Disaster Planning for Obstetric Units: OB TRAIN

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Disaster Planning for Obstetric Units

Learning Objectives

- Describe the unique needs of obstetric units during a disaster
- Demonstrate a novel triage tool specifically designed for obstetrical patients (OB TRAIN)
- Discuss strategies for surge capacity and shelter in place

Consider this scenario...

- It is 4 am Sunday night
- Labor and delivery has 7 laboring patients
- 35 mother and babies in postpartum

8.2 earthquake occurs centered in your town
Consider this scenario...

- All electrical circuits are down
- Severe damage to the unit, including the operating rooms
- You must move all the patients out of the hospital

Earthquake risk in next 20 years?

- The chance of a 6.7 magnitude tumbler, equal to the 1994 Northridge Quake, is
  - 97% in Southern California
  - 93% in Northern California
- The likelihood of a 7.5 magnitude quake, 16X more intense, is
  - 37% in Southern California
  - 15% in Northern California

www.iii.org/issue_updates/earthquakes-risk-and-insurance-issues.html

As I hurtled through space, one thought kept crossing my mind – every part of this rocket* was supplied by the lowest bidder - John Glenn

(* think... your hospital)
How to avoid chaos?

We all need a plan.....

“In preparing for battle I have always found that plans are useless, but planning is indispensable.”
-Dwight D. Eisenhower

“What if” planning questions to ask

- How will women in labor be triaged?
- Where will they give birth?
- Are birth kits available?
- Can newborns be cared for at this location?
- Are the shelter facilities adequate for all births? Are they safe?
The Washington Post reported...

- In the days after Hurricane Katrina struck Louisiana, about 125 critically ill newborn babies and 154 pregnant women were evacuated to Woman's Hospital in Baton Rouge.
- It was at least 10 days before some of the infants and mothers were reunited.
- Overall, Katrina affected an estimated 56,000 women and 75,000 infants.

Why are moms at risk in disasters?

- 99% of all births in the US occur in a hospital or clinical setting... which may not be accessible or may be severely damaged during a disaster event.
- During disasters, women experience increased risk of health complications associated with pregnancy (preterm birth, low birth weight infants and infant death).
- Pregnancy increases risk of illness and death in pandemics.
What is unique about OB?

One size ≠ all in a disaster setting for OB patients
- Variety of patient acuity and needs
- Medically stable and unstable antepartum and postpartum
- Immediately post op
- Laboring patients- Can not “stop the process” for transfer

What is unique about OB? (cont.)
- We always have 2 patients
  - Antepartum = mom and fetus
  - Postpartum = mom and newborn

OB Disaster Triage for Evacuation

OB TRAIN* =
TRIAGE by resource allocation for IN PATIENT

*Based on the triage system created by Dr. Ron Cohen for the NICU at LPCH and adapted for OB
Basis of Triage System for OB TRAIN

- Labor status
- Maternal risk factors
- Fetal risk factors
- Mobility
- Anesthesia status

Terminology for TRAIN

Color codes
- Blue = no risk
- Green = low risk
- Yellow = mod risk
- Orange = (only relevant to peds)
- Red = high risk

Transportation needed
- Car
- BLS ambulance (basic ambulance)
- ALS ambulance (advanced life ambulance)
- CCT (peds only)
- Specialized transport (must include transport RN or MD)

OB TRAIN for AP & LD

<table>
<thead>
<tr>
<th>Transport</th>
<th>CAR (Discharge)</th>
<th>BLS (Basic ambulance)</th>
<th>ALS (Advanced ambulance)</th>
<th>SPC (Specialized)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor Status</td>
<td>None</td>
<td>Early</td>
<td>Active</td>
<td>At risk for en route delivery</td>
</tr>
<tr>
<td>Mobility</td>
<td>Ambulatory*</td>
<td>Ambulatory or Non-Ambulatory</td>
<td>Non-Ambulatory</td>
<td>Non-Ambulatory</td>
</tr>
<tr>
<td>Epidural Status</td>
<td>None</td>
<td>Placement &gt; 1 hour**</td>
<td>Placement &lt; 1 hour**</td>
<td>N/A</td>
</tr>
<tr>
<td>Maternal Risk</td>
<td>Low</td>
<td>Low/Moderate</td>
<td>Moderate/High</td>
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Example

• Patient A = 26 year old @ 40 weeks whose water has broken and dilated 3 centimeters
  • Early labor/fetal heart tracing category 1
  • No significant past medical history
  • No epidural

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Example

• Patient B = 32 year old @ 31 weeks with severe preeclampsia undergoing induction of labor sterile vaginal exam=2 cm
  • Early labor/fetal heart tracing category 1
  • Requiring intermittent IV labetalol for blood pressure control
  • On 2 grams of magnesium sulfate IV
  • Non-ambulatory
  • Epidural in place > 1 hour
Transport CAR (Discharge)  BLS (Basic ambulance)  ALS (Advanced ambulance)  SPC (Specialized)

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OB TRAIN for AP & LD

Integration of TRAIN into EMR

- Data from chart in electronic medical record (EMR) will be pulled into TRAIN algorithm
- Allows automatic updates of doctors orders and nurse charting
- Integration minimizes impact to nursing workflow
- Reports from EMR will auto-print for the unit
- Hard copy available q shift in case of electrical failure

OB TRAIN in Action

35 patients on LPCH LD and PP on Jan 8

- Discharge (15)
- Basic (BLS) ambulance (12)
- Advanced (ALS) ambulance (5)
- Specialized Transport (2)
- Delivery imminent (1)
Critical issues for OB Shelter in Place

- Ability to work without technology
  - Monitoring fetus for distress
  - Emergency cesarean section outside of an OR
- Be able to improvise and work outside of your normal setting
  - Access to emergency medications
  - Blood products
  - Light/water/sterility/equipment
- Neonatal needs
  - Resuscitation equipment
  - Medications

Planning Tools – What Else You Need

- Disaster roles
Planning Tools

- Job action sheets
Planning Tools
- Transfer forms
- Rapid discharge forms
- Order forms
- Grab and go supply list

Grab and Go
Emergency Birth Kits
- Sterile Exam gloves
- Disposable scalpel
- Plastic underpad
- Disposable towels
- Receiving Blanket
- Sterile gauze pads
- Umbilical clamps
- Disposable plastic apron
- Plastic bag for placenta
- Twist ties
- OB towlettes
- Lubrication jelly
- Infant hat
- Scrub brush, soap
- Suturing materials & local anesthetics
- IV and LR fluids/tubing
- Satellite phone
- Job aid-laminated card

Surge Capacity
- How to accommodate increased patients in present setting
  - Hallway beds
  - Equipment to accommodate 2 in a room
- What is safe?
  - What staffing is needed?
Lessons from Katrina

- Communications essential but are always a challenge
- Phone lines may be down
- Internet may be off
- All disaster response is local for the first 48–96 hours
- The ability to mobilize resources depends on a pre-existing local collaborative network


Regional and State Disaster Planning

Hospital Levels of Care
Thinking Like an Administrator

• OB unit “personalities” are very independent, accustomed to working in a crisis and may not wait for instructions from the command center
• Lots of crowd control issues due to family centered care
• Expect and plan for influx of the “worried well” pregnant women coming in for reassurance

Thinking Like an Administrator

• Training OB unit staff
  • Train MDs and staff together – need a shared mental model in disaster response
  • Use funds from staff development
  • Do table-top/walk-thru drills
  • Take advantage of statewide disaster drills to practice

Keys to OB Disaster Planning

• Understand and plan for the unique issues surrounding OB patients
• Practice using a rapid evacuation triage system
  OB TRAIN
• Have plans and equipment ready for shelter in place
• Test your environment for surge capacity
• Work on a regional and state level to create a collaborative network for maternity care
• Practice, Practice, Practice
  “Test and stress the plan until it is “broken” to identify parts of the plan that can be revised and improved.”
  - Mahan, Lowe & Hughes, 2007

How to Get Started on a Plan

“None of us is as smart as all of us”

- Warren Bennis
  Professor of Business Administration, University of Southern California

Contact Us

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Are We Ready???

Questions?