



Prevention of Elective Deliveries Less Than 39 Weeks and 0 Days Gestational Age

Ken Nunes MD, Christiana Nwankwo RN BSN, LaTonya Markham APN WHNP,

Rachel Jones MSN RN, Kathleen Shanahan RN MS

Women's Care Center



Introduction

- The American College of Obstetrician and Gynecologist (ACOG) and the American Academy of Pediatrics (AAP) recommend avoiding elective deliveries prior to 39 weeks estimated gestational age.
- Elective deliveries, between 37 and 39 weeks, carry significant risk for neonatal morbidity.
- Intervention studies have not shown any increase in the stillbirth rate for singleton pregnancies by delaying delivery until 39 weeks.
- There are also maternal implications to elective deliveries less than 39 weeks, including increased rates of failed inductions and the need for a Cesarean delivery, particularly in the nulliparous female with an unfavorable cervix.
- Multiple safety organizations, including the National Quality Forum and The Joint Commission, have identified elective deliveries prior to 39 weeks as an opportunity to improve neonatal and maternal outcomes and have included it as an important quality indicator for hospitals.
- In fact, the Joint Commission has designated this particular issue as one of its five Perinatal Core Measures (PC-01 Elective Deliveries).
- Within the Women's Care Center at the University of Chicago, we found an unusually high rate of elective deliveries less than 39 weeks and hypothesized that it was due to a lack of a protocol and/or processes for scheduling these procedures.

Aims of the Initiative

To reduce the number of elective inductions of labor and Cesarean deliveries prior to 39 weeks and 0 days estimated gestational age.

Methods/Data Analysis

The following initiatives were undertaken in the Women's Care Center:

- Formalization of a written protocol that addressed: (a) the definition of an "elective delivery", (b) the ACOG criteria for determining a term gestation (> or = 39 weeks), and (c) the process for scheduling an appropriate induction or Cesarean delivery.
- Nursing and physician education of the neonatal and maternal implications of an elective delivery less than 39 weeks.
- Standardization of a scheduling form for all deliveries in the Women's Care Center.
- Inability to schedule an induction or Cesarean delivery less than 39 weeks without an amniocentesis for fetal lung maturity or written approval by the Medical/MFM Directors.
- An audit of every scheduled procedure in the Women's Care Center for one year pre- and post-implementation of the protocol to determine the estimated gestational age and the indication for delivery from the electronic health record (MRView® and Epic).
- Determining the impact of the protocol on the rate of elective induction of labor and Cesarean delivery less than 39 weeks and 0 days, by comparing rates of these variables 1 year pre- and 1 year post-implementation of the protocol.
- Outcomes were compared using Fisher's exact 2-tailed test, with $p < 0.05$ required to reject the null hypothesis.

Results/Outcomes

- Implementation of a written protocol for the Women's Care Center on 4/1/2011.
- Adoption of a consistent process for scheduling inductions and Cesarean deliveries within the Women's Care Center.
- Reduction in the number of elective Cesarean sections and inductions of labor less than 39 weeks and 0 days from 14% to 4% pre- versus post-implementation ($p < 0.0001$).

The University of Chicago Medical Center
Women's Care Center
Scheduling of Elective Inductions of Labor and Cesarean Sections

Author: WVC 438
Date: July 2010
Revised Date:
Review Date:

PURPOSE:
1. Elective delivery should be performed at a gestational age greater than or equal to 39 weeks.
2. Elective delivery prior to 39 weeks should prevent evaluation of fetal lung maturity.

OBJECTIVE:
1. To reduce the number of elective inductions of labor and Cesarean delivery prior to 39 weeks without gestational age.
2. To define an elective induction of labor and Cesarean delivery.
3. To update the ACOG criteria for determining a term gestation (> 39 weeks).
4. To create the process for scheduling appropriate elective induction and Cesarean delivery.

RESPONSIBILITIES:

Department	Responsibility
Obstetrics	<ul style="list-style-type: none"> Complete INDUCE/INDUCE/INDUCE SCHEDULING FORM Check indication for delivery Indicate if Type and Reason of Type and Class is needed (reverse side of form) If Type and Reason of Type and Class is needed, also complete "Induction and Cesarean Delivery Approval Form" by checking box, "Yes" and "No" (if "No" check box for "No" check box for "No") Sign and date form
Midwifery	<ul style="list-style-type: none"> For use in the scheduling office at TIC-434/435 Review patient history for fetal lung maturity 72 hours of delivery Bring written order to the laboratory (LPT) to the DCAM Bring fetal lung maturity
Scheduling Office	<ul style="list-style-type: none"> Complete request form (see reverse side) Verify patient and physician of date and time Call patient as a reminder for the following: blood testing within 72 hours of scheduled date, arrival time, and prep with 2x. Obtain written approval, date

INDUCE/INDUCE/INDUCE SCHEDULING FORM

Requesting Physician: _____ Date: _____
Patient's Name: _____ Patient's DOB: _____
Medical Record #: _____ Gender: _____
Requested Procedure Date: _____ Requested Time: _____
Gestational Age on Date of Procedure: _____ EDD: _____

Indication for Scheduling Delivery (check all that apply):
 Unassisted spontaneous labor at 39 weeks of gestation
 Fetal heart tones have been documented as present for 30 weeks by Doppler ultrasonography.
 At least 36 weeks since a positive result on a urine human chorionic gonadotropin pregnancy test.

Method of Delivery:
 Induce labor
 Cesarean section
 Induction of labor

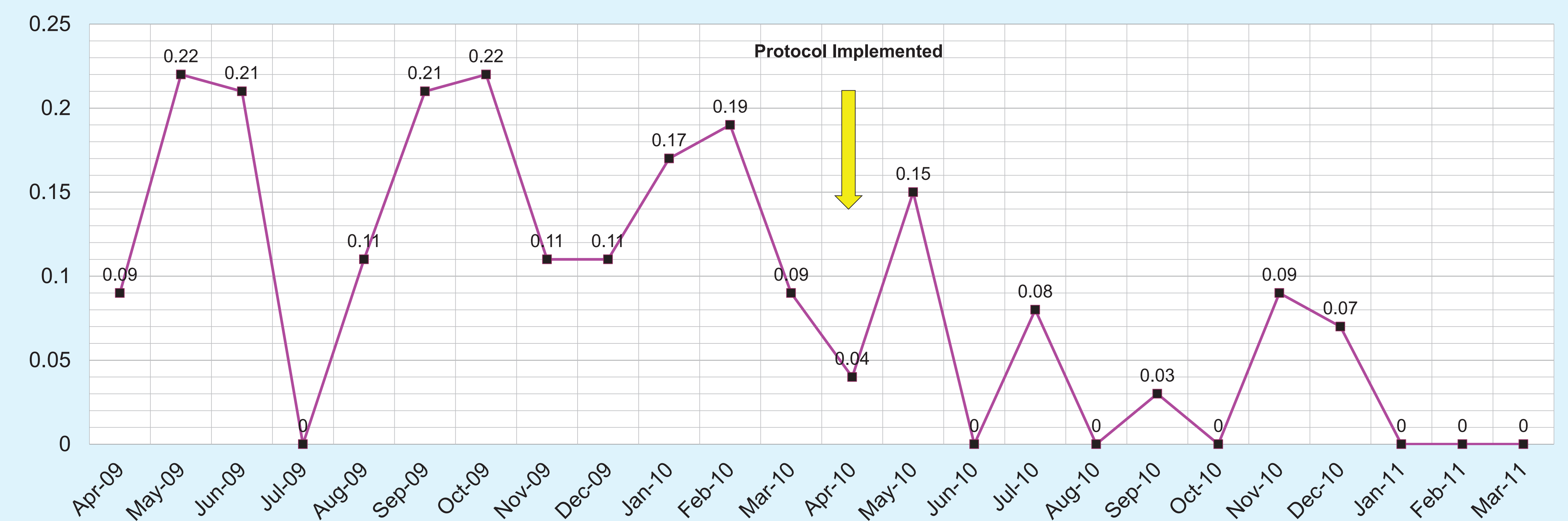
Indication for Scheduling Delivery (check all that apply):

Indication	Indication	Indication
<input type="checkbox"/> Preexisting HILL	<input type="checkbox"/> History of cesarean section	<input type="checkbox"/> History of cesarean section
<input type="checkbox"/> Gestational hypertension	<input type="checkbox"/> History of diabetes - A1	<input type="checkbox"/> History of diabetes - A2
<input type="checkbox"/> Preexisting diabetes	<input type="checkbox"/> History of hypertension	<input type="checkbox"/> History of hypertension
<input type="checkbox"/> Preexisting hypertension	<input type="checkbox"/> History of placental abruption	<input type="checkbox"/> History of placental abruption
<input type="checkbox"/> History of placental abruption	<input type="checkbox"/> History of stillbirth	<input type="checkbox"/> History of stillbirth
<input type="checkbox"/> History of stillbirth	<input type="checkbox"/> History of fetal death	<input type="checkbox"/> History of fetal death
<input type="checkbox"/> History of fetal death	<input type="checkbox"/> History of neonatal death	<input type="checkbox"/> History of neonatal death
<input type="checkbox"/> History of neonatal death	<input type="checkbox"/> History of maternal death	<input type="checkbox"/> History of maternal death
<input type="checkbox"/> History of maternal death	<input type="checkbox"/> History of maternal death	<input type="checkbox"/> History of maternal death

For Induce/Induce/Induce: If EDD was not confirmed by one of the above ACOG criteria or if patient is less than 39 weeks, an amniocentesis for fetal lung maturity is required and approved by MFM Medical Director.

Date of amniocentesis: _____
 Approved by: _____

Rate of Elective Deliveries < 39 weeks 0 days



Clinical Implications

Due to the successful implementation of this protocol, there has been a significant reduction in the number of elective deliveries less than 39 weeks and 0 days at the University of Chicago Women's Care Center. As a result, we would expect a reduction in both neonatal and maternal morbidity over time. The implementation of the protocol also improves the hospital's compliance with ACOG recommendations and the Joint Commission's Perinatal Core Measure (PC-01) to reduce elective deliveries less than 39 weeks.

References

- American College of Obstetrics and Gynecology. Induction of Labor, ACOG Practice Bulletin No. 107. Obstetrics and Gynecology, 2009. 114(2): p. 386-97.
- Tita A, et al. Timing of elective Cesarean delivery at term and neonatal outcomes. The New England Journal of Medicine, 2009. 360: p. 111-20.
- Clark SL, et al. Neonatal and maternal outcomes associated with elective term delivery. Am J Obstet Gynecol, 2009. 200(2): p.156 e1-4.
- Oshiro BT, et al. Decreasing elective deliveries before 39 weeks of gestation in an integrated health care system. Obstet Gynecol, 2009. 113: p.804-811.
- Main EK, et al. New perinatal quality measures from the National Quality Forum, The Joint Commission, and Leapfrog Group. Curr Opin Obstet Gynecol, 2009, 21: p.532-540.