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A State-Wide Assessment of the Obstetric, Anesthesia, and Operative Team Personnel Who Are Available to Manage the Labors and Deliveries and to Treat the Complications of Women Who Attempt Vaginal Birth After Cesarean Delivery

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Objective: To determine on a statewide basis the range of obstetric, anesthesia, and surgical team personnel who are immediately available to manage the labors and deliveries of women who attempt vaginal birth after a previous cesarean (VBAC). Additionally, to determine whether any hospitals had stopped performing VBACs or made changes in their VBAC policies as a result of recent American College of Obstetricians and Gynecologists (ACOG) recommendations.

Methods: *Available immediately* was defined as "being present in the hospital." All hospitals that provide obstetric care in the State of Ohio were surveyed to determine whether a full surgical and anesthesia team was available immediately when women attempted VBAC. The hospitals were also asked whether they had stopped allowing VBACs or had made changes in their VBAC policies in response to recent ACOG recommendations. Data were computerized and analyzed by the Chi-squared test.

Results: One hundred and thirty (100%) Ohio hospitals providing obstetric care responded. Seventy-seven (93.9%) level 1, 35 (100%) level 2, and 13 (100%) level 3 hospitals performed VBACs. An obstetrician was immediately available in 27.3%, 62.9%, and 100% of level 1, 2, and 3 institutions, respectively ($P < .001$). Anesthesia availability was 39%, 100%, and 100% of level 1, 2, and 3 institutions, respectively ($P < .001$). A surgical team was available in 35.1%, 97.1%, and 100% of level 1, 2, and 3 institutions, respectively ($P < .001$). A complete complement was available in 15.6%, 62.9%, and 100% of level 1, 2, and 3 institutions, respectively ($P < .001$). Two hospitals had stopped performing VBACs, and 10 other hospitals were considering stopping VBACs. Policy changes had been adopted in 15 institutions, and 4 others were considering changes.

Conclusions: Most level 1, and many level 2, hospitals provide less than optimum staffing when women are attempting VBAC. Because VBACs are equally distributed among level 1, 2, and 3 institutions in Ohio, many women may be attempting VBAC under less than optimal conditions. The data suggest the need for changes in staffing or referral patterns to safely meet the Healthy People 2010 goal of increasing the VBAC rate nationally.

Commentary: Medical practice is more similar to fashion than we like to believe. When I trained, more than 20 years ago, VBAC was considered dangerous by my preceptors. I can recall rushing to section someone at 8 cm, lest they rupture their uterus.

The VBAC controversy goes back almost a century. When Newell ^[1] wrote his monograph on cesarean section in 1922, the dictum "Once a cesarean, always a cesarean" was already part of folklore, and its origins uncertain. At that time, classical incisions were the norm, and neither antibiotics nor blood transfusions existed; anesthesia was usually ether by drip-mask. In reviewing the mostly anecdotal evidence, Newell reported J.W. Williams' opinion that VBAC was safe if the first cesarean incision had been closed primarily, and the convalescence afebrile. While acknowledging that uterine rupture occurred in only 2% to 3% of cases, Newell expressed a firm conviction that elective repeat cesarean was safer for both mother and baby. This opinion prevailed in the United States and, except in a few New York hospitals, VBAC was a rare -- and usually unplanned -- event until the 1980s.

The tripling of the cesarean rate in the United States during the 1970s raised concerns in some circles that abdominal delivery was being over-utilized. To assess the research-based evidence of the risks and benefits of cesarean section, the National Institute of Child Health and Human Development (NICHD) created a Task Force on Cesarean Childbirth in 1979. A year later, NICHD sponsored a Consensus Development Conference on Cesarean Childbirth, which published its final report ^[2] in October 1981. Among the many recommendations was a cautious endorsement of vaginal birth after a previous cesarean. The actual wording is worth repeating:

“In hospitals with appropriate facilities, services, and staff for prompt emergency cesarean birth, a proper selection of cases should permit a safe trial of labor and vaginal delivery for women who have had a previous low segment transverse cesarean birth. Informed consent should be obtained before a trial of labor is attempted...

In hospitals without appropriate facilities...the risk of a trial of labor...may exceed the risk for both mother and infant from a properly timed, elective repeat cesarean. Patients should be **informed in advance of the limits of a particular institution's capabilities and of the availability of other institutions capable of offering this service, so that they can make a choice.**”

With this *imprimatur*, VBAC protocols were implemented in many hospitals. By later standards, they were quite timid: await spontaneous labor, IV, NPO, no epidurals, no oxytocics, continuous fetal heart rate (FHR) monitoring, staff in-house, etc. **The rarity of serious complications led to a predictable flurry of enthusiastic case reports**, mostly from large academic centers where obstetricians were on-call once a week and had residents to do the work. Within a decade, VBAC had gone mainstream, and the "trial of labor" had become *de rigueur*. **Cesarean section and VBAC rates became quality-of-care markers for both doctors and hospitals.** Anecdotally, some insurance carriers would not pay for elective repeat cesarean. Obstetricians in smaller

communities were dragged kicking into offering VBAC -- under pressure from hospital administrators worried about losing market share to larger facilities and "looking good" for the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

After a while, it became apparent that patients who had undergone a primary cesarean after a failed postdate induction didn't usually go into spontaneous labor the second time, either, and that the **VBAC rate could be increased by using oxytocin**. **As familiarity bred contempt, VBAC patients were treated *de facto* in the same manner as other obstetric patients: they were induced with prostaglandin analogs, stimulated with oxytocin, and forced to endure long second-stages, and a significant number underwent repeat cesarean after a heroic trial of labor.**

The incidence of symptomatic uterine rupture during a trial of labor is widely quoted as less than 1%. Like other obstetric disasters, it is an uncommon experience for the individual obstetrician, but only a matter of time before it happens somewhere. **A few well-publicized lawsuits in recent years have focused the profession's attention on these untoward events and prompted ACOG to recommend that VBACs be carried out only in hospitals equipped to provide prompt emergency cesarean. It took less than a generation for history to repeat itself.**

As the Ohio data demonstrate, only 16% of level 1 and 63% of level 2 hospitals have in-house staff 24 hours a day. In the face of the ACOG guidelines, it would appear medico-legally risky to offer VBAC in these hospitals. However, **a crude cost-analysis explains the reality: assume 1000 deliveries/year, a 25% total cesarean section rate (65% primary, 35% repeat), and a 35% trial-of-labor rate. This yields approximately 31 VBAC attempts per year. Assuming a 1% rate of uterine rupture, there would be 1 such event every 3+ years, with perhaps 1 every 6 years resulting in a catastrophic outcome. If the hospital has to pay \$50/hour (this is conservative) for each in-house obstetrician and anesthesiologist (if it can find such people), it would cost \$880,000/year, not including additional nursing salaries. From an actuarial point of view, it is cheaper to pay higher insurance premiums.**

However, since most emergency cesareans are *not* performed for suspected uterine rupture, the broader question is raised: "Should all hospitals that provide obstetric care be required to have immediate cesarean capability around the clock?"

What is the prudent obstetrician to do? **Truly informed patient choice is the obvious starting point.** Since most reported instances of uterine rupture have happened in the **context of induction with prostaglandins (or analogs, such as misoprostol) or prolonged stimulation with oxytocin in the face of slow progress, it would seem wise to avoid these situations.** Early intervention in the presence of a non-reassuring FHR tracing or meconium may be golden.

In this day of guidelines and protocols, it is useful to heed a voice from the past, **Newell again: "...it is...impossible to lay down any definite rule which can be applied to all cases, but each case must be considered on its merits..."**

References [Abstract](#)

1. Newell FS. *Cesarean Section*. D. Appleton and Company; 1922: 62-66
2. U.S. Department of Health and Human Services. *Cesarean Childbirth*. NIH Publication No. 82-2067; October 1981