Planning for Labor and Vaginal Birth After Cesarean Delivery: Guidelines from the AAFP

Key Points for Practice

- Women who have had a previous vaginal birth have a high probability of VBAC; physicians should encourage these women to plan for LAC/VBAC unless specific contraindications exist.
- In women who have had a previous cesarean delivery and who are in the third trimester, misoprostol (Cytotec) should not be used for cervical preparation or induction of labor.
- Short-term maternal outcomes are as good or better with LAC/VBAC vs. repeat cesarean delivery; however, perinatal mortality is higher.
- Repeat cesarean delivery increases the long-term risk of abnormal placentation, hysterectomy, and complications from surgery compared with VBAC.

From the AFP *Editors*

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The rate of cesarean delivery has increased to more than 32%. To reduce this rate and provide more delivery options, it is necessary to provide greater access to physicians and facilities that can manage labor after cesarean delivery (LAC) and vaginal birth after cesarean delivery (VBAC). This guideline from the American Academy of Family Physicians (AAFP), which provides information on health outcomes associated with LAC/VBAC, replaces the 2005 guideline on trial of labor after cesarean delivery. Its purpose is to assist physicians with planning for LAC/VBAC, which are appropriate for most women.

Recommendations

To facilitate informed decision making and planning, physicians should provide guidance and encouragement to women about VBAC. If VBAC is not available, then patients should be referred to a facility or physician who can provide it.

For most women who have had one or two cesarean deliveries, LAC is practical and safe. Physicians should talk about possible LAC/VBAC, specifically the benefits and harms, at early prenatal care visits; each patient's risk factors, values, and preferences should be considered. Depending on certain factors (e.g., details of prior deliveries, plans for more children, and resources available in the community), LAC/VBAC may be options for women who have had at least three previous cesarean deliveries, although evidence is limited. Because of the higher risk of uterine rupture, LAC/VBAC are not options for women who have had a vertical uterine incision or a vertical upward extension of a transverse incision, or women who have had transmural uterine surgery.

Women who have had a previous vaginal birth have a high probability of VBAC. Based on higher quality evidence, the AAFP recommends that physicians encourage these women to plan for LAC/VBAC unless specific contraindications exist. If VBAC is not available, patients should be referred to a facility or physician who can provide it. Because there is little evidence about characteristics, other than previous vaginal delivery, that strongly affect VBAC rates, physicians should talk with patients about reasons for a previous cesarean delivery.

About 74% of U.S. women who try LAC have a vaginal birth. Having had at least one previous vaginal birth is linked with higher rates of VBAC. Those who have had a previous VBAC have a greater chance of having a vaginal birth compared with those who have not.

Predictive scoring models have limited value because they are not able to determine which women have a greater risk of cesarean delivery.

Physicians caring for patients who have had a previous cesarean delivery should reevaluate the labor plan, including the decision for repeat cesarean delivery or VBAC, when patients present in labor; elements that can affect labor risks and the chance of delivering vaginally should be considered. In women undergoing LAC/VBAC, physicians should continually assess and discuss with the patient any changes in status affecting labor risks or chances of delivering vaginally.

The likelihood of successful VBAC is increased with more progression in labor and higher Bishop scores. The likelihood has been shown to be decreased when labor is induced using oxytocin (Pitocin), and in women with infants weighing at least 8 lb, 13 oz (4,000 g).

Inducing labor is suitable for women who are planning a VBAC and who have indications. The method used affects the risk of uterine rupture. In women who have had a previous cesarean delivery and who are in the third trimester, misoprostol (Cytotec) should not be used for cervical preparation or induction of labor.

Although labor induction may be needed, it should be noted that it has been associated with uterine rupture. Risk differs depending on the method used. Rates have been shown to be as follows:

- Oxytocin: 1.1% (95% confidence interval [CI], 0.9% to 1.5%)
- Prostaglandin E2: 2% (95% CI, 1.1% to 3.5%)
- Misoprostol: 13% (one fair-quality cohort study)

Studies have also found an association between misoprostol use in the third trimester and uterine rupture. The evidence regarding risk with mechanical induction methods is minimal, and no ruptures have been reported when using a Foley catheter for cervical ripening.

Patients should be informed about short- and long-term benefits and harms of planned VBAC and repeat cesarean delivery. Short-term maternal outcomes are as good or better with LAC/VBAC vs. repeat cesarean delivery; however, perinatal mortality is higher. Care provided should be based on patient preference for future childbearing plans, noting that repeat cesarean delivery increases the long-term risk of abnormal placentation, hysterectomy, and complications from surgery compared with VBAC.

Mothers who undergo LAC have a lower risk of death compared with those undergoing repeat cesarean delivery. The risk of hysterectomy is not statistically different between LAC/VBAC and repeat cesarean delivery. Generally, blood loss is greater in women undergoing repeat cesarean delivery; however, the risk of requiring a transfusion is not statistically different between LAC/VBAC and repeat cesarean delivery. The incidence of infection does not appear to be significantly higher in women undergoing LAC/VBAC compared with repeat cesarean delivery. A variety of factors can affect the risk of uterine rupture. Although uncommon, it can be fatal; therefore, when evaluating the benefits and harms of LAC/VBAC, the plan should be individualized to the patient based on her risk factors (e.g., presence of classic uterine scar, inter-delivery interval shorter than 18 months).

Perinatal mortality is increased with LAC/VBAC compared with repeat cesarean delivery. The rates of transient tachypnea are higher with repeat cesarean delivery; however other respiratory complications were lower with planned repeat cesarean delivery.

Women who intend to have a repeat cesarean delivery have an increased risk of uterine rupture, abnormal placentation, hysterectomy, and possible surgical complications with each pregnancy in the future. Women who have had several cesarean deliveries may not have the choice to undergo LAC/VBAC.

The incidence of placenta previa is increased in women who have had a previous cesarean delivery; it occurs in nine, 17, and 30 of 1,000 women with one, two, and three or more cesarean deliveries, respectively. Risk of hysterectomy and the occurrence of placenta accreta, increta, and percreta are increased with each cesarean delivery.

Based on limited evidence, hospital type, location, or number of births does not significantly affect outcomes in women undergoing LAC/VBAC; however, infants of mothers with possible uterine rupture who are born longer than 30 minutes after the decision to immediately deliver have worse outcomes in the long term compared with those born in 30 minutes or less since the decision to immediately deliver. The abilities of each delivery facility or physician should be discussed with women wanting LAC/VBAC. If the delivery facility or physician is unable to manage complications, referral to other facilities should be provided.

Women at risk of uterine rupture or other complications who are still able to consider LAC/VBAC need to deliver at facilities that have the ability to effectively manage these complications. Information is lacking about how appropriate LAC/VBAC may be in different types of facilities or in facilities with any set of specific resources; thus, there is little guidance about the settings in which to perform LAC/VBAC when looking at only the type or location of the facility, or number of deliveries performed.

One study evaluating the decision to delivery time determined that infants born to women with a suspected uterine rupture within 18 minutes had normal umbilical pH levels or five-minute Apgar scores greater than seven. Long-term outcomes were worse in those who were born longer than 30 minutes after the suspected rupture.

Hospital guidelines should promote LAC/VBAC. Quality of care for women who opt for LAC/VBAC should be regularly evaluated, with a goal of continued improvement.

Studies have shown that VBAC rates are related to recommendations from professional societies, concern about liability, and physician and patient preference. One systematic review determined that institutional guidelines more greatly affect acceptance and achievement of LAC/VBAC compared with national guidelines, with successful strategies taking a conservative approach to cesarean delivery, providing information specific to each patient, utilizing opinion leaders in the community, and auditing and providing feedback to physicians.

Guideline source: American Academy of Family Physicians

Evidence rating system used? Yes

Literature search described? Yes

Guideline developed by participants without relevant financial ties to industry? Yes

Available at: http://www.aafp.org/pvbac

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