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WOMEN'S HEALTH CARE PHYSICIANS

# COMMITTEE OPINION

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## Committee on Obstetric Practice

*This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed.*

## Cesarean Delivery on Maternal Request

**ABSTRACT:** *Cesarean delivery on maternal request* is defined as a primary prelabor cesarean delivery on maternal request in the absence of any maternal or fetal indications. Potential risks of cesarean delivery on maternal request include a longer maternal hospital stay, an increased risk of respiratory problems for the infant, and greater complications in subsequent pregnancies, including uterine rupture, placental implantation problems, and the need for hysterectomy. Potential short-term benefits of planned cesarean delivery compared with a planned vaginal delivery (including women who give birth vaginally and those who require cesarean delivery in labor) include a decreased risk of hemorrhage and transfusion, fewer surgical complications, and a decrease in urinary incontinence during the first year after delivery. Given the balance of risks and benefits, the Committee on Obstetric Practice believes that in the absence of maternal or fetal indications for cesarean delivery, a plan for vaginal delivery is safe and appropriate and should be recommended to patients. In cases in which cesarean delivery on maternal request is planned, delivery should not be performed before a gestational age of 39 weeks. Cesarean delivery on maternal request should not be motivated by the unavailability of effective pain management. Cesarean delivery on maternal request particularly is not recommended for women desiring several children, given that the risks of placenta previa, placenta accreta, and gravid hysterectomy increase with each cesarean delivery.

*Cesarean delivery on maternal request* is defined as a primary prelabor cesarean delivery on maternal request in the absence of any maternal or fetal indications. Cesarean delivery rates in the United States were at the highest levels ever, with more than 1.3 million cesarean deliveries (32.9% of all births) performed in 2009 (1). The incidence of cesarean delivery on maternal request and its contribution to the overall increase in the cesarean delivery rate are not well known, but it is estimated that 2.5% of all births in the United States are cesarean delivery on maternal request (2).

Cesarean delivery on maternal request is not a well-recognized clinical entity, and no accurate means of reporting it for research studies, coding, or reimbursement exist. Few studies directly compare the intended mode of delivery (ie, cesarean delivery on maternal request or planned vaginal delivery). There is no randomized clinical trial that has compared cesarean delivery with trial of labor for singleton term gestations with vertex presentation. Most of the current knowledge is based on indirect analyses that compare elective (ie, without a specified indication) cesarean deliveries without labor

(instead of cesarean delivery on maternal request) with the combination of vaginal deliveries and unplanned and emergency cesarean deliveries (instead of planned vaginal deliveries) or outcomes of actual modes of delivery.

At the National Institutes of Health State-of-the-Science Conference on Cesarean Delivery on Maternal Request in 2006, a panel of experts was charged with reviewing the available literature and expert opinions on the subject (2). A systematic literature review of 1,406 articles was conducted to evaluate the relevance of existing studies on cesarean delivery on maternal request and the quality of the evidence. The panel concluded that the available information comparing the risks and benefits of cesarean delivery on maternal request and planned vaginal delivery does not provide the basis for a recommendation for either mode of delivery. The panel identified the best information available on the short-term and long-term risks and benefits of cesarean delivery on maternal request and planned vaginal delivery (including women who give birth vaginally and those who require cesarean delivery in labor) for both the mother and her infant.

## Benefits and Risks of Cesarean Delivery on Maternal Request Compared With Planned Vaginal Delivery

### Maternal Outcomes

Potential short-term maternal benefits of planned vaginal delivery compared with planned cesarean delivery included a shorter maternal length of hospital stay, lower infection rates, fewer anesthetic complications, and higher breastfeeding initiation rates (2). However, at 3 months and 24 months after delivery, breastfeeding rates seemed not to differ by mode of delivery (3, 4).

Potential short-term maternal benefits of planned cesarean delivery compared with a planned vaginal delivery included a decreased risk of postpartum hemorrhage and transfusion, fewer surgical complications, and a decrease in urinary incontinence during the first year after delivery (2). Analysis of stress urinary incontinence at 2 years (3) and 5 years after delivery (5) showed no difference by mode of delivery. The benefit of a planned cesarean delivery may be attenuated by advanced maternal age and increased body mass index (5).

Maternal outcomes that seemed to favor neither delivery route included postpartum pain, pelvic pain, postpartum depression, fistula, anorectal function, sexual function, pelvic organ prolapse, subsequent stillbirth, and maternal mortality. Evidence for thromboembolism was conflicting.

Potential risks of cesarean delivery on maternal request included greater complications in subsequent pregnancies, such as uterine rupture, placenta previa, placenta accreta, bladder and bowel injuries, and the need for hysterectomy. A Canadian study of primiparous women with singleton pregnancies showed an increased risk of postpartum cardiac arrest, wound hematoma, hysterectomy, major puerperal infection, anesthetic com-

plications, venous thromboembolism, and hemorrhage that required hysterectomy in patients who had a planned primary cesarean delivery (6). These are also factors that may be influenced by parity and planned family size. Uterine scars put women at increased risk of uterine rupture in subsequent pregnancies. Although the risk of peripartum hysterectomy in a woman's first delivery is similar for planned cesarean delivery and planned vaginal delivery, there is a significant increased risk of placenta previa, placenta accreta, placenta previa with accreta, and the need for gravid hysterectomy after a woman's second cesarean delivery (Table 1). This emphasizes the need to consider the woman's total number of planned or expected pregnancies if cesarean delivery on maternal request is discussed during her first pregnancy, with the realization that many pregnancies are unplanned.

### Neonatal Outcomes

There are limited studies on cesarean delivery on maternal request and neonatal outcomes; therefore, the literature on cesarean delivery without labor has been evaluated. The risk of respiratory morbidity, including transient tachypnea of the newborn, respiratory distress syndrome, and persistent pulmonary hypertension, is higher for elective cesarean delivery compared with vaginal delivery when delivery is earlier than 39–40 weeks of gestation (7, 8). The literature on elective cesarean delivery without labor also shows an increased rate of complications related to prematurity, including respiratory symptoms, other neonatal adaptation problems such as hypothermia and hypoglycemia, and neonatal intensive care unit admissions, for infants delivered by cesarean delivery before 39 weeks of gestation (2). Because of these potential complications, cesarean delivery on maternal request should not be performed before a gestational age of 39 weeks. Potential neonatal benefits of planned vaginal delivery include a lower risk of respiratory problems

**Table 1.** Risk of Placenta Accreta and Hysterectomy by Number of Cesarean Deliveries Compared With the First Cesarean Delivery ↵

Cesarean Delivery	Placenta Accreta [n (%)]	Odds Ratio (95% CI)	Hysterectomy [n (%)]	Odds Ratio (95% CI)
First*	15 (0.2)	—	40 (0.7)	—
Second	49 (0.3)	1.3 (0.7–2.3)	67 (0.4)	0.7 (0.4–0.97)
Third	36 (0.6)	2.4 (1.3–4.3)	57 (0.9)	1.4 (0.9–2.1)
Fourth	31 (2.1)	9.0 (4.8–16.7)	35 (2.4)	3.8 (2.4–6.0)
Fifth	6 (2.3)	9.8 (3.8–25.5)	9 (3.5)	5.6 (2.7–11.6)
Six or more	6 (6.7)	29.8 (11.3–78.7)	8 (9.0)	15.2 (6.9–33.5)

\*Primary cesarean delivery.

Abbreviation: CI, confidence interval.

Silver RM, Landon MB, Rouse DJ, Leveno KJ, Spong CY, Thom EA, et al. Maternal morbidity associated with multiple repeat cesarean deliveries. National Institute of Child Health and Human Development Maternal–Fetal Medicine Units Network. *Obstet Gynecol* 2006;107:1226–32. [PubMed] [*Obstetrics & Gynecology*]

and iatrogenic prematurity, and shorter length of hospital stay. Although the absolute risk differences are small, the potential neonatal benefits of planned cesarean delivery include lower fetal mortality; lower newborn infection rate; reduced risk of intracranial hemorrhage diagnosis, neonatal asphyxia, and encephalopathy; and fewer birth injuries. In epidemiologic models, cesarean delivery on maternal request by 40 weeks of gestation would reduce fetal mortality because planned vaginal delivery could occur at up to 42 weeks of gestation. Rates of intracranial hemorrhage are similar for spontaneous vaginal deliveries and cesarean deliveries without labor but are higher in operative vaginal deliveries and cesarean deliveries with labor (2).

There is also weak quality evidence of a lower risk of neonatal encephalopathy and asphyxia with elective cesarean delivery without labor compared with the combined risks of spontaneous vaginal delivery, operative vaginal delivery, emergency cesarean delivery, and cesarean delivery with labor (9, 10). The incidence of brachial plexus injury is significantly lower for cesarean delivery than vaginal delivery, with the highest incidence for assisted vaginal delivery. The incidence of fetal laceration at the time of cesarean delivery is lower for elective cesarean delivery without labor (0.8%) than unscheduled cesarean delivery (1.4–1.5%) (11). Studies on neonatal mortality and long-term neonatal outcomes lacked statistical power and quality data to assess the effect of the planned delivery route.

## Summary of Data

Only five outcome variables have moderate quality evidence regarding delivery route (planned cesarean delivery versus planned vaginal delivery) for term singleton gestations with vertex presentation: 1) maternal hemorrhage, 2) maternal length of stay, 3) neonatal respiratory morbidity, 4) subsequent placenta previa or accreta, and 5) subsequent uterine rupture (2) (Table 2). The remaining outcome assessments are based on weak evidence, which limits the reliability of the results.

**Table 2.** Outcome Variables With Moderate Quality Evidence Regarding Delivery Route for Term Singleton Gestation With Vertex Presentation ↩

Favor Planned Vaginal Delivery	Favor Planned Cesarean Delivery
Maternal length of stay	Maternal hemorrhage
Neonatal respiratory morbidity	
Subsequent placenta previa or accreta	
Subsequent uterine rupture	

Data from NIH State-of-the-Science Conference Statement on cesarean delivery on maternal request. NIH Consens State Sci Statements 2006;23:1–29. [PubMed]

## Other Factors and Counseling

When a woman desires a cesarean delivery on maternal request, her health care provider should consider her specific risk factors, such as age, body mass index, accuracy of estimated gestational age, reproductive plans, personal values, and cultural context. Critical life experiences (eg, trauma, violence, or poor obstetric outcomes) and anxiety about the birth process may prompt her request. If her main concern is a fear of pain in childbirth, then prenatal childbirth education, emotional support in labor, and anesthesia for childbirth should be offered.

Further research is needed to provide direct evidence to facilitate patient counseling. This includes surveys on cesarean delivery on maternal request, modification of birth certificates and coding to facilitate tracking, prospective cohort studies, database studies, and studies of modifiable risk factors for cesarean delivery on maternal request versus planned vaginal delivery. Short-term and long-term maternal and neonatal outcomes as well as cost need further study.

## Conclusions and Recommendations

The available data on cesarean delivery on maternal request compared with planned vaginal delivery are minimal and mostly based on indirect comparisons. Most of the studies of proxy outcomes do not adequately adjust for confounding factors and, thus, must be interpreted cautiously. Given the balance of risks and benefits associated with cesarean delivery on maternal request, the Committee on Obstetric Practice offers the following recommendations:

- In the absence of maternal or fetal indications for cesarean delivery, a plan for vaginal delivery is safe and appropriate and should be recommended.
- The following is recommended in cases in which cesarean delivery on maternal request is planned:
  - Cesarean delivery on maternal request should not be performed before a gestational age of 39 weeks.
  - Cesarean delivery on maternal request should not be motivated by the unavailability of effective pain management.
  - Cesarean delivery on maternal request particularly is not recommended for women desiring several children, given that the risks of placenta previa, placenta accreta, and gravid hysterectomy increase with each cesarean delivery.

## References

1. Martin JA, Hamilton BE, Ventura SJ, Osterman MJ, Wilson EC, Mathews TJ. Births: final data for 2010. Natl Vital Stat Rep 2012;61(1). Available at: [http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61\\_01.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_01.pdf). Retrieved November 1, 2012. ↩
2. NIH State-of-the-Science Conference Statement on cesarean delivery on maternal request. NIH Consens State Sci

- Statements 2006;23:1–29. Available at: <http://consensus.nih.gov/2006/cesareanstatement.pdf>. Retrieved November 7, 2012. [↔](#)
3. Hannah ME, Whyte H, Hannah WJ, Hewson S, Amankwah K, Cheng M, et al. Maternal outcomes at 2 years after planned cesarean section versus planned vaginal birth for breech presentation at term: the international randomized Term Breech Trial. Term Breech Trial Collaborative Group. *Am J Obstet Gynecol* 2004;191:917–27. [[PubMed](#)] [[Full Text](#)] [↔](#)
  4. Hannah ME, Hannah WJ, Hodnett ED, Chalmers B, Kung R, Willan A, et al. Outcomes at 3 months after planned cesarean vs planned vaginal delivery for breech presentation at term: the international randomized Term Breech Trial. Term Breech Trial 3-Month Follow-up Collaborative Group. *JAMA* 2002;287:1822–31. [[PubMed](#)] [[Full Text](#)] [↔](#)
  5. Rortveit G, Daltveit AK, Hannestad YS, Hunskaar S. Urinary incontinence after vaginal delivery or cesarean section. Norwegian EPINCONT Study; *N Engl J Med* 2003; 348:900–7. [[PubMed](#)] [[Full Text](#)] [↔](#)
  6. Liu S, Liston RM, Joseph KS, Heaman M, Sauve R, Kramer MS. Maternal mortality and severe morbidity associated with low-risk planned cesarean delivery versus planned vaginal delivery at term. Maternal Health Study Group of the Canadian Perinatal Surveillance System. *CMAJ* 2007;176:455–60. [[PubMed](#)] [[Full Text](#)] [↔](#)
  7. Zanardo V, Simbi AK, Franzoi M, Solda G, Salvadori A, Trevisanuto D. Neonatal respiratory morbidity risk and mode of delivery at term: influence of timing of elective cesarean delivery. *Acta Paediatr* 2004;93:643–7. [[PubMed](#)] [↔](#)
  8. Morrison JJ, Rennie JM, Milton PJ. Neonatal respiratory morbidity and mode of delivery at term: influence of timing of elective caesarean section. *Br J Obstet Gynaecol* 1995;102:101–6. [[PubMed](#)] [↔](#)
  9. Badawi N, Kurinczuk JJ, Keogh JM, Alessandri LM, O’Sullivan F, Burton PR, et al. Intrapartum risk factors for newborn encephalopathy: the Western Australian case-control study. *BMJ* 1998;317:1554–8. [[PubMed](#)] [[Full Text](#)] [↔](#)
  10. Towner D, Castro MA, Eby-Wilkens E, Gilbert WM. Effect of mode of delivery in nulliparous women on neonatal intracranial injury. *N Engl J Med* 1999;341:1709–14. [[PubMed](#)] [[Full Text](#)] [↔](#)
  11. van Ham MA, van Dongen PW, Mulder J. Maternal consequences of caesarean section. A retrospective study of intra-operative and postoperative maternal complications of caesarean section during a 10-year period. *Eur J Obstet Gynecol Reprod Biol* 1997;74:1–6. [[PubMed](#)] [[Full Text](#)] [↔](#)

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