

Boston Medical Center Maternity Care Guideline
Guideline: Counseling Women on Modes of Birth After Cesarean
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Purpose

To provide clinicians with evidence based information to make decisions in partnership with women whether or not to plan for labor after prior cesarean in the outpatient setting.

Definition

Labor after Cesarean (LAC): Labor in a woman who has had a previous cesarean. (Prior term used was TOLAC - Trial of Labor after Cesarean).

Elective Repeat Cesarean Birth (ERCB): Extraction of the fetus(es) through an abdominal incision in a woman who had a cesarean birth in a previous pregnancy. This may be planned or unplanned.

Vaginal Birth after Cesarean (VBAC): Vaginal birth by a woman with a history of a previous cesarean (successful LAC).

Introduction

In 2016 the cesarean rate for the United States (U.S.) was 31.9%, more than double the rate recommended by World Health Organization (WHO) to reduce maternal and neonatal mortality.² Since the release of the National Institute of Health's 2010 statement on Vaginal Birth After Cesarean (VBAC), emphasizing the importance VBAC as an option for women, rates of Labor After Cesarean (LAC) have slowly started to rise, increasing from 8.4% in 2009 to 11.9% in 2015. Most women with one or two previous low-transverse cesareans are considered reasonable candidates for LAC and should be supported in shared decision making about their birth options.

BMC Statistics: At Boston Medical Center (BMC) in 2017, cesarean birth rate was 31%. Thirty-nine percent of women with prior cesarean delivery attempted LAC, of which 65% were successful. The overall VBAC rate was 25%.

Brief significance in pregnancy

Consistent evidence supports planned vaginal birth after cesarean (VBAC) as an important and safe birth option for many women. Clinicians should use Shared Decision Making (SDM) to specifically discuss the benefits and harms of LAC considering the individual risk factors, values and preferences of each woman. Women have different thresholds for tolerating risks associated with their birth options and consequent outcomes.

BMC providers have created a patient and provider decision making tool which can assist with this shared decision making. These materials can be found here:

<http://www.bumc.bu.edu/obgyn/labor-after-cesarean-counseling-materials/>

Please see Appendix I for the basic talking points for the risks and benefits of LAC and elective repeat cesarean delivery.

Please see Appendix II for a table describing the probability of a successful VBAC and a table of the complication rates Associated with LAC and Planned Cesarean Birth.

Diagnosis

Taking a thorough obstetrical history on all new prenatal patients is essential. When a woman has a history of a prior cesarean, as much information as possible should be gathered, and if available the op note from the prior cesarean birth should be attained and reviewed.

When possible, records of prior cesarean births should be reviewed including

- type of uterine incision
- method of closure
- cesarean date
- indication for previous cesarean
- complications

Candidates for labor after cesarean (LAC)

- One or two previous low-transverse or low vertical incisions
- No previous uterine rupture
- Unknown uterine scar without suspicion of a classical uterine incision
- Twin gestation, with appropriate fetal lie for vaginal birth
- Previous cesarean preterm birth without documentation of uterine incision

NOT candidates for LAC

- Previous classical or T-shaped incision
- Transfundal uterine surgery
- Prior uterine surgery with incision through to endometrium
- Previous uterine rupture
- Medical or obstetric complications that preclude vaginal birth
- Note by prior delivery provider recommending no LAC

Consult Triggers for Non-Operative Prenatal Care Providers (FM physicians, Nurse Practitioners and Nurse Midwives) with an operative obstetric provider

- ***Any complications were noted during her previous cesarean sections, either by op note or by patient report***
- *Two prior cesarean births and have never had a vaginal birth requesting LAC*
- *Previous cesarean preterm birth (<32 weeks) without documentation of uterine incision*
- *<60% chance of successful VBAC calculated by MFMU calculator prenatally*

(please note: consultations with surgical provider should take place prior to 36w GA)

Treatment and management

Counseling Using the VBAC Calculator and Shared Decision Making

The probability of successful LAC depends on the patient's combination of factors (see Appendix II). The Maternal-Fetal Medicine Units Network developed a VBAC calculator to be used during prenatal visits and on admission to L&D especially for women undergoing LAC at term with a previous cesarean, singleton, and vertex presentation. This calculation should be used for patient education and counseling to enhance a shared decision-making process. [LAC CALCULATOR](#)

<https://mfmu.bsc.gwu.edu/PublicBSC/MFMU/VGBirthCalc/vagbirth.html>

How to counsel a woman about her chance of a successful VBAC using the calculator?

- ▶ Women with at least a 60% chance of successful LAC have equal or less maternal morbidity when they undergo LAC than women undergoing elective repeat cesarean delivery.
- ▶ Because neonatal morbidity is higher in the setting of a failed LAC than in successful LAC, women with higher chances of successful LAC have lower risks of neonatal morbidity (*ACOG, 2010, p. 453*)
- ▶ Women with <60% chance of success have a higher rate of maternal morbidity when they undergo a LAC and therefore need a consult with a surgical obstetrical provider if primary OB provider is non-surgical (CNM, NP, or non-surgical FM MD)

Documentation

- 1) For all women with a history of a prior LTCS, create separate problem in the problem list: **History of Cesarean Section**
- 2) Document and date the counseling is completed and the patient's planned mode of birth under History of Cesarean Section Problem. *Please see Appendix IV for Smart Phrase suggestion.*
- 3) *Prenatal Management Checklist:*
 - Records of prior birth reviewed including
 - type of uterine incision
 - method of closure
 - when the cesarean occurred
 - indication for previous cesarean(s)
 - complications
 - Number of cesarean (1 or 2)
 - Evaluate history of previous uterine surgery
 - Provide *Giving Birth After Cesarean* brochure in the woman's speaking language
 - Consider using Provider toolkit and Provider scripted counseling (see Appendix IV) when counseling woman with a previous cesarean
 - Calculate her chance of VBAC success
 - Counsel Gestational Weight Gain using IOM BMI recommendation (see Appendix III)
 - Appropriate VBAC consent reviewed during prenatal care before 36 weeks and signed (see Appendix IV)
 - Document and date her preference, decision, and planned mode of birth on the problem list

Logistics

- **Refer to Birth Sisters:** Women with a history of a prior LTCS desiring LAC are candidates for a birth sister. Good labor support increases a woman's chances of a successful VBAC. Refer candidates to birth sisters via Epic or with a paper referral available at BUOBGYN website.
- **Scheduling Consultations**
 - If an obstetrician or surgically trained family medicine physician available at your Community Health Center, consults may be completed at CHC
 - For BMC patients and at CHCs without a surgically trained OB provider, place a referral for General OBGYN and write TOLAC CONSULT and brief history on the referral form under indications

- Scheduling Elective Repeat Cesarean at 39 weeks or greater
 - Call Labor and Delivery: (617) 414-4364

- Access to LAC counseling materials
 - Counseling materials will be distributed to each health center. If none available, please download and print from the website:
<http://www.bumc.bu.edu/obgyn/labor-after-cesarean-counseling-materials/>
(pw: bmcobgyn)

- Charting Guidelines for History of LTCS
 - See appendix IV

Appendix I - Risks and Benefits of LAC vs. ERCS

Benefits of a successful VBAC

- Avoid major abdominal surgery
- Shorter recovery time after delivery
- Decrease risk of maternal death
- Decrease risk of complications associated with multiple cesarean births including hysterectomy, bowel or bladder injury, blood transfusion, infection and abnormal placentation

Benefits of an elective repeat cesarean delivery (ERCD)

- Ability to plan for the date and time of the birth
- Comfort knowing what to expect from the surgery
- Avoid labor and the risks associated with VBAC
- Avoid the chance of going through labor and still needing a cesarean

Risks of LAC

- Increased risk of infection with unsuccessful TOL
- Risk of rupture of uterine scar of 1% with 1 prior low transverse cesarean, up to 2% with 2 prior low transverse cesarean, with significant increase in risk of maternal and infant morbidity and mortality
- Need for an emergency cesarean if uterine rupture occurs.
- Increased risk of hysterectomy, with inability to bear children, with uterine rupture/
- If a uterine rupture occurs there is a 1 in 1,000 chance that the baby will have a brain injury or die

Risks of cesarean delivery

For Mom:

A cesarean delivery is major surgery, and so has surgery-related risks including:

- Infection
- Severe bleeding that may lead to removal of the uterus, with inability to bear more children
- Blood clots in the lungs or legs
- Bowel injury or formation of intraabdominal scarring
- Prolonged hospital stay and increased risk of having to come back to the hospital
- Delayed bonding and breastfeeding, making the baby less likely to be breastfed

For Baby:

- Difficulty breathing at the time of birth
- Minor laceration during surgery

Risk for future pregnancy with cesarean:

- Increased risk of uterine rupture
- Increased risk of abnormal location and growth of the placenta
- Problems after birth leading to heavy bleeding, which could lead to the removal of the uterus

Complication Rates Associated with VBAC and Planned Cesarean Birth (Includes preterm and term births)		
Complication	VBAC Attempt	Planned Cesarean Birth
Uterine Rupture	468/100,000	26/100,000
Maternal Death	4/100,000	13/100,000
Hysterectomy	No significant difference	No significant difference
Blood Transfusion	No significant difference	No significant difference
Maternal Infection	No significant difference	No significant difference
Infant Infection	Insufficient information	Insufficient information
Infant Bag and Mask Ventilation Required	5,400/100,000	2,500/100,000
Transient Tachypnea of the Newborn (TTN)	3,600/100,000	4,200/100,000
Infant with Brain Injury (HIE)	Insufficient information	Insufficient information
Infant death in pregnancy or within 7 of birth (Perinatal Death Rate)	130/100,000	50/100,000
Infant death within 30 days of birth (Neonatal Death Rate)	110/100,000	60/100,000

Guise JM, Denman MA, Emis C, Marshall N, Walker M, Fu R, Janik R, et al. Vaginal birth after cesarean. New insights on maternal and neonatal outcomes. *Obstetrics and Gynecology* June 2010; 115:1267

Appendix II - Factors Associated with Probability of Successful VBAC

When is VBAC Likely to be Successful?

- Had a previous vaginal birth
- Has spontaneous labor
- Admitted in active labor
- Really want to have a vaginal birth
- Have not had more than two C-sections
- Less than 40 weeks pregnant
- Fetal's weight is estimated to be less than 4,000 grams (8 pounds 13 ounces)
- Have good labor support and pain control
- BMI < 30
- Previous C-section was not done because of CPD

When is VBAC Less Likely to be Successful?

- Never had a vaginal birth
- Need induction of labor
- 35 years or older
- Less than 18 months since last C-section
- Unsure about having a vaginal birth
- Fetal weight is more than 4,000 grams (8 pounds 13 ounces)
- Admitted in early labor
- BMI > 30
- Does not have good support or pain control
- Have the same problem that led to your previous C-section

Factors Associated with Probability of Successful VBAC	
Factor	Successful VBAC (%)
<i>History of vaginal birth</i>	
Prior VBAC	90
Any vaginal birth	87
<i>Indication for previous cesarean</i>	

Malpresentation	84
Non-Reassuring FHT	73
Dystocia	64
<i>Obstetric factors</i>	
Spontaneous labor	81
Oxytocin augmentation	74
Labor induction	67
Admit cervical dilation ≥4 cm	84
Admit cervical dilation <4 cm	67
Medical complication	70
Birth weight <4000 gm	75
Birth weight ≥4000 gm	62
Epidural anesthesia	73

Landon MB, Leindecker S, Spong CY, et al. The MFMU Cesarean Registry: Factors affecting the success of trial of labor after previous cesarean delivery. Am J Obstet Gynecol. 2005;193:1016-1023.

Risks of Uterine rupture	
1 previous cesarean	3 in 1,000
More than 1 cesarean	9-18 in 1,000
Induction of labor	15 in 1,000
Oxytocin	11 in 1,000
Prostaglandin E2	20 in 1,000
Misoprostol	130 in 1,000
Cervical Foley Balloon	no data
Induction of Labor at > 40 weeks gestation	32 in 1,000

ACOG. Vaginal birth after previous cesarean delivery. Practice bulletin Number 115. Obstet Gynecol. 2010;116:450-463.

AAFP. Planning for labor after cesarean. Clinical practice guideline.

Appendix III – IOM GWG Recommendations

Institute of Medicine Weight Gain Recommendations for Pregnancy			
Prepregnancy Weight Category	Body Mass Index*	Recommended Range of Total Weight (lb)	Recommended Rates of Weight Gain[†] in the Second and Third Trimesters (lb) (Mean Range [lb/wk])
Underweight	Less than 18.5	28–40	1 (1–1.3)
Normal Weight	18.5–24.9	25–35	1 (0.8–1)
Overweight	25–29.9	15–25	0.6 (0.5–0.7)
Obese (includes all classes)	30 and greater	11–20	0.5 (0.4–0.6)
<p>*Body mass index is calculated as weight in kilograms divided by height in meters squared or as weight in pounds multiplied by 703 divided by height in inches. [†]Calculations assume a 1.1–4.4 lb weight gain in the first trimester. Modified from Institute of Medicine (US). Weight gain during pregnancy: reexamining the guidelines. Washington, DC. National Academies Press; 2009. ©2009 National Academy of Sciences</p>			

Weight gain during pregnancy. Committee Opinion No. 548. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2013;121:210–2.

Appendix IV - Smart Phrase Prenatal LAC counseling

After reviewing the patient's previous cesarean operative note from ***Medical Center on ***, Ms. @NAME@ was counseled regarding her prior cesarean birth and the risks and benefits of labor after cesarean (LAC). We discussed that most women are candidates for a trial of labor and that the likelihood of successful vaginal birth is *** [VBAC successful Calculator](#).

We discussed the option of cesarean birth, and the risks of cesarean, including infection, bleeding, venous thromboembolism (VTE), damage to bowel, bladder and blood vessels, the possible need for hysterectomy (removal of the uterus and inability to carry a pregnancy in the future) and the increased risk of maternal death. We also discussed the increased risk of fetal respiratory problems with elective cesarean. We discussed that having a repeat cesarean birth can lead to more complications with subsequent pregnancies.

We discussed the risks of LAC, including the small risk of uterine rupture, which increases the risk of fetal brain or other organ injury and mortality, and the increased risks of morbidity and mortality to the mother if uterine rupture occurs. Uterine rupture also may lead to hysterectomy. We reviewed that the risks of cesarean might be higher if it must be done because the LAC was not successful. These risks include infection, blood loss, and VTE. She states that she understands our conversation and has no further questions. She opts to {Vbac:31769}.

Prenatal Management Checklist:

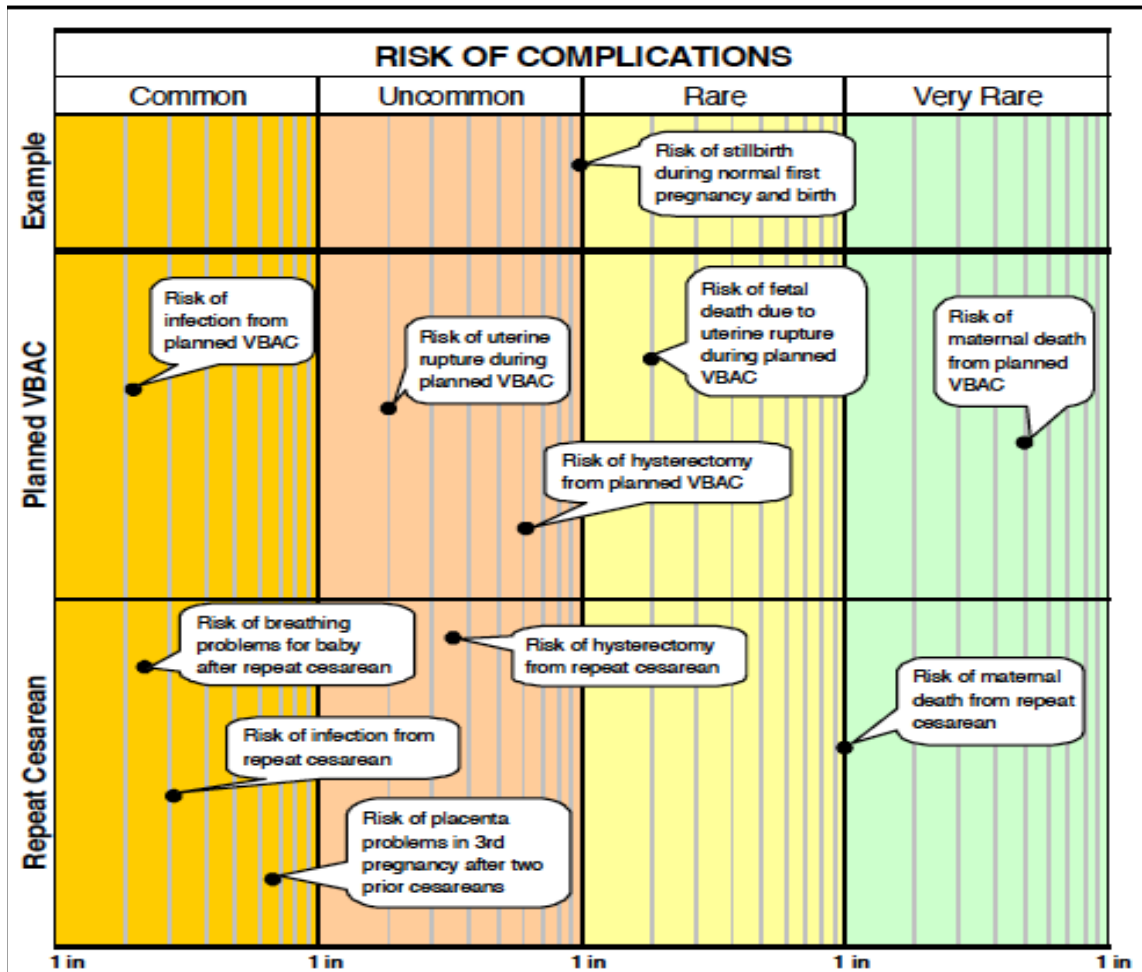
- Records of prior birth reviewed : DATE
 - Complications: Yes/No
 - If yes, which complication? _____
- Provided *Giving Birth After Cesarean* brochure in the woman's speaking language: DATE
- Used Provider Counseling toolkit : Date
- Provider scripted counseling : date
- Calculated her chance of VBAC success: _____
- Counseled Gestational Weight Gain using IOM BMI recommendation: DATE
- If she desires LAC: VBAC consent reviewed during prenatal care before 36 weeks and signed : DATE
- If she desires ERC:
 - surgery scheduled for: _____
 - BMC formal letter given with instructions: _____

Appendix V

Scripted Prenatal Counseling example

Provider Counseling Script 1 (Early in pregnancy)	
Congratulations thank you for choosing BMC	
You have a decision to make and I would like to make it with you.	
For most women (including you) VBAC is a safe option because...	
For very few women (including you), VBAC is not recommended because...	
What was your experience with your previous labor and birth?	
Knowing what important to you will help us make a better decision.	
As you think about your option, what is important to you in planning the type of birth you want to have?	
Have you thought about how you want to give birth to this baby?	
yes	no
<p>If C-section ask: Is there a particular reason why you don't want to try to have a vaginal birth?</p> <p>If LAC ask: Is there a particular reason why you don't want to try to have a repeat C-section?</p>	<p>It's OK if you are unsure. Please take your time to get more information, ask questions, discuss with loved ones, and make a decision that is good for you and the baby. I will support you as you decide on what kind of birth you plan to have.</p>
Let's take a few minutes review the risks and benefits of both LAC and ERCB (use provider tool)	
Do you have any questions about any of this information?	
Is there any more information you need?	
Do you have preference about which type of birth you want?	
We will keep working together to come up with the type of birth you prefer	
Please take time to review the brochure, talk to someone who might help you make the decision, and we will talk more next time	

Provider Counseling Script 2 (After 32 weeks)	
Have you already decided about how you are going to give birth to this baby?	
yes	no
<p>Let's talk about the things that concern you</p> <p>What is the hardest part about deciding?</p> <p>Is there anything that I can do to help you make a decision?</p> <p>We will continue to work together on your birth plan</p>	<p>What is your plan?</p> <p>From what I heard you saying, here what I understand</p> <p>Let's take a moment to talk about how you can better prepare for each of type of birth</p>
If you choose to have C-section	If you choose to have labor after C-section



Visual Aides

Accessed from: powertopush.ca/wp-content/uploads/2010/Best-Birth-Clinic-VBAC-Patient-Info-Booklet-with-BC-Data_web.pdf

Uterine Rupture when undergoing TOLAC (1 in 200)