GUIDELINE FOR VAGINAL BIRTH AFTER ONE PREVIOUS LOW SEGMENT CAESAREAN SECTION

The College of Midwives of Manitoba (CMM) supports registered midwives in providing primary health care for clients planning a vaginal birth after previous caesarean (VBAC). Current evidence supports clients choosing a trial of labour after caesarean (TOLAC) with the goal of completing a VBAC. The general VBAC rate is estimated to be 75% (range of 60-80%) for those who opt for a TOLAC. When choosing a TOLAC, clients benefit from a thorough discussion with their midwife regarding the risks and benefits associated with TOLAC versus an elective repeat caesarean section (ERCS) and the likelihood of a VBAC in their own particular situation. This guideline has been developed to guide midwives in the provision of services to clients who have had a previous caesarean section.

DEFINITIONS

Elective repeat caesarean section (ERCS): Planned caesarean birth by a client who has had one or more prior caesarean births. The birth may or may not be scheduled.

Trial of labour after caesarean (TOLAC): A plan to labour and birth vaginally after a previous caesarean birth.

Unsuccessful trial of labour: A trial of labour (TOL) which results in a caesarean birth.

Uterine rupture: A full-thickness separation of the uterine wall and the overlying serosa.

Uterine scar dehiscence: Separation of a preexisting scar that does not disrupt the overlying visceral peritoneum (uterine serosa) and that does not significantly bleed from its edges. The fetus, placenta, and umbilical cord are contained within the uterine cavity, with no need for caesarean birth due to fetal distress.

Vaginal birth after caesarean delivery (VBAC): Vaginal birth after a TOL; that is, a successful trial of labour.

BENEFITS OF VBAC COMPARED TO ERCS AT TERM

Maternal

- Vaginal delivery eliminates most complications associated with surgery including:
  - excess blood loss
  - blood transfusion
  - hysterectomy
  - febrile morbidity
  - wound infection
  - endometritis
  - urinary tract infection (UTI)
  - serious infectious morbidity
  - venous thromboembolism (Deep vein thrombosis and pulmonary embolism)

- Reduces the risk of placental growth abnormalities (previa, accreta, increta and percreta) in subsequent pregnancies
- Reduces the risk of maternal death
- Potentially increases maternal satisfaction and control in decision-making
- Shortens hospital stay
- Shortens postpartum recovery period

Fetal/Neonatal Benefits

- Reduces risk of respiratory complications
- Increases rates of breastfeeding initiation within the first hour

RISKS OF TOLAC COMPARED TO ERCS AT TERM

Uterine Rupture

The greatest risk of a TOLAC is uterine rupture. The risk of uterine rupture for a client undergoing TOLAC is significantly elevated compared to those undergoing ERCS.

- The rate of rupture is generally reported to be approximately 0.5% or 1:200 TOLAC. Other evidence quotes the overall rate at 1-3:500 when induction or augmentation is not being used.
- Uterine rupture is associated with the following adverse maternal outcomes:
    - Maternal mortality
    - Hysterectomy - 14-33 % will require a hysterectomy when the uterus ruptures
    - Hemorrhage requiring blood transfusion
    - Infection
- Uterine rupture is associated with the following adverse neonatal outcomes:
    - Neonatal death- approximately 6%
    - Hypoxic Ischemic Encephalopathy: 3.7% with rupture (0.1% TOLAC without rupture)

Fetal/Neonatal Mortality rates - TOLAC vs. ERCS

- The perinatal mortality rate (death in the intrapartum and first 7 days) is increased for TOLAC at 130 per 100,000 compared to elective repeat cesarean delivery at 50 per 100,000.
- The neonatal mortality rate (death in the first 28 days of life) is 110 per 100,000 with TOLAC compared to 50 per 100,000 for elective repeat cesarean delivery.

FACTORS THAT INCREASE A CLIENT'S LIKELIHOOD OF A VBAC AT TERM

No one can predict who will give birth vaginally or by caesarean or who will have a uterine rupture with its subsequent outcomes. However there are studies that provide care providers with factors that will increase the likelihood of achieving a VBAC at term.

- Healthy; no maternal disease
- BMI of less than 30 kg/m2
- Maternal age of less than 35
- History of a vaginal birth (either prior to or after a caesarean)

- Nonrecurring indications for a caesarean (e.g. malpresentation)
- Previous babies' birth weights less than 4,000 grams
- Present fetus estimated at less than 4,000 grams
- Gestational age less than 40 weeks
- Spontaneous labour
- Cervical effacement greater than 75% at active labour
- Greater cervical dilation at admission or at rupture of membranes (the more dilated the better)
- Active labour prior to spontaneous rupture of membranes (SROM)
- Vertex fetus
- Engagement or lower cephalic station at start of labour
- High Bishop Score prior to labour
- Caucasian clients (related to the social determinants of health)

FACTORS THAT INCREASE THE RISK OF UTERINE RUPTURE

- Induction of labour
  - The risk of rupture for a client at term when labour induced is higher (1,500 per 100,000) than the risk of rupture if labour starts spontaneously (800 per 100,000). The risk of rupture may be increased when the induction occurs at more than 40 weeks (3,200 per 100,000) versus those induced between 37 and 40 weeks (1,500 per 100,000).
- Type of uterine incision
  - The risk of rupture in a previous classical incision is estimated between 10 and 12%.
  - T-shaped or J-shaped
- Two or more prior caesareans
  - Two or more previous cesarean births were associated with higher rupture rates (1,590 per 100,000) than one prior cesarean delivery (560 per 100,000)
- Inter-delivery interval
  - An inter-delivery of less than 24 months has increased risk of uterine rupture. Inter-delivery interval of < 12 months rupture risk is 4.8%; 13-24 months rupture risk is 2.7%;
- Unfavorable cervical status at the time of admission
- Obesity – BMI>40 or weight gain of >40 lbs or 18 kg in current pregnancy
- An infant weighing more than 4,000 grams
- Slow progress in spite of adequate contractions. (50% of uterine ruptures occur after 4 hours of no progress.)

CONTRAINDICATIONS TO TOLAC

- Previous classical high vertical caesarean section
- Prior T- or J-shaped incision
- Prior low vertical incision
- Previous hysterotomy or fundal reconstructive surgery

- Any complication of current pregnancy which requires urgent induction in the presence of an unfavorable cervix
- Any contraindication to vaginal birth e.g. Transverse lie, placenta previa, vasa previa, absolute cephalo-pelvic disproportion
- Previous uterine rupture
- Maternal request for a ERCS

MANAGEMENT OPTIONS FOR A CLIENT WITH A HISTORY OF CAESAREAN SECTION

Prenatal Care

Every client who has had a previous caesarean section, even if they have had a successful VBAC, must be involved in a thorough prenatal discussion about specific benefits, risks, preferences and future pregnancy plans. The midwife will establish that the client understands the information provided and the consequences of a chosen therapy. This discussion needs to be revisited as factors in the client's life change. As part of the discussion the client's caesarean operative/surgical report(s) should be obtained and reviewed with them. Clients should also be made aware that uterine rupture can occur before labour.

The discussion, along with the client's decision, should be documented in their chart. Key points to include in the documentation should be: The desire to have a TOLAC, the caesarean history (type, date, and complications), risks and benefits reviewed, place of birth discussion, fetal health surveillance options, and pain management options. The decision to have a TOLAC or ERCS should be noted on the prenatal record along with the type of previous uterine scar.

In keeping with the CMM *Standard for Discussion, Consultation and Transfer of Care*, a client with one previous lower segment caesarean section requires a discussion with another midwife or physician and a history of >1 previous lower segment caesarean section requires a consultation with a physician.

A consultation should also be offered if:

- The location and type of uterine scar is unknown
- If there were extensions to the incision
- If there are any other findings in the operative/surgical report that may impact the likelihood or safety of a VBAC (eg. Previous LSCS at early gestational age)
- If the client requests a consultation

Although the client should be informed that uterine rupture can occur without any indication or sign they should also be aware of the following signs of impending or actual uterine rupture:

- Undue maternal restlessness, anxiety or distress in relation to progress of labour
- Sudden fetal distress (tachycardia or decelerations)
- Unusual abdominal or uterine pain
- Hematuria
- Persistent uterine pain between contractions
- Cessation of contractions or in-coordinate uterine activity
- Unexplained vaginal bleeding
- A sudden onset of maternal tachycardia and hypotension
- Excessive fetal movement

- Fetal parts easily palpated through the abdominal wall
- Presenting part may be higher than previously palpated
- Signs and symptoms of shock
- Bandl's ring

Care during Labour and Birth
Intrapartum care will require continuous one on one midwifery care once the client is in active labour.

Fetal health surveillance
Continuous electronic fetal heart monitoring (CEFM) is the community and national standard. Given that CEFM is not generally available for out of hospital midwifery services, more frequent intermittent auscultation (IA) should be considered, based on the midwife's assessment of labour progress. Fetal heart rate abnormality has been determined to be the most common sign of uterine rupture.

IV In Situ
Though no clear research recommends IV in situ, it is frequently a community standard.

Labour progress
Regular assessment of progress, i.e. vaginal exam for cervical effacement and dilation and fetal descent should be considered. There is evidence that exams should be done every two hours, preferably by the same person.

Maternal health
Regular assessment of maternal wellness with particular awareness of psychological effects on labour progress.

Uterine rupture
Awareness of signs and symptoms of impending or actual uterine rupture as listed above.

Initiation of consultation/transport arrangements
If there is a prolonged first stage of labour, minimal progress during second stage pushing or concerns about maternal or fetal well-being, consult, and transport if out of hospital.

In hospital care
Labour management for planned TOLAC in hospital should include consideration of hospital policies and guidelines. The client's agreement or refusal should be well documented.

Water labour and birth
There is little evidence regarding TOLAC and water birth. However it is well documented in the literature that water immersion in labour and birth benefits the client and fetus. Assessment of maternal and fetal well-being continues throughout, whether the client chooses to stay in the water or exit the tub for the infant's birth.

Factors to consider for out of hospital TOLAC
- Research on outcomes for TOLAC is almost exclusively based on planned hospital births.
- Distance to hospital providing emergency obstetrical care. There is some evidence that birth within 30 minutes from 'decision to incision' is associated with good long term outcomes.

- Road and weather conditions may delay transport of mother or infant thereby prolonging the time for accessing medical treatment.
- Continuous fetal monitoring not available in out of hospital settings.
- Once in active labour, notifying appropriate hospital staff of the client's plan for an out of hospital birth could potentially make a transfer go more smoothly and therefore increase safety and outcome in the event that an emergency transport to hospital is required.

In keeping with the CMM *Standard for Planned out of Hospital Birth*, the discussion regarding TOLAC should include the following:

- National & community standards and hospital policies & procedures
- Options available for fetal health surveillance
- Potential delay of surgical intervention which may have significant negative impact on the outcomes for the client and/or the baby, including death
- That out of hospital birth for TOLAC is generally not supported in the local medical community, and may not be supported by the client's social/family network

Postpartum Care

When a postpartum haemorrhage occurs in a VBAC client, uterine rupture should be considered as a possible cause.

At discharge, the midwife and client should review the labour and birth and future pregnancy plans with the goal of advising the client regarding their chances of having a future VBAC.