MATURETY GUIDELINES – VAGINAL DELIVERY AFTER CAESAREAN SECTION (VBAC)

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KEY POINTS: This edition of the maternity guidelines sets out best practice of care during pregnancy, labour and postnatally for women and their babies
### VERSION CONTROL RECORD

<table>
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<th>Version Number</th>
<th>Issue Date</th>
<th>Reasons for Revisions from previous issue</th>
<th>Date of Endorsement by Committee / Group</th>
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2.11 VAGINAL DELIVERY AFTER CAESAREAN SECTION (VBAC)

2.11.1 INTRODUCTION
The overall vaginal delivery rate after previous Caesarean Section (CS) is 75%. Overall attempted vaginal birth for women with a single previous low transverse CS is associated with a lower risk of complications for both mother and baby than elective repeat caesarean section (ERCS). The morbidity of successful vaginal birth is about one fifth that of CS. It is against this background that the advantages and disadvantages of trial of vaginal delivery and ERCS are discussed with the woman in the antenatal clinic at booking and if appropriate in the VBAC clinic. Women with a history of a previous CS should be advised to book under consultant led care and deliver on the main delivery suite in PCH. ERCS should be a decision made only by a consultant after due discussion with the woman.

No randomised, controlled trials have compared the results of routine repeat CS with those of planned vaginal birth for women who have had a previous CS. In the absence of such trials, the best available data on the relative safety of a planned VBAC come from observational prospective cohort studies. In the series for which total data are available for both women who had ERCS and those who had a planned VBAC, over 70% of all women with a previous caesarean gave birth vaginally (NICE CG 132 Caesarean section 2011).

At the time of publication of NICE CS guidelines (2004) 9% of women giving birth had had a previous CS in England and Wales. In addition, many studies do not state the proportion of women who were offered but declined VBAC. More women deliver vaginally after CS who have had a previous vaginal birth (51%) and fewer women deliver vaginally after CS if there has been no previous vaginal birth (30%).

2.11.1.1 RISK FACTORS FOR UNSUCCESSFUL VBAC INCLUDE:
- Induced labour
- No previous vaginal birth
- BMI > 30
- Previous CS for failure to progress
- Gestation ≥ 41 weeks
- Birth weight > 4000g
- No epidural anaesthesia
- Previous preterm CS
- Cervical dilatation on admission < 4 cm
- Advanced maternal age
- Non-white ethnicity
- Short stature
- Male infant

The more of these factors that are present the lower the chances of successful VBAC.
2.11.2 RISKS TO THE MOTHER

Large series of CS have been reported with no associated maternal mortality. One should not be lulled into a false sense of security by this; no operation is without risk. The risk of a mother dying with CS is small, but is still considerably higher than with vaginal birth.

The rate of maternal death associated with CS (approximately 4 per 10 000 births) is four times that associated with all types of vaginal birth (1 per 10 000 births). The maternal death rate associated with ERCS (around 2 per 10 000 births), although lower than that associated with CS overall, is still twice the rate associated with all vaginal deliveries, and nearly four times the mortality rate associated with normal vaginal birth (0.5 per 10 000 births).

Most forms of maternal morbidity are higher with CS than with vaginal birth. In addition to the risks of anaesthesia attendant on all surgery, there are risks of operative injury, infection, postpartum pain, effects on subsequent fertility, and of psychological morbidity as well. The prolonged hospitalisation and increased costs of CS compared to vaginal birth may also be considered as a form of maternal morbidity. Woman considering VBAC should be informed that planned VBAC compared with ERCS carries around 1% additional risk of either blood transfusion or endometritis.

2.11.3 RISKS TO THE BABY

The major hazards of CS for the baby relate to the risks of respiratory distress contingent on either the caesarean birth itself or on preterm birth as a result of miscalculation of dates. Babies born by CS have a higher risk of respiratory distress syndrome than babies born vaginally at the same gestational age (0.2-0.3/1000 births in VBAC vs. 0.3-0.4/1000 births in ERCS). The availability of more accurate and readily available dating with ultrasound should decrease the risk of unexpected preterm birth. Nevertheless, it is unlikely that errors in dating can ever be completely eliminated.

Woman should be informed that risk of perinatal death of planned VBAC compared to ERCS is 0.2-0.3/1000 births, which is the same as risk as with a primigravida. Furthermore, the risk of hypoxic ischaemic encephalopathy is 0.8/1000 births.

2.11.4 RUPTURE OF THE SCARRED UTERUS IN PREGNANCY AND LABOUR

In many reported series, true uterine rupture has not been distinguished from uterine scar dehiscence. Bloodless uterine scar dehiscence does not have negative consequences for mother or baby, whereas complete rupture of the uterus can be a life-threatening emergency. Fortunately true rupture is rare in modern obstetrics, despite the increase in CS rates, and serious sequelae are even rarer. Although often considered to be the most common cause of uterine rupture, previous CS is a factor in less than half the reported cases.

Excluding symptomless wound breakdown, the rate of reported uterine rupture has ranged from 0.2% (UKOSS 2012) to 0.8% for women with a singleton vertex presentation who underwent a planned vaginal birth after a previous transverse lower segment CS. To put these rates into perspective, the probability of requiring an emergency CS for acute other conditions (fetal distress, cord prolapse, or antepartum haemorrhage) in any woman giving birth, is approximately 2.7%, or up to 30 times as high as the risk of uterine rupture with a planned VBAC. The extremely low level of the risk does not minimise the importance of this complication to the individual women who suffer it, but comparisons may help to put it in a more reasonable perspective.
2.11.4.1 RISK OF UTERINE RUPTURE
- after previous Classical CS = 2-9%
- after previous T- or J-shaped incisions = 2%
- after previous low vertical incision (De Lee incision) = 2%
- after previous lower segment transverse incision = 0.2 – 0.7%
- after augmented VBAC = 0.86%
- after induced VBAC labour = 1%, increases with prostaglandin use

2.11.4.2 SIGNS AND SYMPTOMS
- loss of presenting part on VE
- fetal distress
- cessation of uterine contractions
- maternal tachycardia and hypotension
- abdominal pain – constant
- PV bleeding

2.11.5 RESPONSIBILITIES OF STAFF
2.11.5.1 Obstetrician
- The Obstetrician will review woman antenatally if they do not fulfil the criteria for the midwife led VBAC clinic.
- The Obstetric Registrar must be informed when a woman with a previous caesarean section is in labour and will be involved in reviewing her care in labour and whenever requested by the midwifery staff.
- The Obstetric registrar will inform the on-call consultant of any deviation from expected progress.
- Induction and/or augmentation of labour must be a consultant decision after discussion and documentation of the risks

2.11.5.2 Midwife in the VBAC clinic
- The midwives in the VBAC clinic will review appropriately referred women antenatally and complete a Previous Caesarean section - Antenatal Review Proforma plan of care for labour, including the place of birth, monitoring in labour and the plan if spontaneous labour does not occur at term
- The midwife will utilise the Antenatal Review Proforma to ensure the risks and benefits of VBAC and elective repeat caesarean section have been discussed
- If the woman is undecided at the VBAC appointment, another appointment should be arranged to return at 32wks gestation
- If the woman has decided she would like an elective LSCS an appointment needs to be arranged to attend the Consultant clinic from 34wks – 36wks the latest

2.11.5.3 Labour ward midwife
- The midwife on labour ward must inform the Obstetric Registrar when a woman who has had a previous caesarean section is admitted in labour
- The midwife should review the management plan and complete the birth plan review with the woman
- The midwife must refer any deviation from normal to the obstetric Registrar, informing the core midwife
2.11.5.4 Delivery suite coordinator - core midwife

- The core midwife must be aware of women on the delivery suite who are high risk, this includes women who have had a previous caesarean section
- The core midwife should ensure the appropriate plan of care is in place and that the midwife caring for the woman is aware of this guideline
- The core midwife must ensure she is aware of the progress of the high risk women on the delivery suite and communicate with the allocated midwife and the obstetric, theatre anaesthetic teams as required, ensuring they are aware of the potential need for operative intervention
- Any clinical concerns will be escalated to the on call consultant if not dealt with appropriately by the Registrar

2.11.6 FACTORS TO CONSIDER IN THE DECISION ABOUT A PLANNED VAGINAL BIRTH AFTER CAESAREAN

- When a woman who has had a previous CS is first seen by her community midwife, she should be given information in the form of an information leaflet ‘Birth after previous caesarean section' and refers her to the midwife led VBAC clinic or Consultant clinic depending on the risk assessment
- The midwife should refrain from making any negative comments which may influence the woman adversely in her decision-making
- By the time the woman is seen in either of these clinics she should have had time to read the leaflet 'Birth after previous caesarean section' and ask any questions. The fact that she has read the leaflet should be recorded in her notes
- Women's preferences and expectations regarding the birth method are based not only on their assessment of medical risks, but are also influenced by personal and attitudinal factors
- Women with a previous CS but who have subsequently had a successful VBAC should be helped to make an informed choice and be Midwife led care antenatally and consultant-led care in labour as there is still a very small risk of uterine rupture. The expectation would be that she will deliver vaginally, all other things being equal, and after full discussion with the woman. If this plan is acceptable to the woman there is no need for her to be seen in the VBAC or consultant clinic

In a randomised, controlled trial of a prenatal 'vaginal birth after caesarean' (VBAC) education and support program, the most frequent reasons reported for choosing elective repeat caesarean section were the fear of failed trial of labour, concerns about the dangers of vaginal birth, the fear of pain, and the convenience of scheduling. Every effort should be made in the antenatal period to address these issues where appropriate. An appointment to meet an obstetric anaesthetist can be arranged if necessary.

It is recommended that the following should be discussed and documented with a woman and considered before a decision is made: See care plan and refer to appendix 2

When to recommend ERCS

It is generally considered appropriate to offer repeat CS after a previous classical caesarean section or one where there has been a previous “inverted-T” incision (see above).
VBAC may be undertaken in cases of two previous CS, provided no absolute contraindications exist, and it is the woman’s wish, taking into account the above factors.

VBAC is contraindicated in cases of:
- previous rupture
- previous classical incision
- three or more previous CS

However, in cases of miscarriage or intrauterine fetal death, a value judgment may be made by a consultant obstetrician to allow vaginal delivery.

Planning for labour

1. Women who have had a previous CS should be encouraged to deliver in an Obstetric Consultant Led unit which has access to perform immediate CS if required and blood transfusion facilities. Home births are therefore not appropriate and should be discouraged. When requested a supervisor of midwives and the Outpatient Lead midwife should be involved in the plan of care, which is then documented in the hospital records and handheld notes.

2. If the previous CS was performed elsewhere in the UK, then a letter requesting details of the surgery should be sent to the hospital. This may highlight whether there were any particular complications, such as a different type of uterine incision, which may affect the relative risks of ERCS or VBAC. When the CMW completes the antenatal booking referral form, she should indicate when the previous CS was performed outside Peterborough. This will prompt a consultant appointment during which a letter to the other hospital requesting details will be dictated. (see Appendix 3)

3. If the previous CS was performed in Peterborough, and notes are available, the operation notes should be scrutinised. If these indicate that there were uterine lacerations, an extension of the uterine incision, a J-shaped or inverted ‘T’ incision, or any other complications, the woman needs to have a discussion with a consultant.

4. The decision about mode of delivery following previous CS should be made carefully after review of previous labour and operation notes and discussing the options, risks and preferences with the woman at the VBAC clinic.

5. An individual management plan should be documented in the antenatal handheld notes, including place of labour and method of continuous fetal monitoring and whether this plan should differ if labour commences early. The woman should be provided with a patient information leaflet. Where she wishes to have a repeat elective caesarean section a Consultant referral should be made for no later than 32-34 weeks to discuss this further.

The midwife led VBAC clinic

This clinic is held weekly in the antenatal clinic at Peterborough City Hospital. There is capacity for 4 – 6 women to be seen each week. The appointment is for discussion only and does not include a physical antenatal assessment. Women are seen by a senior midwife who will discuss the previous experience, the woman’s expectations and wishes and her options for labour this time. The risks and benefits are discussed as per the VBAC Antenatal proforma (see appendix 2) a copy is then filed in the patient’s hospital notes and a copy is filed in the handheld notes.

Women with the following criteria and no other obstetric or medical concerns may be referred to the midwife led VBAC clinic (see Appendix 3):
- Previous CS for breech presentation
- Previous CS for failure to progress
Caution: You must refer to the intranet for the most up to date version of this guideline

- Previous CS for fetal distress
- Previous CS for placenta praevia

An appointment for the midwife led VBAC clinic should be offered to women who fit the above criteria between 20 and 32 weeks gestation. These women will remain under midwife-led care until admitted to hospital. If they require a sweep it may be performed in the community.

Women with certain medical conditions can be assessed by the consultant and a plan of care for those conditions be made, but they may still be suitable for referral to the Midwife Led VBAC clinic for a detailed discussion of relative risks and benefits.

Women with the following history are not suitable for review at the VBAC clinic:
- Previous CS for pre-eclampsia
- Previous myomectomy
- Previous Classical or inverted T shaped uterine incision
- Previous Stillbirth or Intrauterine death

A woman’s request for a vaginal birth, even after two previous CS should be supported and risks considered. A competent adult can choose not to have an operation, but conversely CS is not an operation available on request².

As about 10% women scheduled for ERCS go into labour before the 39th week, it is good practice to have a plan if labour occurs spontaneously before the scheduled date for ERCS. This plan may include allowing the chance of VBAC.

- In the case of a plan for VBAC, if labour has not occurred spontaneously by 40 weeks gestation, women under Midwife Led Care will have a cervical sweep at 40 weeks in the community by their community midwife and reviewed in the ANC by the consultant at 41wks with the discussion concerning whether or not to induce labour
- If induction is agreed, a clear management plan should be documented in the woman’s notes including:
  - Membrane sweep
  - The maximum number and dose of prostaglandin pessaries to be prescribed
  - Whether the consultant agrees that syntocinon augmentation is appropriate

2.11.7 INDUCTION OF LABOUR FOLLOWING PREVIOUS CAESAREAN SECTION

- Spontaneous labour is the preferred option, unless there are any medical reasons to intervene. There is a 2-3 fold increased risk of uterine rupture and around 1.5 fold increased risk of CS in induced and/or augmented labours compared with spontaneous labours.
- Induction of labour (IOL) is the decision of a consultant and should not be taken by trainee medical staff and a plan should be documented in the antenatal hand held notes
- The woman should be reviewed by the SpR when admitted to ensure that no change in the planned management is required
- Oxytocic usage should be kept to a minimum, and usually only one Prostaglandin 3mg vaginal tablet will be prescribed. Any further doses of Prostaglandin must be authorised only by a consultant. This plan must be discussed with the woman and clearly documented in the notes.
- The largest study on prostaglandin use in VBAC reported a relative risk of 1.42 of uterine rupture compared with spontaneous onset VBACs⁶.
2.11.8 INTRAPARTUM CARE

- Examination of the antenatal record will reveal that in some cases women will opt for a plan of trial of labour provided spontaneous labour occurs before an agreed gestation. If labour has not occurred by an agreed gestation, it may have been agreed by the consultant that planned CS will then take place (refer to care plan). This information should be appreciated by all staff when the woman is admitted in labour, and not assumed that a Caesarean section should be performed if she is admitted in labour.

- A woman with a history of a previous CS should be reviewed by the SpR when admitted to ensure that no change in the planned management is required.

- The woman should have continuous electronic fetal heart rate monitoring (EFHRM) during labour as fetal heart rate changes may be an early indication of uterine rupture.

- Telemetry should be offered where available to encourage mobilisation and possible use of the pool.

- Cannulation is recommended and blood must be taken and sent for FBC and group and save serum (blood should be taken even if the woman declines cannulation).

- It is safe and justified to use epidural analgesia for the woman with a lower segment scar, in the same manner as the women whose uterus is intact. Fears that an epidural could mask the pain of a uterine rupture are not justified. If a woman with an epidural has pain that is constant and not relieved by the epidural, then a scar rupture should be considered a possibility.

- Antacid prophylaxis should be given throughout labour i.e.
  - 150mg Ranitidine orally 6 hourly
  - 30 mls of 0.3 M Sodium Citrate solution orally in theatre prior to surgery
  - Also consider a low residue diet and fluids as desired
  - Regional anaesthesia where possible.

- The decision as to whether to augment labour with Syntocinon must be made by a consultant obstetrician. The Syntocinon infusion should be continued no longer than four hours after the onset of regular contractions occurring 3 in 10 minutes before a vaginal assessment is carried out to assess whether any progress is being made (see oxytocin guideline). Even greater caution should be used when other oxytocic drugs e.g. Prostaglandins have been used to induce labour, since the risk of rupture is proportional to the total dose of oxytocic administered.

- Assessment of labour should be made at least 4 hourly, the SpR informed and a plan of care made. If the action line on the partogram is reached, there should be a discussion with a consultant about the need for CS. A CS at this stage will be a category 2 (or category 1) with delivery ideally within 30 minutes but certainly within 75 minutes.

2.11.9 AUDITABLE STANDARDS AND MONITORING OF COMPLIANCE

Monitoring of compliance with this guideline will be by an audit of labour notes at least annually.

- Documentation of antenatal discussion about the mode of delivery at Booking
- Documentation of consultant involvement if induction of labour
- Documentation of an individual management plan for labour which should include details of:
  - Frequency of vaginal examination
Caution: You must refer to the intranet for the most up to date version of this guideline

- Expected cervical dilatation
- Guidance on when to consider delivery by emergency CS
- Use of continuous electronic fetal monitoring in labour
- Documentation of consultant involvement if labour is augmented

Audit findings and recommendations will be presented in a rolling monthly clinical governance meeting, weekly perinatal meeting or monthly Maternity Clinical Governance committee meeting. An action plan will be agreed. Progress on the action plan will be monitored at the monthly Maternity Clinical Governance committee meeting.

Associated documentation and references 2.11
2. NICE CG 132 Nov 2011 Caesarean Section
8. UKOSS Uterine Rupture by Intended Mode of Delivery in the UK: A National Case-Control Study Kathryn E. Fitzpatrick1, Jennifer J. Kurinczuk Zarko Alfirevic, Patsy Spark, Peter Brocklehurst, Marian Knight

Appendix 1 referral form for VBAC clinic

Appendix 2 Previous Caesarean Section Antenatal Review Proforma to be completed and used for discussion in both the VBAC and Consultant clinics (See Associated Documents)

Appendix 3 Previous CS flowchart
### REFERRAL FORM FOR ULTRASOUND, CONSULTANT CARE & VBAC CLINIC

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#### PLEASE SCAN THIS FORM ONTO CRIS FOR ULTRASOUND DEPT. & SCAN MANAGER FOR CONSULTANT REFERRALS
Midwives only review consultant referrals

#### Criteria for VBAC Clinic
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<td>Fetal distress</td>
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<td>Placenta praevia</td>
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### Viability Scan and Urgent Consultant led care
If you consider the patient needs to be seen more urgently contact the Maternity Helpline: 01733 677266

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#### Other risks requiring Consultant led care review between 14 – 16wks gestation
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### Appendix 2 – Previous CS Antenatal counselling Proforma

*See associated documents*
Caution: You must refer to the intranet for the most up to date version of this guideline

Appendix 3 – Previous CS flowchart

![Flowchart Diagram]

*ERCS – Elective Repeat Caesarean Section