

## Special maternity edition

### Introduction

**W**elcome to a special 'maternity' edition of the Learning Matters Newsletter.

Investigation reports into maternity serious adverse incidents (SAIs) frequently identify regional learning. This is usually disseminated through:

- Safety & Quality learning letters and reminder of best practice letters (available to HSC staff at [http://intranet.hscb.hscni.net/documents/Safety\\_and\\_Quality\\_Learning\\_Letters.html](http://intranet.hscb.hscni.net/documents/Safety_and_Quality_Learning_Letters.html))
- Occasional articles in the Learning Matters Newsletter (also available at the above website)
- The Maternity Quality Improvement Collaborative.

This special edition of the Learning Matters Newsletter presents six articles on topics which have been recognised to be recurring themes in a number of maternity SAIs.



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# Care of pregnant women who have had a previous caesarean section (CS)

## Case examples

**Case One:** A woman who had a previous CS and a number of medical risk factors was assessed at booking as low risk, and assigned to 'shared care'. The mother was not seen by a consultant during her pregnancy and there was no clear documentation to show that the options for mode of delivery were discussed with the mother. Induction of labour was carried out for post-maturity. Fetal distress developed during labour, there was a delay in recognising that the CTG was pathological and proceeding to caesarean section (CS), and sadly the baby was stillborn.



**Case Two:** A woman who had a previous CS and two ectopic pregnancies was assessed at booking as suitable for 'shared care'. There was no evidence that the options for mode of delivery were discussed with the mother. She went past her dates and it was thought that the baby was quite big (9-10 lbs). A plan was made for induction of labour, however she went into spontaneous labour. When the mother was admitted in labour, although she had electronic fetal monitoring by CTG, she was not seen by a doctor until 4 hours after her admission. In this case there was delay in taking action when the fetal heart rate dropped significantly during labour, and the possibility of uterine rupture (which is a well-known risk in vaginal birth after CS (VBAC) deliveries) did not appear to have been considered by staff (although rupture did not occur in this case). An emergency CS under general anaesthetic was carried out due to fetal bradycardia. The anaesthetic was complicated by maternal regurgitation during anaesthetic induction. The baby was born in poor condition and sadly died several days later.

**Case Three:** A woman who had a CS in her first pregnancy followed by a vaginal delivery in her second pregnancy was keen to have a vaginal delivery in this her third pregnancy. She attended a different maternity unit in her third pregnancy than she had attended previously, and the notes of her emergency CS in her first pregnancy were not reviewed. A decision was made at 39+4 weeks to induce labour because of elevated blood pressure and proteinuria. Artificial rupture of membranes was performed and a fetal scalp electrode applied. Two hours later a Synocinon infusion was commenced. Eleven hours after the ARM the cervix was fully dilated and the mother started to push. Fetal bradycardia developed second stage and an emergency CS was carried out. Uterine rupture with severe trauma to the mother's bladder was found at CS. The baby was admitted to neonatal care. Subsequent review of the notes of the patient's emergency CS in her first pregnancy showed that there had been a small uterine angle tear at the time of the surgery.

### Key Learning

- All pregnant women who have had a previous CS birth should be given clear information and have a discussion with a senior professional (consultant or middle grade obstetrician, or senior midwife) on their options for delivery in the current pregnancy and the relative risks of each option. Decisions and plans for delivery should be clearly documented.
- Induction of labour carries an increased risk of uterine rupture. The decision to induce labour in a woman with a previous CS needs careful consideration of the relative risks compared with delivery by elective CS.
- Women who have had a previous CS who are admitted in labour should be seen on admission by a senior obstetrician (consultant or middle grade) and the care plan should be reviewed.
- There should be electronic monitoring of the baby's heart rate, and regular review by senior obstetric staff (middle grade or consultant) of the progress in labour.
- If a decision is made to augment labour with Synocinon this must be done with extreme care.
- All Trusts should have a clear policy on the management of fetal bradycardia and carry out periodic audits of staff compliance with the policy
- Obstetric and midwifery staff should receive Practical Obstetric Multi-Professional Training (PROMPT) or equivalent training on the management of obstetric emergencies.
- Trusts should ensure that staff are alert to the possibility of uterine rupture in VBAC deliveries, and are aware that the risk of uterine rupture remains even if the mother has a history of a vaginal delivery since her previous CS. This should be highlighted in local VBAC policies.

# Antenatal Fetal Growth Monitoring

A number of SAls within maternity have highlighted issues with antenatal fetal growth monitoring. These include:

- Non-completion of customised growth charts
- Delayed action or no action having been taken when fetal growth was found to be slow or static
- Lack of an agreed referral pathway when fetal growth was found to be slow or static
- Fetal growth monitored by serial fundal height measurements when it would have been more appropriate (e.g. because of high maternal BMI) to monitor growth by ultrasound scans
- Significant differences between fetal growth measurements by fundal height and measurements from scans
- Significant difference between antenatal fetal growth measurements and the baby's eventual birth weight



## Key Learning

- Women who are assessed as low risk should have serial fundal height measurements undertaken as a primary screening test for fetal wellbeing at antenatal appointments from 26 weeks gestation onwards and no later than 28+0 weeks.
- All clinicians (including GPs) who provide antenatal care should receive appropriate training in fundal height measurement and the use of customised growth charts.
- Women should be referred for growth scans if any of the following factors are identified during pregnancy:
  - First fundal height measurement below 10th centile
  - Static growth i.e. no increase in sequential measurements taken two weeks apart
  - Slow growth: curve linking up plots crossing centiles in a downward direction
  - Excessive growth: curve linking up plots crossing centiles in an upward direction
- All Trusts should have a clear referral pathway so that if there are concerns about slow or static fetal growth from the customised growth chart measurements, the mother is referred without delay for assessment by an appropriately trained and experienced clinician (not a junior doctor). Some Trusts (as recommended by the West Midlands Perinatal Institute) are instigating a referral pathway whereby mothers referred because of slow or static fetal growth are to be seen within 72 hours (or same day if the mother has concerns about fetal movements)
- Trusts should audit how well customised growth charts are being completed
- Trusts should monitor their antenatal detection rates of fetal growth restriction e.g. by using the Growth Assessment Programme 'GAP' developed by the West Midlands Perinatal Institute, and should also audit missed cases to help identify where improvements are needed in fetal growth surveillance.

## Obstetric Early Warning Scores

The Maternity Quality Improvement Collaborative developed a regional Obstetric Early Warning Score (OEWS) chart with separate sections for early pregnancy, antenatal and postnatal care. This was launched in March 2014 and an updated version that will include a specific section on sepsis will be produced shortly.

However through both a review of SAls and an audit of the use of the OEWS chart, it has become clear that in some cases the chart was not completed properly, or that the appropriate action was not taken in response to deteriorating patient scores.

This has led to delays in recognising how seriously ill a mother was, and delays in recognition and treatment of sepsis.



The MBRRACE report 'Saving Lives Improving Mothers' Care' published in December 2014 highlighted that in maternal deaths from sepsis:

***'In many instances observations (temperature, pulse rate, respiratory rate, blood pressure) were either only partially done or not undertaken at all and then not charted on a MEWS or similar chart; there was a lack of recognition of the severity of the woman's condition and of the need to refer to more senior staff. Importantly, for both women who died and women who survived, the most common place for this to happen in was the obstetric unit, with neither midwives nor doctors undertaking observations or referring women. The reasons behind this are clearly complex but taking a set of standard observations is a core nursing/midwifery task. It is possible that the focus on 'normality' within maternity has had entirely unintended consequences with these core tasks not being undertaken rigorously.'***

### Key Learning

- All professional staff working in inpatient maternity settings should ensure they are familiar with the OEWS chart and how to complete it.
- As recommended by the MBRRACE report, a complete set of observations should be undertaken, as recommended by NICE guidance <http://www.nice.org.uk/guidance/cg50> or if there is concern in any way. This will ensure confirmation of normality rather than presumption.
- If observations are abnormal they should be responded to and referral made to more senior staff as per the escalation guidance on the OEWS chart. The use of a structured communication tool, such as the 'Situation - Background - Assessment - Recommendation' (SBAR) tool may be helpful in such situations and should be encouraged.
- All units should regularly audit whether OEWS charts have been properly completed, and whether appropriate action was taken where indicated by deteriorating OEWS scores.

## Operative vaginal delivery

A number of maternity SAI's have concerned instrumental vaginal deliveries undertaken by obstetric trainee or staff grade doctors. In one case a baby sustained a skull fracture during a forceps delivery. In another a mother sustained a 4th degree rectal tear. In two other SAIs repeated attempts were made to achieve an instrumental vaginal delivery before abandoning it and proceeding to emergency CS. Unfortunately in one of these cases the baby was born in poor condition and later died.

The RCOG Green Top Guideline no 26 "Operative Vaginal Delivery" recommends that there should be no more than **three** attempts at instrumental vaginal delivery. It states that obstetricians should be confident and competent in the use of both forceps and vacuum extractor instruments for non-rotational delivery, and in the use of a minimum of one technique for rotational delivery. It also recommends that a senior obstetrician competent in performing mid-cavity deliveries should be present if a junior trainee is performing the delivery.

The RCOG good practice guideline number 8 'Responsibility of a consultant on call' states that:

***Doctors at every level have a duty to call for help if they feel that a clinical situation requires the direct input of a consultant. A trainee's request for a consultant to attend should be stated in clear, precise terms, so that there can be no misinterpretation. The request should be documented in the notes. Senior midwifery, nursing staff or other medical staff should contact the consultant or senior trainee directly if it is considered that the clinical situation requires senior medical input (known as a 'jump call').***



The guideline goes on to recommend that for certain situations (including trial of instrumental delivery in theatre, or CS at full dilatation), the consultant should attend in person or should be immediately available if the trainee on duty has not been assessed and signed-off as competent for the procedure in question.

### Key Learning

- In cases of trial of instrumental delivery in theatre, or CS at full dilatation, the consultant should attend in person if the trainee on duty has not been assessed and signed-off as competent for the procedure in question.
- Doctors at every level have a duty to call for help if they feel that a clinical situation requires the direct input of a consultant.
- Senior midwifery, nursing staff or other medical staff should contact the consultant directly if it is considered that the clinical situation requires senior medical input.
- A surgical pause should take place on arrival in theatre for trial of operative delivery and include evaluation of the electronic fetal monitoring trace.
- Operative vaginal delivery should be abandoned where there is no evidence of progressive descent with moderate traction during each contraction or where delivery is not imminent following a maximum of three contractions of a correctly applied instrument by an experienced operator.

# Human Factors and Situational Awareness

The term 'Human Factors' covers the science of understanding human performance within a given system such as healthcare. When staff lose situational awareness through human factors their ability to deliver safe care deteriorates. In many maternity SAls human factors are found to have contributed to poor standards of care or patient safety issues, as illustrated in the following examples.

- Lack of knowledge, skill or competency e.g.
  - Midwives not recognising the importance of low fundal height measurements
  - Lack of willingness to classify a CTG as pathological rather than suspicious
- Remaining focussed on one initial diagnosis or course of management without considering other possibilities e.g.
  - Clinicians becoming fixated on taking fetal blood samples, or carrying out an ultrasound scan for fetal bradycardia in labour
  - Repeated attempts at instrumental delivery
  - Proceeding with an emergency CS without reconsidering, even though the baby is known to have died during labour
- Lack of resources/ excessive workload e.g.
  - Poor care/inadequate monitoring being attributed to the antenatal ward or labour ward having been particularly busy at the time
- Lack of confidence, poor communication e.g.
  - Midwives/ junior doctors accepting decisions of a senior obstetrician even though they know this is not the correct course of action but feel unable to challenge the decision
  - Poor communication between members of the maternity team leading to misunderstandings about the intrapartum management plan.



- Lack of Leadership e.g.
  - Situations where things started to go wrong in labour and it was not clear who was in charge as the crisis unfolded

It is an understandable human trait to not want to believe that things are going wrong. But particularly in intrapartum care the situation can deteriorate quickly, and clinicians need to be able to stand back and reassess the changing situation, taking the whole clinical picture into account. There is no point in persisting with ineffective or inappropriate care.

### Key Learning

- Trusts should have an open organisational culture which emphasises the safety benefits of teamwork and encourages staff to give and accept respectful challenge, particularly of decisions of more senior staff.
- Staff should feel able to escalate concerns to a more senior member of staff when necessary. All staff should be able to challenge others' decisions in a respectful way. This helps to keep patients (and staff) safe. One maternity unit has introduced the use of a 'safe word' CLARITY, which any member of the team can use to ask 'May I have clarity please?' to indicate to the other members that they wish the team to take time out to reconsider whether they are following the best course of action.
- Maternity units should adopt the use of a 'surgical pause' in the operating theatre to allow staff to reflect on the clinical situation before proceeding. This can be achieved by using the WHO surgical safety checklist for all emergency and elective obstetric operative procedures, and not just for caesarean sections.
- The use of a 'buddy' system for double-checking CTGs has been introduced by some Trusts. This has been found to improve CTG interpretation, and supports staff in escalating concerns when a CTG has become pathological.
- The principles of PROMPT training could be more widely applied so that it is clear in any given situation what role each team member has, and who is in overall charge. The use of simulated clinical scenarios for multidisciplinary training and reflection (such as those used in PROMPT training) is also recommended.
- Specific Human Factors training for maternity teams should be considered.
- The role that human factors may have played in any maternity SAI should be considered as part of the investigation into the incident, and any resultant learning should be included in the local action plan.

## Inadequate arrangements for caesarean section

Some SAIs have highlighted the need for better organisational planning for CSs. For example, a staff grade obstetrician who was carrying out an elective CS ran into difficulty delivering the baby's head and requested senior assistance. The consultant on duty was unaware that he/she was on duty and the call had to be redirected to another consultant.

In another case a woman had been brought to theatre for an elective CS and had a spinal anaesthetic administered. There was then confusion as to which obstetrician was to do the CS. The consultant on-call was called to carry out the procedure which was then done in a rapid manner. It was later found that the mother had sustained a bladder injury during CS.

In a further case a mother in labour was brought to theatre for an emergency CS. This was initially a category 2 CS but due to the CTG becoming pathological shortly after arrival in operating theatre it became a category 1 CS. The mother was ready in theatre but there was a delay as no obstetric staff were present and two obstetricians had to be bleeped to come to theatre to perform the CS. This happened shortly after the handover from day to night staff.

In one case it was noted that a mother was brought in for elective CS before 39 weeks gestation as the Trust reported that this was the 'only available date'. However NICE CG 132 states the following in relation to the timing of planned CS:

***The risk of respiratory morbidity is increased in babies born by CS before labour, but this risk decreases significantly after 39 weeks. Therefore planned CS should not routinely be carried out before 39 weeks'***

### Key Learning

- Trusts should ensure that the appropriate staff are available for elective CSs, and that when more junior staff are carrying the procedure, consultants should be easily contactable should unexpected difficulties arise
- There should be adequate handover arrangements in delivery suite and recording of plans at handover meetings. Obstetric staff should be readily available for emergency CSs.
- Planned CSs should not routinely be carried out before 39 weeks. Maternity units should monitor the timing of elective CSs as part of their local maternity quality improvement initiatives

## Sources of guidance referred to in this newsletter

[http://intranet.hscb.hscni.net/documents/Safety\\_and\\_Quality\\_Learning\\_Letters.html](http://intranet.hscb.hscni.net/documents/Safety_and_Quality_Learning_Letters.html)

<https://www.perinatal.org.uk/fetalgrowth/fetalgrowth.aspx>

<https://www.npeu.ox.ac.uk/mbrrace-uk>

<https://www.nice.org.uk/guidance>

<https://www.rcog.org.uk/en/guidelines-research-services/guidelines>

### Contact us



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