Brighton and Sussex University Hospitals NHS Trust

Disengaging a Deeply Impacted Fetal Head at LSCS And Use of Fetal Pillow

Maternity Document: MD090

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Contents

Key Principles

This guide is a set of measurable, objective standards to determine a course of action. Professional judgement may be used in the application of such guidance.

Scope

This guideline applies to:

- All pregnant women and people requiring a lower segment Caesarean section (LSCS) ≥37 weeks gestation, with a cephalic presentation
- All women requiring a LSCS at Full dilation

Responsibilities

Midwives & Obstetricians

- To access, read, understand and follow this guidance
- To use their professional judgement in application of this guidance

Management

- To ensure the guidance is reviewed as required in line with Trust and National recommendations
- To ensure the guidance is accessible to all relevant staff

1 Background

LSCS in the second stage of labour is associated with higher rates of adverse maternal and neonatal outcomes than LSCS in the first stage, or pre-labour (elective). The maternal risks include higher rates of: uterine atony, blood loss >1000mls, incision extension, trauma to bladder or bowel, hysterectomy, decrease in haemoglobin, need for blood transfusion, and endometritis. The neonatal risks include: 5 minute Apgar score ≤ 3, admission to special care baby unit, injury, sepsis, and neonatal death. Second stage LSCS are also associated with longer hospital stays.

One of the main causes of complications during a second stage LSCS is a fetal head which is deeply impacted in the pelvis. A failed instrumental which has then converted to Caesarean section is likely to worsen impaction. Recent NHS Resolution and HSIB reports have highlighted the need for better systematic management of a deeply impacted fetal head in order to reduce morbidity and mortality.

While a deeply impacted fetal head is more likely to occur during a second stage LSCS, it can also occur during Caesarean sections performed in the first stage of labour, typically ≥8cm dilatation. However a different approach is needed for this, as detailed below, as a Fetal Pillow is only indicated for use at full dilatation. Also, this guideline will only refer to LSCS ≥37 weeks gestation, as there is not enough research on the disengagement of an impacted pre-term fetal head to make specific guidance. Therefore the management of pre-term cases will depend on the individual circumstances and the obstetrician's own decision making.

As no agreed national protocols or guidelines currently exist on the management of a deeply impacted fetal head, the following is intended as a guideline for best practice based on current research, not as a protocol.

2 Second Stage Caesarean Section ≥37 Weeks Gestation (Including LSCS Following Failed Instrumental)

Caesarean sections in the second stage should be conducted or supervised by a senior obstetrician (ST5+ or consultant).

2.1 Advise woman/person to stop pushing, and/or immediately stop oxytocin infusion if applicable, to prevent fetal head engaging further into pelvis.

2.2 Perform thorough and accurate abdominal and vaginal examinations to determine position and station of fetal head within the pelvis, and detect any issues such as caput or moulding. If a deeply impacted fetal head is suspected or confirmed, continue to follow below steps. If fetal head is found to not be impacted in pelvis continue with routine LSCS.

3 Use Fetal Pillow as first line action.

3.1 Fetal Pillow can be inserted either in delivery room or in theatre if decision to go immediately to Caesarean section, or should be inserted immediately following a failed instrumental.

3.2 Fetal Pillow to be inserted and inflated prior to skin incision. Fetal Pillow cannot be used if impacted fetal head is discovered after commencement of procedure. If impacted fetal head is found after skin incision, instead refer to guidance 2 below.

3.3 Fetal Pillow to be inserted vaginally, using a lubricant. Push Fetal Pillow posteriorly towards the coccyx and position between the pelvic floor and the fetal head. Once the device is in position, place woman/person's legs flat on the operating table, and inflate balloon using sterile saline. The fetal head is then elevated within the pelvis by a few centimetres, which should reduce impaction. See Appendix 1 for detailed insertion instructions.

3.4 Uterine incision should then be able to be placed higher up on the lower segment of the uterus, on a wider and thicker part of the segment, avoiding trauma to the utero-vesical reflection. Delivery should be easier, with less manipulation.

3.5 Contraindication for Fetal Pillow is an active genital infection. If infection is confirmed, instead refer to guidance 2 below.

4 If fetal head remains impacted, use reverse breech extraction (or "pull technique") as second line action.

4.1 Reposition operating table into head down position to aide maneuver.

4.2 Use gentle and controlled movements to reduce the risk of fetal trauma.

4.3 If fetus is in occiput anterior position:

4.3.1 Extract both fetal arms through incision.

4.3.2 Introduce hands towards upper segment of uterus and grasp fetal hips with both hands.

4.3.3 Pull gently on hips, with assistant providing fundal pressure, to extract fetal body and legs through incision.

4.3.4 Grasp fetal body and shoulders and gently rotate fetal head from the anterior to transverse pelvic diameter.

4.3.5 Once fetal head can be reached, grasp fetal head and shoulders simultaneously to provide flexion and deliver through incision.

4.4 If fetus is in occiput posterior position:

4.4.1 Extract both fetal arms through incision.

4.4.2 Introduce hands towards upper segment of uterus and grasp both fetal feet.

4.4.3 Pull gently on both legs to extract fetal body and legs through incision.

4.4.4 Grasp fetal body and shoulders and gently rotate fetal head from the anterior to transverse pelvic diameter.

4.4.5 Once fetal head can be reached, grasp fetal head and shoulders simultaneously to provide flexion and deliver through incision.

4.5 If delivery not achieved following above methods, extend incision to allow greater space for maneuvers.

5 First Stage Caesarean Section ≥37 Weeks Gestation (typically ≥8cm dilatation)

5.1 Immediately stop oxytocin infusion if applicable, to prevent fetal head engaging further into pelvis.

5.2 Perform thorough and accurate abdominal and vaginal examinations to determine position and station of fetal head within the pelvis, and detect any issues such as caput or moulding. If a deeply impacted fetal head is suspected or confirmed, continue to follow below steps. If fetal head is found not to be impacted in pelvis, can continue with routine LSCS.

5.3 Use reverse breech extraction (or "pull technique") as first line action.

5.3.1 Reposition operating table into head down position to aide maneuver.

5.3.2 Use gentle and controlled movements to reduce the risk of fetal trauma.

5.4 If fetus is in occiput anterior position:

5.4.1 Extract both fetal arms through incision.

5.4.2 Introduce hands towards upper segment of uterus and grasp fetal hips with both hands.

5.4.3 Pull gently on hips, with assistant providing fundal pressure, to extract fetal body and legs through incision.

5.4.4 Grasp fetal body and shoulders and gently rotate fetal head from the anterior to transverse pelvic diameter.

5.4.5 Once fetal head can be reached, grasp fetal head and shoulders simultaneously to provide flexion and deliver through incision.

5.5 If fetus is in occiput posterior position:

5.5.1 Extract both fetal arms through incision.

5.5.2 Introduce hands towards upper segment of uterus and grasp both fetal feet.

5.5.3 Pull gently on both legs to extract fetal body and legs through incision.

5.5.4 Grasp fetal body and shoulders and gently rotate fetal head from the anterior to transverse pelvic diameter.

5.5.5 Once fetal head can be reached, grasp fetal head and shoulders simultaneously to provide flexion and deliver through incision.

5.5.6 If delivery not achieved, extend incision to allow greater space for maneuvers.

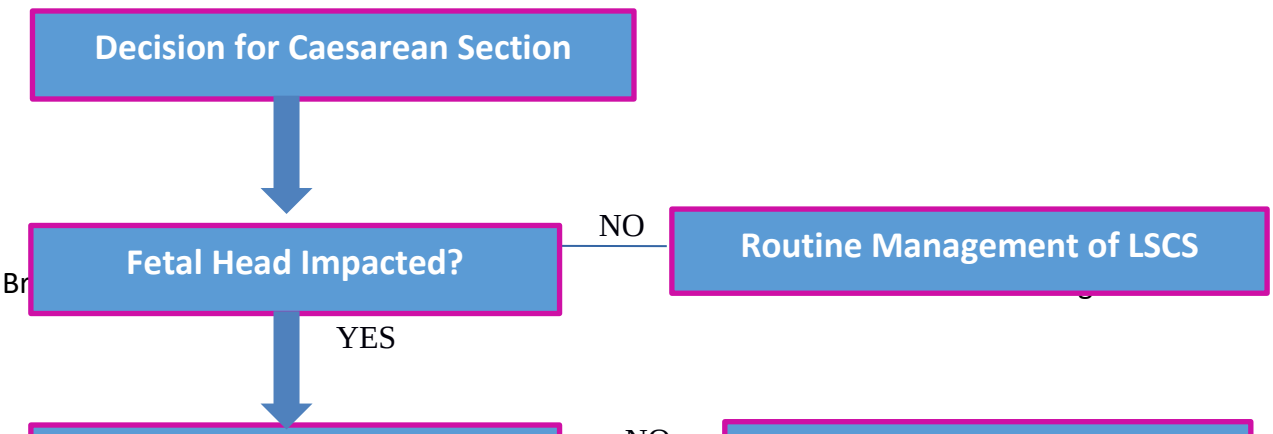
5.6 If delivery still not achieved, use "push technique" as second line action.

5.6.1 Abduct the woman/person's legs into a modified lithotomy or 'frog' position to create space within the pelvis.

5.6.2 An assistant (doctor or senior midwife) will insert a cupped hand into the vagina and gently push the fetal head upwards through the pelvis. Pressure must be applied equally around the fetal skull to reduce risk of fetal injury.

5.6.3 Once fetal head can be reached, grasp fetal head and shoulders simultaneously, gently rotate fetal head from the anterior to transverse pelvic diameter, and provide flexion to deliver through incision.

6 Decision Flowchart



7 How to insert a Fetal Pillow

Caesarean section in the second stage of labour is associated with high maternal morbidity and can be extremely difficult. Caesarean section at full dilatation should be decided and conducted or supervised by a senior obstetrician (ST5+ or consultant), if the following applies the Fetal Pillow should be use:

- Failed instrumental delivery (any type)
- Any full dilatation caesarean with fetal head at or below the ischial spines
- Any caesarean section at full dilatation with severe caput (3+) and/or moulding (3+)

The below information sheet provide information on how to apply the pillow and should be followed.

8 References

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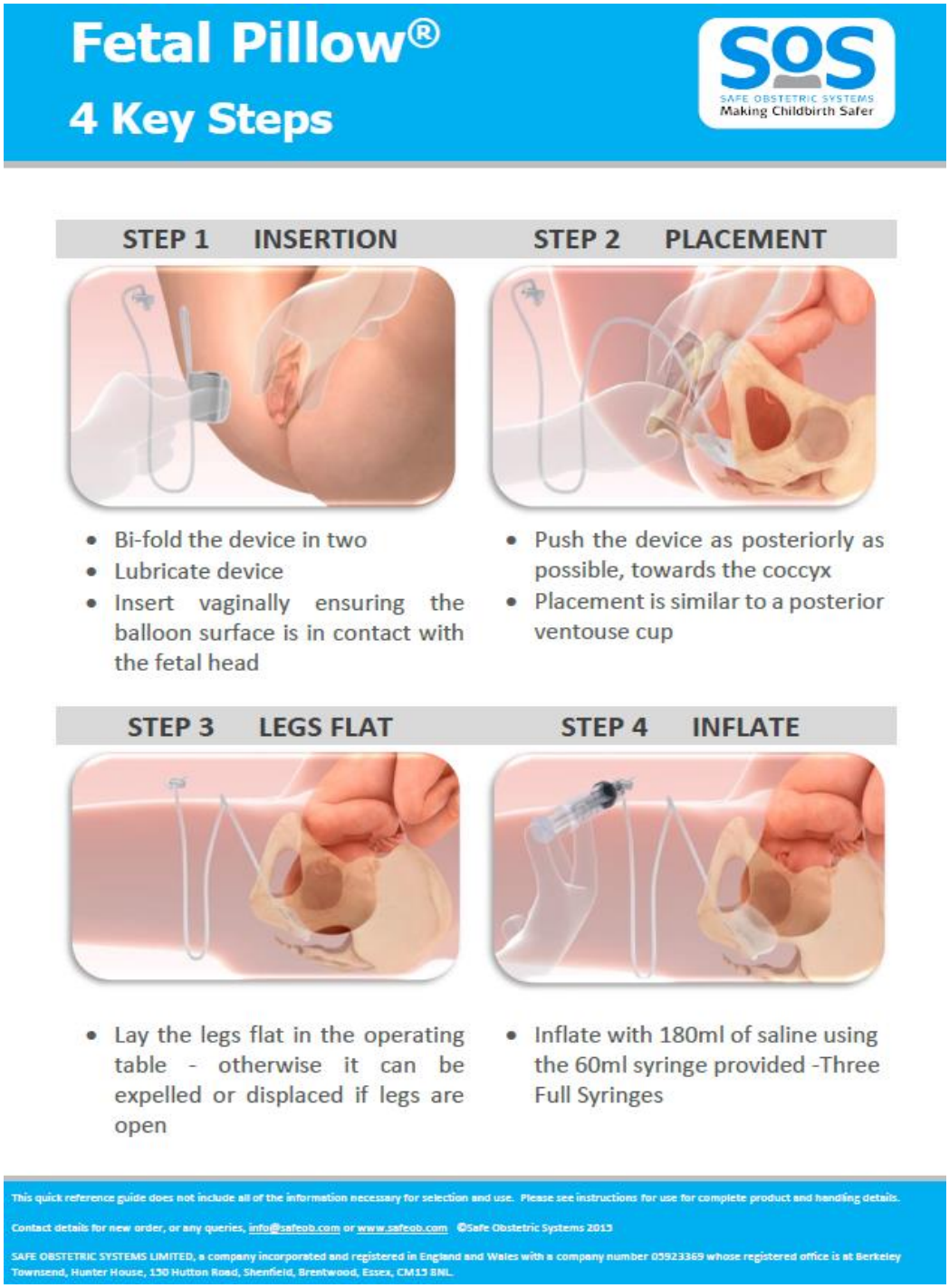
Appendix A: How to insert a Fetal Pillow



Appendix B: Fetal Pillow Audit Proforma

Fetal Pillow Audit Proforma

Thank you for taking the time to complete this proforma, we really appreciate it

What is the fetal pillow?

- Disposable soft silicone balloon inserted in to the vagina before commencement of LSCS to elevate the fetal head, only used in cephalic presentation
- Studies suggest it elevates head by 2-4cm (mean 3cm)

Patient ID……..……
Indication for fetal pillow (please circle indication or write below if other indication:

- Failed instrumental delivery (any type)
- Any full dilatation caesarean with fetal head at or below the ischial spines
- Any caesarean section at full dilatation with severe caput (3+) and/or moulding (3+)

Operator training prior to pillow use:

Hands-on training session ☐ Online/other training session ☐

VE findings prior to pillow use for LSCS:

- Dilatation……
- Position……..
- Level of head……..
- Caput……
- Moulding……

Abdominal findings prior to pillow use for LSCS (fifths palpable**):**

None 1 2 3 4 5

Any difficulties inserting the pillow (please circle and detail the nature of difficulties)

Yes No

Grade of doctor delivering:

Consultant aware: Yes ☐ No ☐ **Consultant present:** Yes ☐ No ☐

Perceived difficulty of delivering head at LSCS (please circle appropriate option)

Easy
Moderate
Difficult

Time from "knife to uterus" to time of birth: ☐ minutes

Mode of delivery at LSCS (circle as appropriate)

- Cephalic extraction (usual)
- B

reech extraction

Apgar of baby at delivery

……
……

Injuries to baby at delivery (please give details below)

Yes No

……
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Cord gases

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SCBU admission Yes No

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Any uterine incision extensions (please detail location of any extensions below)

Yes No
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……
……

EBL for procedure

……
……

Bladder injury (please give details of nature) Yes No

……
……....

ICU/ HDU admission of patient (please give details if relevant)

Yes No

……
……

THANKS