

Florida Perinatal Quality Collaborative

AT THE LAWTON AND RHEA CHILES CENTER FOR HEALTHY MOTHERS AND BABIES



Partnering to Improve Health Care Quality
for Mothers and Babies

Literature E-Bulletin on Non-Medically Indicated Deliveries <39 Weeks Gestation

Dear Perinatal Care Providers: Below is a list of recent literature on the issue of non-medically indicated deliveries <39 weeks gestational age. These references are provided to you by the Florida Perinatal Quality Collaborative through the generous support of a grant from the March of Dimes. You can click on the reference and go directly to the PubMed abstract for the article and access available full text articles. If you have any questions, please contact us at fpqc@health.usf.edu or by phone at 813-974-8888.

[Robinson CJ, Villers MS, Johnson DD, Simpson KN. Timing of elective repeat cesarean delivery at term and neonatal outcomes: a cost analysis. *American Journal of Obstetrics & Gynecology*. 2010;202:632.e1-6.](#)

The purpose of this study was to examine the economic impact of performing elective repeat cesareans during 37 and 38 weeks gestational age, compared to ACOG recommendation of 39 weeks. A total of 82,541 deliveries occurring between 37-39 weeks gestational age were analyzed for incidence of adverse outcomes and hospital costs. The results of the study demonstrated increased overall cost with elective repeat cesarean deliveries earlier than 39 weeks gestation and a 5-fold increase in neonatal discharge cost if an adverse event occurred in comparison to repeat cesareans performed at 39 weeks' gestational age. The investigators conclude that there is a significant increase in neonatal hospitalization cost when elective repeat cesareans are performed at 37 or 38 weeks gestation relative to 39 weeks gestation.

[Akinsipe DC, Villalobos LE, Ridley RT. A systematic review of implementing an elective labor induction policy. *Journal of Obstetric, Gynecologic and Neonatal Nursing*. 2012; 41:5-16.](#)

This systematic review of observational studies from 2000 to 2010 evaluated the effect of implementing hospital policies to reduce elective labor induction and increase rates of spontaneous labor. Based on the results of 9 observational studies included in the review, the authors conclude that implementation of hospital elective labor induction policies resulted in lower induction, cesarean, operative/instrumental vaginal delivery, and maternal morbidity rates. The review found that most of the studies based their policies upon ACOG recommendations. The authors suggested an enforced hard stop policy to improve quality of services and positively affect the safety of mothers and babies.

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[Ghartey K, Coletta J, Lizarraga L, Murphy E, Ananth CV, Gyamfi-Bannerman C. Neonatal respiratory morbidity in the early term delivery. *American Journal of Obstetrics and Gynecology*. 2012;207:292.e1-4.](#)

This retrospective cohort study of births from 2010 at New York Presbyterian Children's Hospital in New York City evaluated the risks of both respiratory and non-respiratory morbidity in neonates delivered between 370/7 and 386/7 (early term) compared to 390/7 and 396/7 gestational weeks. Early term newborns had a 2-fold increased risk of composite respiratory morbidity, increased usage of oxygen and continuous positive airway pressure, increased risk of respiratory distress syndrome, as well as an increased risk of composite non-respiratory morbidity. The authors conclude that this evidence further demonstrates that early term neonates have an increased risk for adverse respiratory outcomes when compared to their >39 week counterparts.

[Bernstein SN, Matalon-Grazi S, Rosenn BM. Trial of labor versus repeat cesarean: are patients making an informed decision? *American Journal of Obstetrics & Gynecology*. 2012;207:204.e1-6.](#)

This was a prospective study using a survey of 155 women admitted to St. Luke's Roosevelt Hospital, New York from November 2010 through July 2011 who were candidates for a Trial of Labor after a Cesarean (TOLAC). Results showed participants demonstrated an overall lack of knowledge about the risks and benefits of TOLAC and Elective Repeat Cesarean Section (ERCS). The majority of ERCS patients (64%) did not know the risk of uterine rupture during TOLAC; 52% of patients undergoing ERCS did not know that recovery from a cesarean is longer than after a vaginal delivery; and 46% did not know that complication rates increase with successive cesareans. When patients perceived their providers had a preference for ERCS, 86% chose ERCS, whereas when patients felt their doctor preferred a TOLAC, 78% chose TOLAC; of those who said they did not know their doctors preference, 50% chose TOLAC and 50% chose ERCS. The authors conclude that women in both groups were insufficiently informed about the risks and benefits of TOLAC and ERCS and that provider bias may have undue influence on a patient's decision making.

[McLachlan HL, Forster DA, Davey MA, Farrell T, Gold L, Biro MA, Albers L, Flood M, Oats J, Waldenström U. Effects of continuity of care by a primary midwife \(caseload midwifery\) on caesarean section rates in women of low obstetric risk: the COSMOS randomized controlled trial. *International Journal of Obstetrics and Gynecology*. 2012; 119:1483-1492.](#)

This randomized controlled trial was conducted to determine if caseload midwifery decreased the cesarean section rate when compared to standard maternity care. A total of 2,314 women were randomized into one of two groups: caseload midwifery care, where antenatal, intrapartum and postpartum care was delivered by a primary midwife with occasional care by 'back-up' midwives; and standard care, with midwife, obstetric-trainee, or community-based practitioner providing care, with varying levels of continuity. Results included: women assigned to caseload care were less likely to have a cesarean (19.4% versus 24.9%, RR 0.78); more likely to have a vaginal birth (63% versus 55.7%, RR 1.13); less likely to have epidural analgesia (30.5% versus 34.6%, RR 0.88); and infants of women in caseload midwifery care were less likely to be admitted to special or neonatal intensive care (4.0% versus 6.4%, RR 0.63). The authors conclude that caseload midwifery care, for women at low obstetric risk in early pregnancy, shows promise for reducing cesarean births in settings with moderate and high baseline cesarean section rates.

[Engle WA. Morbidity and mortality in late preterm and early term newborns: a continuum. Clinics in Perinatology. 2011;38:493-516.](#)

This article reviews the current literature about the issue of preterm and early term newborns compared to their >39 week counterparts. The author defines the current categories of late preterm, early term, and late term newborns in relation to their gestational age, as well as a thorough review of the morbidities and mortalities associated with delivery at 37, 38, and 39 weeks. In summary, the author reiterates that neonatal and infant mortality and morbidity rates are largely influenced by gestational age with late preterm and early term infants having significantly greater risks of medical complications and morbidities during birth hospitalization and the first weeks after birth compared to term infants. He also addresses that although some early deliveries are medically indicated, as many as 1 in 5 late preterm and early term births can be prevented by implementing management guidelines that limit elective deliveries before 39 weeks gestation; such as a hard-stop policy.

[Altimier L, Straub S, Narendran V. Improving outcomes by reducing elective deliveries before 39 weeks gestation: a community hospital's journey. Newborn & Infant Nursing Reviews. 2011;11\(4\):50-55.](#)

A retrospective chart review was conducted for all deliveries between January 2005 and December 2007 at Mercy Hospital Anderson in Cincinnati, OH with the intention of implementing guidelines to reduce the number of non-medically indicated inductions before 39 weeks gestational age. Baseline data were taken from births in 2005, before best practice guidelines were established and strictly enforced. From 2005 to 2007, the overall induction rate dropped from 26.4% in 2005 to 22.1% in 2007 ($P=.59$); the percentage of elective inductions between 36^{0/7} and 38^{6/7} weeks' gestation dropped from 12.1% (2005) to 1.97% in 2007 ($P<.001$); the number of infants between 36^{0/7} and 38^{6/7} weeks' gestation that were electively induced and admitted to the special care nursery (SCN) decreased from 67 (2005) to 39 in 2007 ($P<.001$); and neonatal transports to a higher level III facility (with NICU) went from 26 (2005) to 14 in 2007. The authors conclude that elective delivery before 39 weeks' gestation is associated with significant neonatal morbidity and quality improvement efforts not only optimize medical outcomes, but can have direct impact on minimizing health care resources and costs.

[Bailit JL, Iams J, Silber A, et al. Changes in the indications for scheduled births to reduce nonmedically indicated deliveries occurring before 39 weeks of gestation. American Journal of Obstetrics and Gynecology. 2012; 120:241-245.](#)

This study involved a chart review to evaluate the level of medical necessity for deliveries that occurred before 39 weeks gestational age for all deliveries between 36^{0/7} and 38^{6/7} weeks' of gestation during October 2008 and December 2009 for hospitals participating in the Ohio Perinatal Quality Collaborative. Indications for early delivery were categorized as strong, intermediate and unnecessary. Of 23,022 total deliveries, there were 4,997 scheduled deliveries with strong indications (i.e. preeclampsia, placenta previa), 835 with intermediate indications (i.e. gestational diabetes, birth defect), and 896 that were deemed unnecessary early deliveries. During the study period, deliveries for strong medical indication did not change significantly, while deliveries for intermediate indication and no indication decreased substantially over-time from 2,363 in the first four months to 2,038 in the last four months, 145 fewer with intermediate reasons and 265 fewer that were unnecessary. The authors conclude that the Ohio Perinatal Quality Collaborative Scheduled Birth Initiative influenced physician decision about the appropriate age for scheduled births and that the decreases in rates indicate a true change in scheduled delivery practice.

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