Reducing Elective Deliveries Before 39 Weeks Gestation

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Perinatal Clinical Nurse Specialist
Objectives

- List the risks of non-medically indicated (elective) deliveries less than 39 weeks.
- Identify barriers and strategies for reducing elective deliveries less than 39 weeks.
- Discuss the Sutter Medical Center, Sacramento experience and the strategies used to reduce elective deliveries less than 39 weeks.
Scheduled Delivery Less Than 39 wks in an Uncomplicated Pregnancy

- Since 1979, ACOG has cautioned against inductions before 39 weeks in the absence of a medical indication (Committee Opinion #22)
- ACOG has also noted that “a mature fetal lung maturity test result before 39 weeks of gestation, in the absence of appropriate clinical circumstances, is not an indication for delivery”. (Committee Practice Bulletins #107 and #561)
Much Support for this Initiative

- ACOG
- AWHONN – “Go the Full 40” Initiative
- The Joint Commission (TJC) – PC-01 in Perinatal Core Measures
- National Quality Organizations (Leapfrog and NQF)
- March of Dimes
- Many collaboratives (statewide, health systems, etc)
- State Medicaid programs exploring and/or implementing options
  - “Do not pay”, withholds, incentives, pre-authorization
  - Commercial Insurance has acted in other states
Elimination of Non-medically Indicated (Elective) Deliveries Prior to 39 Weeks

Funding

- Federal Title V block grant from the California Department of Public Health; Maternal, Child and Adolescent Health Division
- California Maternal Quality Care Collaborative
- March of Dimes
Terminology

First day of LMP

Week # 0 20 0/7 34 0/7 37 0/7 39 0/7 41 6/7

Preterm  Term  Post term

Late Preterm  Early Term

“New” Term

Modified from Drawing courtesy of William Engle, MD, Indiana University

Raju TNK. Pediatrics, 2006;118 1207. Oshiro BT Obstet Gynecol, 2009;113:804

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March of Dimes
Complications of Non-Medically Indicated (Elective) Deliveries Between 37 and 39 Weeks

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

See Toolkit for more data and full list of citations
Timing of Elective Repeat Cesarean Delivery at Term and Neonatal Outcomes

- 13,258 elective repeat cesarean births in 19 large centers
- 35.8% done <39 weeks gestation
- Increased risk of neonatal morbidity
  - Respiratory, hypoglycemia, sepsis, NICU admissions, hospitalization greater than 5 days
  - Even among babies delivered between 38 and 39 weeks

Tita AT, et al, NEJM 2009;360:111
Adverse Neonatal Outcomes According to Completed Week of Gestation at Delivery: Absolute Risk

Tita AT, et al, NEJM 2009;360:111

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Adverse Neonatal Outcomes According to Completed Week of Gestation at Delivery: **Odds Ratios**

<table>
<thead>
<tr>
<th>Condition</th>
<th>37+ Weeks</th>
<th>38+ Weeks</th>
<th>39+ Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any adverse outcome or death</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adverse respiratory outcome (overall)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RDS</td>
<td>4.0</td>
<td>3.5</td>
<td>4.5</td>
</tr>
<tr>
<td>TTN</td>
<td>2.0</td>
<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Admission to NICU</td>
<td>1.5</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>Newborn Sepsis (suspected or proven)</td>
<td>3.0</td>
<td>2.5</td>
<td>3.5</td>
</tr>
<tr>
<td>Treated hypoglycemia</td>
<td>2.0</td>
<td>1.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Hospitalization &gt; 5 days</td>
<td>1.0</td>
<td>0.5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Tita AT, et al, NEJM 2009;360:111

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March of Dimes
New Concept: U-Shaped Curve for near-term Neonatal Outcomes

- Neonatal outcomes at 37 and 38 weeks are very similar (or worse) than those at 41 and 42 weeks...
- Best outcomes are at 39 and 40 weeks!
NICU Admissions By Weeks Gestation Deliveries Without Complications, 2000-2003


March of Dimes
RDS By Weeks Gestation
Deliveries Without Complications, 2000-2003


CMQCC

March of Dimes
Ventilator Usage By Weeks Gestation Deliveries Without Complications, 2000-2003


CMQCC  March of Dimes
Timing of Fetal Brain Development

- Cortex volume increases by 50% between 34 and 40 weeks gestation. (Adams Chapman, 2008)
- Brain volume increases at rate of 15 mL/week between 29 and 41 weeks gestation.
- A 5-fold increase in myelinated white matter occurs between 35-41 wks gestation.
- Frontal lobes are the last to develop, therefore the most vulnerable.

Cerebral Palsy among Term and Post-term Births

CP is 2.3x higher at 37wks and 1.5x higher at 38 wks than at 39-41 wks

Moster et al. JAMA 2010;304:976-982.

CMQCC March of Dimes
Mean IQ Scores in 6 Year Old Children from Healthy Term Pregnancies


CMQCC March of Dimes
Early Term and Late Preterm Births Associated with Poorer School Performance at Age 5 Years: a Cohort Study

- 7644 children were assessed at the end of their first school year by the foundation stage profile.
- The relative risk of not reaching a good level of overall achievement increased as gestational age decreased.
- RR of 1.05 in early term (37-39 weeks) and 1.12 in late preterm (34-37)

Arch Dis Child Fetal Neonatal Ed 2012; 97: F167-163
Caveats on CNS Outcomes...

- Best outcomes are at 40 weeks.
- Note that these studies are associations and can **NOT** show causation.
- Nonetheless, the onus is on us to show that earlier birth is better...
Maternal Morbidity Associated with Labor Induction

- Women who delivered singletons at 37-42 weeks with no pregnancy complications.
- N = 1,601,253 deliveries in Canada from 2003-2010 (None from Quebec)
- Women who were induced were compared to similar women treated expectantly
- Labor induction rates:
  - 22.5% in US (2007)
  - 22.3 % in Canada (2008)
  - 22.8% for births in this study
- Morbidities reviewed included:
  - PPH with blood transfusion
  - Venous thromboembolism (VTE)
  - Obstetric shock
  - Intensive care unit admission
  - PP sepsis
  - Uterine rupture during labor
Maternal Morbidity Study Results

- Significantly increased risk of:
  - Severe PPH at 38, 39 & 40 weeks
  - Puerperal sepsis at 38 & 39 weeks
  - VTE at 37 & 38 weeks

- No increased risk of:
  - PP ICU admissions or OB shock at 39-42 weeks
  - Uterine rupture at any gestational age

- Absolute increase in rates was small and the number needed to harm was large (example - 1270 for PPH at 38 weeks)

- Conclusions:
  - Labor induction can have serious adverse effects and should be reserved for situations where medically indicated
  - Induction justified when benefits of delivery outweigh fetal/maternal risks associated with expectant management
  - These adverse events contribute significantly to population’s morbidity.

BARRIERS TO IMPLEMENTATION
While many hospitals are off to a good start on this project, some have encountered barriers...

1. Pressure from patients
2. Physician resistance
3. Data collection
4. Resource limitation
Patient’s Requests/Desires = Pressure

- I’m so very tired of being pregnant.
- My back is killing me; I’m so tired,; My feet are swollen by the afternoon.
- Mother/sister/friend has come to be with me for/after delivery (from a long way away; has scheduled flight home).
- My husband/partner is scheduled for military deployment (at times can be deferred; need to investigate).
- I’ve already stopped working because I was tired and only have __ weeks of maternity leave before I need to return to work.
- My friends had their babies this early and it was no problem for them.
- My last baby was born at 36 weeks and he/she is fine.
- My husband/partner is tired of me being pregnant and wants this to be over now.
- I live an hour away from the hospital; I/we are afraid I will deliver at home or in the car.
- I want you to deliver my baby. When are you on call?
The Gestational Age that Women Considered it “Safe to Deliver”


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March of Dimes
If your pregnancy is healthy, it’s best if your baby is born at 40 weeks.  

A baby’s brain at 35 weeks weighs only two-thirds of what it will weigh at 40 weeks.

- In the last six weeks of pregnancy, your baby’s brain adds connections needed for balance, coordination, learning and social functioning. During this time, the size of your baby’s brain almost doubles.
- Babies born early have more learning and behavior problems in childhood than babies born at 40 weeks.
- Babies born early are more likely to have feeding problems because they can’t coordinate sucking, swallowing and breathing as well as full-term babies.
- Babies born early are more likely to have breathing problems, like apnea. Apnea is when a baby stops breathing.
- Babies born early are more likely to die of sudden infant death syndrome (SIDS). SIDS is when a baby dies suddenly and unexpectedly, often during sleep.
Physician Resistance

Drivers:

- Physician autonomy (philosophy)
- Physician concern/fear
- Structure of the medical staff (rotating Chairs)
- Low level of administrative commitment
- Sign of the times
  (high anxiety about the future and change)
Diffusion of Innovation

- The classic study analyzing the adoption of change (new ideas or practices) among individuals and organizations.
- Synthesis of research from over 500 diffusion studies.
- Many of the studies focused on the adoption of agricultural or medical practices, recently applied to technology adoption.
- Below is his categorization of how people adopt change.

Adopter characterization on the basis of innovativeness

Acceptance of a QI project

Diffusion of Innovation

Convincible: Respond to data provided
Offer little opposition

Followers: Will agree if a majority accepts
Sometimes fickle

Die-hards: “I know best” (autonomy)
Refuse all oversight
Can be very resistant

QI Leaders: Enthusiastic
Know the literature
Champions for change

In a department, proportion varies from 0 to ~20%

Adopter characterization on the basis of innovativeness

What kind of Resistance is “Out There”? 

1. Autonomy

- “I am a Board Certified OB/GYN, I can do what I want.” “No one should ever look over my shoulder.”
- Resistance to “Cookbook” medicine
- Holds outdated thinking BUT is reflective of underlying anxiety about loss of control and autonomy
- Lack of understanding that standardization of care improves patient outcomes
What kind of Resistance is “Out There”?  
2. Chair Uncertainty

- “As Chair, I am uncomfortable with telling another physician what she can or can not do with her patient.” “Am I responsible if something bad happens to the patient if she is not delivered according to the private doctor’s desires?” “What will my malpractice carrier say?”

- Of note, most of the “Hard Stop” reports in the literature have been where there is a hospital-based physician involved who can “take the heat”.
What kind of Resistance is “Out There”?  
3. Lack of Consensus

● In general, physicians like to use logic and literature to build a consensus (and sometimes “shame” for being an outlier) rather than directly forcing a doctor to follow a rule.

● Physicians usually open to discuss ACOG standards –
  ● Committee Opinion #526 – Standardization of Practice to Improve Outcomes, May, 2012
  ● Committee Opinion # 561 – Nonmedically Indicated Early-Term Deliveries, April, 2013

● So then what should happen if a doctor absolutely refuses to follow the guideline?
What about Absolute Refusers? (1)

- Assuming that your physicians are not working within an employment model, there are several options:
  - It is important to not allow the few physicians to affect the majority. Physician level data can be very persuasive (but more work)—it can show how much an outlier the one or two doctors are. Accurate data is critical; if the data is wrong, everyone loses credibility.
  - A few months of using “Scouts’ Honor” (“Soft stop”), the entire department often can be shown how a few can spoil the outcomes and stats for all (unless they really are good Scouts!!)
  - At that point, it is usually an easier sell for a hard stop
What about Absolute Refusers? (2)

- Even if the department Chair/leaders does not feel strong enough for a clinical standard/hard stop, they can increase the “hassle factor”:
  - Require every physician write a full note in the chart describing why they took this action
  - Require that all patients sign a full consent that describes the neonatal risks before scheduling a NMI induction/Cesarean < 39wks
  - Have all NMI cases < 39 weeks reviewed in Perinatal Committee, require formal letters of explanation and place the review/results into their Medical Staff file
- The department Chair can use physician–level data on this measure for OPPE (JC requirement)
Accurate OB data necessary for quality and patient safety initiatives
  - Difficult to be taken seriously if data is flawed, not timely or inaccurate
Clinical staff must be trained in:
  - documentation and coding systems
  - reporting systems (Midas) with ability for OFI repairs
  - data collection, analysis, and reporting methods
  - regulatory requirements and quality initiatives
Data now collected/recorded differently, with automated reporting system data from date of discharge (not delivery)
Coding changing from ICD-9 to ICD-10 methodology on 10/1/14
  - Limited number of maternity codes in ICD-9
  - Much expanded list for ICD-10, requiring education of everyone
  - Potential to be able to “drill-down” more effectively
Data Collection and Resource Allocation

- Budgetary dollars needed for personnel and time for:
  - Meetings (interdisciplinary, task force, nursing and medical staff)
  - Education for all staff re: initiatives, coding, pregnancy dating, national standards
  - Presentations re: above, OB quality data and outcomes
  - Chart audits
  - Data analysis
  - Opportunity for Improvement (OFI) - 30 days post discharge per TJC data submission modality
Nurses-Important Roles In Quality Improvement

- Identify quality improvement initiatives (TJC Perinatal Core Measures, system wide, state wide standards/collaboratives)
- Read and follow evidence based standards (AWHONN, ACOG, AAP, ACNM, etc.)
- Assume enhanced role as patient care coordinator and expert in quality and patient safety initiatives
- Communicate effectively with the woman, her family and providers
- Collaborate with physicians to develop standardized patient care processes (protocols, orders, procedures, etc)
- Initiate intrapartum interventions shown to improve maternal and/or neonatal outcomes
- Participate in data collection and/or quality reviews
There are risks of early term deliveries and benefits of delaying delivery beyond 39 weeks.

There are many successful hospital initiatives to reduce deliveries before 39 weeks which have common themes.

Use tools!!
Elimination of Non-medically Indicated (Elective) Deliveries Prior to 39 Weeks

**Funding**

- Federal Title V block grant from the California Department of Public Health; Maternal, Child and Adolescent Health Division
- California Maternal Quality Care Collaborative
- March of Dimes
## Change in Rates of Elective Deliveries in Big 5 (CA, TX, IL, FLA, NY) Hospitals Implementing the MOD/CMQCC Toolkit (2011)

<table>
<thead>
<tr>
<th>Q1 Elect. Del Rate (range)</th>
<th># of Hosp.</th>
<th>Elect. Del Rate Q1</th>
<th>Elect. Del Rate Q4</th>
<th>% Change</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9%</td>
<td>7</td>
<td>3.5</td>
<td>3.3</td>
<td>-5.7%</td>
<td>0.89</td>
</tr>
<tr>
<td>10-19</td>
<td>6</td>
<td>14.0</td>
<td>4.7</td>
<td>-66.4%</td>
<td>0.015</td>
</tr>
<tr>
<td>20-39</td>
<td>6</td>
<td>26.9</td>
<td>6.4</td>
<td>-76.2%</td>
<td>0.001</td>
</tr>
<tr>
<td>40-69</td>
<td>5</td>
<td>48.8</td>
<td>14.7</td>
<td>-69.9%</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

The Sutter Medical Center, Sacramento Experience

SMCS: A not for profit, tertiary regional medical center
• 40+ OBs, 4 MFMa,
• 5,500 births/year,
• 55 bed NICU,
• 22 bed High Risk Antepartum unit
Why SMCS Chose to Address Elective Deliveries

• Elective deliveries prior to 39 weeks are associated with:
  • Adverse health outcomes for the newborn
  • Higher cesarean section rates for mom

• Elective deliveries prior to 39 weeks are:
  • A measure in TJC Perinatal Bundle
  • A Sutter Health OB Quality measure
  • An NQF and Leapfrog quality measure
  • The OB quality measure for Intermountain HEN

• Insurance companies (Aetna, Blue Cross) are assessing hospital elective delivery < 39 weeks.
The Beginning, 4Q 2010

- Joined the March of Dimes Big 5 Elective Delivery Less Than 39 Week Collaborative, (CA, TX, NY, IL, FL)
  - To implement CMQCC Elective Delivery Toolkit
  - To share data/results, best practices/ experiences
- Identified key members of a task force to:
  - Meet biweekly
  - Establish scheduling /review processes
  - Review cases that did not meet criteria
- Collected baseline data from 4Q 2010 and set targets for 2011 (Goal 10% - Stretch goal 7%)
- Began utilizing TJC criteria, as well as MOD, for internal SMCS OB Quality Dashboard end of 1Q 2011
Sutter Medical Center, Sacramento

- Mary Campbell Bliss, RN, MS, CNS, Perinatal Clinical Nurse Specialist
- Kelli Sattelmayer, RN, MSN, Assistant Nurse Manager, L&D
- Amy Johnson, RN, BSN, Clinical Data Coordinator
- Dr. J. C. Veille, MFM, SMCS Inpatient Medical Director
- Dr. Laurie Gregg, OB/GYN Department Past Chair, Chair SMCS Professional Practice Evaluation Committee

Clockwise from top right: Gregg, Sattelmayer, Bliss, Johnson
How We Began

- Recruited physician champions for task force
- Identified incomplete MD delivery documentation as issue
- Established required elements of electronic OB delivery record
  - Approval by OB Admin Comm. after HIS chart audits
  - New process to identify MD re: incomplete documentation
- Committed ourselves to following goals:
  - Accurate data on elective deliveries < 39 weeks
  - Med staff involvement/approvals of processes
  - Timely feedback to individual physician re: cases
  - Consistent data for med staff review
  - Continual process improvement
How We Began (con’t)

- Developed/approved scheduling policy (soft stop pilot)
  - Moved to a hard stop as did not work to standardize practice/decrease elective deliveries
- Set up process for review of questionable scheduled cases (inductions and C/S deliveries)
- Conducted med staff educational sessions on:
  - Elective deliveries < 39 weeks scheduling policy
  - Definitions of “Active labor” for repeat C/S patients appearing in L&D with contractions
  - Documentation and Coding issues
Simplest Measure to Use for QI for Elective Deliveries <39 weeks

<table>
<thead>
<tr>
<th>Numerator</th>
<th>Internal QI Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases without any DOCUMENTED medical or OB indication and not in Active Labor or with ROM</td>
<td></td>
</tr>
</tbody>
</table>

| Denominator                                    | 37+0 to 38+6 births with scheduled induction or CS                                 |

| Benchmark                                      | ?? <3%                                                                           |

- Can start with L&D scheduling logbooks and then do chart reviews for all those under 39 weeks
- Collect (and post on unit) monthly
- Additional data (prn): indications, physicians, baby outcomes, adequacy of dating and diagnoses
# Induction (37 weeks – 40.6 weeks) Audit Form

<table>
<thead>
<tr>
<th>MR #</th>
<th>Weeks Gest</th>
<th>RBOW &gt;24 hours</th>
<th>Chorio.</th>
<th>Pre-eclampsia*</th>
<th>Abnl. Fetal Testing V</th>
<th>IUGR</th>
<th>Severe Oligo.</th>
<th>Other</th>
<th>Not Medically Indicated Reason</th>
<th>MD/CNM</th>
</tr>
</thead>
</table>

* Preeclampsia – 140/90 x 2 4-6 hours apart with/without proteinuria

V Abnormal Fetal Testing – decreased fetal movement, abnormal NST/CST, AFI <5 cm

8/2/06
“Non-Medical” Reasons* for Inductions Less Than 39 weeks

- Maternal intolerance to late pregnancy
  - Excess edema, backache, indigestion, insomnia
- Prior labor complication
- Prior shoulder dystocia
- Suspected fetal macrosomia
- History of rapid labor/lives far away
- Possible lower risk for mom or baby
  - Lower stillbirth rate, less macrosomia, less preeclampsia

* Not evidenced-based to show maternal or neonatal benefit
SUTTER MEMORIAL HOSPITAL
SCHEDULING FORM FOR INDUCTIONS AND CESAREAN SECTIONS
Call 916-235-0116 or Fax 916-454-6271  Scheduler: Monday – Friday 0900-1700

Name (Last, First) _______________________________ G/P ___/___ DOB ________
Scheduling OB/Surgeon __________________________ Patient Phone #: __________________
Type of Delivery Planned: □ Induction □ C/S Desired Date: ______________________

DATING
Best EDC: ___________ Gest. Age at Induction or C/S: ___________ (week + day)
Known LMP: ________ □ Unsure/unknown LMP
EDC Confirmed on: □ US <10-20 wks □ US 20-28 wks □ US ≥ 28 wks
1st US: date/gestation __________________________

INDICATION(S)
Obstetric and Medical Condition (OK if <39 weeks) (needed to deliver <39 wks dependent on severity of condition)

<table>
<thead>
<tr>
<th>PREGNANCY</th>
<th>FETAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Cholestasis of PG</td>
<td>□ Fetal Damage, suspected</td>
</tr>
<tr>
<td>□ Chorioamnionitis</td>
<td>□ Fetal Denise (current PG)</td>
</tr>
<tr>
<td>□ Diabetes, Type I/II</td>
<td>□ Fetal Denise (post PG)</td>
</tr>
<tr>
<td>□ Diabetes, GDM</td>
<td>□ Fetal Malformation</td>
</tr>
<tr>
<td>□ HTN, Chronic</td>
<td>□ Isomnization</td>
</tr>
<tr>
<td>□ HTN, Gestational</td>
<td>□ Multiples w/complications</td>
</tr>
<tr>
<td>□ HTN, Preeclampsia</td>
<td>□ Non-reassuring fetal status</td>
</tr>
<tr>
<td>□ IUGR</td>
<td>□ Unstable lie</td>
</tr>
<tr>
<td>□ Oligohydramnios</td>
<td>□ Coagulation disorder</td>
</tr>
<tr>
<td>□ Polyhydramnios</td>
<td>□ Heart disease</td>
</tr>
<tr>
<td>□ Placenta: Abruption</td>
<td>□ HIV infection</td>
</tr>
<tr>
<td>□ Placenta: Previa</td>
<td>□ Liver disorder</td>
</tr>
<tr>
<td>□ ROM, Premature</td>
<td>□ Renal disease</td>
</tr>
<tr>
<td>□ ROM, Prolonged</td>
<td>□ Prior Classical/T-incision</td>
</tr>
<tr>
<td>□ OTHER Reason not listed above: (requires review)</td>
<td>□ Prior Myomectomy</td>
</tr>
</tbody>
</table>

Post-Dates: □ ≥41+0 wks
Scheduled C/S: □ ≥39 wks
□ Prior C/S
□ Breach presentation
□ Other malpresentation
□ Patient choice
□ Other: ____________
□ Twins w/c complications
(≥ ≥38 wks)
Elective Induction: □ ≥39 wks
□ Patient choice/social
□ Macrosomia
□ Distance
□ Other: ____________

OTHER Reason not listed above: (requires review)
Reviewed and agrees w/plans: ____________________________ (Reviewer’s name)
Description/Details: ________________________________

L&D Scheduler:
Updated Prenatal & evidence received in L&D: □ Yes
Referred for review: □ Yes □ No
Scheduled by: __________________ Procedure Date/Time __________________

05/23/12

NOT A PART OF THE PERMANENT MEDICAL RECORD

52
Complete information on schedule form. Leave no blanks. Request updated prenatals be faxed now.

Place original form in Scheduling Binder.

Greater than 39 weeks confirmed: Place on schedule

Medical Indication Less than 39 weeks with faxed documentation: Place on schedule

Confirm date/time available in book.

Complete information on schedule form. Leave no blanks. Request updated prenatals be faxed now.

Enter information in scheduling book after receipt of updated prenatal

Place original form in Scheduling Binder.

Elective less than 39 weeks OR unknown LMP AND US greater than 20 weeks: Do not schedule.

Notify MD/staff of another MD review for all elective cases less than 39 weeks OR unknown LMP AND US greater than 20 weeks. Request fax with updated patient prenatal.

Notify MD/staff that the procedure will NOT be scheduled at this time

Complete information on schedule form. Leave no blanks.

Photocopy prenatals and all relevant faxed updates

Place photocopies of prenatals, updates, and scheduling form in binder for MD review.

Return call to office with MD response: schedule, amniocentesis, or wait for labor. If schedule or amniocentesis, follow arrow.

MD or office staff places phone call to SMH Scheduler, 0845-1715

SMCS
Scheduling Induction or C/S Algorithm
Next Steps

- Expanded scope of existing Perinatal Data Committee (PDC) to address data collection/operational issues identified by the < 39 Week Elective Delivery Task Force

- Current members included:
  - Clinical Data Coordinator, Lead of PDC
  - Perinatal CNS
  - QS/CPN Clinical Managers (electronic L&D charting)
  - SOC Data entry supervisor (electronic data collection)

- Expanded membership to include:
  - HIS supervisor
  - Coding supervisor
Early Identified Issues

• TJC ICD-9 codes were not inclusive of all medical indications for delivery less than 39 weeks.
  • Prior uterine surgery (classical C/S or myomectomy)
  • Cholestasis (needed to state intra-hepatic cholestasis or not coded correctly)
• Repeat C/S historically done at 38 weeks
  • Documentation of active labor (≥ 2 cm or cervical change) required to deliver less than 39 weeks
• Physicians questioned some data since not applicable to acknowledged best practice
Strategies for Improvement

- Educated physicians re:
  - Scheduling process changes
  - Coding requirements – how to document
- Offered MOD educational materials for physician offices (Why Last Weeks of Pregnancy Counts)
- Divided cases upon review into avoidable or unavoidable cases
- Sent only avoidable cases for peer review/posting
- Developed streamlined process to ID and correct Opportunity for Improvement (OFI) cases
SMCS Early Elective Deliveries
37+0 - <39+0 week Singleton as defined by TJC PC-01

Elective Delivery Rate
Threshold
TARGET
Linear (Elective Delivery Rate)
OB Medical Staff Involvement

- Strong commitment by OB Dept. Chair and Women’s Medical Director
- Input and approval of all processes/policies (OB Admin)
- Consistent updates of rate of elective deliveries less than 39 weeks at all OB dept. meetings
- Task force meetings open to all physicians/nursing staff
- Review of avoidable cases at OB QI meeting (first blinded, now unblinded cases)
- On-going identification of issues and solutions
- Frequent review re: identified issues/solutions at OB department and nursing staff meetings
Became a new Hospital Quality Committee (1 of 11 committees)
- Was first OB quality measure to be reported as a house-wide measure
- Led by Medical Director and W&C Administrator
- Reports provided quarterly to Hospital Council

Team Goal
- Decrease elective deliveries before 39 weeks rate to ≤ 5 percent

Stretch Goal
- Decrease elective deliveries before 39 weeks rate to ≤ 4.5 percent

Team Members
Dr. Bill Gilbert, Dr. Liz Gonzalez, Dr. Laurie Gregg, Mary Campbell Bliss, CNS, Amy Johnson, R.N., Karen Kiyomura, R.N., Kelli Sattelmayer, R.N., Karen Semkiw, R.N., Beth Stephens-Hennessy, CNS, W&C Administrator
2012 Agenda

- Reviewed our accomplishments from 2011 (Big 5 participation)
- Identified opportunities for improvement this year
- Created a Strategy Grid with 3 major focus areas
  - Education (staff and patients)
  - Operations
  - Data Analysis/Reporting
- Reviewed/updated q month, identifying under each area:
  - Strategy
  - Priority
  - Responsible person
  - Due date
  - Status- with future actions/date
Opportunities for 2012

• Continue education of physicians and patients

• Refine our OFI process with concurrent review/feedback

• Implement procedure for assigning EDD for patients with late ultrasounds

• Standardize scheduling process for patients with late ultrasound dating

• Continue consistent review of elective deliveries less than 39 weeks by medical leadership

• Review avoidable cases in OB QI (blinded 1-2Q, un-blinded 3-4Q)
<table>
<thead>
<tr>
<th>Strategy</th>
<th>Priority</th>
<th>Tactics</th>
<th>Person(s) Responsible</th>
<th>Due Date</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EDUCATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educate physicians re: new scheduling procedure</td>
<td>High</td>
<td>Dr. Gilbert</td>
<td>OB Dept. mtg 6/4/12</td>
<td>Completed</td>
<td></td>
</tr>
<tr>
<td>Educate physicians on proper documentation re: &lt;39 week elective cases</td>
<td>Mod.</td>
<td>Dr. Gilbert</td>
<td>&lt;39 Week Elective Delivery Quality Comm. 4/25, OB Dept. 6/4/12</td>
<td>Completed 6/12</td>
<td></td>
</tr>
<tr>
<td>Review and provide education for patients re: risks of deliveries &lt;39 weeks for physicians’ offices (SH is preparing information; MOD already provides it – not implemented nor endorsed by OB department).</td>
<td>Low</td>
<td>Mary CB and Committee members</td>
<td>7/31/12</td>
<td>Mary to check website for information re: elective delivery less than 39 wks. Will see if link to MOD can be on consumer website. 8/15/12</td>
<td>10/3/12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Review and offer MOD educational materials at &lt;39 week educational session 8/12 8/31/12</td>
<td>Sponsor and promote ACOG/MOD &lt;39 week regional training meeting 10/3. 7/11/12 Working with CBE supervisor on &lt;39 week educational materials to be included in prenatal class.</td>
</tr>
<tr>
<td>Target specific physicians/groups for further education re: process/rationale.</td>
<td>High</td>
<td>Dr. Gilbert</td>
<td>6/30/12</td>
<td>Birthing Project dating process in place; no change Karen to connect with The Efforts re: current dating practices; inform re: best practice of dating.</td>
<td></td>
</tr>
<tr>
<td>Strategy</td>
<td>Priority</td>
<td>Tactics</td>
<td>Person(s) Responsible</td>
<td>Due Date</td>
<td>Status</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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<td>--------------------------------------------------</td>
</tr>
<tr>
<td>Modify scheduling policy to reflect new L&amp;D scheduler position and procedure.</td>
<td>High</td>
<td>Kelli S., Karen K.</td>
<td></td>
<td>6/30/12</td>
<td>Emailed dating algorithm to department members. Need to update OB scheduling policy and take to August OB Admin. meeting.</td>
</tr>
<tr>
<td>Codify procedure for assigning EDC for patients with late ultrasounds.</td>
<td>High</td>
<td>Drs. Gregg, Gonzalez and Gilbert</td>
<td></td>
<td>5/31/12</td>
<td>Completed 5/23/12</td>
</tr>
<tr>
<td>Operationalize dating criteria</td>
<td>High</td>
<td>Same as above</td>
<td></td>
<td>6/18/12</td>
<td>To OB Admin 8/27/12</td>
</tr>
<tr>
<td>Establish procedure (and physicians) for consistent review of identified &lt;39 week scheduled deliveries</td>
<td>High</td>
<td>Drs. Gilbert, Gregg and Gonzalez</td>
<td></td>
<td>5/31/12</td>
<td>Completed 5/23/12</td>
</tr>
<tr>
<td><strong>DATA ANALYSIS/REPORTING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue to audit and report any elective delivery &lt;39 week to the &lt;39 Week Elective Del Quality Team, OB Admin and OB QI.</td>
<td>High</td>
<td>Amy Johnson, Mary CB</td>
<td></td>
<td>3/31/12</td>
<td>Completed; avoidable case review every month Avoidable cases also presented at OB QI Comm.</td>
</tr>
<tr>
<td>Report avoidable cases publically every month physicians.</td>
<td>High</td>
<td>Amy J., Dr. Gilbert</td>
<td></td>
<td>4/30/12</td>
<td>1st/2nd Q post blinded in MD lounge/committee meetings; 3Q un-blinded. Last avoidable cases 2/12</td>
</tr>
</tbody>
</table>
# 1st Quarter 2012

**Avoideable/Elective Deliveries less than 39 weeks**

*per dating, coding and/or labor status*

<table>
<thead>
<tr>
<th>GA</th>
<th>Del Date</th>
<th>DC Date</th>
<th>Adm OB</th>
<th>Del OB</th>
<th>Elective Reason</th>
<th>Avoidable</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>6/7</td>
<td>1/17</td>
<td>1/20</td>
<td>Z</td>
<td>Z</td>
<td>Y</td>
<td>Not in labor/no cervical change</td>
</tr>
<tr>
<td>38</td>
<td>6/7</td>
<td>2/17</td>
<td>2/20</td>
<td>WW</td>
<td>WW</td>
<td>Y</td>
<td>Not in labor/no cervical change</td>
</tr>
<tr>
<td>38</td>
<td>6/7</td>
<td>2/21</td>
<td>2/26</td>
<td>BL</td>
<td>BL</td>
<td>Y</td>
<td>FT/Thick/High; no further exam to show cervical change</td>
</tr>
<tr>
<td>38</td>
<td>6/7</td>
<td>2/24</td>
<td>2/26</td>
<td>CC</td>
<td>CC</td>
<td>Y</td>
<td>Not in labor/no cervical change</td>
</tr>
</tbody>
</table>
Dating of Pregnancy Issues

- Inconsistent dating of pregnancy still an ongoing issue
- Many ultrasounds completed on some patients
  - Issues with which to use (OB vs MFM)
  - Issues with no EDD identified as BEST EDD
- Group of patients late to care (US > 20 weeks)
  - No standard for how to date these pregnancies
- Dating continues to be major documentation issue
  - EDD given to scheduler but different one used by RN
  - Case falls out as elective < 39 weeks
True Sample Case - Dating Complexity

1st encounter: 1/10/12  LMP reported 11/21/11 (uncertain)  
US done = 6 wks/3 days  
EDD 8/27  
EDD 09/01

2nd encounter: 1/31/12   US done = 8 wks/4 days  
EDD 09/07

3rd encounter: 03/28/12  reports LMP 11/22/11 and certain  
Final EDD 09/07

4th encounter: 4/25/12   US done = 22 wks/1 day  
EDD 08/28

Prenatal records July/Aug.  “Final EDD 09/07 corrected to 09/01 based on 1st US”

Pre-op exam: 08/20/12  
EDD reported as 09/01

08/24/12 : Scheduled C/S for breech  
EDD used to schedule – 08/28/12

How to assess whether this case falls out??  Less than or greater than 39 weeks??
BEST EDD Process

- Task force conducted research into best dating practices
- Identified ACOG Practice Bulletin #101 –
  - Brought to and approved by OB Admin.
  - Used as basis for Best EDD
- Developed late US algorithm for scheduling cases
- Obtained med staff approval at OB Admin Committee
- Began implementation of process changes
  - For use by scheduler and L&D RN
- Revised prenatal forms to include BEST EDD
Proper Dating Criteria for Pregnancies at various Gestational Ages

- With a **certain or known** LMP, the EDC will not change unless the ultrasound dating is different from that LMP as established in the Table below.
- For **Uncertain LMP** use ultrasound dating for EDC.

<table>
<thead>
<tr>
<th>Ultrasound Gestational Age</th>
<th>Keep LMP dating</th>
<th>Change to US EDC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRL &lt; 13 weeks</td>
<td>≤ 6 days</td>
<td>7 days or greater</td>
</tr>
<tr>
<td>Ultrasound 13 – &lt; 20 weeks</td>
<td>≤ 9 days</td>
<td>10 days or greater</td>
</tr>
<tr>
<td>Ave Measurements 20 weeks to 28 weeks</td>
<td>≤ 13 days</td>
<td>14 days or greater</td>
</tr>
<tr>
<td>&gt; 28 weeks</td>
<td>≤ 20 days</td>
<td>21 days or greater</td>
</tr>
</tbody>
</table>
New Algorithm for Scheduling
Scheduling Issues – Rapid Cycle Process Improvement

- Identified physician concerns re: complexity of current scheduling process
- Reviewed/found extra forms from old process still required
- Recognized that some physicians not familiar with pre-printed cervical ripening orders
- Established required information with task force
- Deleted the old form and created new scheduling packet
- Brought new process/forms to OB Admin for approval
- Took packets to all OB offices and sent forms electronically
Future Issues - 2013

- Elective deliveries less than 39 weeks increasingly becoming a publically reported OB quality measure
- TJC requirements/criteria change frequently
  - Need to keep alert to changes and how affect processes
- CMS has begun to require hospital reporting in July/Aug. 2013
- OB hospital leadership (medical, nursing, admin) need to:
  - Expand knowledge of coding/documentation
  - Collaborate with other disciplines to understand regulatory and coding language and processes
  - Investigate/ drill down into data for understanding of issues at the facility/system
The Joint Commission PC 01

- TJC released new measure specifications for Elective Deliveries (PC-01); effective 7/1/12
- Allow exclusion for: Prior Uterine Surgery
  - Prior classical C/S
  - Prior myomectomy
- There are no ICD 9 codes available so this field is manually abstracted
- It has been crucial to collaborate with coders for:
  - proper understanding/implementation
  - education of staff re: documentation/coding.
<table>
<thead>
<tr>
<th>ACOG: “Examples of maternal or fetal conditions that may be indications for induction of labor”¹¹</th>
<th>The Joint Commission: National Quality Core Measure PC-01-- Specifications for “Conditions justifying delivery &lt;39weeks”¹⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Abruptio placenta</td>
<td>• Placental abruption, placenta previa, unspecified antenatal hemorrhage</td>
</tr>
<tr>
<td>• Fetal demise</td>
<td>• Fetal demise, fetal demise in prior pregnancy</td>
</tr>
<tr>
<td>• Post-term pregnancy</td>
<td>• Post-term pregnancy</td>
</tr>
<tr>
<td>• Premature rupture of membranes</td>
<td>• Rupture of membranes prior to labor (term or preterm)</td>
</tr>
<tr>
<td>• Gestational hypertension, preeclampsia, eclampsia, chronic hypertension</td>
<td>• Gestational hypertension, preeclampsia, eclampsia, chronic hypertension</td>
</tr>
<tr>
<td>• Maternal medical conditions, e.g., diabetes, renal disease, chronic pulmonary disease, antiphospholipid syndrome</td>
<td>• Preexisting diabetes, gestational diabetes</td>
</tr>
<tr>
<td></td>
<td>• Renal disease</td>
</tr>
<tr>
<td></td>
<td>• Maternal coagulation defects in pregnancy (includes anti-phospholipid syndrome)</td>
</tr>
<tr>
<td></td>
<td>• Liver diseases (including cholestasis of pregnancy)</td>
</tr>
<tr>
<td></td>
<td>• Cardiovascular diseases (congenital and other)</td>
</tr>
<tr>
<td></td>
<td>• HIV infection</td>
</tr>
<tr>
<td>• Fetal compromise, e.g., severe Intrauterine Growth Restriction (IUGR), isoimmunization, oligohydramnios</td>
<td>• IUGR, oligohydramnios, polyhydramnios, fetal distress, abnormal fetal heart rate</td>
</tr>
<tr>
<td></td>
<td>• Isoimmunization (Rh and other), fetal-maternal hemorrhage</td>
</tr>
<tr>
<td></td>
<td>• Fetal malformation, chromosomal abnormality, or suspected fetal injury</td>
</tr>
<tr>
<td>Edition</td>
<td>Starting</td>
</tr>
<tr>
<td>--------</td>
<td>----------</td>
</tr>
<tr>
<td>2011B</td>
<td>4Q11</td>
</tr>
<tr>
<td>2011B</td>
<td>4Q11</td>
</tr>
<tr>
<td>2012B</td>
<td>3Q12</td>
</tr>
<tr>
<td>2013A</td>
<td>1Q13</td>
</tr>
<tr>
<td>2014A</td>
<td>1Q14</td>
</tr>
</tbody>
</table>
Hospitals To Report the Elective Delivery < 39 Weeks Measure

- Report data as an aggregated numerator, denominator, exclusion counts and total population using a web-based tool on Qnet
- 1Q 2013 cases to be reported July 1 – Aug 15, 2013

Strong Start Initiative, a program to help women have healthy deliveries, reports that ½ million infants are born premature in US each year. This trend has increased 36% over last 20 yrs.

- Relevant for 2 million Medicare beneficiaries 44 y/o and under
Implementation Recommendations

- Identify/engage physician champions
- Establish an interdisciplinary task force
- Review/embrace national standards and outcome measures
- Involve OB providers in all processes
- Continue expanding knowledge of coding/documentation requirements
- Set up concurrent OFI process to reflect current practice
- Involve staff nurses in process/validate their role in QI initiatives
- Collaborate with quality/data staff to provide current accurate data
- Drill down continuously into your data to define and understand specific issues
- Celebrate standardization, process changes and outcomes