Assessment of the OB Patient Presenting to the ED - Transfer

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Favorite Thanksgiving Food
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EMS Credits

Send Marleine EMS license #

In Chat put in name and facility

Must attend live Zoom Meeting
Simulation Updates

- Working on a virtual simulation format
- Our Team is excited to develop this type of format
- Developing agendas for in-person site visits
- Simulation Workshop specifically for ED’s
Majority of prenatal transports are for fetal indications
• In the US, infant morbidity and mortality is associated with very low weight births (< 1500 grams)
• These deliveries only make up 1.4% of deliveries

13 percent of females of reproductive age do not live within a 50-mile radius of an obstetric and neonatal intensive care unit

# of hospitals without maternity services is increasing which has led to:
• More maternal transfers
• More births in hospitals without maternity care units
• More preterm births
• More out-of-hospital births
DISTRIBUTION OF OB/GYNS (245)*
2018

*Includes General Obstetrics & Gynecology only

Source: Iowa Health Professions Tracking Center, Office of Statewide Clinical Education Programs,
UI College of Medicine, May 2019
MATURENITY CARE IN THE RURAL USA

In 1985, 24% of rural counties lacked OB services. Today, 54% of rural counties are without hospital-based obstetrics.

More than 200 rural maternity wards closed between 2004 and 2014.

Half of rural women live more than 30 mins drive to maternity unit.

Higher incidence of:
- Chronic conditions
- Poverty
- Travel barriers

Putting pregnant women at risk

Higher incidence of out of hospital birth and other pregnancy complications
Access in Iowa is ~18 OB providers per 100,000 prospective mothers
MATERNITY CARE IN RURAL IOWA 2013-2018
COUNTIES WITHOUT L AND D UNIT

5x incidence of out of hospital birth in counties without L and D unit (2.5%)

Distance to drive to L and D unit
  24% less than 30 minutes
  62% 30-60 minutes
  14% 60 minutes or more

Unpublished data IDPH, UICCOM Office Statewide Programs
WHY DO MATERNITY UNITS CLOSE?

July 2019 OB Workforce Study from the Wisconsin Office for Rural Health:

Lack of provider coverage
Providers unable to keep up skills
Low or reduced volume of deliveries compared to cost of keeping unit staffed 24 x 7 x 365.
100 births/year seems to be the critical threshold
11 of Iowa’s 63 remaining maternity units deliver <100/year
Neonatal Levels of Care

• Level 1: Well Newborn Nursery (typically 35 weeks and above)
• Level 2: Special Care Nursery (typically 32 weeks and above)
• Level 3: NICU
• Level 4: Regional NICU
Levels of Maternal Care

• Level 1: Birth centers, basic care
• Level 2: Specialty care
• Level 3: Subspecialty care
• Level 4: Regional perinatal health care centers
Emergency Medical Treatment and Labor Act

- Governs transfer of patients from hospitals that accept CMS or DHS funds
- All patients receive a medical screening exam
  - Determines if emergency exists
  - Provides for stabilizing treatment
- Appropriate if:
  - Patient makes a written request
  - Facility does not have capability to treat
  - Facility does not have capacity to treat
Emergency Medical Treatment and Labor Act

• For pregnant patients at a facility that provides maternity care:
  • Not stabilized until infant and placenta are delivered
  • Otherwise, can only be transferred if:
    • Patient or representative make that request
    • Medical personnel certify that benefits outweigh the risk

• For pregnant patients at a facility that DOES NOT provide maternity care:
  • Transfer benefits may outweigh the risks

• Early labor: Not considered an emergency condition

• If transfer is not medically necessary, patient responsible for cost
Indications for Transport

- Neonatal indications – infant will require the higher level of care
  - Preferable to transferring the neonate after delivery
- Transfer before delivery is results in better infant outcomes than postnatal transfer
- Transfer before delivery avoids separation of the mother from her newborn
Maternal Indications for Transport

- Preterm labor
- Preterm rupture of membranes
- Severe gestational hypertension or other hypertensive complications
- Antepartum hemorrhage
- Medical complications of pregnancy such as diabetes, renal disease, hepatitis
- Multiple gestation
- Intrauterine growth restriction
- Fetal abnormalities
- Inadequate progress in labor
- Malpresentation
- Maternal trauma
Barriers

• Perception (by patients or providers) that facility can:
  • Provide appropriate level of neonatal care
  • Provide appropriate level of maternal care
• Finances
Contraindications

• Lack of an appropriate modality for safe transfer
• Weather and road conditions too hazardous for safe travel
• Maternal condition insufficiently stabilized
• Delivery is anticipated before transport completed
• Unstable fetal condition threatening to deteriorate rapidly
• Patient declines transfer
Planning and Logistics

• Transferring facility should initiate stabilization and treatment efforts

• Inter-facility agreements should be in place that formalize the relationship between the transferring and receiving facilities
  • Clearly delineate each facility's responsibilities
  • Service must be available 24 hours/day.

• Formal protocols for all aspects of the transfer process should be developed at both the transferring and receiving facilities
Planning and Logistics

• The receiving facility should be able to provide the appropriate level of care for both the mother and the newborn

• Good communication between the referring facility, transport team, and receiving facility is essential

• An appropriately equipped, rapid mode of transport to the receiving facility should be available.

• The transport team should be able to:
  • Provide a timely response
  • Have the training and experience to assess the patient's status, determine appropriateness of transfer, and provide appropriate monitoring and care during transport
Evaluation - Patient Condition

• Vital signs
• Cervical examination
• Membrane status
• Fetal heart rate pattern
• Uterine contractions
• Pertinent laboratory
• Ultrasound results
Communication

• Essential information for the transport team includes:
  • Gestational age
  • Diagnosis
  • Reason(s) for transfer
  • Patient condition
  • Intended mode of transport
  • Medications
  • Estimated blood loss and blood products transfused
  • Medical/obstetric history
Responsibility

• Referring physician and hospital are responsible until arrival at the receiving facility
  • Unless the receiving facility is sending the transport team
  • Then receiving facility assumes responsibility for the patient once they leave the transferring hospital

• Each facility should have a clear understanding of its responsibilities before, during, and after the transport

• Medical direction during transport may be provided by the referring physician, accepting physician, medical director of the transport agency, or a combination
Mode of Transport

• Factors for Determination:
  • Availability of different modes of transport
  • Patient acuity
  • Weather
  • Distance
  • Time
  • Ground conditions
  • Cost

• Air transport requires take-off and landing sites
• Air transport may involve additional transfer of the patient by ground ambulance from take off and landing sites
Helicopter

• **Advantages over ambulance transport:**
  • Patients insufficiently stable for ambulance transport may be candidates for more rapid transfer by helicopter
  • Costs can be competitive with ground transport costs
  • Particularly advantageous where timely transport is essential
    • e.g., pregnancy at the limit of viability in advanced preterm labor where delivery at a facility unprepared to handle resuscitation of a peri-viable fetus may substantially impact likelihood of neonatal survival

• **Disadvantages over ambulance transport:**
  • Limits physical access to the patient
Equipment

• Depend on:
  • Type of transport
  • Patient acuity
  • Vehicle utilized
  • Distance between facilities

• Minimum equipment required:
  • Assess maternal vital signs
  • Perform resuscitation (of mom and baby) if indicated
    • Includes airway management
General Equipment

- Maternal transfer form
- Stethoscope
- Thermometer
- Emesis basin
- Flashlight
- Sphygmomanometer (BP cuff)
- Doppler (battery operated or fetal stethoscope)
- Infusion pump (battery operated)
- Sterile gloves (3 pairs, various sizes)
- Peri-pads
- Sterile lubricant
- Antiseptic solution
IV Fluids and Maternal Medications

- 1000 cc 5% D/W
- 1000 cc Ringer’s Lactate
- 2 IV set ups
- Tape
- Tourniquet
- Catheters: 2 each of # 16, # 18, # 20
- Butterfly: 2 of # 21
- Assorted needles and syringes
- Alcohol swabs
- 5 ampules magnesium sulphate 1 g/amp
- 4 ampules oxytocin 10 units/mL
- 2 ampules hydralazine 20 mg/amp
- 2 ampules Valium 10 mg/amp
- Indomethacin 50 mg suppositories or nifedipine 10 mg tablets
Emergency Birth Sterile Kit

• 1 pair scissors
• 2 Kelly’s forceps
• Six 4 x 4 gauze squares
• 1 small drape
• DeLee mucous suction or a mechanical suction and # 10 Fr. suction catheters
• 2 cord clamps
• 2 plastic bags (placenta and garbage)
• Blanket for baby
• Mylar emergency blanket
Infant Resuscitation Equipment

- Neonatal laryngoscope and small straight blade, size 0
- Neonatal self-inflating bag and masks, sizes 0, 1, 2, to administer 100% oxygen
- Clear endotracheal tubes with stylets and connectors, size 2.5 to 4
- Epinephrine 1:10 000 – 1 mL ampules x 3 or preloaded syringes
- Naloxone 0.4 mg/mL – 1 mL ampules x 3 or preloaded syringes
- 1 mL syringes
- 2 mL syringes
- # 20 needles
- # 25 needles
- Orogastric feeding tubes
- Elastoplast tape and scissors
Adult Resuscitation Equipment

• Oxygen – check availability and amount in ambulance
• Self-inflating bag and mask
• Airway equipment
Monitoring During Transport

• Maternal vital signs should be obtained and recorded every 15 minutes
  • More frequently if dictated by the patient's condition
• Frequency of uterine contractions should be noted and documented
• Transported in a left lateral decubitus or sitting position
• Supportive care for nausea, vomiting, and/or anxiety
  • Intravenous (IV) medication options to treat nausea and vomiting
  • Lorazepam 1 to 2 mg may be used alone or in combination with an antiemetic for patients with more significant anxiety issues.
• Continuous electronic fetal heart rate monitoring may be limited
  • space for the monitor
  • early gestational age
  • turbulence or movement
• Type and frequency of fetal monitoring should be discussed by the sending, receiving, and transporting teams
Key Interventions – Preterm Labor

• Obtain maternal vital signs and assess fetal status
• Perform a vaginal examination if:
  • Intact membranes
  • No contraindications
• Determine fetal presentation
• Check urinalysis
• Obtain Group B Streptococcus (GBS) culture and initiate GBS prophylaxis
Key Interventions – Preterm Labor

• Test for fetal fibronectin
• Screen for gonorrhea and chlamydia
• Administer magnesium sulfate for fetal neuroprotection
• Administer tocolysis
• Administer betamethasone 12 mg intramuscular (IM) or dexamethasone 6 mg IM prior to transport
Key Interventions – Preterm Labor with Rupture of Membranes

• Obtain maternal vital signs and assess fetal status
• Confirm diagnosis
• Determine fetal presentation
• Do not perform digital vaginal examination unless:
  • Delivery is believed to be imminent
  • Otherwise, speculum exam usually sufficient
• Assess for clinical evidence of chorioamnionitis
Key Interventions – Preterm Labor with Rupture of Membranes

• Initiate intravenous (IV) antibiotics for prophylaxis or treatment
• Administer tocolysis
• Administer betamethasone 12 mg IM or dexamethasone 6 mg IM
• Administer magnesium sulfate for fetal neuroprotection
Key Interventions – Third Trimester Bleeding

• Obtain maternal vital signs and assess fetal status
• Do not perform a vaginal examination until placenta previa has been ruled out
• Determine fetal presentation
• Determine likely cause of bleeding
• Estimate total blood loss and potential for on-going hemorrhage
• Check maternal hemoglobin and hematocrit
• Document any blood products transfused
• Maintain more than one IV site
• Place a bladder catheter to monitor urine output
• If indicated:
  • Administer magnesium sulfate for fetal neuroprotection
  • Administer tocolysis
  • Administer betamethasone 12 mg IM or dexamethasone 6 mg IM
Key Interventions – Hypertensive Disorders

- Assess maternal symptoms:
  - Headache
  - Visual changes
  - Epigastric pain
  - Nausea and vomiting

- Obtain maternal vital signs and assess fetal status
- Administer a loading dose of magnesium sulfate prior to transport
- Place a catheter and monitor intake and output
- Provide supplemental oxygen as needed to maintain O2 saturation ≥95 percent
- Perform laboratory evaluation for transaminases (aspartate transaminase, alanine transaminase), platelet count, hemoglobin, hematocrit, creatinine, and proteinuria (see "Preeclampsia: Clinical features and diagnosis")
- Document reflexes, edema, visual acuity
- Institute seizure precautions
- Assess for signs and symptoms of features of severe disease
- Administer antihypertensive medications if indicated
- Manage seizure activity
Case Study:

• Rural Hospital X, Rural County X, Iowa
• Patient presents to the ER check-in desk but refuses to sign in
• She is in obvious labor and asks to talk to a nurse
• She reports to the nurse that she is pregnant with twins
• She has been told that she will need a repeat c-section
• She has also been informed by her OB Provider that Rural Hospital X does not do c-sections
• She reports that she does not have enough money for gas to get to Rural Hospital Y which has the capability to do a c-section
Case Study:

- What should Rural Hospital X do if a patient presents to their ED in labor but needs a c-section?
- Can the patient be transferred by ambulance?
- If there is no way to do a c-section and the patient has progressed to a point where she is unsafe for transport, what do they do?
- Can EMS by-pass Hospital X and go to Hospital Y (which provides the service) or do they have to come to us since we are the nearest facility?