



## CLINICAL BULLETIN

# VBAC – Labor & Birth after Cesarean in the Birth Center Setting

### INTRODUCTION

Since the first cesarean was performed, people have had to make choices about how to give birth in subsequent pregnancies. Vaginal birth after cesarean (VBAC) is one of those options. This clinical bulletin outlines the history of VBAC in the U.S., current research on VBAC in out of hospital settings, and recommendations for birth centers considering offering VBAC services.

Various terminology is currently in use including TOLAC (trial of labor after cesarean), VBAC, LAC (labor after cesarean), HBAC (home birth after cesarean). We are using TOLAC and VBAC since that is the terminology most commonly used in the literature.

### Brief History of Vaginal Birth after Cesarean (VBAC) in the U.S.<sup>1-10</sup>

1916: “Once a cesarean, always a cesarean.” – Edward Cragin, MD

- His article making this statement was published in the *New York Medical Journal*.
- At this time, uterine incisions for cesarean were vertical (or “classical”).
- Cesareans were rare events reserved for those who had labored for days.

Mid-1920s: The low transverse uterine incision for cesarean (LTCS) becomes the standard.

1965: The first measure of the U.S. cesarean rate was 4.5%.

1970 to 1993: cesarean rates rise dramatically

- 1970: Cesarean rate 5.5%.
- 1993: Cesarean rate 32%

1980 to 1996: However, VBAC rates were also rising:

- 1980: VBAC rate 3.4%.
- 1996: Highest-ever U.S. VBAC rate is reached: 28.3%. Rate begins to decline from this point.
- 1999: C/S rate 22%. The rate decrease is due in part to prevalence of VBAC, still popular though decreased from its high point in 1996. VBAC rate 23.4%.

Twenty first century: Cesarean rate increases as VBAC becomes less frequent

- 2006: C/S rate 31%. VBAC rate 8.6%.

**Current state of VBACs/TOLACs<sup>11</sup>**

2010: National Institutes of Health (NIH) consensus statement issued after conference:

- “Given the available evidence, trial of labor is a reasonable option for many pregnant women with one prior low transverse uterine incision.” [TOLAC = Trial of labor after cesarean.]<sup>12</sup>

2011: In response to 2010 NIH statement, American College of Obstetrics and Gynecology (ACOG) updates its recommendations on TOLAC/VBAC, encouraging more widespread use of TOLAC/VBAC.<sup>13,14</sup> However,

- New guidelines state TOLAC/VBAC must occur at facilities capable of immediate surgical delivery.
- This has served to limit TOLAC/VBAC access at smaller and rural hospitals that do not have 24-hour in-house anesthesia, surgical, and obstetric providers.

2015: VBAC rates vary widely by state, with Colorado the highest at 22.2% and Mississippi the lowest at 6.22%.

2019: Cesarean rate has leveled off at 32% and fewer than 25% of women with a prior C/S attempt a TOLAC due to:

- Lack of access to TOLAC at hospitals (see 2011, above).
- Malpractice concerns.
- Lack of knowledge among pregnant families and their maternity care providers regarding the perceived risks and benefits.

**History of Birth Centers and TOLACs/VBACs in Birth Centers<sup>15</sup>**

1975: First birth center in the U.S. opens.

1989: Publication of the National Birth Center Study, demonstrating excellent outcomes among 11,814 women, in the *New England Journal of Medicine*.<sup>16</sup>

1990: National Association of Childbearing Centers [now American Association of Birth Centers (AABC)] members propose a national study of VBACs in birth centers.

- Goal: respond to client demand for an alternative to hospital birth, routine repeat cesarean, or home birth.
- Birth centers argue that women and home birth midwives took the step towards community TOLAC, and that the professional community in birth centers should make an effort to respond to this need and study the outcomes.
- Criteria for the study are established.
- Commission for the Accreditation of Birth Centers (CABC) adds indicators with specific requirements for birth centers that offer VBAC services.

2004: Publication of the national study of VBACs in birth centers in *American Journal of Obstetrics & Gynecology*.<sup>17</sup>

- AABC study of 1,913 women with TOLAC in birth centers.
- Concluded that VBACs carried risks that suggested hospital care was best.
- Concluded that hospitals should increase access to in-hospital care provided by midwife/obstetrician teams during TOLACs/VBACs.

- Level of Evidence: III. (Not a randomized, controlled trial: such research is not possible given the subject area.)
- CABC Indicators are revised: TOLAC/VBAC is prohibited in accredited birth centers.

2014: CABC Indicators are revised: TOLAC/VBAC now permitted in specified cases in accredited birth centers.

## BACKGROUND

Since publication of the NACC VBAC study in 2004<sup>17</sup>, there have been a number of studies of TOLAC in community settings. While they are substantially limited by their observational nature, there are common findings:

1. TOLAC in community settings has high reported rates of success, ranging from 78% to 95%.<sup>18-22</sup>
2. Women with TOLAC were more likely to transfer to the hospital in labor than women without prior cesareans: 38.3% vs. 4.6%,<sup>20</sup> 18% vs. 7%,<sup>18</sup> 41.2% vs. 5.7%.<sup>23</sup>
3. Women with TOLAC in community settings have more complications than women without prior cesareans in the same settings, although absolute risks are small. Newborn transfer rates are higher (3.1% vs. 1.4%), and more newborns had low Apgar scores (2% vs. 0.8% <7 at 5 minutes).<sup>20</sup> There are more intrapartum and neonatal deaths compared to parous women without history of cesarean (4.75/1000 vs. 1.24/1000).<sup>18</sup>
4. Women with TOLAC in out-of-hospital settings had more complications than women who had TOLAC in hospitals. Risk of neonatal seizures or severe neurologic dysfunction was 12.27/10,000 vs. 1.10/10,000 for hospital TOLAC,<sup>24</sup> and there was increased risk of neonatal seizures alone (adjusted odds ratio 8.53).<sup>25</sup> The Birthplace in England study found a consistent but not significant higher risk of stillbirth, low Apgar, and NICU admission.<sup>19</sup>

These studies indicate that overall there are more harms to women and newborns from TOLAC in community settings than from TOLAC in hospitals. But recent, more sophisticated studies suggest that it may be possible to identify women who may be appropriate for TOLAC outside the hospital. One study of home birth found that while women with TOLAC and a prior vaginal birth had higher complication rates than parous women with only vaginal births, they had lower rates of complications than primigravid women. Women with TOLAC and no prior vaginal birth had the highest complication rates. For instance:

1. Intrapartum transfer rates were 25.2% for primigravid women, 10.9% for women with TOLAC and prior vaginal birth, 31.9% for TOLAC and no prior vaginal birth, and 5.0% for parous women with no prior cesarean.
2. Intrapartum or neonatal deaths were 3.43/1000 for primigravid women, 1.27/1000 for women with TOLAC and prior vaginal birth, 10.2/1000 for TOLAC and no prior vaginal birth, and 1.03/1000 for parous women with no prior cesarean.<sup>21</sup>
3. Another study found higher risks of 5-minute Apgar score < 4 for women with TOLAC at home compared to in hospital only among women with no history of vaginal birth (adjusted odds ratio 3.47 vs. 1.11).<sup>25</sup>

## RECOMMENDATIONS

1. Individual birth centers should consider current research findings, availability of TOLAC/VBAC services in their community, ease of transfer, and local political climate as they make a decision on whether to offer VBAC services in their facility.
2. Birth centers should practice according to AABC Standards; that is, safely with appropriate informed decision-making, established eligibility criteria, risk management, and transfer protocols in place.
3. Appropriate candidate selection should occur based on individual risk factors and current research findings.
4. Birth centers who are also seeking or maintaining CABC accreditation should be aware that there are additional indicators for birth centers who offer VBAC services. For an up-to-date reference copy of the CABC Indicators, go to <https://www.birthcenteraccreditation.org/>.
5. Clients opting for TOLAC/VBAC should have intensive counseling regarding maternal and neonatal risks related to TOLAC/VBAC in an out-of-hospital setting, risks of repeat cesarean birth, and available resources for managing complications/emergencies in the birth center and at the transfer hospital
6. Clients should participate in shared decision-making when deciding on whether to pursue TOLAC/VBAC in the birth center and a signed informed consent with information about maternal and fetal risks and benefits should be documented.
7. Birth centers offering VBAC should participate in national data collection to further strengthen the ability to research TOLAC/VBAC in the birth center setting. AABC Birth Center Members have free access to participate in data collection through the AABC PDR™ (<http://www.birthcenters.org/?PDR>)

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