, resolving the shoulder dystocia.
- If this does not work, apply pressure to the anterior (front) aspect of the posterior (lowermost) shoulder.
- If you are struggling, try using your other hand
- If the above is unsuccessful, try reaching the anterior shoulder
  - From the sacral hollow, follow the fetal back up to the anterior shoulder
  - Apply pressure to the posterior (back) aspect of the anterior (uppermost) shoulder and rotate the shoulders in the oblique diameter
- While attempting to rotate the shoulders internally, you can ask an assistant to apply supra-pubic pressure to assist with the rotation. Ensure you are pushing with and not against each other.

**Deliver the posterior arm**
- Ask for supra-pubic pressure to be stopped
- Enter the vagina posteriorly with your full hand as described above
- Check whether you can feel the fetal hand and forearm
  - Often, babies lie with their arms flexed across their chest
  - Take hold of the fetal wrist and gently release the posterior arm in a straight line
  - Once the posterior arm is delivered, apply routine axial traction on the head
  - If routine traction doesn’t result in delivery of the shoulders, support the head and posterior arm and rotate the baby 180 degrees. The posterior shoulder now becomes the anterior shoulder and should be below the pubis symphysis, resolving the dystocia.
- If the posterior arm is straight in front of the fetal abdomen
  - May be easier to attempt internal rotational manoeuvres first
Follow the arm down to the elbow, place your thumb in the antecubital fossa and apply pressure to the back of the forearm just below the elbow. This should flex the arm, then grasp the wrist and deliver the arm as described above.

- If you cannot reach the wrist, do not pull on the arm, as this can result in a humeral fracture.

**All fours position OR repeat all the above again**

- In some individual circumstances, it may be appropriate to try the all-fours position before internal manoeuvres, for instance in a slim, mobile mother without an epidural and with a single midwifery attendant.
- Roll the mother onto her hands and knees so that the maternal weight lies evenly on all four limbs.
- The woman may push or routine axial pressure may be applied.
- If the dystocia remains, internal manoeuvres can be re-attempted.
- Remember that the maternal sacral hollow and the fetal posterior shoulder will now be uppermost.

**Methods of last resort**

The following should only be attempted by a senior clinician:

- Deliberate fracture of the clavicle, this could be bilateral.
- Zavanelli manoeuvre (attempt to replace baby’s head into vagina and progress towards a category 1 emergency caesarean section with tocolytic bolus of subcutaneous terbutaline 0.25mg or glyceryl trinitrate
- Symphysiotomy (surgical division of the symphysis pubis)
- Abdominal surgery and hysterotomy

**What to avoid**

- NEVER apply excessive traction
- Don’t apply downward traction, always axial
- NEVER apply fundal pressure.
  - It is associated with high rates of brachial plexus injuries and rupture of the uterus.

**Birth attendants should be alert to the possibility of postpartum haemorrhage and severe perineal trauma.**

**Standards for documentation**

Documentation should be accurate and comprehensive.

It is important to appoint a scribe to utilise the handwritten shoulder dystocia proforma (Appendix 1) and document:

- Time of delivery of the head and time of delivery of the body
- Direction that the fetal face is looking
- Anterior shoulder at the time of the dystocia
- Manoeuvres performed, their timing and sequence
- Names of staff in attendance and the time they arrived
- Umbilical cord blood acid-base measurements
- Neonatal assessment of the baby.
- Ensure that the completed handwritten shoulder dystocia documentation proforma is filed securely in the woman’s records.
- Ensure a “Newborn Checklist Following Shoulder Dystocia” (Appendix 3) is completed and filed in the baby’s record.
• Ensure that incident reporting is completed.
• Where the baby is delivered without requiring entry manoeuvres, before there is time to commence a handwritten proforma, the electronic Euroking shoulder dystocia documentation is acceptable (FPH).

Process for the follow up of babies
All babies born following shoulder dystocia must be examined by a paediatric registrar or consultant prior to discharge. All of these babies require their own set of medical records. For babies born with actual or suspected brachial plexus injury, see guidance Babies born with brachial plexus injury (Erb’s palsy).

Auditable standards
- Process for use of shoulder dystocia scribe form
- Completion of Euroking shoulder dystocia record
- Baby examined by paediatric registrar or consultant prior to discharge from hospital

Monitoring
• All cases of shoulder dystocia or actual or suspected brachial plexus injury will be reviewed by the maternity patient safety team as a continuous audit. Where risk issues are identified or there is actual or suspected brachial plexus injury, the case will be reviewed in the maternity patient safety team, with on-going management in accordance with the Trust risk management policies.
• Shoulder dystocia and the number of babies with brachial plexus injuries will be monitored monthly via the Maternity Dashboard.

Communication
An explanation of the delivery should be given to the parents.
If there are communication issues (e.g. English as a second language, learning difficulties, blindness/partial sightedness, deafness) staff will take appropriate measures to ensure the patient (and her partner, if appropriate) understand the actions and rationale behind them.

The team involved with the management of a shoulder dystocia should be debriefed.

Equality Impact Assessment
This policy has been subject to an Equality Impact assessment.

Expectations for staff training
Midwives and obstetricians are required to attend annual skills drills which include management of shoulder dystocia. The Trust requires that a minimum of 90% of relevant staff have completed skills drills training within the previous twelve months as detailed in the maternity units' training needs analysis.
References


8. Gherman et al. (1997) The McRoberts Maneuver for the alleviation of shoulder dystocia; how successful is it? Am J of Obstet Gynecol;176;656-


Version Control

<table>
<thead>
<tr>
<th>Year</th>
<th>Author</th>
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<tr>
<td>2002</td>
<td>Helen Whapshott (Labour ward manager)</td>
</tr>
<tr>
<td>2012</td>
<td>Reviewed by Melanie Woolman</td>
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## Appendix 1: Shoulder Dystocia Documentation Proforma

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<tr>
<th>Date:</th>
<th>Time:</th>
<th>Addressograph or patient ID</th>
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<tr>
<th>Print name of person completing this form:</th>
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<tbody>
<tr>
<td>Signature:</td>
</tr>
<tr>
<td>Designation:</td>
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### Called for help at:

### Emergency call via switchboard at:

### Staff present at delivery of head:

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Name</th>
<th>Role</th>
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<th>Additional staff attending for delivery of shoulders:</th>
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<tr>
<td>Name</td>
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### PROCEDURES USED TO ASSIST DELIVERY

<table>
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<tr>
<th>Time</th>
<th>BY WHOM</th>
<th>Details</th>
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</tbody>
</table>

- **McRoberts’ Position**
- **Suprapubic pressure**
  - Maternal left / right
- **Episiotomy**
  - Enough access / tear present / already performed
- **Internal rotation manoeuvres**
- **Delivery of the posterior arm**
  - Right / left arm
- **Any other manoeuvres (e.g. Roll)**

### Delivery of head

<table>
<thead>
<tr>
<th>Spontaneous / Ventouse / Forceps</th>
<th>Apgar Scores</th>
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</thead>
<tbody>
<tr>
<td>Time of delivery of head</td>
<td>1 min</td>
</tr>
<tr>
<td>Time of delivery of baby</td>
<td>5 mins</td>
</tr>
<tr>
<td>Head-to-body interval</td>
<td>10 mins</td>
</tr>
</tbody>
</table>

### Fetal position

- Head facing maternal left
- Head facing maternal right

- Left fetal shoulder anterior
- Right fetal shoulder anterior

<table>
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<tr>
<th>Birth Weight (kg)</th>
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</table>

### Description of traction

- Routine axial / other
- Reason if not routine axial:

### Cord Gases

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<tr>
<th>Arterial pH:</th>
<th>BE:</th>
<th>Venous pH:</th>
<th>BE</th>
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### Paediatricians present

<table>
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<tr>
<th>Time of arrival:</th>
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<tbody>
<tr>
<td>Yes ☐ By:</td>
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### Explanation to parents

| Yes ☐ By: |

### Incident From completed

| Yes ☐ By: |

### Newborn checklist commenced

| Yes ☐ By: |

---

Please file this form in the notes.
On-going management should be documented in the maternity notes
Appendix 2: Neonatal checklist following shoulder dystocia

Baby’s name:  Baby’s hospital no:

Baby’s DOB:  Gestation:  Consultant:

For all babies born following shoulder dystocia:

<table>
<thead>
<tr>
<th>Initial assessment by midwife</th>
<th>If yes to any of these questions for review and follow up by consultant neonatologist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any sign of arm weakness? Yes/No</td>
<td></td>
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<tr>
<td>Any sign of potential bony fracture? Yes/No</td>
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<tr>
<td>Baby admitted to SCBU at any time? Yes/No</td>
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Set of baby notes created:  Datixweb incident form completed:  

All babies must be reviewed by paediatric registrar/consultant:

Date of review:  Comments:  

For babies where there is actual or suspected brachial plexus injury:

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<td>9.</td>
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<td>YES/NO</td>
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<td>10.</td>
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<td>YES/NO</td>
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Staff entering information in the box above; please put your details in the box below:

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<tr>
<th>No.</th>
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Appendix 3: Algorithm for the management of shoulder dystocia

Algorithm for the management of Shoulder Dystocia

CALL FOR HELP
Midwife Coordinator, additional midwifery help, experienced obstetrician, neonatal team and anaesthetist

Discourage pushing
Lie flat and move buttocks to edge of bed

McROBERTS’ MANOEUVRE
(Thighs to abdomen)

SUPRAPUBIC PRESSURE
(and routine axial traction)

Consider episiotomy if it will make internal manoeuvres easier
Try either manoeuvre first depending on clinical circumstances and operator experience

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 after birth and referred for Consultant Neonatal review if any concerns

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