Too Many Sections?
A Safe Approach To Lowering The Cesarean Rate

Larry Veltman, MD
HASC Perinatal Safety Tract
November 5, 2013
“They did a section...

• ...after a whiff of pit.”
• ...because it was 5 o’clock.”
• ...after one decel.”
• ...because she pushed for an hour and was exhausted.”
• ...because she didn’t want any pain.”
• ...because they get more.”
• ...because no one ever sues for doing a section, only for delaying one.”
"Of the survey respondents who reported making changes to their obstetric practice as a result of the risk or fear of professional liability claims or litigation, 27.4% decreased the number of high-risk obstetric patients, 23.8% reported increasing the number of cesarean deliveries, and 18.9% stopped offering and performing VBACs. An additional 11.5% decreased the number of total deliveries, and 6.2% stopped practicing obstetrics altogether."
The Path Of Least Resistance
Overall rate: 31.3%
Figure 4. Percent change from previous year in the cesarean delivery rate: United States, 1993-2007

NOTE: 1992 is the first year for which national data on method of delivery are available.
## Average 2012 Amount Paid for Childbirth

<table>
<thead>
<tr>
<th>Country</th>
<th>Conventional Delivery</th>
<th>Caesarean</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>$9,775</td>
<td>$15,041</td>
</tr>
<tr>
<td>Switzerland</td>
<td>4,039</td>
<td>5,186</td>
</tr>
<tr>
<td>France</td>
<td>3,541</td>
<td>6,441</td>
</tr>
<tr>
<td>Chile</td>
<td>2,992</td>
<td>3,378</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2,669</td>
<td>5,328</td>
</tr>
<tr>
<td>Britain</td>
<td>2,641</td>
<td>4,435</td>
</tr>
<tr>
<td>South Africa</td>
<td>2,035</td>
<td>3,449</td>
</tr>
</tbody>
</table>

Note: Amounts paid are the actual payments agreed to by insurance companies or other payers for services, and are lower than billed charges. Amounts shown include routine prenatal, delivery and postpartum obstetric care. Some care provided by practitioners other than the obstetrician - like ultrasounds performed by a radiologist or blood testing by a lab - are not included in this tally.

Source: International Federation of Health Plans
The Singleton, Cephalic, Nulliparous Woman After 36 Weeks of Gestation: Contribution to Overall Cesarean Delivery Rates
Brennan, Donal J.; Murphy, Martina; Robson, Michael S.; O’Herlihy, Colm
The Biggest Changes 1074 - 2008

- Inductions: increased by 13.37 fold
- Previous sections: increased by 12.22 fold
- Multiparous breeches: increased by 10.51 fold
  - Nulliparous breeches: 5.41 fold
- Multiple pregnancies: 8.27 fold
- Nulliparous labor: increased 3.22 fold
“The results of these reports, along with published cost-effectiveness data, do not support prophylactic cesarean delivery for suspected fetal macrosomia.”

“...shoulder dystocia also occurs unpredictably in infants of normal birth weight.”

“Cut It Out

The C-Section Epidemic in America

THERESA MORRIS
Avoiding The First Section

- Elective inductions with an unfavorable cervix
- Adequate trial of labor – latent phase sections
- Is it really “fetal distress”? (Managing Category II tracings)
- Adopt newer approaches to the second stage
- Present balanced risks and benefits for elective primary sections
- VBAC approaches
- Management of breeches – versions
- Management of multiples
- 1:1 support in labor (partner, experienced doula, CNM)
- OB Hospitalists
The rise in caesarean section rate: the same indications but a lower threshold

C. R. Leitch Senior Registrar, J. J. Walker Professor (Obstetrics and Gynaecology)
University Department of Obstetrics and Gynaecology. Glasgow Royal Maternity Hospital

Objective  To investigate the reasons for the rise in caesarean section rate and note any change in indications.

Design     A retrospective, descriptive study comparing the years 1962 and 1992.

Setting    A large city centre teaching hospital.

Results    There was an overall increase in the caesarean section rate from 6·8% in 1962 to 18·1% in 1992. No single cause contributed more than 30% towards this increase. The main indications in both years were similar: failure to progress (42·2% vs 36·7%) and fetal indications (18·1% vs 18·9%). The largest relative increases were in the malpresentation group (10·8% vs 16%) and previous caesarean section (4·5% vs 15·2%).

Conclusions These results suggest that there has been a lowering in the overall threshold concerning the decision to carry out a caesarean section rather than changes in obstetric management. Obstetricians and the women in their care have to decide whether the current balance between risk and benefit is acceptable or whether they wish to alter the underlying philosophy if any significant reduction is to be sustained.
Three Elephants
Three Elephants

- The need for change
- The threat of liability
- The use of time
Why Change is Challenging

The 6 “P”s:

- Patient
- Patterns
- Pillow
- Plaintiff
- Paycheck
- Probabilities / Personal experience
“Doctor, what’s my Bishop Score?”
Pelvic Exam Prior to Oxytocin

Bishop Score $> 8$ = spontaneous labor

<table>
<thead>
<tr>
<th>Score</th>
<th>Dilatation</th>
<th>Effacement</th>
<th>Station</th>
<th>Firmness</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0-30%</td>
<td>-3</td>
<td>Firm</td>
<td>Post</td>
</tr>
<tr>
<td>1</td>
<td>1-2</td>
<td>40-50</td>
<td>-2</td>
<td>Med</td>
<td>Mid</td>
</tr>
<tr>
<td>2</td>
<td>3-4</td>
<td>60-80</td>
<td>-1,0</td>
<td>Soft</td>
<td>Ant</td>
</tr>
<tr>
<td>3</td>
<td>5-6</td>
<td>90-100</td>
<td>+1, +2, 3</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Bishop Score $< 8$:

- Longer labor (2-4 hours)
- Higher cost

$2-2.5 >$ chance of cesarean
Choosing Wisely®

1. Don’t schedule elective, non-medically indicated inductions of labor or cesarean deliveries before 39 weeks 0 days gestational age.

   Delivery prior to 39 weeks 0 days has been shown to be associated with an increased risk of learning disabilities and a potential increase in morbidity and mortality. There are clear medical indications for delivery prior to 39 weeks 0 days based on maternal and/or fetal conditions. A mature fetal lung test, in the absence of appropriate clinical criteria, is not an indication for delivery.

2. Don’t schedule elective, non-medically indicated inductions of labor between 39 weeks 0 days and 41 weeks 0 days unless the cervix is deemed favorable.

   Ideally, labor should start on its own initiative whenever possible. Higher cesarean delivery rates result from inductions of labor when the cervix is unfavorable. Health care practitioners should discuss the risks and benefits with their patients before considering inductions of labor without medical indications.
Adequate Trial Of Labor
CONCLUSION: The active phase of labor may not start until 5 cm of cervical dilation in multiparas and even later in nulliparas. A 2-hour threshold for diagnosing labor arrest may be too short before 6 cm of dilation, whereas a 4-hour limit may be too long after 6 cm. Given that cervical dilation accelerates as labor advances, a graduated approach based on levels of cervical dilation to diagnose labor protraction and arrest is proposed. (Zhang, et al., Obstet Gynecol 2010;115:705–10)
Conclusion:

“Almost 40% of the women who remained in the latent phase after 12 hours of oxytocin and membrane rupture were delivered vaginally. Therefore, it is reasonable to avoid deeming labor induction failure in the latent phase until oxytocin has been administered for at least 12 hours after membrane rupture.” (Obstetrics and Gynecology 2011;117:267-72)
Normal Labor Progress Today: Summary

- Many nulliparas are not in active labor until $\geq 6$ cms

- There is wide variability in cervical dilation between 6-10 cms

- The slowest yet normal rate of cervical dilation is 1 cm/2 hrs in primiparous women in active labor

Is It Really Fetal Distress?
Liability Issues

• Incidence of CP unchanged despite increased rate

• New recognized hazards of multiple cesareans

• EFM has not decreased the # of cesareans

• The elephant in the room – liability
  – Continued problems with experts
  – Delay in recognition of compromised fetus and performance of cesarean once recognized is a common allegation
  – Rare to sue for doing a section
OBSTETRICS

Intrapartum management of category II fetal heart rate tracings: towards standardization of care

Steven L. Clark, MD; Michael P. Nageotte, MD; Thomas J. Garite, MD; Roger K. Freeman, MD; David A. Miller, MD; Kathleen R. Simpson, RN, PhD; Michael A. Belfort, MD, PhD; Gary A. Dildy, MD; Julian T. Parer, MD; Richard L. Berkowitz, MD; Mary D’Alton, MD; Dwight J. Rouse, MD; Larry C. Gilstrap, MD; Anthony M. Vintzileos, MD; J. Peter van Dorsten, MD; Frank H. Boehm, MD; Lisa A. Miller, CNM, JD; Gary D. V. Hankins, MD
The Basic Question:

• What is the likelihood of the fetus developing significant acidemia prior to delivery?

• Moderate variability or accelerations = absent fetal acidemia at the point of observation

• 16 footnotes – must be read
  – E.g., Treat minimal to absent variability as one entity.
Managing Category II Tracings (Clark, et. al., 2013)

Moderate variability or accelerations

Yes

- Significant decelerations with ≥50% of contractions for 1 hour
  
  Yes
  
  - Latent Phase
  
  No
  
  - Active Phase

No

- Significant decelerations with ≥50% of contractions for 30 minutes
  
  Yes
  
  - Observe for 1 hour
  
  No
  
  - Persistent pattern

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Second Stage Issues

- Length of the second stage: it is not just 2 hours any more
- To push or not to push: laboring down
- Coached or uncoached pushing
- Open or closed glottis pushing
- Avoiding “fixin’ to deliver” traps
Fig. 6. The effect of the duration of the first and second stages of labor on infant mortality.
ACOG: Indications For Operative Vaginal Delivery

• No indication for operative vaginal delivery is absolute. The following indications apply when the fetal head is engaged and the cervix is fully dilated.

• Prolonged second stage:
  – *Nulliparous women*: lack of continuing progress for 3 hours with regional anesthesia, or 2 hours without regional anesthesia
  – *Multiparous women*: lack of continuing progress for 2 hours with regional anesthesia, or 1 hour without regional anesthesia
  – Suspicion of immediate or potential fetal compromise.
  – *Shortening of the second stage for maternal benefit.*
“The Way We Have Always Done It”

- “It won’t come out without pushing”
- “Pushing will make it come out faster”
- “Decelerations are “normal” in the second stage”
- “The worse the decelerations, the more she needs to push”
- “Shorter means better in the second stage”

(E. Knox)
LABORING DOWN: (Hansen & Clark, 1996)

“There are no benefits to immediate and coached pushing during the second stage when the woman doesn’t feel the urge to push.”
Rethinking the Definition of the Second Stage

**Passive Descent:**
With adequate contractions, rotation, alignment, and descent to +1 or more will occur.

**Active Pushing:**
With activation of the Ferguson reflex, oxytocin secretion occurs, and there is an increasing need to bear down and push the baby out.
Optimal Second Stage Management

- *Standard of care during 2nd stage is the same as during 1st stage*
- Aggressive, coached closed-glottis pushing is avoided until urge is present
- Allow laboring down for women with epidurals
- Management based on fetal status
- Oxytocin is maintained at rate to simulate a physiologic second stage
- Discontinue oxytocin for non reassuring pattern
- Arbitrary time frames are not used
- Only indicated operative deliveries
Summary of Recommendations *The following recommendations are based on good and consistent scientific evidence (Level A):*

- **Most women with one previous cesarean delivery with a low-transverse incision are candidates for and should be counseled about VBAC and offered TOLAC.**
“Because of the risks associated with TOLAC and that uterine rupture and other complications may be unpredictable, the College recommends that TOLAC be undertaken in facilities with staff immediately available to provide emergency care.”
NIH State-of-the-Science Conference Statement on Cesarean Delivery on Maternal Request

NIH Consensus and State-of-the-Science Statements
Volume 23, Number 1
March 27–29, 2006
NIH Consensus Conference, 2006

• There is insufficient evidence to evaluate fully the benefits and risks of cesarean delivery on maternal request as compared to planned vaginal delivery...

• ...any decision to perform a cesarean delivery on maternal request should be carefully individualized and consistent with ethical principles.

• Given that the risks of placenta previa and accreta rise with each cesarean delivery, cesarean delivery on maternal request is not recommended for women desiring several children.

• Cesarean delivery on maternal request should not be performed prior to 39 weeks of gestation...

• Maternal request for cesarean delivery should not be motivated by unavailability of effective pain management. Efforts must be made to assure availability of pain management services for all women.
<table>
<thead>
<tr>
<th>Cesarean Delivery</th>
<th>Placenta Accreta [n (%)]</th>
<th>Odds Ratio (95% CI)</th>
<th>Hysterectomy [n (%)]</th>
<th>Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First*</td>
<td>15 (0.2)</td>
<td>—</td>
<td>40 (0.7)</td>
<td>—</td>
</tr>
<tr>
<td>Second</td>
<td>49 (0.3)</td>
<td>1.3 (0.7–2.3)</td>
<td>67 (0.4)</td>
<td>0.7 (0.4–0.97)</td>
</tr>
<tr>
<td>Third</td>
<td>36 (0.6)</td>
<td>2.4 (1.3–4.3)</td>
<td>57 (0.9)</td>
<td>1.4 (0.9–2.1)</td>
</tr>
<tr>
<td>Fourth</td>
<td>31 (2.1)</td>
<td>9.0 (4.8–16.7)</td>
<td>35 (2.4)</td>
<td>3.8 (2.4–6.0)</td>
</tr>
<tr>
<td>Fifth</td>
<td>6 (2.3)</td>
<td>9.8 (3.8–25.5)</td>
<td>9 (3.5)</td>
<td>5.6 (2.7–11.6)</td>
</tr>
<tr>
<td>Six or more</td>
<td>6 (6.7)</td>
<td>29.8 (11.3–78.7)</td>
<td>8 (9.0)</td>
<td>15.2 (6.9–33.5)</td>
</tr>
</tbody>
</table>

- Table 1 Risk of Placenta Accreta and Hysterectomy by Number of Cesarean Deliveries Compared With the First Cesarean Delivery.
Breeches and Versions

• Mode of term singleton breech delivery. ACOG Committee Opinion No. 340 Obstet Gynecol 2006;108:235–7:
  – “The decision regarding the mode of delivery should depend on the experience of the health care provider. Cesarean delivery will be the preferred mode of delivery for most physicians because of the diminishing expertise in vaginal breech delivery.”
  – “Obstetricians should offer and perform external cephalic version whenever possible.”

• Review of literature
  – Overall success rate of 63.3 percent, with a range of 48 to 77 percent.
  – Overall complication rates have ranged from about 1 to 2 percent
Multiple Pregnancy

“A Randomized Trial of Planned Cesarean or Vaginal Delivery for Twin Pregnancy

Jon F.R. Barrett, M.B., B.Ch., M.D., Mary E. Hannah, M.D.C.M., Eileen K. Hutton, Ph.D., Andrew R. Willan, Ph.D., Alexander C. Allen, M.D.C.M., B. Anthony Armson, M.D., Amiram Gafni, D.Sc., K.S. Joseph, M.D., Ph.D., Dalah Mason, M.P.H., Arne Ohlsson, M.D., Susan Ross, Ph.D., J. Johanna Sanchez, M.I.P.H., and Elizabeth V. Asztalos, M.D., for the Twin Birth Study Collaborative Group*

“...with the first twin in the cephalic presentation, planned cesarean delivery did not significantly decrease or increase the risk of fetal or neonatal death or serious neonatal morbidity, as compared with planned vaginal delivery.”
Labor Support: ???

• Birth. 2008 Jun;35(2):92-7
  – The doula group had a significantly lower cesarean delivery rate than the control group (13.4% vs 25.0%, p = 0.002)

• JAMA. 2002;288(11):1373-1381
  – There were no significant differences in cesarean delivery rates, which were 12.5% in the continuous care group and 12.6% in the usual care group, nor in other maternal or neonatal events during labor, delivery, or the hospital stay.
  – "To me, the clear message is if you are serious about wanting to reduce or at least not increase your cesarean delivery rates, don't count on one-to-one support by nurses as the only answer..."
# Hospitalists May Make a Difference

## Table 1: Demographic and Clinical Variables by Laborist Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>No laborist (n = 1830)</th>
<th>Community laborist (n = 1722)</th>
<th>Full-time laborist (n = 2654)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cesarean delivery^a</td>
<td>717 (39.2%)</td>
<td>666 (38.7%)</td>
<td>882 (33.2%)</td>
</tr>
<tr>
<td>Gestational age, wk^b</td>
<td>39.15 ± 1.04</td>
<td>39.08 ± 1.01</td>
<td>39.16 ± 0.93</td>
</tr>
<tr>
<td>Maternal age, y</td>
<td>22.9 ± 6.4</td>
<td>22.7 ± 5.3</td>
<td>22.8 ± 6.2</td>
</tr>
<tr>
<td>Delivering physician age, y</td>
<td>47.7 ± 9.2</td>
<td>47.5 ± 9.9</td>
<td>50.5 ± 9.8</td>
</tr>
<tr>
<td>Induction of labor^a</td>
<td>623 (34.0%)</td>
<td>719 (41.8%)</td>
<td>1109 (41.8%)</td>
</tr>
<tr>
<td>1-min Apgar^c</td>
<td>8.26 ± 1.16</td>
<td>8.16 ± 1.11</td>
<td>8.30 ± 1.02</td>
</tr>
<tr>
<td>5-min Apgar</td>
<td>8.93 ± 0.43</td>
<td>8.91 ± 0.40</td>
<td>8.94 ± 0.41</td>
</tr>
<tr>
<td>Birthweight, g</td>
<td>3284.2 ± 432.8</td>
<td>3275.2 ± 428.3</td>
<td>3285.1 ± 432.8</td>
</tr>
<tr>
<td>Diabetes</td>
<td>72 (3.9%)</td>
<td>54 (3.1%)</td>
<td>86 (3.2%)</td>
</tr>
<tr>
<td>Maternal weight, lb^c</td>
<td>176.8 ± 37.8</td>
<td>178.9 ± 37.8</td>
<td>180.7 ± 39.6</td>
</tr>
<tr>
<td>Race^d</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>592 (32.4%)</td>
<td>550 (31.9%)</td>
<td>788 (29.7%)</td>
</tr>
<tr>
<td>African American</td>
<td>256 (14.0%)</td>
<td>260 (15.1%)</td>
<td>424 (16.0%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>779 (42.6%)</td>
<td>728 (42.3%)</td>
<td>1140 (43.0%)</td>
</tr>
<tr>
<td>Asian</td>
<td>151 (8.3%)</td>
<td>109 (6.3%)</td>
<td>188 (7.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>52 (3.0%)</td>
<td>75 (4.4%)</td>
<td>114 (4.3%)</td>
</tr>
</tbody>
</table>

^a P < .01 using $\chi^2$; ^b P < .05 using analysis of variance; ^c P < .01 using analysis of variance; ^d P < .05 using $\chi^2$. Iriye. Full-time laborist decreases cesarean delivery. Am J Obstet Gynecol 2013.
Preventing the First Cesarean Delivery
Summary of a Joint Eunice Kennedy Shriver National Institute of Child Health and Human Development, Society for Maternal-Fetal Medicine, and American College of Obstetricians and Gynecologists Workshop

Catherine Y. Spong, MD, Vincenzo Berghella, MD, Katharine D. Wenstrom, MD, Brian M. Mercer, MD, and George R. Saade, MD

Cesarean Deliveries, Outcomes, and Opportunities for Change in California: Toward a Public Agenda for Maternity Care Safety and Quality

A CMQCC White Paper

Elliott Main, MD, Christine Morton, PhD
David Hopkins, PhD, Giovanna Giuliani, MBA, MPH
Kathryn Melso, MS and Jeffrey Gould, MD, MPH

CMQCC
CALIFORNIA MATERNAL QUALITY CARE COLLABORATIVE

December 2011
Strategies: Will Require Major Culture Change

• Not enough: “Do The Ones That Are Necessary; Avoid The Ones That Aren’t”
• Probably not enough: “Here is what the literature says”
• Need physician leadership, commitment & individual accountability for all medical staff
• Need major in house initiative with ongoing audits, oversight, education
• Need to limit cervical ripening for non medically indicated inductions
• Need data and feedback to individual obstetricians
• Work on changing public’s expectations
• Need resources to allow VBACs and in house coverage to be immediately available – including anesthesia and OR
Thank You