Wrightington, Wigan and Leigh Teaching Hospitals
NHS Foundation Trust

Title of Guideline	**Delivery after previous caesarean section**
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Division & Specialty	Surgery – Obstetrics
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Explicit definition of patient group to which it applies	Maternity patients
Abstract	
Statement of evidence base of the guideline Evidence Base (1-5)	

1a	Meta analysis of RCT
1b	At least 1 RCT
2a	At least 1 well designed controlled study without randomisation
2b	At least 1 other well designed quasi experimental study
3	Well –designed non-experimental descriptive studies (ie comparative / correlation and case studies)
4	Expert committee reports or opinions and / or clinical experiences of respected authorities
5	Recommended best practise based on the clinical experience of the guideline developer

Consultation Process	O&G Guideline Group
Target Audience	Maternity staff
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.	

Delivery after previous Caesarean Section

Written by Naweed Shahid (incorporating the previous guideline Trial of Scar January 2003, updated January 2006), November 2007, updated January 2010, December 2012 and November 2015. Updated by Papa Essilfie June 2017. Updated by Papa Essilfie and Farina Kidwai June 2020 (v6). Added extra VE at 9cm July 2020 (v6.1). Updated by Luke Harding April 2021 (v7) Reviewed by Marie Gallagher March 2024 (v8)

Definitions

Planned Vaginal Birth after Caesarean Section (VBAC)

Planned VBAC refers to any woman who has experienced a prior caesarean birth who plans to deliver vaginally rather than by elective repeat caesarean section[1].

Successful and unsuccessful planned VBAC

A vaginal birth (spontaneous or assisted) in a woman undergoing planned VBAC indicates a successful VBAC. Birth by emergency caesarean section during the labour in a woman undergoing planned VBAC indicates an unsuccessful VBAC[1].

Elective Repeat Caesarean Section (ERCS)

Elective repeat caesarean section should be conducted after 39 weeks unless there is medical reason to conduct it earlier

Introduction

Successful VBAC has the fewest complications

Unsuccessful VBAC has the greatest risk of adverse outcomes

A recent Scottish report stated success rates of 74% after planned VBAC.[2] VBAC is cost-effective if success rates of 60–75% are achieved. Following successful VBAC, time spent in hospital is halved, with a cost saving of £570 per woman. [2]

Success rates of VBAC vary and although metanalyses have reported a pooled VBAC success rate of 72-75%, success rates as low as 43% have been reported in some studies. Antenatal and historical factors may significantly affect the success rate of VBAC. Induced labour, no previous vaginal delivery, BMI greater than 30, and previous caesarean section for dystocia all decrease the success rate of VBAC. If all these factors are present successful VBAC is achieved in only 40% of cases.

Eligibility for vaginal birth after caesarean section

- Patient agreeable
- Singleton
- Cephalic presentation
- One previous lower uterine segment caesarean section with no other adverse features

For all other patients a discussion with the patient's consultant is mandatory before a plan of VBAC is agreed. .A review of the previous delivery records and current pregnancy is imperative to identify which women should have a trial of VBAC.

Absolute contraindications

- Previous classical caesarean section
- Previous uterine rupture
- Previous myomectomy if uterine cavity was breeched during surgery (Milton SH 2015)
- Obstetric contraindication to vaginal delivery e.g major placenta praevia

Home delivery

If a woman requests a home delivery, an appointment with a senior midwife (Community Team Leader or Ante Natal Clinic Manager) and a Consultant Obstetrician is required so that the woman is fully informed and counselled about the risks of a home birth following previous caesarean section and that the woman understands that this is not the standard recommended course of action.

An individual care plan will be required and must be available in the hand held notes, on Euroking and attached onto the home birth list in the community shared drive.

Risks and benefits of opting for VBAC versus ERCS from 39+0 weeks of gestation

	VBAC	ERCS
Maternal Outcomes	64-84% chance of successful VBAC depending on indication for previous CS: • Fetal malpresentation - 84% success • Fetal distress - 73% success • Labour dystocia - 64% success (85-90% if previous vaginal delivery/VBAC)	Able to plan a known delivery date in selected patients. This may however change based on circumstances surrounding maternal and fetal wellbeing in the antenatal period.
	If successful, shorter hospital stay and quicker recovery.	Longer hospital stay and longer recovery.
	Approximately 0.5% risk of uterine scar rupture. Unsuccessful compared with successful VBAC increases the risk of • uterine rupture (2.3% versus 0.1%), • hysterectomy (0.5% versus 0.1%), • transfusion (3.2% versus 1.2%) • endometritis (7.7% versus 1.2%)[3]	Virtually avoids the risk of uterine rupture (actual risk is extremely low: less than 0.02%)[3]
	Successful VBAC increases likelihood of future vaginal birth.	After ERCS – likely to require caesarean section and there is increased risk of placenta praevia/accreta and adhesions with successive caesarean deliveries / abdominal surgery.
	Risk of maternal death with planned VBAC of 4/100 000[3]	Risk of maternal death with ERCS of 13/100 000[3]
Infant Outcomes	Risk of transient respiratory morbidity of 2–3%.[6]	Risk of transient respiratory morbidity of 4–5% (6% risk if delivery performed at 38 instead

		of 39 weeks)[6]
	8 per 10 000 (0.08%) risk of hypoxic ischaemic encephalopathy (HIE)[4]	< 1 per 10 000 (< 0.01%) risk of delivery related perinatal death or HIE[4]

Post-Maturity In Patients With Previous Caesarean Section

Membrane sweep should be offered to women who have had a previous caesarean section needing IOL for postdates pregnancy.

Although the risk of still birth at or after 39 weeks in women with previous caesarean section has been reported to be 1.5 to 2 fold that of women with no previous caesarean section, the absolute risk is still very low and the risk of uterine rupture with induction needs to be balanced against the risk of still birth if pregnancy continues.

Women should be informed of the 2-3 fold increased risk of uterine rupture and around 1.5 fold increased risk of CS in induced and or augmented labour compared with spontaneous onset of labour[1, 5]

IOL with Dilapan-S ® rods can be carried out if it is not possible to rupture membranes.

When prostaglandins have to be used consideration may be given to restricting the dosage. A senior Obstetrician/Consultant in consultation with the patient should decide when and how labour should be induced after a careful assessment of the woman[l]. Women requiring IOL with prostaglandins should be informed that the risk of scar dehiscence and rupture is 3 times that in spontaneous labour[1]

Antenatal Counselling / Documentation

This should be on the proforma available in clinic (Appendix 1)

- **Birth options discussion**
  All women with one previous caesarean section should be given the VBAC patient information leaflet at booking and then will be given a virtual appointment to discuss their birth options with a midwife by 20 weeks gestation. This appointment will be arranged by the Ante Natal clinic team. The midwife should undertake a comprehensive discussion of the benefits of VBAC and the pros and cons of ELCS.
- **Consultant ANC appointment**
  - If a VBAC is requested and risk factors are identified relating to having a VBAC a Consultant appointment should be made as soon as possible
  - All women with more than one previous caesarean section should be seen in the Consultant clinic after the anomaly scan
  - For all other women with a previous caesarean section there should be an appointment in the consultant clinic at 28 weeks to clarify the final decision about mode of delivery

- The antenatal counselling of women with a prior caesarean birth should be documented in the notes and on Euroking. .A discussion on mode of delivery is recommended soon after the FAS/mid-trimester ultrasound scan. The discussion should be individualised to the woman's medical circumstances and should consider her individual chance of VBAC success and future reproductive preferences.
- For most patients a final decision on mode of delivery should be reached at the 28 week consultant appointment but should be finally reached by 36 weeks.
- A plan for the event of labour starting prior to the scheduled date of an elective repeat caesarean section should be documented. It should be explained that they will be assessed and prioritised according to the delivery suite activity level, they may end up having vaginal birth if they are in advanced labour or the theatre is occupied.
- Patients who will be having an ERCS should be seen at around 36 weeks for consent / MRSA testing.
- Patients aiming for VBAC should be given an appointment to attend a Consultant led antenatal clinic at 39-40 weeks in order to offer membrane sweep and discuss the mode and timing of delivery should labour not commence spontaneously.

Antenatal attendances

- When patients who have a history of previous caesarean section attend the hospital on multiple occasions with the complaint of abdominal pain (particularly when they are close to term), they should be reviewed by a Senior Obstetrician so that a thorough assessment and a comprehensive plan of care can be made. The consultant should be made aware of the patient. These women should only be discharged home by an obstetrician.

Procedure in labour

	Action	Rationale
1.	If induction of labour is planned then the decision should be made by a Consultant and specific instruction (on counselling and management proforma – Appendix 1). See IOL guideline for Dilapan instructions.	To ensure appropriate indication for induction
2.	Once labour is established either by induction or spontaneously the patient should be admitted to a delivery room	To facilitate management of labour

3.	IV access should be established by inserting a 16G (grey) cannula.	To allow administration of drugs and/or fluids as required.
4.	Send blood for a FBC and Group and save.	There is an increased risk of requiring a caesarean section.
5.	Continuous electronic fetal monitoring once labour is established	High risk labour Abnormalities in fetal heart monitoring are an early sign of possible scar dehiscence.
6.	Any form of analgesia including epidural may be used.	Epidural analgesia does not mask the signs of uterine rupture
7.	The progress of labour should be monitored very carefully with early intervention if progress is slow (see Guideline Obs 38 – dysfunctional labour). Assess vaginally for progress at least every 4 hours. If 9cm then repeat after 2 hours. If progress < 2cm in 4 hours, inform registrar	Slow progress in labour may indicate that successful VBAC is unlikely, and a decision to deliver by emergency CS may be appropriate. Full dilatation would be expected 2 hours after 9cm.
8.	Oxytocin infusion may only be used after careful assessment by the Obstetric Registrar in consultation with the Consultant (see Guideline Obs 42 – oxytocin infusion)	Inappropriate use of oxytocin in the presence of cephalo-pelvic disproportion may result in uterine rupture
9.	Instrumental vaginal delivery is appropriate if needed and only requires to be performed in theatre if there are indications apart from the previous caesarean section that it should be (see Guideline Obs 32 – Assisted vaginal birth)	Once full dilatation is achieved usual indications for an instrumental delivery apply unless the previous caesarean section was for a failed instrumental delivery Trial of instrumental delivery in theatre only if the previous caesarean section was for a failed instrumental delivery.

10.	The following are possible signs of scar rupture abnormal CTG severe continuous abdominal pain chest/shoulder tip pain acute onset scar tenderness abnormal vaginal bleeding/haematuria cessation of previous good contractions maternal tachycardia/hypotension loss of station of presenting part Increasing requirement of pain relief/epidural top-ups	There is no single pathognomonic sign of uterine rupture but these signs may indicate cause for concern.
11.	Digital palpation of the uterine scar following delivery is only indicated if there is excessive bleeding	The management of a dehiscence discovered coincidentally is usually conservative

References

1. RCOG Green-top Guideline No. 45. Vaginal birth after previous caesarean birth. October 2015
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3. Guise JM, Eden K, Emeis C, et al. 2010. Vaginal birth after caesarean: new insights. Evidence Report/Technology Assessment; 191:1-397
4. UKOSS- Fitzpatrick K, Kurinczuk J, Alfirevic Z, Spark P, Brocklehurst P, et al. (2012) Uterine Rupture by Intended Mode of Delivery in the UK: A National Case- Control Study. PLoS Med 9(3): e1001184.Doi:10.1371/journal.pmed.1001184
5. National Collaborating Centre for Women's and Children's Health 2011. Caesarean section. NICE Full guideline.
6. Kirkeby Hansen A, Wisborg K, Uldberg N, Brink Henriksen T. 2007.Risk of respiratory morbidity in term infants delivered by elective caesarean section: cohort study. British Medical Journal 2007; doi:10.1136/bmj.39405.539282.BE
7. Milton SH. Gynecologic myomectomy treatment and management. New York, Medscape; 2015 https://doi.org/10.1111/tog.12491

Process for audit

1. An audit will be undertaken at least every 3 years which will audit compliance with this guideline. The audit will include as a minimum set of standards the following criteria
    a. Documented evidence of counselling in the antenatal notes on risks and benefits of VBAC and elective repeat caesarean section
    b. Individual management plan for labour
    c. Documented plan for labour should this commence early
        i. Plan to be decided at the time in the event of preterm labour
        ii. Plan documented for the event of spontaneous labour before a planned caesarean section
    d. Documentation of consultant involvement in making decisions on induction of labour
    e. Use of continuous electronic fetal monitoring during VBAC

2. The audit will be presented at a monthly departmental multidisciplinary audit meeting following which an action plan will be formulated to correct any deficiencies identified and a date for re-audit planned.
3. The implementation of the action plan will be reviewed at the monthly audit meeting 3 months after presentation

Appendix 1

Check list for antenatal counselling and intrapartum management for women with a previous caesarean section