Introduction to the Toolkit to Support Vaginal Birth and Reduce Primary Cesareans

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Funding for the development of this toolkit was provided by the California Health Care Foundation
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California Maternal Quality Care Collaborative (CMQCC)

- Multi-stakeholder organization established in 2006: providers, state agencies, public groups with focus on Maternal Care
- Hosts California Maternal Mortality Review Committee
- Sister organization with CPQCC (neonatal care)
- Developer of QI toolkits: Early Elective Delivery, OB Hemorrhage, Preeclampsia, CVD in Pregnancy, and First Cesarean Prevention
- Leads multiple QI Collaboratives (Hemorrhage, HTN)
- Established Maternal Data Center in 2011
Today’s Discussion

- Discuss the wide variation in risk adjusted CS rates
- Identify multiple reasons as to why we should care about CS rates
- Summarize key parts of The Toolkit: Readiness, Recognition, Response, Reporting—barriers, strategies and tools
- Recall pilot hospital success stories
- Identify areas to prioritize: What do we do first? (Implementation guide)
Let’s Begin with a Test:

You are about to give birth. Pregnancy has gone smoothly. The birth seems as if it will, too. It’s one baby, in the right position, full term, and you’ve never had a cesarean section — in other words, you’re at low risk for complications.

What’s likely to be the biggest influence on whether you will have a C-section?

(A) Your personal wishes.
(B) Your choice of hospital.
(C) Your baby’s weight.
(D) Your baby’s heart rate in labor.
(E) The progress of your labor.

Rosenberg T, NYT, Jan 19 2016
Cesarean Delivery Rates Vary Tenfold Among US Hospitals; Reducing Variation May Address Quality And Cost Issues

ABSTRACT Cesarean delivery is the most commonly performed surgical procedure in the United States, and cesarean rates are increasing. Working with 2009 data from 593 US hospitals nationwide, we found that cesarean rates varied tenfold across hospitals, from 7.1 percent to 69.9 percent. Even for women with lower-risk pregnancies, in which more limited variation might be expected, cesarean rates varied fifteenfold, from 2.4 percent to 36.5 percent. Thus, vast differences in practice patterns are likely to be driving the costly overuse of cesarean delivery in many US hospitals. Because Medicaid pays for nearly half of US births, government efforts to decrease variation are warranted. We focus on four promising directions for reducing these variations, including better coordinating maternity care, collecting and measuring more data, tying Medicaid payment to quality improvement, and enhancing patient-centered decision making through public reporting.
There is a Large Variation in Cesarean Rates Among California Hospitals

- **Range:** 15.6% - 75.8%
- **Median:** 31.4%
- **Mean:** 32.3%

But wait, you say, my hospital only takes care of high risk patients!!
Why focus on Nulliparous Term Singleton Vertex Cesarean Birth?
Why does the Toolkit Focus on NTSV Cesarean Rate?

- Nulliparity is a critical risk adjuster because it creates a standardized population that can be compared between providers, hospitals, states, etc.

- NTSV CS measure is already risk stratified.

- NTSV is special in that it technically represents the most favorable conditions for vaginal birth, but also the most difficult labor management.

- The NTSV population is the largest contributor to the recent rise in cesarean rates.

- The NTSV population exhibits the greatest variation for all sub-populations of cesarean births for both hospitals and providers.
“Still… My NTSV Patients are Higher Risk…”

- NTSV CS measure is already risk stratified
- However, African-American women continue to have higher NTSV cesarean rates than white women
- Age and BMI clearly impact an individual’s CS risk
- Formal risk-adjustment analysis using both age and BMI shows that over 2/3 hospitals realize less than 2% change
- Age and BMI effects may be provider dependent (more patience for obese women’s labor)
Effects of Maternal Age and BMI on Hospital NTSV CS Rates:

Green = Hospitals with NTSV CS Rate <25%
RED = Hospitals with NTSV CS Rate >35%

Every “red dot” (high NTSV CS rate hospital) has multiple “green dots” (low NTSV CS rate hospitals) directly adjacent with similar proportions of high maternal age and high BMI.
NTSV CS Rate Among CA Hospitals: 2014
(Nulliparous Term Singleton Vertex)

Range: 12%—70%
Median: 25.3%
Mean: 26.2%

40% of CA hospitals meet national target

National Target = 23.9%

Risk Adjustment did not reduce the variation

Large Variation = Improvement Opportunity
## What Indications Have Driven the RISE in CS?

<table>
<thead>
<tr>
<th>Cesarean Indication</th>
<th>Percent of the Increase in Primary Cesarean Rate Attributable to this Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cesarean Indication</strong></td>
<td><strong>Yale (2003 v. 2009)</strong> (Total: 26% to 36.5%)</td>
</tr>
<tr>
<td>Labor progress complications (CPD/FTP)</td>
<td>28%</td>
</tr>
<tr>
<td>Fetal Intolerance of Labor</td>
<td>32%</td>
</tr>
<tr>
<td>Breech/Malpresentation</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Multiple Gestation</td>
<td>16%</td>
</tr>
<tr>
<td>Various Obstetric and Medical Conditions</td>
<td>6%</td>
</tr>
<tr>
<td>Preeclampsia</td>
<td>10%</td>
</tr>
<tr>
<td>“Elective” (variously defined)</td>
<td>8% (Scheduled without “medical indication”)</td>
</tr>
<tr>
<td><strong>Kaiser SoCal (1991 v. 2008)</strong> (Primary: 12.5% to 20%) Focus: all primary singleton Cesareans</td>
<td>60%!</td>
</tr>
<tr>
<td>Fetal Intolerance of Labor</td>
<td>~24%</td>
</tr>
<tr>
<td>Breech/Malpresentation</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Multiple Gestation</td>
<td>Not available</td>
</tr>
<tr>
<td>Various Obstetric and Medical Conditions</td>
<td>20% (Did not separate preeclampsia from other complications)</td>
</tr>
<tr>
<td>Preeclampsia</td>
<td>18% (Those “without a charted indication”)</td>
</tr>
</tbody>
</table>

*CPD/FTP: Clinical Progress Delivery/First Push*
### What Indications Drive the VARIATION in CS?

<table>
<thead>
<tr>
<th>CS Indication</th>
<th>Proportion of Overall CS Rate</th>
<th>Proportion of Primary CS Rate</th>
<th>CS Rate for this Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeat (prior)</td>
<td>30-35%</td>
<td>---</td>
<td>90+%</td>
</tr>
<tr>
<td>“Abnormal Labor” (CPD/FTP)</td>
<td>25-30%</td>
<td>35-45%</td>
<td>Highly variable</td>
</tr>
<tr>
<td>Fetal Intolerance of labor</td>
<td>10-15%</td>
<td>15-20%</td>
<td>Highly variable</td>
</tr>
<tr>
<td>Breech/Transverse</td>
<td>10%</td>
<td>15-20%</td>
<td>98%</td>
</tr>
<tr>
<td>Multiple Gestation</td>
<td>5-9%</td>
<td>10-15%</td>
<td>60-80%</td>
</tr>
<tr>
<td>Other: Placenta Previa, Herpes, etc</td>
<td>~5%</td>
<td>~10%</td>
<td>90%</td>
</tr>
</tbody>
</table>
Importance of the First Birth

If a woman has a Cesarean birth in the first labor, over 90% of ALL subsequent births will be Cesarean births.

A classic example of path dependency

If a woman has a vaginal birth in the first labor, over 90% of ALL subsequent births will be vaginal births.
Why should we care about CS rates?
Why Should We Care?

- Rise in total CS rate without maternal or neonatal benefit
  - 6% in early 70’s
  - 20% in mid 80’s
  - 33% in 2010
  - Cerebral Palsy rates, neonatal seizure rates unchanged since 1980
50% rise in CS rates over a 10 year period

In CA and the US, cesareans account for 1/3 of all births

Cesarean is the most common hospital surgery in the US!

Osterman M et al, NVSR vol 63, num 6, Nov 2014
Cesarean: Maternal Risks

**Acute**
Common:
- Longer hospital stay
- Increased pain and fatigue
- Postpartum hemorrhage (transfusions ~2%)
- Slower return to normal activity and productivity
- Delayed or difficult breastfeeding

1/100 to 1/1000
- Anesthesia complications
- Wound infection
- Deep vein thrombosis

**Long Term & Subsequent Births**
1/100 to 1/1000
- Abnormal placentation (previas and accretas)
- Uterine rupture
- Surgical adhesions
- Bladder surgical injury
- Bowel surgical injury
- Bowel obstruction

We perform over 160,000 Cesareans every year in California
Maternal Psychological Risks

**ACUTE**
- Delayed and/or ineffective bonding with neonate
- Maternal anxiety

**LONGER TERM**
- Post traumatic stress disorder (PTSD)
- Postpartum anxiety and depression
Cesarean: Neonatal Risks

- Increased neonatal morbidity
  - Impaired neonatal respiratory function
  - Increased NICU admissions
  - Affects maternal-newborn interactions including breastfeeding
  - No reduction in cerebral palsy rates
The Cost... Another Important Reason to Reduce Unnecessary CS

California could save an estimated $80 to 441 million each year by reducing unnecessary Cesarean births.¹
Summary of Issues

- Extreme variation among hospitals
- Rapid rise of rates without neonatal or maternal benefits (indeed can have complications)
- Significant consequences for future pregnancies
- Monetary cost, combined with the human cost of unnecessary cesarean, undermines the ongoing nationwide effort to provide high value maternity care for all women

But, cesarean births are also life-saving and they have an absolute role in Obstetrics—making the message to patients: “They shouldn’t be taken lightly”
Why has Cesarean Birth Reduction been so Hard?

- Direct challenge to MD autonomy
- Complex issue with many contributing factors
- Timing just hasn’t been right
- Need for professional societies to lead the way
- Fear of liability is a big reason!
OB Quality Improvement and Safety Efforts Help to *Decrease* Liability

- Utilize evidence-based best practice protocols that follow national consensus (e.g. oxytocin)
- Utilize expert-vetted standardized approaches for labor and fetal heart rate abnormalities
- Communication techniques which engage the patient in “shared decision making” creates a strong deterrence to lawsuits
- Reducing primary cesareans, protects against post-cesarean complications and poor outcomes during future care
It takes a Village to Reduce Unnecessary Cesareans

- Insurers/Employers
- Public Advocates/Consumers
- Prof Orgs (Natl and Local)
- Public Policy/Medicaid
- Data-driven QI Projects
The CMQCC Toolkit

- Comprehensive, evidence-based “How-to Guide” to reduce primary cesarean delivery in the NTSV population
- Will be the resource foundation for the CA QI collaborative project
- The principles are generalizable to all women giving birth
- Released on the CMQCC website April 28, 2016
- Has a companion *Implementation Guide*
CMQCC Supporting Vaginal Birth Taskforce

**Writing Group**
- Obstetricians
- MFM
- Certified Nurse Midwives
- Registered Nurses
- Educators
- Doulas
- Hospital Leaders
- Public Health

**Review Group**
- ACOG leaders
- AWHONN leaders
- ACNM leaders
- SOAP (Society of Obstetric Anesthesia Providers) leaders
- California Hospital Association
- Medical Liability providers
- Several Hospital Systems

*Over 50 Contributors*
May 24, 2016

John Wachtel, MD
Chair: District IX
American Congress of Obstetricians and Gynecologists

Dear Dr. Wachtel:

In representing the American College of Obstetricians and Gynecologists (ACOG), we would like to congratulate you and all the contributors involved in the development of the CMQCC "Toolkit to Support Vaginal Birth and Reduce Primary Cesareans" and the plan for encouraging awareness and implementation.

We have had the honor to review this comprehensive toolkit and ACOG strongly supports its dissemination and use to address the efforts at reducing the primary Cesarean delivery rate.

This excellent resource, and the plan for encouraging awareness and implementation is unquestionably a commendable program to address this issue and should set a benchmark for achieving success in reducing the primary Cesarean delivery rate.

Sincerely,

Hal C. Lawrence III, MD
Executive Vice President and CEO

Christopher M. Zahn, MD
Vice President, Practice Activities
When using a toolkit, you don’t need to use every tool, you just need to pick the right ones for the job.
First and foremost, it should be understood that a labor support and cesarean reduction program seeks to reduce unnecessary cesarean births. The program’s charter must clearly recognize that timely and well-chosen cesareans are sometimes necessary to prevent avoidable fetal and maternal harm.
The Toolkit is Aligned with the ACOG/SMFM Consensus Statement and the AIM Patient Safety Bundle

- Readiness
- Recognition and Prevention
- Response to Every Labor Challenge
- Reporting

Transforming Maternity Care
A Toolkit to Support Vaginal Birth and Reduce Primary Cesareans
READINESS

Developing a maternity culture that values, and supports intended vaginal birth
Strategies to Improve Readiness

- Create a unit culture to support intended vaginal birth
- Improve access and quality to modern childbirth education
- Improved shared decision making at critical points
- Bridge provider knowledge and skills gap
- Payment reform: Transition from paying for volume to paying for value
Examples of Readiness Tools included in Toolkit

- Sources of best childbirth education tools
- Tools/policies/concepts of “mother friendly” hospital
- Approaches to shared decision making and training aspects
Sharing in decision making: The SHARE Model

S Seek
Seek the patient’s participation

H Help
Help her explore each option and the corresponding risks and benefits

A Assess
Assess what matters most to her most

R Reach
Reach a decision together and arrange for a follow up conversation

E Evaluate
Evaluate her decision (revisit the decision and assess whether it has been implemented as planned)

**PATIENT DECISION POINTS THAT IMPACT RISK OF CESAREAN**

<table>
<thead>
<tr>
<th>Decision Point</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choice of provider and/or facility for prenatal care and care at time of birth</td>
<td></td>
</tr>
<tr>
<td>Timing of admission to hospital (admission to labor and delivery while still in the latent/early phase is associated with an increased risk of cesarean)</td>
<td></td>
</tr>
<tr>
<td>Choice of fetal monitoring method (continuous monitoring is associated with an increased risk of cesarean)</td>
<td></td>
</tr>
<tr>
<td>Whether to have continuous labor support by a trained caregiver like a doula (continuous labor support improves chances of having a vaginal birth)</td>
<td></td>
</tr>
<tr>
<td>Induction of labor without medical indication</td>
<td></td>
</tr>
</tbody>
</table>
Birth Preferences Worksheet

- Collaborate with healthcare provider to determine birth preferences
- Tailor choices to what is available at each facility

Example available in the toolkit
## Tools for Part I of Toolkit - For Providers and Hospitals

<table>
<thead>
<tr>
<th>Strategy#</th>
<th>Name of Tool</th>
<th>CMQCC Tool</th>
<th>External Tool</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lamaze International Policy Brief - Evidence-Based Childbirth Education: A Key Strategy to Improve U.S. Childbirth Outcomes</td>
<td>•</td>
<td></td>
<td><a href="http://www.lamazeinternational.org/d/do/1787">http://www.lamazeinternational.org/d/do/1787</a></td>
</tr>
<tr>
<td>1</td>
<td>The Centering Healthcare Institute - Centering Pregnancy® Model</td>
<td>•</td>
<td></td>
<td><a href="https://www.centeringhealthcare.org/what-we-do/centering-pregnancy">https://www.centeringhealthcare.org/what-we-do/centering-pregnancy</a></td>
</tr>
<tr>
<td>2</td>
<td>CMQCC Birth Preferences Guide (Birth Plan)</td>
<td>•</td>
<td>Appendix E</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Informed Consent for Elective Cesarean (adapted with permission from Hoag Hospital)</td>
<td>•</td>
<td>Appendix I</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Health Care Incentives Improvement Institute - Prometheus Payment Implementation Toolkit</td>
<td>•</td>
<td></td>
<td><a href="http://www.hci3.org/prometheus_implementation_toolkit">http://www.hci3.org/prometheus_implementation_toolkit</a></td>
</tr>
<tr>
<td>5</td>
<td>Health Care Incentives Improvement Institute - Prometheus Payment Fact Sheet</td>
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<td><a href="http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2009/rwjf41603">http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2009/rwjf41603</a></td>
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<td>5</td>
<td>Center for Healthcare Quality and Payment Reform Slide Deck - How Payment Reform Can Lower Costs and Improve Quality (slide deck)</td>
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<td></td>
<td><a href="http://www.chqpr.org/downloads/MaternityCarePaymentReform2012.pdf">http://www.chqpr.org/downloads/MaternityCarePaymentReform2012.pdf</a></td>
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</tr>
</tbody>
</table>
What about women who request a Primary Cesarean Birth?

It is important to communicate early and often during the prenatal period to alleviate any fears related to incomplete information.

Fear of pain is a common concern. Work with her to identify good labor support personnel.

Provider guidance is critical. Different approaches and attitudes reflect different rates.

Incidence is less than 1%
RECOGNITION AND PREVENTION

Key Strategies for Supporting Intended Vaginal Birth
Strategies to Support Intended Vaginal Birth

- Implement policies that reduce routine intervention and support normal processes
- Implement early labor management and supportive care policies for the early labor period
- Utilize other labor support personnel (e.g. doulas)
- Improve supportive care overall (RN labor support, infrastructure/equipment)
- Utilize best practices for regional anesthesia
- Implement protocols for intermittent monitoring
- Implement protocols for modifiable conditions like HSV and breech position
Examples of Recognition/Prevention

Tools included in Toolkit

- Model policies for intermittent monitoring, freedom of movement, early labor support, etc.
- Recommendations and guidelines for supporting normal progress in labor
- Coping with labor algorithm
- Guidelines for working with doulas
- Patient education and decision guides

Over 30 tools/guides in this section alone
Quality Patient Care in Labor and Delivery: A Call to Action

“Pregnancy and birth are physiologic processes, unique for each woman, that usually proceed normally. Most women have normal conception, fetal growth, labor, and birth and require minimal-to-no intervention in the process.”
Why Support of Early Labor is Important

- Physiologic onset of labor is critical to the success in labor, and introduces moms and babies to protective hormonal pathways.

- Women admitted in early labor are more likely to have a cesarean and more likely to have routine interventions e.g. oxytocin even if not clinically necessary.

- Translation: Early labor at home. Let labor start on its own!
Tools and Recommendations for Early Labor Support included in the Toolkit

- Checklist/algorithm for spontaneous labor and recommendations for active labor admission policies
- Recommendations for latent labor support if admitted, and therapeutic rest as alternative to admission
- Patient education materials and specific guidance for partners and family members as to how to best support the woman in early labor
Safe Deliveries Roadmap

Advancing Safety for Mothers and Babies
A Roadmap from Pre-pregnancy to Postpartum

Topic 3b: Labor- First Stage: Consider Discharge Home or Further Observation

**Note:** For spontaneous labor only.

**Recommendations**

- Cervix 4-5 cm without change x 2 - 4 hours
- Less than 80% effacement
- Membranes intact
- Reactive NST/FHR category I (if uterine contractions present)
- Contractions less than 3/10 minutes
Many patient resources and decision aids for early labor
Provide Continuous Labor Support

- **Less likely to have a cesarean birth**
- Slightly shorter labor
- Improved patient satisfaction
- Less likely to need vac/forceps
- Less likely to use pain medication
- Better Apgar scores
Key Components of Labor Support

• Freedom of movement

• Techniques and tools to facilitate fetal rotation, flexion, and descent
  • Know what your labor beds can do
  • Birthing balls / peanut balls
  • Upright and ambulatory positioning
  • Nonpharmacologic comfort measures

• Intermittent monitoring, or telemetry if continuous monitoring is necessary
Key Components of a Supportive Physical Environment

- Low lighting and privacy
- Comfortable space with adequate room for movement and walking
- Adequate availability of non-pharmacologic coping tools such as tubs or showers, rocking chairs, birthing balls, squat bars, and peanut balls
- Freely available snacks with high nutritional value
Peanut Ball

- Decreased length of labor
- Decreased CS rate in patients with epidurals

Coping with Labor Algorithm

Cues you might see if woman is coping:
- States she is coping
- Rhythmic activity during contraction (Rocking, swaying)
- Focused inward
- Rhythmic breathing
- Able to relax between contractions
- Vocalization (moaning, counting, chanting)

Cues you might see if woman is NOT coping (May be seen in transition):
- States she is not coping
- Crying (May see with self-hypnosis)
- Sweaty
- Tremulous voice
- Thrashing, wincing, writhing
- Inability to focus or concentrate
- Clawing, biting
- Panicked activity during contractions
- Tense

Physiologic, Natural process of labor
- Patient desires pharmacological intervention
- Patient desires non-pharmacological intervention

Physical Environment
- Appropriate changes to environment PRN [S]
  - Mood [*]
  - Lighting []
  - Music [*]

Emotional/ Psychosocial
- One-on-One Support [S]
- Doula [S]
- Midwifery Care being "With Woman" [S]

Legend:
- [S] = Sufficient Evidence
- [L] = Limited Evidence
- [I] = Insufficient Evidence
- [*] = No Evidence & No Harm

Observe for cues on admission and throughout labor.
Assessment per protocol:
Ask: "How are you coping with your labor?"
• Every shift • PRN • At signs of change

Full size version in the toolkit
Published data indicate that one of the most effective tools to improve labor and delivery outcomes is the continuous presence of support personnel, such as a doula...Given that there are no associated measurable harms, this resource is probably underutilized.”

— ACOG/SMFM Obstetric Care Consensus on Safe Prevention of the Primary Cesarean Delivery (2014)
Implement Intermittent Monitoring for Low-risk Patients

Continuous monitoring:
- Increases the likelihood of cesarean
- Has not been shown to improve neonatal outcomes e.g. reduce rates of CP
- Restricts movement (and normal physiologic processes and coping)
- Potentially reduces nursing interaction/ labor support
**APPENDIX C: The Procedure of Fetal Monitoring**

1. **Intermittent Auscultation**
   a. Auscultation: When using auscultation as a mode of intermittent monitoring, a Doppler is used. FHR baseline should be established between contractions. Auscultation should be performed before, during and continued for one minute after the completion of a contraction. Maternal pulse to be determined immediately prior to and during auscultation. If maternal pulse and FHR cannot be distinguished from one another consider electronic monitoring and/or use of maternal pulse oximetry.
   b. Utilizing abdominal palpation, contraction frequency, duration and intensity will be assessed and documented with the same frequency as FHR.
RESPONSE

Management of Labor Abnormalities
Strategies for the Appropriate Management of Labor Abnormalities

- Create highly reliable teams and improve interdisciplinary communication
- Adopt standard definitions and approaches for labor and FHR abnormalities
- Utilize operative vaginal deliveries in appropriate cases
- Identify malposition and perform manual rotation
- Develop alternative coverage patterns such as hospitalist/midwives
- Develop systems that facilitate the safe transfer of care from the out-of-hospital environment
- Avoid defensive medicine: focus on quality and safety!
Labor Management Tools included in the Toolkit

- Spontaneous labor algorithms/dystocia checklists
- Induction algorithms/checklists/policies for timing, scheduling, and proper selection
- Algorithms for standard intervention for FHR changes
- Model policies for oxytocin
- Tools for effective communication

Approximately 30 tools available in this section
Toolkit outlines Four Specific Areas of Standardization

- Diagnosis of labor dystocia
- Safe use of oxytocin
- Response to abnormal heart rate patterns
- Induction of labor
• “Slow but progressive labor” in the first stage is not an indication for cesarean
• “Prolonged latent phase” as defined by previously by Friedman is not an indication for cesarean
• 6 is the new 4 (Zhang/Consortium on Safe Labor)
• Longer pushing times may be necessary (epidural; malposition)
### Example of ACOG/SMFM Labor Dystocia Checklist in toolkit

#### CMQCC Labor Dystocia Checklist (ACOG/SMFM Criteria)

1. **Diagnosis of Dystocia/Arrest Disorder** (all 3 should be present)
   - Cervix 6 cm or greater
   - Membranes ruptured, then
   - No cervical change after at least 4 hours of adequate uterine activity (e.g. strong to palpation or MVUs > 200), or at least 6 hours of oxytocin administration with inadequate uterine activity

2. **Diagnosis of Second Stage Arrest** (only one needed)
   - No descent or rotation for:
     - At least 4 hours of pushing in nulliparous woman with epidural
     - At least 3 hours of pushing in nulliparous woman without epidural
### Pre-Cesarean Checklist for Labor Dystocia or Failed Induction

<table>
<thead>
<tr>
<th>Indication for Primary Cesarean Delivery:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>_Failed Induction (must have both criteria if cervix unfavorable, Bishop Score &lt; 8 for nullips and &lt;6 for multips) _</td>
<td></td>
</tr>
<tr>
<td>_Cervical Ripening used (when starting with unfavorable Bishop scores as noted above). Ripening agent used: ___________________________ Reason ripening not used if cervix unfavorable: ___________________________ <em>AND</em></td>
<td></td>
</tr>
<tr>
<td><em>Unable to generate regular contractions (every 3 minutes) and cervical change after oxytocin administered for at least 12-18 hours after membrane rupture.* *Note: at least 24 hours of oxytocin administration after membrane rupture is preferable if maternal and fetal statuses permit</em></td>
<td></td>
</tr>
<tr>
<td>_Latent Phase Arrest ≤6 cm dilation (must fulfill one of the two criteria) _</td>
<td></td>
</tr>
</tbody>
</table>

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| Active Phase Arrest > 6 cm Dilation (must fulfill one of the two criteria) |
| Membranes ruptured (if possible), then: |
| Adequate uterine contractions (e.g. moderate or strong to palpation, or > 200 MVU, for ≥ 4 hours) without improvement in dilation, effacement, station or position |
| OR |
| Inadequate uterine contractions (e.g. < 200 MVU) for ≥ 6 hours of oxytocin administration without improvement in dilation, effacement, station or position |

---

| Second Stage Arrest (must fulfill any one of four criteria) |
| Nullipara with epidural pushing for at least 4 hours |
| OR |
| Nullipara without epidural pushing for at least 3 hours |
| OR |
| Multipara with epidural pushing for at least 3 hours |
| OR |
| Multipara without epidural pushing for at least 2 hours |

---

| Although not fulfilling contemporary criteria for labor dystocia as described above, my clinical judgment deems this cesarean delivery indicated |
| Failed Induction: Duration in hours: ___________________________ |

---

| Latent Phase Arrest Duration in hours: ___________________________ |
Active Labor Partogram Available in Toolkit

**Active Labor Partogram**

*Term ≥ 37 Weeks Gestation*

- **NORMAL LABOR PROGRESS**
- **CONSIDER INTERVENTIONS**
- **≥ 95TH PERCENTILE MAKE DELIVERY PLAN**

Appendix R
Induction of Labor Algorithm

INDUCTION
Per ACOG guidelines, induction of labor before 41 weeks should only be performed if there is a maternal or fetal medical indication to do so. If 39-41 weeks without a medical indication for induction of labor, do so only with a favorable cervix.

Unfavorable Cervix: Bishop Score ≤ 8 for Nulliparas, ≤ 6 for Multiparas (proceed only if medical indication for induction exists)

Mechanical or Pharmacological Cervical Ripening

No Cervical Change

If successful, follow right side of algorithm (favorable cervix)

Repeat with Different Method

No Response Consider Oxytocin Trial

Home (if appropriate) or Cesarean. (*Note: ACOG guidelines state that failed induction in the latent phase can be avoided by allowing for longer durations of the latent phase, 24 hours or more)

Favorable Cervix: Bishop Score ≥ 8 for Nulliparas, ≥ 6 for Multiparas

Initiate Oxytocin

Cervical Change, and Cervix ≥ 6cm

See active labor partogram and/or labor duration guidelines

Cervical Change, but Cervix < 6 cm

Continue/Start Oxytocin And Consider ROM

AROM and No Cervical Change for 12-18 hours of Oxytocin. (*Note: 24 hours of oxytocin is preferable if fetal and maternal statuses permit)

Cervix < 6 cm, UNABLE To AROM and No Cervical Change with 24 Hours Oxytocin

Failed Induction

Proceed to Cesarean

Consider Home if Elective and/or Medically Stable
Prevention and Management of Malposition

- Avoid routine early amniotomy
- Employ preventive measures for women with epidural anesthesia
- Intrapartum maternal/fetal positioning
- Consider pushing positions
- Support maternal psyche and body
- Manual rotation
- Patience, patience, patience!
Appendix Q
Example Algorithm for the Management of Intrapartum Fetal Heart Rate Tracings

**Category 1**
- Moderate variability w/o late or variable decels
  - May observe
  - May observe, Apply corrective measures*
  - Acceleration or return of mod variability
  - Cautiously observe. Increase frequency of assessments
  - If abnormal pattern persists or returns

**Category 2**
- Non-clinically significant decels* in the presence of marked or mod variability or accels
  - Apply corrective measures** and scalp stimulation
  - No acceleration or return of mod variability
  - Notify provider. Repeat scalp stimulation every 20-30 minutes. If pattern persists for 60 min without accelerations or return to moderate variability, then begin prep for urgent delivery

**Category 3**
- Minimal variability w/ clinically significant decels for > 50% of contractions for 30 min
  - Begin prep for urgent delivery and initiate corrective measures** and scalp stim if not already done
  - Prolonged decel ≤ 60 BPM (or ≤ 80 BPM if remote from delivery)
  - Begin transport to OR by 3 min. Deliver without delay should decel persist > 10 min
  - Absent variability w/decel or w/ bradycardia (baseline rate < 110 BPM); or sinusoidal pattern
  - If no improvement, deliver within 30 min
Clark’s Algorithm for Management of Cat II Tracings
Available in Toolkit

Algorithm for management of category II fetal heart rate tracings

- Moderate variability or accelerations
  - Yes
  - Significant decelerations with ≥50% of contractions for 1 hour
    - Yes
    - Latent Phase
      - Normal labor progress
        - No
        - Cesarean
      - Yes
      - Active Phase
        - Normal progress
          - No
          - Cesarean or OVD
        - Yes
        - OVD, observe
    - No
    - Significant decelerations with ≥50% of contractions for 30 minutes
      - Yes
      - Second Stage
        - Normal progress
          - No
          - Cesarean or OVD
        - Yes
        - OVD, observe
      - No
      - Observe for 1 hour
- No
- Persistent pattern
  - Yes
  - Manage per algorithm
  - No

Note: That have not resolved with appropriate conservative corrective measures, which may include supplemental oxygen, maternal position changes, intravenous fluid administration, correction of hypotension, reduction or discontinuation of uterine stimulation, administration of uterine relaxant, amnioinfusion, and/or changes in second stage breathing and pushing techniques.


Transforming Maternity Care
A Toolkit to Support Vaginal Birth and Reduce Primary Cesareans
Model Policies for Induction of Labor, Induction of Labor Scheduling, and Safe Use of Oxytocin

**Category:** Patient Care Services

**Owner:** Labor and Delivery OR Manager

**Title:** Cesarean Delivery / Induction of Labor Scheduling

**PURPOSE:** To eliminate non-medically indicated (elective) deliveries prior to 39 weeks gestation.

To be completed by Chief of Maternal Fetal Medicine or OB Hospitalist

- [ ] Schedule: Medically indicated and necessitates delivery < 39 weeks gestation
- [ ] Schedule: Gestation age ≥ 39 weeks on scheduled date

Completed by: [Chief of Maternal Fetal Medicine/OB Hospitalist]  
Date/Time: ____________________
REPORTING/SYSTEMS

Using Data to Drive Improvement
Strategies for Using Data to Drive Improvement

- Provide timely feedback in a persuasive manner
- Use comparative data which conveys a sense of urgency
- Present data for both hospital and providers
- Set achievable goals
- Tie descriptive “cold” data with patient stories and other successes
Use Strategies to Engage Women, Employers and the General Public in the Improvement Project

- Public release of selected hospital-level measures that have been well-vetted
- Provide a lay explanation of the measures
- Widely distribute these measures through multiple media channels to capture the greatest attention
3 Pilot Quality Improvement Projects Informed the Development of the Toolkit

- Hoag Hospital, Newport Beach CA
- Miller Children’s and Women’s Hospital, Long Beach CA
- Saddleback Memorial Medical Center, Laguna Hills CA
Pilot QI Project Components: 2014-15

Data Measurement Support

Quality Improvement Support

Payment Reform
Impressive Results: within 6 months

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Baseline</th>
<th>After QI</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital 1</td>
<td>32.6%</td>
<td>24.7%</td>
<td>24.2%</td>
</tr>
<tr>
<td>Hospital 2</td>
<td>31.2%</td>
<td>24.3%</td>
<td>22.1%</td>
</tr>
<tr>
<td>Hospital 3</td>
<td>27.2%</td>
<td>21.9%</td>
<td>19.5%</td>
</tr>
</tbody>
</table>
CMQCC Data-Driven QI: NTSV CS

Pilot Hospital: PBGH / RWJ CS Collaborative

NTSV CS Rate

QI Project Started: Jan 2014

National Target for NTSV CS = 23.9%
No Change in Baby Outcomes: Rate of Unexpected Newborn Complications

Remains significantly below State mean

Screen Shot from the CMQCC Maternal Data Center

Hoag Hospital

Intervention Period

Dec - Feb 2015
Take-home Lessons from the Pilot Hospitals

- The power of provider-level data! Was the single most important tool that finally started to “move the needle”
- Key role of nurses for leading the charge
- There needs to be a reason to change
- Use national guidelines as your playbook for safe care and to ease fears of liability
- Needs “constant gardening”
- Medical and nursing champions are essential for success of project
Implementation Guide

“How-To Guide”
- Translates recommendations from the toolkit into practical advice for implementation

Provides methodology to identify:
- Your key focus areas
- Strategies to implement first
- Process design for sustainability
- Key QI principles
Available for Download

Collaborative Resources to Support Vaginal Birth and Reduce Primary Cesareans

Resources have been developed to help support the Collaborative efforts to reduce first birth cesarean sections.

The Implementation Guide

Collaborative Resources

[Links to resources available for download]
### Readiness Assessment

Available in the Implementation Guide and on [www.cmqcc.org](http://www.cmqcc.org)

<table>
<thead>
<tr>
<th>Focus</th>
<th>Readiness Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has your hospital previously participated in a formal data-driven OB QI Collaborative?</td>
<td></td>
</tr>
<tr>
<td>If yes:</td>
<td>Were there monthly chart reviews for process measures?</td>
</tr>
<tr>
<td></td>
<td>Were there monthly reports on outcome measures?</td>
</tr>
<tr>
<td></td>
<td>Were results shared with staff on an ongoing basis?</td>
</tr>
<tr>
<td>Have you identified current practices or policies that may be associated with increased cesarean rate?</td>
<td></td>
</tr>
<tr>
<td>Have you considered alternative policies/practices to reduce cesareans?</td>
<td></td>
</tr>
<tr>
<td>Do you have a multidisciplinary team?</td>
<td></td>
</tr>
<tr>
<td>If yes, have you started meeting?</td>
<td></td>
</tr>
<tr>
<td>If so, has your team considered strategies (practices, policies) that could serve to address and identified barriers?</td>
<td></td>
</tr>
<tr>
<td>Has your team discussed and understands the rationale for a standardized approach to the definition and management of labor dystocia?</td>
<td></td>
</tr>
</tbody>
</table>
READINESS: Build a provider and maternity unit culture that values, promotes, and supports intended vaginal birth and optimally engages patients and families

Create a team of providers (e.g. obstetricians, midwives, family practitioners, and anesthesia providers), staff and administrators to lead the effort and cultivate maternity unit buy-in

Develop a program for ongoing staff training for labor support techniques including caring for women regional anesthesia

Develop a program positive messaging to women and their families about intended vaginal birth strategies for use throughout pregnancy and birth
RECOGNITION AND PREVENTION: Develop unit-standard approaches for admission, labor support, pain management and freedom of movement

Implement protocols and support tools for women who present in latent (early) labor to safely encourage early labor at home

Implement Policies and protocols for encouraging movement in labor and intermittent monitoring for low-risk women
RESPONSE: Develop unit-standard approaches for prompt identification and treatment of abnormal labor and fetal heart patterns

Implement standard criteria for diagnosis and treatment of labor dystocia, arrest disorders and failed induction

Implement training/procedures for identification and appropriate interventions for malpositions (e.g. OP/OT)
REPORTING AND SYSTEMS LEARNING: Utilize local data and case reviews to present feedback and benchmarking for providers and to guide unit progress.

- Share provider level measures with department (may start with blinded data but quickly move to open release)
- Perform monthly case reviews to identify consistency with dystocia and induction ACOG/SMFM checklists
- Establish a project communications plan (at least monthly education and progress updates)
Next steps

- Participate in the CMQCC Maternal Data Center
  - If not already a member, please contact Anne Castles
    acastles@stanford.edu
- Download Implementation Guide
  - Evaluate your readiness – take the readiness assessment
- Evaluate your own process:
  - Audit 20 charts for women with NTSV for “labor dystocia” (audit tool available on www.cmqcc.org collaborative resources page)
- If interested in joining collaborative, contact Valerie Cape vcape@stanford.edu
- Questions about Toolkit, contact Valerie Cape (see above) or Holly Smith hsmith@cmqcc.org
Thank You!

Visit: CMQCC.org