

# Labor After Cesarean in Community Settings

## *A Vaginal Birth After Cesarean (VBAC) Guideline of the California Association of Licensed Midwives*

*Draft contributors: Jen Kamel, Tania McCracken LM, Rosanna Davis LM, Melissa Cheney LM PhD & Katherine Hemple PhD*

*Version December 13, 2021*

### 1-0 Introduction

1-1 This document is an evidence-based clinical practice guideline developed by the California Association of Licensed Midwives (CALM), which is consistent with both midwifery philosophy and the midwives' model of care. This guideline is designed to assist midwives in understanding the research, statistics, and risk around labor after cesarean (LAC), with specific attention given to the community birth setting. It reviews the research literature, including risks and benefits of LAC vs Elective Repeat Cesarean (ERC), what we know about LAC in the community setting, and predictors for vaginal birth after cesarean (VBAC) success. Intended as a tool for midwives to assess the risk of LAC in the community setting and to have quality informed consent discussions about LAC with clients, this guideline aims to clarify where there is reliable data and where there is an unknown level of risk. In developing this guideline, CALM utilized the most current research literature on LAC and VBAC, as well as midwifery practice guidelines in other states and Canada.

1-2 A note about terminology. Historically the literature has used the term *trial of labor after cesarean* (TOLAC) when planning for a VBAC. The literature also often refers to these clients as “attempting a TOLAC.” The terminology that healthcare providers use has an impact on clients and the phrase “allow or attempt to have a trial of labor” is undermining. This guideline will use the term *labor after cesarean* (LAC), reflecting that the birth plan is a shared decision between client and provider with the goal of a healthy outcome for mother and baby regardless of whether that leads to a vaginal birth or cesarean birth. Goals, plans, and intentions are important regardless of how or where the birth takes place. When quoting existing literature, this guideline adopts the terminology used by the original authors in that publication. In addition, the term “community birth,” rather than “out-of-hospital birth” is used throughout to refer to births that occur at home and in freestanding birth centers.

### 2-0 Definitions and Context

2-1 The midwives' model of care is grounded in the perspective that childbearing people have a basic human right to bodily autonomy and self-agency during the childbearing cycle, and is based on the fact that pregnancy and birth are normal life processes. Proven to reduce birth injury, trauma, and unnecessary cesarean surgery, the midwives model of care includes:

- Monitoring the physical, psychological, and social well-being of the client throughout the childbearing cycle
- Providing the client with individualized education, counseling, and prenatal care, continuous hands-on assistance during labor and delivery, and postpartum support
- Minimizing technological interventions
- Identifying and referring clients who require obstetrical attention [[Citizens for Midwifery](#)]

2-2 This guideline recognizes the midwives' model of care, the clinical judgment of the midwife, and maternal autonomy, and strongly endorses informed consent for LAC and VBAC in the community setting, in the hospital, and for elective repeat cesarean.

2-3 Midwives safely provide care in community settings with minimal technological intervention in most cases and acknowledge that there is a time and place for using technological intervention. This guideline reviews evidence-based client selection and labor management considerations for planned LAC and VBAC in community settings. It is not intended as a protocol or algorithm to replace individualized care, the clinical judgment of the midwife, or shared decision making between clients and their care providers.

2-4 Because the terms are often conflated, it is useful to differentiate between Clinical Practice Guidelines and Standards of Practice. Clinical Practice Guidelines, which are developed by the professional association of a given specialty and are based on a systematic review of evidence and an assessment of the benefits and risks of specific clinical practices, are intended to optimize care, outcomes, safety, and well-being. **Standards of Practice, by contrast, outline the broader fundamental competencies and ethical principles that practitioners of a professional discipline are expected to meet.**

### 3-0 Research

#### *Cesarean and VBAC Rates Over Time*

3-1 In contemporary obstetric care, cesarean birth is usually performed when the life of either the mother or the child would be endangered by attempting a vaginal delivery. In 1985, the World Health Organization (WHO) recommended an optimal cesarean rate not to exceed 10 to 15 percent within a given population. However, the current US cesarean rate is 31.9%. As the cesarean rate climbs, so too does the number of people who become pregnant again and must navigate the risks of a previous cesarean.

3-2 In the early 1970s, the belief "once a cesarean, always a cesarean" guided practice because the reason for a cesarean was usually based on perceptions of the maternal pelvis as inadequate; therefore, the need for a surgical birth was thought of as unlikely to change with subsequent pregnancies. As the cesarean rate rose, the reason for cesarean birth began to include conditions that were not necessarily found in subsequent pregnancies. Healthcare providers began to

question this adage, and between 1985 and 1995, the VBAC rate increased by over 20% with an associated decrease in cesarean rates. As VBAC became more common over this time, so too did the number of reported complications. Such complications and accompanying malpractice suits lead to a subsequent decrease in VBAC.

3-3 At the time of this writing (2021), cesarean and VBAC rates in the US and California are:

- US Cesarean rate: 31.9% in 2018 (National Vital Statistics)
- US VBAC Rate: 13.3% in 2018 (National Vital Statistics)
- US ERC rate with one prior cesarean: 80% (Curtin et al. 2015)
- US VBAC rate with one prior cesarean: 14% (Curtin et al. 2015)
- US VBAC rate with 2 prior cesareans: 4% (Curtin et al. 2015)
- US hospital VBAC success rate: 60-80% (ACOG, 2017)
- US Community (home and birth center) VBAC success rate (no previous vaginal delivery): 78% (Bovbjerg et al. 2017)
- US Community VBAC success rate (with one previous vaginal delivery): 92.8% (Bovbjerg et al. 2017)
- CA Community VBAC success rate with a Licensed Midwife: 80.7% (Licensed Midwife Annual Report 2018 – unverified data)

### *Risks of LAC and ERC*

#### ***Uterine Rupture***

3-4 One major concern for labor after cesarean is uterine rupture and its sequelae for mom and baby. The rate of uterine rupture for those who labor after cesarean (LAC) is 0.47% (4.7/1,000) versus 0.03% (0.3/1,000) for ERC (Guise et al. 2010). The risk of uterine rupture without a prior uterine surgery is about 1 in 14,000 (Zwart et al. 2009). Labor induced with Pitocin increases the risk of uterine rupture to 1.0% (1/100) and augmentation with Pitocin increases the risk of uterine rupture to 0.9% (1/111) (Landon et al. 2004).

3-5 One factor that has an impact on the likelihood of uterine rupture is the location of the incision on the uterus. The risk of uterine rupture is lowest for women with low-transverse incisions. Other types of hysterotomies, (with the exception of low vertical incision) carry a higher risk of uterine rupture (ACOG 2017). Most cesareans that occur in the United States are low-transverse. As such, ACOG says that VBAC with an unknown scar type may be considered. Rates of rupture among induced labor after cesarean with unknown scars is reported to be 0.5% (Landon et al. 2004) and 0.63% (Spong et al. 2007).

3-6 Research indicates that the thinner the lower uterine segment at term, the higher the risk of uterine rupture. A lower uterine segment thickness >3.65 mm is associated with a lower likelihood of uterine rupture (Swift et al. 2019). However, there is currently no method with documented reliability nor a widely accepted standard of care for determining the thickness of the lower uterine segment antenatally.

#### ***Placenta Accreta***

3-7 A second major concern for both labor after cesarean and elective repeat cesarean is placenta accreta. As the rate of cesarean birth has risen in the US, so has the incidence of placenta accreta.

In addition, on the individual level, the rate of placenta accreta increases for each uterine surgery that a woman has (0.24% with no prior cesarean to 6.74% with 5 prior cesareans). The rate of accreta after two cesareans is greater than the risk of uterine rupture after one cesarean (Silver et al. 2006), and women with placenta accreta have a 19-fold increased odds of experiencing an adverse outcome (blood transfusion, hysterectomy, maternal ventilation) (Mulubran et al. 2016).

### ***Maternal morbidity and mortality***

3-8 While uterine rupture can be a catastrophic event requiring emergency medical and surgical intervention, issues related to LAC resulting in fetal or maternal death are rare. While rare for both LAC and ERC, maternal mortality is significantly increased for ERC at 13.4 per 100,000 versus 3.8 per 100,000 for LAC (Guise et al. 2010). The rates of maternal hysterectomy, hemorrhage, and transfusions did not differ significantly between LAC and ERC (Guise et al. 2010). Women with a prior cesarean delivery had a statistically significant increased risk of placenta previa compared with women with no prior cesarean, at a rate of 12 per 1,000 and this risk increases with the number of cesareans (Guise et al. 2010)

### ***Fetal morbidity and mortality***

3-9 Six percent of uterine ruptures were associated with perinatal death (Guise et al. 2010). Perinatal mortality was significantly increased for LAC at 1.3 per 1,000 versus 0.5 per 1,000 for ERCD (Guise et al. 2010)

### ***Benefits of VBAC and ERC***

3-10 Some of the benefits of VBAC include that future pregnancies have a lower risk of uterine rupture (Cox et al. 2015), hysterectomy, excessive bleeding and placental abnormalities (Silver, 2006). For ERC, the benefits include a lower risk of uterine rupture in the current pregnancy (Guise, 2010) and an avoidance of risks associated with emergency cesarean (Landon, 2004).

### ***What we know about labor after cesarean (LAC) in the community setting***

3-11 There is limited research regarding LAC in the community setting. A 2015 study using the Midwives Alliance of North America (MANA) Statistics database compared 1,052 women with a prior cesarean to 12,092 multiparous women without a prior cesarean. The overall VBAC success rate in the community setting was 87%. A previous vaginal birth increased the VBAC success rate to 90.2%, and a previous VBAC raises the VBAC success rate even higher to 95.6% (Cox et al. 2015).

3-12 For LAC in the community setting, transfer rates were higher for those with a prior cesarean (18% vs 7% for those without a prior cesarean). The most common indication for transfer was for slow or non-progressive labors (Cox et al. 2015).

3-13 The rate of confirmed uterine rupture was higher in the community LAC group (1.90/1,000) than in the comparison group (0.08/1,000). Of the 1,052 births to women with a prior cesarean, there were two confirmed cases of uterine rupture that were documented during cesarean

delivery. Neither case resulted in fetal or neonatal death. There were an additional two cases of suspected uterine rupture based on clinical description of a vaginal birth with sudden onset of fetal bradycardia or loss of fetal heart tones. These two cases resulted in fetal and neonatal deaths. In the comparison group of women with no prior cesarean, there was one case of uterine rupture (Cox et al. 2015).

3-14 There were five total cases of intrapartum and neonatal deaths in the LAC group (4.75/1000 vs 1.24/1000 for multiparas without a history of cesarean). Two of these were suspected uterine rupture and the remaining three were attributed to complications from twins, undiagnosed breech with head entrapment, and cord prolapse. When pregnancies complicated by twins, breech, GDM, and preeclampsia are removed from the analysis, the intrapartum/neonatal death rate for the LAC group is 3.02/1,000 (Cox et al. 2015).

3-15 “Women attempting TOLAC without a prior vaginal birth appeared to have a higher combined intrapartum and neonatal mortality rate (9.7/1,000) than did women attempting TOLAC with a prior vaginal birth (2.76/1,000;  $p = 0.16$ ); however, the difference was not statistically significant.” (Cox et al. 2015).

3-16 In addition, the community setting LAC group had statistically significantly higher proportions of blood loss (355ml vs 300ml), maternal postpartum infections (7.7% vs 4.3%), maternal hospitalization in the first 6 weeks, (16.6% vs 6.6%), neonatal intensive care unit admissions (4.2% vs 2.0%), and infants who required hospitalization in the first six weeks of life (17.0% vs 7.8%) (Cox et al. 2015).

### *Predictors of VBAC success*

3-17 The overall VBAC success rate is high in the community setting. There are several factors that increase the likelihood of a successful VBAC, and they include previous vaginal birth (Cox et al. 2015), spontaneous labor (Landon et al. 2005), one or more previous successful VBACs (Mercer et al. 2006), and non-recurrent reason for the prior cesarean (breech or transverse presentation, multiple gestation, placenta or vasa previa) (Landon et al. 2005). Factors that decrease the likelihood of a completed VBAC include induction or augmentation of labor (Landon et al. 2005)

3-18 The research has found lower VBAC success rates among those who have a slow or non-progressive labor that is designated “failure to progress” (FTP) (Landon et al. 2005). “Failure to progress” is an imprecise term that includes lack of progressive cervical dilation or lack of descent of the fetal head, or both. Dystocia should not be diagnosed until an adequate trial of labor has been achieved. According to ACOG, a more practical classification is to categorize labor abnormalities as slower-than-normal (protraction disorders) or complete cessation of progress (arrest disorders). Over one-third of primary cesareans have failure to progress listed as the indication (Barber et al. 2011). However, half of cesareans performed for failure to progress occur before six cm dilation (Zhang et al. 2010), and therefore fall outside of ACOG’s formal definitions of FTP. Given the inconsistent use of FTP as a diagnosis, the relationship between FTP and lower VBAC success rates remains unclear.

## 4-0 Practice Guidelines

4-1 As the previous research indicates, LAC is a risk factor for poor birth outcome regardless of planned place of birth. For clients with a prior uterine scar, neither LAC nor ERC is risk-free, though the absolute risk for a negative outcome with either mode of delivery is small. These guidelines are intended to assist community midwives in having quality informed consent discussions with their clients about LAC in the community setting.

### *California Law and Regulations regarding LAC in the community setting*

4-2 The legalities of labor after cesarean with licensed midwives in California are not clearly defined. Prior to AB1308 Bonilla 2013, there were regulations that named LAC as explicitly within the scope of practice for licensed midwives and included parameters on informed consent and disclosures (see Addendum A). Although those regulations are still posted on the MBC website, AB1308 Bonilla 2013, rendered those regulations obsolete by requiring the Medical Board to develop regulations defining a list of diseases and conditions that require the midwife to make a referral to a physician trained in obstetrics for an exam. If the physician determines that the condition is not likely to affect the pregnancy and birth, then the client may continue care with the licensed midwife. That regulatory process remains in stalemate around the issue of prior cesarean due to disagreement between ACOG and licensed midwives on whether prior cesarean should be included as a requirement for an examination with a physician trained in obstetrics. The MBC has not moved regulations forward in the absence of consensus between the licensed midwives, the community, and ACOG/CMA.

4-3 Some midwives are choosing to refer clients with a prior cesarean to a physician to determine if “the previous cesarean is likely to affect the current pregnancy,” as is stated in AB1308 provisions. Physicians though cannot predict the future and are not inclined to make such determinations. In 2017, in an effort to resolve the AB 1308 regulatory stalemate, the MBC approved a proposal to ask the legislature to make statutory changes to the licensed midwife practice act (LMPA). Those changes included more reasonable requirements of all parties involved (physician, midwives and clients). The legislature chose not to carry the recommended changes forward in light of the introduction that year of SB 457 Bates, which would have significantly restricted community birth care. SB 457 Bates did not move forward that year, nor did the legislature make the recommended statutory changes to the LMPA as requested by the MBC. The MBC staff memo explaining the issues and the statutory recommended changes are detailed [here](#) on the MBC website where the MBC meeting is archived.

4-4 Additionally, there is concern that if midwives routinely refer clients with a prior cesarean to physicians that this will become the standard of care. The requirement of an exam with a physician is a barrier to care in most California regions because physicians are not willing to see clients receiving care with a midwife and/or planning a home birth or birth center birth.

4-5 As mentioned above, regulations specifically addressing VBAC with California licensed midwives were promulgated in 2005. Those regulations, although in theory were rendered

obsolete by AB1308, because AB1308 regulations have not been subsequently promulgated, midwives may find the 2005 regulations helpful to follow and to refer to in the patient chart to defend care should it come into question. See addendum A.

### *LAC Prenatal Management Guidelines*

4-6 A client considering LAC in the community setting requires a thorough informed consent discussion with a provider that supports maternal autonomy. It is essential that a midwife review relative and absolute risks of LAC vs. ERC, the benefits of VBAC vs. ERC, and underline the limited research regarding community setting LAC and the issues specific to place of birth. Although there is a high VBAC success rate at home, women considering a community LAC should know maternal transfer rates and the potential for increased risk to the newborn if uterine rupture occurs outside of the hospital (Cox et al. 2015).

4-7 The midwife and client should closely examine factors that may favorably impact the likelihood of VBAC success and minimize risk. Each clients' unique obstetrical history will help guide the informed consent discussion and should include:

- Indication for primary cesarean delivery
- Number of previous cesarean deliveries
- Number of vaginal births and VBACs if any
- Birth interval for current pregnancy
- History of uterine rupture

4-8 In addition to obstetric history and a thoughtful informed consent conversation for a LAC client, it is recommended that a midwife consider including the following in a prenatal chart:

- A signed informed consent document that outlines risks and benefits of LAC specific to the community setting, includes the individual midwife's experience with LAC, and that outlines protocols for increased fetal monitoring during labor;
- A surgical report for each cesarean that indicates the type of uterine incision and any post-operative complications; and
- An ultrasound at term of current pregnancy to determine placental location and to document the absence of placenta previa or implantation over the uterine scar.

4-9 It is important to remember that even though certain factors may be associated with higher or lower VBAC success rates, there is no accurate way to predict if a specific individual will have a VBAC or a repeat cesarean. The National Institutes of Health maintains that no accurate VBAC calculator exists. (Guise, 2010) While midwives can use population level statistics to help clients generally understand their odds, it is important to share that there are many factors that impact pregnancy and birth.

4-10 A client's risk level may change throughout the course of pregnancy or labor, requiring that the midwife continually assess LAC clients. As such, midwives should periodically discuss risks and benefits with clients as those risks may change over time.

4-11 Distance to cesarean capable hospital from the planned place of community LAC is an important part of prenatal risk assessment. The timing of an emergency cesarean is critical, with

many factors impacting outcomes. With community birth, factors like distance to the hospital, ambulance arrival time, and hospital response time (i.e., operative room preparation and staff availability) can impact outcomes. There is limited evidence on the relationship between uterine rupture and time to cesarean relative to neonatal outcomes. There is a generally accepted community standard of 20-30 minutes from uterine rupture diagnosis to cesarean, with chances of fetal mortality and maternal morbidity rising as that interval increases. There are situations wherein a uterine rupture causes brain injury or fetal demise due to hypoxia within 10 minutes, others where this kind of outcome develops over a longer period of time, and still other circumstances where no harm to the fetus occurs due to the rupture. Delivery, even within the 20-30 minutes after uterine rupture, will not guarantee a healthy outcome. Thus, it is vital to monitor VBACs more closely than clients without a history of cesarean and to discuss with clients how the distance to the hospital can impact outcomes. This is why a more conservative approach to transferring is recommended when there is a labor plateau, or concerning fetal heart tones (rising or elevated baseline, loss of or marked variability and/or concerning decelerations).

4-12 Limited evidence suggests that the risk of uterine rupture increases with the growing number of prior cesareans. However, we do not know how much the risk increases with each cesarean, due to insufficient studies completed, low sample sizes, and high rates of augmentation and induction. Among individuals with two prior cesareans, the induction and augmentation rates in available studies are often high or may be unreported. As such, it is difficult to say with certainty where the real risk of uterine rupture during a vaginal birth after two cesareans (VBA2C) lies. ACOG does maintain that “some” women are candidates for VBA2C.

4-13 The use of decision aids with clients considering VBAC is highly recommended. See the Resources for Clients section at the end of this document for examples.

### *LAC Intrapartum Management Guidelines*

4-14 Labor management considerations for LAC in the community setting should include the following:

- a) A minimum of 2 skilled birth attendants is recommended for labor after cesarean in the community setting.
- b) Consider placing an IV lock (with a large bore catheter in case a blood transfusion is needed).
- c) Accurately diagnose and document the onset of active labor.
- d) During active labor, regularly assess and chart labor progress every 2-4 hours to ensure progress and to identify stalls in labor, prolonged labor, plateaus, persistent anterior lips, prolonged 2nd stage or reversal of dilation and station.
- e) Transfer to the hospital if labor progress is not within normal criteria.
- f) Intermittently auscultate FHR every 15 minutes for at least 60 seconds throughout active labor. FHTs should be auscultated through and immediately after a contraction regularly to confirm fetal well-being. Assess and record all four physiological markers assessing for a well-oxygenated fetus: normal baseline, moderate/cycling variability, accelerations, and absence of *abnormal* decelerations (long, deep or repeating for an extended period of time).

- g) During the second stage of labor, auscultate FHTs immediately after each contraction or every 5 minutes (also immediately after contractions so that decelerations can be assessed). Additionally, periodically listen through a contraction at this stage.
- h) Ongoing screening for uterine rupture should occur throughout labor and birth. Symptomatic uterine rupture is most often characterized by fetal bradycardia (but is usually preceded by an elevated baseline, marked variability and/or absence of variability). A transfer to the hospital is recommended for any abnormal FHR (elevated baseline, repeated decelerations, absence of or marked variability) for continuous electronic fetal monitoring.
- i) Continually assess for signs of uterine rupture which include the above mentioned abnormal FHR, as well as meconium, abnormal pain, unusual bleeding, loss of uterine contractions or tonus, uterine tachysystole (hyper-stimulation), loss of fetal station, cessation of contractions, bulge in the abdomen or under the pubic bone, referred pain in the shoulder, maternal restlessness, maternal hypotension, maternal tachycardia, hematuria, and/or shock.
- j) Assess pain throughout labor. Pain over the previous uterine incision has been found to be an unreliable sign, since abdominal pain is hard to evaluate in active labor. However, abnormal pain, a sudden change in pain, pain between contractions, or an abnormal level of concern can all be symptoms of uterine rupture.
- k) In cases where a transfer to hospital is needed, accompany the client in order to facilitate the transfer, ensure all records are provided to hospital staff, and to provide supportive care to the client. In California, the statute requires the licensed midwife to transfer to a physician (not laterally to a nurse-midwife) and for the midwife to provide a report directly to the receiving physician.
- l) Any one variation from normal may not necessarily be cause for concern when everything else is normal. It is often the accumulation of “pink flags” that lulls us into a false sense of normalcy, then suddenly the “mec hits the fan”. If “pink flags” start to accumulate, it is probably best to transfer: PPRM, meconium (specifically in a prodromal labor), prodromal labor, elevated baseline with return to normal (was it a long acceleration or was it early hypoxia?), prolonged active phase or plateau, an extended second stage, a loss of variability (is the baby sleeping? Or is it a sign of early hypoxia?), marked variability, maternal dehydration and/or emesis and/or maternal fever. It is advisable to be conservative when there is a history of cesarean.

## 5-0 Resources for Providers and Clients

### *5-1 LAC vs ERC decision aids for clients*

Vaginal Birth After Cesarean and Planned Repeat Cesarean Birth: Patient Information Booklet  
<http://www.powertopush.ca/wp-content/uploads/2019/04/VBAC-Book-REVISED-MARCH-10-with-BC-data.pdf>

Thinking about VBAC: Deciding what’s right for me

<https://www.ontariomidwives.ca/sites/default/files/2017-06/Thinking-about-VBAC-English.pdf>

### ***5-2 Home to Hospital Transfer Guidelines***

<https://www.homebirthsummit.org/best-practice-transfer-guidelines/>

### ***5-3 Continuing Education and Training for Community Birth***

#### **Labor after Cesarean in the Community Setting**

<https://www.hivece.com/courses/labor-after-cesarean>

#### **Transfer Tools for Midwives, Ems, and Hospital Providers**

<https://www.hivece.com/collections?q=transfer>

### ***5-4 Reading Resources***

#### **Articles/Websites**

American College of Obstetrics and Gynecology (ACOG)

ACOG's Practice Bulletin #205 February, 2019: Vaginal Birth After Previous Cesarean Delivery (<http://medi-guide.meditool.cn/ympdf/952D113A-E18B-95C6-4450-BCBD6EF9154C.pdf>)

The American Family Physicians (AAFP) Vaginal Birth After Cesarean, 2014

<https://www.aafp.org/patient-care/clinical-recommendations/all/vaginal-birth-after-cesarean.html>

Birth Issues in Perinatal Care

Planned Home VBAC in the United States, 2004-2009: Outcomes, Maternity Care Practices, and Implications for Shared Decision Making. Cox KJ, Bovbjerg ML, Cheyney M, Leeman LM. Birth. 2015;42(4):299-308. doi:10.1111/birt.12188 (<https://onlinelibrary.wiley.com/doi/abs/10.1111/birt.12188>)

Childbirth Connection

VBAC Basics

<http://www.childbirthconnection.org/giving-birth/vbac/basics/>

The Coalition for Improving Maternity Services (CIMS)

CIMS Fact Sheet: The Risks of Cesarean Section

(<http://motherfriendly.org/Resources/Documents/TheRisksofCesareanSectionFebruary2010.pdf>)

National Institutes of Health (NIH)

NIH Consensus Development Conference Statement on Vaginal Birth After Cesarean: New Insights. Volume 27, Number 3, March 8-10, 2010

([http://consensus.nih.gov/2010/images/vbac/vbac\\_statement.pdf](http://consensus.nih.gov/2010/images/vbac/vbac_statement.pdf))

Obstetrics & Gynecology, April 2001

A 10-year Population-based Study of Uterine Rupture

A review of over 11,000 attempted VBACs and the incidence of uterine rupture  
<https://www.ncbi.nlm.nih.gov/pubmed/12383544>

UpToDate

Choosing the route of delivery after cesarean birth

<https://www.uptodate.com/contents/choosing-the-route-of-delivery-after-cesarean-birth/print>

VBAC Facts: Don't Freak. Know the Facts.

This website is a great, up-to-date resource for research based information on VBAC vs repeat cesarean. Videos, classes, and webinars are also available.

[www.vbacfacts.com](http://www.vbacfacts.com)

## 6-0 Bibliography

1. ACOG Practice Bulletin No. 205: Vaginal Birth After Cesarean Delivery
2. Algert CS, Morris JM, Simpson JM, Ford JB, Roberts CL. Labor before a primary cesarean delivery: reduced risk of uterine rupture in a subsequent trial of labor for vaginal birth after cesarean. *Obstet Gynecol.* 2008 Nov;112(5):1061-6. doi: 10.1097/AOG.0b013e31818b42e3. PMID: 18978106
3. Barber EL, Lundsberg LS, Belanger K, Pettker CM, Funai EF, Illuzzi JL. Indications contributing to the increasing cesarean delivery rate. *Obstet Gynecol.* 2011 Jul;118(1):29-38. doi: 10.1097/AOG.0b013e31821e5f65. PMID: 21646928; PMCID: PMC3751192.
4. Bovbjerg ML, Cheyney M, Brown J, Cox KJ, Leeman L. Perspectives on risk: Assessment of risk profiles and outcomes among women planning community birth in the United States. *Birth.* 2017 Sep;44(3):209-221. doi: 10.1111/birt.12288. Epub 2017 Mar 22. PMID: 28332220.
5. Cheyney, Melissa & Bovbjerg, Marit & Leeman, Lawrence & Vedam, Saraswathi. (2019). Community Versus Out-of-Hospital Birth: What's in a Name?. *Journal of Midwifery & Women's Health.* 64. 9-11. 10.1111/jmwh.12947. Melissa said: Cheyney, M. M., Bovbjerg, M. L., Leeman, L., & Vedam, S. (2019). Community Versus Out-of-Hospital Birth: What's in a Name?. *Journal of Midwifery & Women's Health,* 64(1).
6. Cox KJ, Bovbjerg ML, Cheyney M, Leeman LM. Planned Home VBAC in the United States, 2004-2009: Outcomes, Maternity Care Practices, and Implications for Shared Decision Making. *Birth.* 2015 Dec;42(4):299-308. doi: 10.1111/birt.12188. Epub 2015 Aug 26. PMID: 26307086.
7. Curtin SC, Gregory KD, Korst LM, Uddin SF. Maternal Morbidity for Vaginal and Cesarean Deliveries, According to Previous Cesarean History: New Data From the Birth Certificate, 2013. *Natl Vital Stat Rep.* 2015 May 20;64(4):1-13, back cover. PMID: 26046963.
8. Guise JM, Eden K, Emeis C, Denman MA, Marshall N, Fu RR, Janik R, Nygren P, Walker M, McDonagh M. Vaginal birth after cesarean: new insights. *Evid Rep Technol Assess (Full Rep).* 2010 Mar;(191):1-397. PMID: 20629481; PMCID: PMC4781304.
9. Kamath BD, Todd JK, Glazner JE, Lezotte D, Lynch AM. Neonatal outcomes after elective cesarean delivery. *Obstet Gynecol.* 2009 Jun;113(6):1231-8. doi: 10.1097/AOG.0b013e3181a66d57. PMID: 19461417; PMCID: PMC3620716.
10. Landon MB, Hauth JC, Leveno KJ, Spong CY, Leindecker S, Varner MW, Moawad AH, Caritis SN, Harper M, Wapner RJ, Sorokin Y, Miodovnik M, Carpenter M, Peaceman AM, O'Sullivan MJ, Sibai B, Langer O, Thorp JM, Ramin SM, Mercer BM, Gabbe SG; National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. Maternal and perinatal outcomes associated with a trial of labor after prior cesarean delivery. *N Engl J Med.*

2004 Dec 16;351(25):2581-9. doi: 10.1056/NEJMoa040405. Epub 2004 Dec 14. PMID: 15598960.

11. Landon MB, Leindecker S, Spong CY, Hauth JC, Bloom S, Varner MW, Moawad AH, Caritis SN, Harper M, Wapner RJ, Sorokin Y, Miodovnik M, Carpenter M, Peaceman AM, O'Sullivan MJ, Sibai BM, Langer O, Thorp JM, Ramin SM, Mercer BM, Gabbe SG; National Institute of Child Health and Human Development Maternal-Fetal Medicine Units Network. The MFMU Cesarean Registry: factors affecting the success of trial of labor after previous cesarean delivery. *Am J Obstet Gynecol.* 2005 Sep;193(3 Pt 2):1016-23. doi: 10.1016/j.ajog.2005.05.066. PMID: 16157104.
12. MBC staff memo explaining statutory recommended changes:  
<https://www.mbc.ca.gov/About/Us/Meetings/Materials/372/brd-AgendaItem22-20170427.pdf>
13. Mercer, B. M., Gilbert, S., Landon, M. B., & Spong, C. Y. (2008). Labor outcomes with increasing number of prior vaginal births after cesarean delivery. *Obstetrics & Gynecology*, 11, 285-91.
14. Mulubrhan F. Mogos, Jason L. Salemi, Mary Ashley, Valerie E. Whiteman & Hamisu M. Salihu (2016) Recent trends in placenta accreta in the United States and its impact on maternal-fetal morbidity and healthcare-associated costs, 1998–2011, *The Journal of Maternal-Fetal & Neonatal Medicine*, 29:7, 1077-1082, DOI: [10.3109/14767058.2015.1034103](https://doi.org/10.3109/14767058.2015.1034103)
15. Osterman MJK. NCHS Data Brief ■ No. 359 ■ March 2020 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES Centers for Disease Control and Prevention National Center for Health Statistics Recent Trends in Vaginal Birth After Cesarean Delivery: United States, 2016–2018
16. Silver, R. M., Landon, M. B., Rouse, D. J., Leveno, K. J., Spong, C. Y., Thom, E. A., . . . Mercer, B. (2006). Maternal morbidity associated with multiple repeat cesarean deliveries. *Obstetrics & Gynecology*, 107(6), 1226-1232.
17. Spong, C. Y., Landon, M. B., Gilbert, S., Rouse, D., Leveno, K., Varner, M., & Moawad, A. (2007). Risk of Uterine Rupture and Adverse Perinatal Outcome at Term After Cesarean Delivery. *Obstetrics & Gynecology*, 110(4), 801 - 807
18. Standards of Care for Midwives: [16 CCR § 1379.19](#)
19. Swift BE, Shah PS, Farine D. Sonographic lower uterine segment thickness after prior cesarean section to predict uterine rupture: A systematic review and meta-analysis. *Acta Obstet Gynecol Scand.* 2019 Jul;98(7):830-841. doi: 10.1111/aogs.13585. Epub 2019 Mar 29. PMID: 30779345.
20. National Vital Statistics Reports Volume 68, Number 13 November 27, 2019 Births: Final Data for 2018 by Joyce A. Martin, M.P.H., Brady E. Hamilton, Ph.D., Michelle J.K. Osterman, M.H.S., and Anne K. Driscoll, Ph.D., Division of Vital Statistics
21. Zhang, J., Troendle, J., Reddy, U., et al. (2010). Contemporary cesarean delivery practice in the United States. *The American Journal of Obstetrics & Gynecology*, 203(4), 326.e1-326.e10.
22. Zwart, J. J., Richters, J. M., Ory, F., de Vries, J., Bloemenkamp, K., & van Roosmalen, J. (2009, July). Uterine rupture in the Netherlands: a nationwide population-based cohort study. *BJOG*, 116(8), 1069-1080.

§ 1379.19. Standards of Care for Midwives.  
16 CA ADC § 1379.19

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS  
Barclays Official California Code of Regulations Currentness  
Title 16. Professional and Vocational Regulations  
Division 13. Medical Board of California  
Chapter 4. Licensed Midwives  
Article 3.5. Midwifery Practice

16 CCR § 1379.19  
§ 1379.19. Standards of Care for Midwives.

(a) For purposes of Section 2507(f) of the code, the appropriate standard of care for licensed midwives is that contained in the “Standard of Care for California Licensed Midwives” (September 15, 2005 edition) (“SCCLM”), which is hereby incorporated by reference.

(b) With respect to the care of a client who has previously had a caesarean section (“C-section”) but who meets the criteria set forth in the SCCLM, the licensed midwife shall provide the client with written informed consent (and document that written consent in the client's midwifery record) that includes but is not limited to all of the following:

- (1) The current statement by the American College of Obstetricians and Gynecologists regarding its recommendations for vaginal birth after caesarean section (“VBAC”).
- (2) A description of the licensed midwife's level of clinical experience and history with VBACs and any advanced training or education in the clinical management of VBACs.
- (3) A list of educational materials provided to the client.
- (4) The client's agreement to: provide a copy of the dictated operative report regarding the prior C-section; permit increased monitoring; and, upon request of the midwife, transfer to a hospital at any time or if labor does not unfold in a normal manner.
- (5) A detailed description of the material risks and benefits of VBAC and elective repeat C-section.

Note: Authority cited: Sections 2018 and 2507, Business and Professions Code. Reference: Section 2507, Business and Professions Code.

**HISTORY**

1. New article 3.5 heading and new section filed 2-7-2006; operative 3-9-2006 (Register 2006, No. 6).

This database is current through 11/26/21 Register 2021, No. 48

16 CCR § 1379.19, 16 CA ADC § 1379.19

END OF DOCUMENT