



CLINICAL PRACTICE GUIDELINE

Birth After Previous Caesarean Section

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Aim

To enable women, who have had a previous caesarean section to make an informed choice for the method of birth in a subsequent pregnancy, by providing accurate information on the benefits and risks of Birth after Caesarean Section and repeat Elective Repeat Caesarean Section.

Antenatal Preparation

Options

Elective Repeat Caesarean Section (ERCS) –Planned caesarean section in a woman who has had one or more repeat caesarean sections¹.

Planned Vaginal Birth after Caesarean Section (VBAC) Also referred to by some as Trial of Labour (TOL) or Trial of Labour after Caesarean (TOLAC), Labour after Caesarean (LAC) or Next Birth after Caesarean (NBAC)¹. Women with a previous classical Caesarean section, vertical lower uterine segment incision or full thickness myomectomy are excluded from this option.

Antenatal Care, Benefit and Risk Counselling Recommendations¹

A woman should be well informed regarding mode of birth after previous Caesarean section and have the right to have her wishes respected. This is strongly supported by RANZCOG and other similar professional bodies.

1. Early in the postnatal period following a primary Caesarean birth, women should be offered the opportunity to be debriefed and to discuss their birth experience, as well as their potential suitability for planned VBAC in future pregnancies.
2. Women with a prior history of an uncomplicated lower segment Caesarean section, in an otherwise uncomplicated pregnancy, should be given the opportunity to discuss the birth options of planned VBAC or elective Caesarean section early in the course of their antenatal care.
3. The risks and benefits of the birth options, considered in conjunction with an individual woman's chances of success for VBAC, should be discussed with the woman and documented in the medical record. The provision of an information leaflet or other similar resource at the consultation is recommended.
4. Respect should be given to the woman's right to be involved in the decision making regarding mode of birth, considering her wishes, her perception of the risks and her plans for future pregnancies.
5. Attempts should be made, where possible, to check the operative record of the previous Caesarean section, its indication and post-operative course.
6. Women considering options for birth after a previous Caesarean section should be informed that ERCS may increase the risk of serious complications in future pregnancies.

7. A final decision for mode of birth should be agreed between the woman and her Obstetrician (and midwife where appropriate) before the expected/planned birthing date (ideally by 36 weeks gestation).
8. A signed consent form for VBAC to be obtained by a doctor, ideally at 36 weeks. Highlight the plan for labour with the VBAC Management Plan for Women in Labour green sticker in the Obstetric Instruction sheet (MR004) with documented consultant involvement.
9. Perform an ultrasound to check for placental localisation and any abnormal placentation if not previously documented.
10. When a date for ERCS is being arranged, a plan for the event of labour starting before the scheduled date should be documented in the clinical notes²- and the -National /women-Held Pregnancy Record. Women should be advised to present to Labour and Birth Suite / Maternal Fetal Assessment Unit in early labour (regular painful contractions), or when there is rupture of membranes, bleeding or constant pain.

Success Rates¹

There has been a wide range of success rates (23 - 85%) reported for those achieving vaginal birth following a planned VBAC. Published studies of the outcomes for women attempting VBAC report a likelihood of success of between 60 and 80%. The chance of achieving vaginal birth is influenced by many factors of the mother, the fetus, the previous caesarean section and the labour. At King Edward Memorial Hospital, our women are more likely to have factors that reduce the success rate. Consequently, our overall vaginal birth for all women attempting VBAC is around 55% (August 2017). It must be borne in mind that the chance for an individual woman will vary from this depending on her history and she may have a significantly greater or lesser chance of vaginal birth than the overall VBAC population.

Factors affecting Success

Favouring Success	Reducing Success
<ul style="list-style-type: none"> • Previous vaginal birth. • Previous successful VBAC. • Spontaneous onset of labour. • Uncomplicated pregnancy 	<ul style="list-style-type: none"> • Previous Caesarean section for dystocia. • Induction of labour. • Coexisting fetal, placental or maternal conditions²² • Maternal BMI greater than 30 Kg/m². • Fetal macrosomia of 4 kg or more. • Advanced maternal age. • Short stature. • More than one previous Caesarean section. • Risk factors associated with an increased risk of uterine scar rupture.

Benefits and Risks of VBAC¹

Benefits if Successful VBAC	Risks
<ul style="list-style-type: none"> • Less maternal morbidity for index pregnancy and future pregnancies. • Avoidance of major surgery. • Earlier mobilisation and discharge from hospital. 	<ul style="list-style-type: none"> • Increased perinatal loss compared with ERCS at 39 weeks (1.8 per 1000 pregnancies) <ul style="list-style-type: none"> ➢ Stillbirth after 39 weeks gestation ➢ Intrapartum death or neonatal death (related to scar rupture in labour). • Hypoxic Ischaemic Encephalopathy (HIE) risk <ul style="list-style-type: none"> ➢ Related both to labour and vaginal birth and to scar rupture. • Increase morbidity of emergency Caesarean section compared to ERCS if unsuccessful in achieving VBAC^{3, 4} • Pelvic floor trauma.

Benefits and risks of Elective Repeat Caesarean Section (ERCS) at 39 weeks¹

Benefits	Risks
<ul style="list-style-type: none"> • Avoids late stillbirth (after 39 weeks). • Reduced perinatal mortality and morbidity (especially HIE) related to labour, birth and scar rupture. • Reduced maternal risks associated with emergency Caesarean section. • Avoidance of trauma to the maternal pelvic floor. • Convenience of planned date for birth. 	<ul style="list-style-type: none"> • Placenta Previa or Placenta accreta,⁵ • Increased risk of neonatal respiratory morbidity – low incidence ≥ 39 weeks gestation. • Associated with lower rates of initiating breast feeding⁶⁻⁸ • Repeat elective Caesarean section exposes the mother to surgical risk in her current pregnancy, the risk increasing with each subsequent Caesarean section¹.

Emergency Caesarean Section

The maternal morbidity associated with emergency Caesarean section is significantly greater than rates reported for elective Caesarean section. Severe complications were reported in 13.2% emergency Caesarean sections, compared with 7% of those delivered by elective Caesarean section⁴. This increased risks associated with an emergency Caesarean birth needs to be considered, especially for those women with relatively low chance of successful VBAC, and particularly for those women with co-existing medical morbidities¹.

Uterine Rupture¹

Uterine rupture in an unscarred uterus is extremely rare, with incidence rates estimated at 0.5-2.0 per 10,000 births, and occurrence mainly confined to multiparous women in labour⁹. The incidence of scar rupture in a woman undergoing VBAC has been reported between 22 - 74 per 10,000 births^{10, 11}.

The complication rates related to scar rupture per 1000 women attempting VBAC¹¹⁻¹³

Complication	Risk / 1,000 Attempted VBAC
Uterine rupture	5-7/1,000
Perinatal death	0.4-0.7/1000
Maternal death	0.02/1000
Major maternal morbidity	Approximately 3/1000
• Hysterectomy	0.5-2/1000
• Genitourinary injury	0.8/1000
• Blood transfusion	1.8/1000
Major perinatal morbidity	Approximately 1/1000
• Fetal acidosis (cord pH <7.0)	1.5/1000
• HIE	0.4/1000

- A previous vaginal birth reduces the risk of uterine scar rupture^{14, 15}.
- The risk of uterine rupture is increased with previous classical Caesarean section (20 to 90/1,000)¹⁶, previous 'inverted T' or 'J' incisions (19/1,000), and low vertical incision (20/1,000).
- Obtaining the record of the operative note from a previous Caesarean section to define the nature of previous scar and any significant uterine tears may be helpful in assessing the risk of future uterine rupture. A higher incidence of scar rupture has also been reported with induction of labour and augmentation of labour¹⁷⁻²¹. The risk of scar rupture is further increased when prostaglandins are used to induce labour¹⁸⁻²⁰.
- A two to three-fold increase in the incidence of scar rupture has been reported if the pregnancy interval has been less than 18 months²² or less than 24 months^{22, 23}.

Induction

Induction of labour for maternal or fetal indications remains an option for women undergoing planned VBAC; however induction of labour reduces the success rate of achieving VBAC and increases the rate of uterine rupture. Induced labour is less likely to result in VBAC than spontaneous labour and an unfavourable cervix at induction decreases the chances of success^{20, 21, 24-28}.

The decision for induction of a woman with a previous caesarean scar should consider any other risk factors present, e.g. grand multiparity, BMI above 40 and be discussed with the Obstetric Consultant.

Prostaglandins are not licensed in Australia for use in women with a uterine scar.

Refer to Clinical Guideline [Induction of Labour](#).

Intrapartum Management

1. The senior obstetric registrar or consultant and shift coordinator is to be notified when the woman is admitted.
2. Establish intravenous access (leave an intravenous cannula in situ) and take blood for group and hold serum and/or cross matching if appropriate²⁹.
3. Attempts should be made, where possible, if not already done in the antenatal clinic, to check the operative record of the previous Caesarean section, its indication and post-operative course¹.
4. Women can have a light diet until in active labour. Once in active labour women may have sips of clear fluids e.g. water, black tea or coffee, particle-free apple juice, lucozade, isotonic sports drinks (NOT milk based drinks).
5. Vigilant assessment of progress of labour with vaginal examinations is required:
 - At least four hourly in the active phase of labour.
 - Two hourly assessments from 7cm dilated
 - There needs to be evidence of progress in labour in both first and second stage.
6. The Cervicograph ALERT line (gradient denoting rate of 1cm / hr) becomes the ACTION line.
7. Any delay in the latent/active phase of labour, second stage or significant fetal heart rate abnormalities should be discussed immediately with the midwifery co-ordinator/ Midwifery consultant, obstetric senior registrar and/or consultant on-call for Labour and Birth Suite. Recommendations on how to progress should be discussed with the woman and a plan for care and further assessment documented.
8. Analgesia is prescribed on request. There is no contraindication to epidural analgesia. Any concerns that epidural anaesthesia may mask symptoms of uterine rupture are not considered sufficient to contraindicate epidural use²⁴.
9. Oxytocin may be used with caution in women with a previous caesarean section, following discussion with the obstetric consultant on-call for Labour and Birth Suite¹⁶. The risks and benefits discussed with the woman should then be documented in the clinical record¹.

Electronic Fetal Monitoring (EFM)

Clinical Guidelines [Fetal Heart Rate Monitoring](#)

1. A uterine scar is an indication for continuous electronic fetal surveillance in labour^{1, 30} commencing at the onset of regular uterine contractions² or commencement of Oxytocin Infusion.
2. Continuous fetal monitoring using telemetry may be an option that may be available to women if they wish to ambulate during labour.

3. It is reasonable for women to have short breaks from electronic fetal monitoring in the following circumstances:
 - If the electronic fetal heart rate monitoring has been and is considered normal;
 - The interruption is for a short period only i.e. 15 minutes;
 - If the number of interruptions is infrequent;
 - If the interruption does not occur immediately after any intervention that might be expected to alter the fetal heart rate.
 - This arrangement has been discussed prior to labour and documented in the antenatal notes using the VBAC Management Plan for Women in Labour green sticker in the Obstetric Instruction sheet (MR004) with documented consultant involvement.
 - Women's wellbeing is considered and their wishes are respected in relation to monitoring³⁰.
 - Disturbances to the woman are also minimised e.g. monitoring volume low, upright positions/mobility, and use of water for pain relief³⁰.
 - The fetal heart rate should be monitored by intermittent auscultation during unavoidable interruptions, at times of potential fetal vulnerability, with re-commencement of continuous CTG when feasible³⁰.
 - Interruptions to fetal monitoring should be minimised during transfer to the operating theatre and prior to the birth of the fetus³⁰.
4. In clinical situations where the fetal heart rate pattern is considered abnormal, immediate management should include³⁰:
 - Identification of any reversible cause of the abnormality and initiation of appropriate action (e.g. maternal repositioning, correction of maternal hypotension, rehydration with intravenous fluid, cessation of oxytocin and/or tocolysis for excessive uterine activity) and initiation or maintenance of continuous CTG.
 - Consideration of further fetal evaluation or birth if a significant abnormality persists.
 - Escalation of care if necessary to a more experienced practitioner i.e. a Senior Registrar or Obstetric Consultant.

Signs and Symptoms of Uterine Rupture

***Abnormalities in the fetal heart trace, such as variable or late decelerations, prolonged fetal bradycardia, warrant immediate review by senior registrar or consultant. These abnormalities may be the first signs of scar rupture/dehiscence.**

Be vigilant for the symptoms and signs of scar rupture, which may include¹:

- Abnormal fetal heart rate or cardiotocograph (present in 55-87% of cases)¹.

- Several VBAC studies have reported that in over 70 % of cases of uterine rupture, the first signs or symptoms presented as prolonged fetal bradycardia. Of these cases, only 8 % presented with pain and 3 % with bleeding^{9, 31, 32}.

- Abnormal vaginal bleeding or haematuria¹
- Suprapubic tenderness and/or severe constant abdominal pain which continues between contractions¹
- Maternal tachycardia, hypotension or shock²
- Chest pain or shoulder tip pain, sudden onset shortness of breath¹
- Acute onset of scar tenderness².
- Cessation of previous efficient uterine activity².
- Change in abdominal contour and inability to pick up fetal heart rate at the old transducer site².
- Loss of station of the presenting part (disengagement of presenting part)²

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Related policies

Related WNHS policies, procedures and guidelines

WNHS Clinical Guidelines

[Induction of Labour](#)

[Intrapartum Fetal Monitoring](#)

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