Reconsideration of the Cost of Convenience

Quality, Operational and Fiscal Strategies to Minimize Elective Labor Induction

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Convenience Procedures with Opportunities for Improvement

- Elective births before 39 completed weeks of gestation leading to increased risks of neonatal morbidity
- Elective labor induction with an unfavorable cervix leading increased risks of cesarean birth and associated sequelae

Timing and Conduct of Elective Labor Induction

- Elective births that are early and elective labor induction without cervical readiness have a negative impact on:
  - Safety
  - Clinical outcomes
  - Healthcare costs
  - Length of stay
  - Staffing
  - Future pregnancies

Elimination of Non-medically Indicated (Elective) Deliveries Before 39 Weeks Gestational Age

A Quality Improvement Toolkit

ACOG Practice Bulletin

Induction of Labor

guidelines for PERINATAL CARE

Eighth Edition

Toward Improving the Outcome of Pregnancy III
Enhancing Perinatal Health Through Quality, Safety and Performance Initiatives

March of Dimes

California Department of Public Health, Maternal, Child and Adolescent Health Division with the California Maternal Quality Care Collaborative to develop the women and Neonatologists.
Strategies to Minimize Elective Labor Inductions

- No elective births unless 41 wks or cervical readiness without pharm agents
- Elimination of the time factor as a driving force (laborist model)
- Public reporting
- Re-evaluation of costs of care
- Financial disincentives

Current Data

- Induction rate 23.1 (2008)
- 143% increase since 1990 (9.5%)
- Significantly underreported
- Elective vs medically indicated not reported
- 50% to 70% are likely elective
- Rate of induction rising higher than rate of pregnancy complications

Current Data

- Childbirth most common reason for hospital admission in US
- Approximately 1 in 4 hospital discharges in the US are childbearing women or newborns and 7 of the 16 most common hospital procedures in the US involve childbirth, with cesarean birth the most frequent surgical procedure

Cost Data

- Hospital charges (> $92 billion in 2008) for mothers and newborns far exceed hospital charges for any other condition, with private insurers paying for 49% of births and Medicaid paying for 43%
The costs of cesarean birth after failed induction are nearly double that of spontaneous vaginal birth, primarily due to longer intrapartum and postpartum LOS.

<table>
<thead>
<tr>
<th>Cost Data</th>
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<tbody>
<tr>
<td><strong>Costs of Care</strong></td>
</tr>
<tr>
<td>- Spontaneous labor / vaginal birth</td>
</tr>
<tr>
<td>- Induction of labor / vaginal birth</td>
</tr>
<tr>
<td>- Cesarean birth / scheduled</td>
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<tr>
<td>- Cesarean birth / failed induction</td>
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**Economic Impact**
- Increased length of stay for labor & c/birth
  - Average inpt labor: spontaneous = 6 hr, 2 min
  - Average inpt labor: induced = 17 hr, 28 min
  - Average LOS: vaginal birth = 2 days
  - Average LOS: cesarean birth = 4 days

Reimbursement
- Vaginal birth = $5,000; Cesarean birth = $6,600
- Length of labor not considered

Greater demands on unit operations and staffing
- More intensive nursing care for induction & c/birth
- Postpartum beds occupied longer

**Who Should Pay?**
- Can we continue to afford to financially support elective procedures with risk of harm and risk of further costs?
- Financial disincentives for elective inductions could be coming in the near future

**Staffing**
- A registered nurse will clinically evaluate the effect of drug on mother and fetus q 15 min

**Why are Elective Births Increasing in Frequency?**
- 1 nurse to 1 woman receiving oxytocin

**CMOCC**
CALIFORNIA MATERNFAL QUALITY CARE COLLABORATIVE
Hospital Factors

- Ability to plan for scheduling and staffing
- Patient satisfaction
- Provider satisfaction
- Market share issues

Patient Factors

- Timing of birth to coincide with personal schedules, availability of partners, support persons and family, babysitting issues
- Desire for preferred physician to attend the birth rather than a physician partner in the group practice
- Wish to “get the pregnancy over with”
- Relief from pregnancy discomforts
- Avoidance of certain dates such as holidays, preference for certain dates with personal meaning

Provider Factors

- Quality of life issues (labor and birth occurs during a weekday, during the day shift, while on call; avoidance of interruptions of office hours, weekends and evenings; ability to schedule more than one patient on same day)
- Patient satisfaction
- Liability concerns
- Desire to attend birth of primary patient for reimbursement issues

Appropriate Timing of Elective Births

Recent Focus on 39 weeks

Gestational Age

Modified from Drawing courtesy of William Engle, MD, Indiana University
Raju TNK. Pediatrics, 2006;118:1207.
It is paramount that iatrogenic birth of a premature infant must be avoided.

Fetal maturity is an important consideration in determining timing of repeat cesarean birth or elective labor induction. Must be at least 39 completed weeks of gestation for elective birth.

Every week matters for fetal growth and development.

- Babies born during the 38th wk of gestation (even those born at 38 and 4/7 wks) have 1.5 to 2 times the risk of neonatal morbidity when compared to babies born at 39 completed wks (Tita, 2009).
- Babies born during the 38th wk of gestation are 2.3 times more likely to be admitted to the NICU (Clark et al. 2009; Clark et al., 2010).
- Iatrogenic neonatal morbidity from elective birth before 39 completed wks of gestation is unacceptable in contemporary perinatal practice.

Morbidity rates doubled for each gestational wk earlier than 38 wks (Term 377,638; LPT 26,170)

- 40 wks: 2.5%
- 39 wks: 2.6%
- 38 wks: 3.3%
- 37 wks: 5.9%
- 36 wks: 12.1%
- 35 wks: 25.6%
- 34 wks: 51.9%

Complications of Elective Births Between 37 and 39 Wks

- Increased NICU admissions
- Increased transient tachypnea of the newborn
- Increased respiratory distress syndrome (RDS)
- Increased ventilator support
- Increased suspected or proven sepsis
- Increased newborn feeding problems and other transition issues


Fetal Lung Maturity

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- Testing for fetal lung maturity should not be performed and is contraindicated when birth is mandated for fetal or maternal indications
- A mature fetal lung maturity test before 39 wks of gestation in the absence of appropriate clinical circumstances is not an indication for birth

3 Approaches to Reducing Elective Births < 39 Wks

- “Hard stop”, not allowed; staff empowered to refuse schedule or perform; chain of command
- “Soft stop”, peer review and follow-up
- Education for providers re: current evidence, ACOG guidelines, HCA policies

(Clark et al., 2010)

"You can get much further with a kind word and a gun than you can with a kind word alone.”

Al Copone
Kathleen R. Simpson, PhD, RNC, FAAN

**Cascade of Interventions Related to Artificial Induction**

- IV
- Bedrest
- Continuous EFM
- Amniotomy
- Significant discomfort
- Epidural
- Prolonged labor

**Risks of Indeterminate/Abnormal FHR**

Nearly twice the risk
- Could be related to:
  - Tachysystole
  - Early amniotomy
  - Labor dystocia
  - Longer labor
  - Less fetal tolerance

(Glantz, 2005)

**Risks of Cesarean Birth**

For nulliparous women at term, elective induction increases risk:
- 2.5 X (SjMMC, 2008)
- 2.4 X (Maslow & Sweeny, 2000)
- 2.2 X (Yeast et al., 1999)
- >2 X (Cammu et al., 2002; Clark et al. 2008; Glantz, 2005; Rayburn, 2002; Reisner et al., 2009; Sheiner et al., 2002; Simpson et al., 2010; Zhang et al., 2002, 2006, 2010)

**Professional Liability and OB Claims Review**

- N = 189 OB claims
- 70% involved substandard care and were deemed preventable
- 43% of this group involved misuse of oxytocin or misoprostol

Clark et al. 2008 Obstet Gynecol

**Birth is a Natural Process?**

- Initial cervical dilatation
- Cesarean delivery rate
- Dilatation and cesarean delivery rate
- Cervical Dilatation at the time of Induction (cm)

Cesarean Birth for All Subsequent Births

- Associated risks of placental abnormalities, postop infection, pain, uterine rupture with future births

Decreasing Risks of Cesarean Birth for Nulliparous Women

- Cervical readiness without pharmacologic agents
- Bishop score ≥ 6
- 39 weeks for elective induction
- Elective inductions decreased from 4.3% to 0.8%
- 17.2% C/B spontaneous labor
- 30.5% C/B induced labor
- 77% increase in C/B for induced labor

(Reisner et al., 2009)
Decreasing Risks of Cesarean Birth for Nulliparous Women

- Cervical readiness without pharmacologic agents
- Bishop score > 8
- 39 weeks for elective induction
- Elective inductions decreased from 9.1% to 6.4%
- Cesarean birth of nulliparous women decreased from 34.5% to 13.8%
- 60% decrease in C/B for nulliparous women

(From: Fisch et al., 2009)

Empower Women to Make Appropriate Choices

Women’s Perceptions Regarding the Safety of Births at Various Gestational Ages

- N = 650 Women with private healthcare insurance

Gestational Age that Women Considered it Safe to Give Birth

- N = 650 Women with private healthcare insurance

Gestational Age that Women Considered a Baby to be Full Term

- Goldenberg et al., Obstet Gynecol 2009;114:1254
Listening to Mothers II

- Participants in the 2006 *Listening to Mothers Survey II* overwhelmingly expressed desire for information regarding potential risks of elective induction
- Nearly all first time mothers wanted to know every complication (74.7%) or most complications (24%) of labor induction
  
  (Declercq, Sakala, Corey & Applebaum, 2006)

- Only 60% of first time mothers knew that medications used to induce labor increase risk of causing stress to the baby
- Only 56% were aware of relationship between labor induction and cesarean birth
- Only 32% knew labor induction is not recommended for “large babies”
  
  (Declercq et al. 2006; Lothian, 2007)

Is Labor Induction Right for You?

Methods

Standardized 40 min educational session regarding risks of elective induction including specifically cesarean birth and complications of cesarean birth as well as other associated risks such as a longer labor, use of pharmacologic agents and their effects on the mother and fetus, and neonatal morbidity

N = 3,337 women

Childbirth Class Influence

- Of women who attended class and did not have an elective induction; Did class influence their decision not to have their labor electively induced?
  
  - 63.3% yes
  - 31.9% no

Physician Influence

<table>
<thead>
<tr>
<th>Time Option Was Offered</th>
<th>n</th>
<th>%</th>
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<tbody>
<tr>
<td>Early in pregnancy</td>
<td>17</td>
<td>1.8</td>
</tr>
<tr>
<td>Middle of pregnancy</td>
<td>36</td>
<td>3.8</td>
</tr>
<tr>
<td>Several weeks before due date</td>
<td>258</td>
<td>27.5</td>
</tr>
<tr>
<td>Around due date</td>
<td>436</td>
<td>46.5</td>
</tr>
<tr>
<td>After due date</td>
<td>190</td>
<td>20.3</td>
</tr>
<tr>
<td>Total</td>
<td>937</td>
<td>100.0</td>
</tr>
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Results

Exposure to standardized evidence based educational content regarding risks of elective induction during prepared childbirth classes was associated with a decreased rate of elective induction while the physician offering the option was associated with an increased rate (Simpson, Newman & Chirino, 2010)

Information for Patients

- Every week matters; wait until baby is due
- Get your full 9 months

Healthy Babies are Worth the Wait

Get Your Full 9 Months

My 9 Months

Mis 9 meses

Transforming Maternity Care

http://www.childbirthconnection.org
## Common Barriers to Quality Improvement

- Resistance to change
- Holding on to “the way we’ve always done it”
- Philosophy of “no one is going to tell me how to practice”
- Disbelief in the supportive evidence
- Fallacy of small numbers (“I’ve been doing it this way for years and never had a problem”)

## Common Barriers to Quality Improvement

- General resilience of mothers and babies (Usually good outcomes even with inappropriate care)
- Convenience perceived as higher priority than safety
- Lack of infrastructure to effectively support change
- Lack of oversight and accountability
- Ineffective leadership

## What You Can Do

- Be informed; keep updated
- Review current evidence and standards as they are published
- Take the initiative to move forward
- Be willing to change, then actually do it
- Encourage others; be positive
- Support the leadership team
- Educate women and families