

Background

Primary Cesarean deliveries contribute to total Cesarean delivery rates both directly and indirectly. For example, in Wisconsin in 2010, 14.6% of all deliveries were primary Cesarean deliveries. We want to reduce the rate of primary Cesarean deliveries, because primary Cesarean deliveries are frequently followed by repeat Cesarean deliveries. In Wisconsin in 2010, 86.3% of women who had a previous Cesarean birth had a repeat Cesarean delivery. (1)

The most common indications for Cesarean deliveries are outlined below.

Reasons for primary Cesarean deliveries

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| <ol style="list-style-type: none"> 1. <i>Maternal indications</i> <ol style="list-style-type: none"> a. Preeclampsia/eclampsia and related disorders (2) b. Other pregnancy-related conditions (e.g., placental abruption/accreta/previa, cord prolapse, cerclage, chorioamnionitis) (2) c. Obesity (3,4) d. Maternal request (5,6) | <ol style="list-style-type: none"> 2. <i>Fetal indications</i> <ol style="list-style-type: none"> a. Anomalies b. Macrosomia c. Malpresentation d. Multiple gestation 3. <i>“Failed labor” or “failed induction”</i> <ol style="list-style-type: none"> a. Failure to progress, including elective inductions (7) b. Fetal intolerance to labor c. Length and progress of labor (8,9) |
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Some of the indications listed above are based on medical necessity, while others are more subjective. To reduce the rate of primary Cesarean deliveries, care providers have to work collaboratively to evaluate non-medically necessary indications and implement data-informed policies that support optimal delivery mode for each woman.

Tools

There are effective strategies that can be used to decrease the number of primary Cesarean deliveries. The focus of some of these strategies is summarized below.

Education

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| <ol style="list-style-type: none"> 1. <i>Provider commitment to reduce the Cesarean delivery rate</i> <ol style="list-style-type: none"> a. ACOG recommendations
Induction of labor is associated with increased Cesarean delivery rates. In 2009, ACOG released Practice Bulletin 107 “Induction of Labor.” The bulletin classifies the indications for and contraindications to induction of labor. (10) Ehrenthal et al. included education about the ACOG guidelines as part of their successful policy to decrease elective deliveries prior to 39 weeks. (11) b. Neonatal morbidity
The most significant neonatal risks are related to respiratory complications and delivery prior to 39 completed weeks gestation. Infants delivered prior to 39 completed weeks have greater risk of respiratory distress. Additionally, late preterm and possibly early term delivery may increase risk of brain injury and neurodevelopmental abnormalities. (12) | <ol style="list-style-type: none"> c. Maternal morbidity and mortality
In addition to risks associated with the surgery, women who undergo a primary Cesarean delivery are more likely to have repeat Cesarean deliveries with subsequent pregnancies. (1) d. Economics
Cesarean deliveries, compared to vaginal deliveries, increase cost to payors. 2. <i>Consumer knowledge to help reduce the Cesarean delivery rate</i> <ol style="list-style-type: none"> a. Meaning of “due date”
The “due date” is an estimate usually based on the last menstrual period and/or an ultrasound. In fact, only about 5% of women deliver on their due dates. b. Benefits of waiting for natural labor to occur
Hormonal changes associated with labor help prepare the fetus for delivery by accelerating fetal lung maturation. Additionally, when labor occurs naturally, the risk for Cesarean delivery decreases. |
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- c. Facility induction policy
Intermountain Healthcare includes their facility induction policy in consumer materials to ensure that consumers are aware of the policy. (13)
- d. Using a labor support person
Support during labor can decrease the need for epidural anesthesia and Cesarean delivery. (14,15,16)
- e. WAPC Cesarean Reduction Toolkit
The WAPC Cesarean Reduction Work Group developed information sheets for consumers and providers to guide discussions about delivery. These are available on the WAPC Web site (www.perinatalweb.org) as part of the Cesarean Reduction Toolkit.

Policies that help reduce the Cesarean delivery rate

1. Define applicable terms

- a. Reisner et al. (17) defined terms applicable to the urgency of inductions and reported a decrease in elective inductions. For example, they defined “medical priority,” “urgent medical,” and “purely elective” induction categories to aid with triage and provide structure for prioritizing medical inductions.
- b. Spong et al. (18) recommend that the term “**failed induction**” should be reserved for those women who have not achieved regular contractions and cervical change after at least 24 hours of oxytocin administration, with artificial membrane rupture if possible. Zhang et al. (24) demonstrated that labor may take more than 6 hours to progress from 4 cm to 5 cm and more than 3 hours to progress from 5 cm to 6 cm.
- c. Spong et al. (18) recommend that diagnosis of an **arrest of labor** should not be made unless the woman has entered the active phase of labor, requiring documented cervical change preceding the arrest in dilation.
- d. It is important that hospitals institute some form of quality control for defining **non-reassuring fetal heart rate**. (19)

2. PeriData.Net®

Good decision making is driven by accurate and accessible data. PeriData.Net® is the Web-based perinatal data platform developed by Wisconsin birth hospitals, the Wisconsin Association for Perinatal Care (WAPC), and the University of Wisconsin-Milwaukee/Center for Urban Population Health. In July 2012, WAPC’s Perinatal Data Committee added an Elective Delivery Measure (EDM) to the reports available through PeriData.Net®. The EDM uses the same criteria used by The Joint Commission and captures the percent of low-risk women who have a scheduled non-medically indicated induction or Cesarean delivery prior to 39 completed weeks. PeriData.Net® can be used for:

- a. Monitoring progress
Fisch et al. (20) used audits to monitor progress in

achieving goals for decreasing elective deliveries prior to 39 weeks.

- b. Reporting outcomes (facility and individual)
Reporting elective delivery rates for a facility and for individuals is associated with decreased induction rates. (20)

- c. Facility and individual statistics
Fisch et al. (20) used facility and individual induction data to track progress in reducing elective inductions prior to 39 weeks.

3. Induction guidelines, including prohibition of preinduction cervical ripening agents

Fisch et al. (20) developed induction guidelines based on ACOG recommendations. They reported a significant decrease in Cesarean delivery rate for electively induced nulliparous women. Ehrenthal et al. (11) included a policy that prohibited the use of preinduction cervical ripening agents and demonstrated a significant decrease in deliveries prior to 39 weeks.

4. Scheduling Cesarean deliveries

Main et al. (12) recommend creating and using standard forms for scheduling. Oshiro et al. (13) reported that a policy requiring care providers to obtain permission from the hospital Obstetrics and Gynecology Department or attending perinatologist for elective inductions that did not meet criteria was associated with a significant decrease in deliveries prior to 39 weeks.

5. Identifying indications

Spong et al. (18) recommend including the indication for surgery in the consent form and documenting the indication in the patient record. Cesarean deliveries without an accepted indication should be labeled as such, “non-indicated Cesarean delivery,” and not as “elective Cesarean delivery.” In addition, hospitals should use a classification system to identify Cesarean deliveries without an accepted medical indication and track those labeled for “non-reassuring fetal status,” “failed induction,” and “arrest of labor.”

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