Managing Risk in Perinatal Care

Stan Davis MD, FACOG

Laerdal SUN Conference Philadelphia 2014
Objectives

1) Discuss the medical/legal environment in the perinatal area

2) Identify issues specific to perinatal care

3) Describe the role of simulation in providing safe, reliable care

4) Discuss collaboration with multidisciplinary leadership

5) Describe how to plan and implement in-situ simulation
OB Claim Impact on Physicians

Claims hit OBs hardest of all specialties*
$2.8$ billion paid OB claims ($1985-2005$)-$23\%$ of total payouts
Malpractice insurance costs rank first or second highest

2006 ACOG Poll finds litigation impact on OBs alarming
Average age to quit obstetrics-$48$
$70\%$ changed practice in some way due to insurance issues
$89\%$ of respondents had $1$ claim filed. Average $2.62$ claims*
$65\%$ changed/reduced practice due to liability concerns
  ✓ $37.1\%$ increased cesarean section rates
  ✓ $33.1\%$ decreased number of high risk deliveries
  ✓ $32.7\%$ stopped offering/performing VBACs
  ✓ $14.5\%$ decreased deliveries
  ✓ $8.3\%$ stopped obstetrics

*Physician Insurers Association of America Data Sharing Report 10/31/06
OB Claims Pose the Largest Risk to Re-insurer

Birth injury claims contain the fact patterns seen most frequently in Re-insurer which generate the highest payouts and pose the greatest challenge for estimating future losses. Preventing birth injuries should result in fewer claims being made/paid, and would enhance Re-insurer financial strength.

55% of Reserve dollars are for OB claims [open cases as of 12-31-05]

57% of Re-insurer losses paid are OB claims [snapshot 1/1/2000 through 12/31/05]
High Severity is the Problem

• **Severity of “costs” prompts the drive for change**
  - Victims and families pay lifetime costs of care
  - Hospital systems battling low margins lose revenue and pay claims
  - Insurers pay over 200% more on average for OB claims
  - Cost of insurance for OB practice first or second highest nationally
  - Public assistance providers seek to shift the burden to the hospitals
  - Higher than average early retirement and practice changes for OB’s

• **OB exposure is significant for all AEIX participants***
  - Total $147,947,631 paid and incurred historic exposure
  - Total average loss paid for all OB injury types = $1,360,687
  - Total average loss paid for “neurological injury” claim = $3,702,810
  - Amounts to a “liability tax” of $308 per birth due to litigation costs

Includes hospital SIR losses and excess payments.
Addressing a “Low Frequency” BUT “High Severity” Problem

- A “blind spot” to the need for change may arise due to the few bad OB outcomes any one person sees in a career *
  - 1 bad brachial plexus injury per 33 years of practice (assuming 140 deliveries per year by physician)
  - 1 hypoxia-related case of CP per 48 years
  - 1 case of asphyxia from VBAC uterine rupture per 403 years

- claim frequency reflects cumulative experience
  - Chances of paying a claim = 1 per 4,545 births
  - Paying a claim over $100,000 = 1 per 5,882 births
  - Paying a claim over $500,000 = 1 per 11,111 births
  - Paying a claim over $1,000,000 = 1 per 12,500 births

[ study of 407 OB claims (1999 to 2003) arising from 389,255 births]

The Bottom Line

Saving One Baby from Serious Injury Saves Serious Money

Total average paid OB claim loss (all injury types):
Re-insurer Study= $1,360,687
Ohio MD Study= $664,142*

Jury Verdict Research national average OB paid loss (all injury types):
$2,500,000

Re-insurer average loss (2003-2006) for OB “brain damage” claims:
$3,702,810

* Physician loss data is typically lower than hospital data on large losses due to the lower insurance limits carried by physicians to pay claims.
Maternal Mortality

Biggest decrease of any mortality statistic in past 100 yrs.

*British Data
Performance Over Time

The S-curve model of technological advancement

Performance

Time

Stafford Beer, “Brain of the Firm”
# Why Teamwork?

<table>
<thead>
<tr>
<th>Staff Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstetricians</td>
<td>81</td>
</tr>
<tr>
<td>L&amp;D Nurses</td>
<td>50</td>
</tr>
<tr>
<td>Anesthesiologists</td>
<td>16</td>
</tr>
<tr>
<td>NNPs</td>
<td>12</td>
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<tr>
<td>Scrub Techs</td>
<td>14</td>
</tr>
<tr>
<td>CRNAs</td>
<td>35</td>
</tr>
</tbody>
</table>

**Fairview Southdale Staff #s**

How many C/S teams are possible with these staff numbers? **381 Million**
Creating High Reliability Teams

In Situ™ Simulation
Experiential learning & application, test for gaps

High Reliability

Just Culture™
Principles of risk, Accountability, Behavior

TeamSTEPPS™
Define the team, Use the tools, coach

Stan Davis, MD, FACOG & Kristi K Miller RN, MS
Improving Neonatal Outcome Through Practical Shoulder Dystocia Training
(Obstetrics and Gynecology, July/2008)

- 4 years of data before and after simulation training of shoulder dystocia in one L&D unit
- Use of correct maneuvers went from 29% to 87%
- Reduction in neonatal injury at birth after shoulder dystocia from 9.3% to 2.3%
  - Draycott et al.
TeamSTEPPS™

Performance

Leadership

Communication

Situation Monitoring

Mutual Support

Skills

Knowledge

Patient Care Team

Attitudes
Individual C&T Skills

- Situational Awareness “ME”
- Standardized Language (ex: SBAR)
- Closed-Loop Communication “YOU”
- Shared Mental Model “US”
Team Skills

- Briefing
- Huddle
- Debriefing
- Handoff’s
Only 3 Questions!

1. What went well and “why”?
2. What could have gone better and “why”?
3. What would I do differently next time?
Identified Gaps or Learning’s from InSitu Simulation

- No formalized code process
- OB/GYN and Pediatrician not on code c-section paging list
- Unable to access resuscitation supplies
- Infant resuscitation supplies not in the OR
- Unclear role definition
- Orders were not clear and concise
- Extra staff members needed to handle emergency situation
- No documentation
- CPR stopped to assemble equipment
- Hierarchy
- Unclear communication
- Patient Information wasn’t shared
- Not enough space for staff to resuscitate the baby
- Staff unsure about where to go when a code c/s is called
- Lack of trust with in the team
- Locked out of the OR
- Orders/Tasks being called out to the air, not directed to someone
- Entire team needs to understand sterile technique
- Didn’t have the help needed as code was not called
- Unable to apply suprapubic pressure as no step stool was accessible
- Team members didn’t have the same understanding of spoken words
- Importance of Armband
- Code blue call system didn’t work in the OR
- Telephone system not working in the OR
- Team did not have the same understanding of the situation
- CPR not being done correctly
- Ceiling light fell during surgery
- Unable to hear call system when in another room
- Lack of defined leadership
- Unsure of who everyone was and what their role was
- Inability to get emergency blood products
Improvements or Solutions Made Resulting from InSitu Simulation

- Identical Newborn Resuscitation Carts now in OR and Nursery
- Pediatrician and Obstetrician added to the code c/section paging list
- Standardized language developed and implemented
- Orientation to the OR
- Mocked codes moved to a regular basis
- Code Blue system fixed in the OR
- Telephone system fixed
- Defined roles now included in policy/procedure
- Newborn Code Blue Resuscitation Policy created and implemented
- Respiratory Therapists now encouraged to have NRP
- Code process formalized
- Step stools added to every labor and delivery room
- Closed Loop Communication being utilized
- Emergency Release of Blood Products Policy/Procedure implemented
- Shared mental models being discussed
- Utilization of briefing/huddles/debriefing used to improve patient care
- Concise documentation forms for obstetrical emergencies being utilized
- Teams verbalized improved trust in their units
- Verbalized change culture within the unit
Markers of Nursing Behaviors

- 17 in situ simulations videotaped for evaluation at 4 OB sites

- **Situational Awareness**: 19-65%

- **SBAR-R** at critical junctures of team formation or reformation: 35% to 54%

- **Closed Loop Communication**: 14-69%

- **Shared Mental Model**: 56-87%

- Conclusion: Skills not consistently observed during critical events and constitute breaches in safety.

Miller, K; Riley, W; Davis, S: “Identifying Key Nursing and Team Behaviors to Achieve High Reliability”. Journal of Nursing Management. March 2009
### Adverse Outcomes Index

(Measure of frequency (%) of deliveries with adverse events)

<table>
<thead>
<tr>
<th>Index Measures</th>
<th>Weighted Score*</th>
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<tbody>
<tr>
<td>Maternal death</td>
<td>750</td>
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<tr>
<td>Intrapartum &amp; neonatal death &gt;2500g</td>
<td>400</td>
</tr>
<tr>
<td>Uterine rupture</td>
<td>100</td>
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<tr>
<td>Maternal admission to ICU</td>
<td>65</td>
</tr>
<tr>
<td>Birth trauma</td>
<td>60</td>
</tr>
<tr>
<td>Return to OR / labor &amp; delivery</td>
<td>40</td>
</tr>
<tr>
<td>Admission to NICU &gt;2500g &amp; for &gt;24 hours</td>
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<tr>
<td>APGAR &lt;7 at 5 minutes</td>
<td>25</td>
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<tr>
<td>Blood transfusion</td>
<td>20</td>
</tr>
<tr>
<td>3º or 4º perineal tear</td>
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- Sum of adverse outcome scores all events/Total # deliveries = WOAS
- Can assess overall significance of the adverse events.
37 % decrease in WAOS

Phase II- 37% WAOS reduction after Saturation of In Situ Simulation and TeamSTEPPS training.

InSitu Simulation at Red Wing

46.6 percent Decrease in Safety Breeches/ Simulation

2007-2008

2009-2010
InSitu Overall Trend at Red Wing

<table>
<thead>
<tr>
<th>Sim 1</th>
<th>Sim 2</th>
<th>Sim 3</th>
<th>Sim 4</th>
<th>Sim 5</th>
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<td>10</td>
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<td>11</td>
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</table>
Phase I results – Maternal harm

Significant maternal harm reductions

- Postpartum hemorrhage, the most common cause of perinatal maternal death in the developed world, by 5.4%
- Cardiac arrest and other cardiac complications by 15%

78 fewer mothers experienced these harms
Phase I results – Neonatal harm

Significant neonatal harm reductions
• Birth hypoxia/asphyxia (can cause infant brain damage) by 25%
• Neonatal birth trauma (minor bruising to nerve damage) by 22%

30 fewer babies experienced these harms
Phase I results – Claims

Decreased liability claims filed per delivery by 39% vs. 10% at non-participating hospitals

Claims filed fell from average of 18 during baseline to 10 in 2009, 8 in 2010 (prelim)

Resolved greater number of claims without payment end of first phase vs. during baseline period
Confucius

“the only thing required for learning...

...is humility”