OB’s In The ER
How Can Rural ER’s Reduce Maternal Mortality and Morbidity in Iowa
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Simulation Subcommittee
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HRSA State Maternal Health Innovation Program

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Vision

• Evidence based best clinical practices, such as the AIM bundles are used in every maternal care unit in Iowa.

• In readiness for bundles, regular interdisciplinary team drills are practiced in every maternal care unit in Iowa.

• Hospitals without OB units have the skills to provide emergent care, and stabilize patient until transfer to appropriate care facility.
Our Team:
Simulation-Based Education and Communication Subcommittee

Kokila Thenuwara, MD, MBBS, MME, MHCDS
Jeana Forman, MSN, RNC-OB, C-EFM
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Marleine Burmeister, MBA, PMP
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Disclosures:

I have no financial disclosures

I do have a few personal disclosures

• I am not an expert
• I am not a professional speaker
• I like quotes
• I like to tell stories
• I live in the country in the southern most part of Iowa – so I apologize for any internet issues.
• My allergies are on a rampage today
• Most important: I am passionate about rural maternal care and safety.
Maternity Deserts
Maternity Oasis
County Level Availability of OB Units in Iowa with Count of Trauma Facilities 11.20.20

Iowa Department of Public Health, Bureaus of Health Statistics and Family Health. Debra J. Kane, PhD, RN
County of delivery and hospital status among deliveries that occurred at non-delivery hospitals, occurrence births, Iowa, 2016-2019

Iowa Department of Public Health, Bureaus of Health Statistics and Family Health. Debra J. Kane, PhD, RN
A pregnant person walks into your ER
I am having a baby

Leon to Des Moines = 70 miles
Corydon to Leon = 23
Lamoni to Leon = 16 miles
relationship
[rəˈlāSH(ə)nˌSHip]
NOUN
the way in which two or more people or organizations regard and behave toward each other.
Program Timeline

9/2019 IDPH awarded HRSA Grant to reduce Maternal M & M

IMQCC and Subcommittees Formed

Covid-19 shutdown March 2020

11/20 – ENA and AWHONN Consensus Statement

Outreach to non-OB ER’s 2/2021 Needs Assessment

4/26/2021 Introduction of OB/ER Outreach Program

Iowa wins major federal grant to improve maternal health care | Carver College of Medicine (uiowa.edu)
HRSA Rural Health Care Services Outreach Program | Grant Bulletin (uiowa.edu)
Background

• Statement with two national nursing organizations

EMTALA Resources
• PowerPoint Presentation (iowa.gov)
• Obstetric Triage & EMTALA Regulations (nwhjournal.org)
Training

- Needs Assessment – Development and Distribution
- Formation of Virtual Didactic Training
- Formation of Virtual Simulation Training
- Formation of in person Simulation Training
Didactic Training

- Available in the virtual environment
- Available at individual facilities when allowed
- Specific topics in each presentation
- Didactic presentations will be ~ 1 hr in length
- Facilities can make appointments for training
- Will be recorded
Topics

- Assessment of a Pregnant Woman
- Maternal Early Warning Signs
- Post Partum Hemorrhage
- Hypertension
- Preeclampsia/ Eclampsia
- Trauma
- Delivery
- OB Emergencies
  - Shoulder Dystocia
  - Prolapsed Cord
- Normal Transition of the Newborn
- Resuscitation of the Newborn
- Transfer of an OB Patient per specific topic
- Post Birth Warning Signs
- Closed Loop Communication
- Team Dynamics
  - The 3 D’s
- Pregnant or PP Covid patients
Guidelines

- Checklists
- Protocols
- Supply Lists
- Simulations
Guidelines

- Checklists
- Protocols
- Supply Lists
- Simulations
Checklists

• Binders for each topic
• Detailed checklists for each topic
• Easily accessible in unit
• Staff familiar with checklists
Guidelines

- Checklists
- Protocols
- Supply Lists
- Simulations
Protocols

- Evidence Based Best Practice Guidelines
- Professional organizations
  - AIM, ACOG, AWHONN, CQMCC
- Algorithms – We all love algorithms
- Emergency Department Recognition and Delayed Postpartum Preeclampsia and Eclampsia
- Facility Specific – related to resources

2. Physical examination
- Measure blood pressure and pulse rate.
- Uterine height: record on graph.
- Check for multiple fetuses.
- Fetal lie, presentation (breech, transverse).
- Fetal heart sounds: use pinard stethoscope.
- Generalized edema.
- Other signs of disease: shortness of breath, cough, etc.
- If bleeding or spotting: Do not do vaginal examination (see section on APH).

3. Laboratory
- Urine: Urine analysis for infection (preferably multiple dipstick test to detect urinary-tract infection); if still positive after being treated at a previous visit, refer to hospital. Repeat.
- Proteinuria test only if the woman is nulliparous or she has a history of hypertension, pre-eclampsia or eclampsia in a previous pregnancy.
- US to exclude placenta previa, if external cephalic version is considered.

4. Implement the following interventions:
- Iron: continue

5. Advice, questions and answers, and advice on post-term management
- Repeat the advice given at previous visits.
- Give advice on measures to be taken in case of the initiation of labor or leakage of amniotic fluid.
- Give advice on breast-feeding.
- Questions and answers: give time for free communication.
- Reconfirm written information on what to do and where to go (place of delivery) in case of labor or any other issue.
- Schedule appointment: if the woman do not deliver by end of week 41 (state date and write it in the ANC card).
- Schedule appointment for postpartum visit. Provide recommendations on lactation and contraception.
EMERGENCY DEPARTMENT RECOGNITION and TREATMENT: FOCUS ON DELAYED POSTPARTUM PREECLAMPSIA and ECLAMPSIA

Mark Meyer, MD, Kaiser Permanente, San Diego

BACKGROUND:
Hypertensive disorders including preeclampsia and eclampsia are one of the leading causes of maternal morbidity and mortality. While there has been an overall decrease in the frequency of eclampsia, the frequency of postpartum and delayed eclampsia has increased making it more common for patients to present to the Emergency Department (ED) with symptoms. Postpartum or delayed preeclampsia/eclampsia is frequently associated with Posterior Reversible Encephalopathy Syndrome (PRES; see pg 88). Although obstetric consultation is warranted in every case of preeclampsia, emergency physician should be knowledgeable of and comfortable with the initial management.

Since many of these patients will present to an ED, education of ED personnel and application of diagnosis and treatment protocols are important steps in reducing morbidity and mortality associated with postpartum preeclampsia and eclampsia.

Emergency physicians should have a higher index of suspicion in order to improve the recognition and treatment of postpartum preeclampsia and eclampsia. This may require gathering historical information regarding a recent pregnancy from family members; it is important to remember that:

1. Up to 36% of eclamptic seizures occur beyond 48 hours and as late as four to six (4-6) weeks after delivery. However, most of these cases occur in the first seven (7) days after delivery.

2. As many as 76% of these patients have no previous diagnosis of hypertensive disease with the antecedent pregnancy.

3. If medical records are not immediately available, treating personnel may have no knowledge that the patient has recently delivered, resulting in a decreased index of suspicion.

4. While the clinical presentation of delayed postpartum preeclampsia may be atypical, the most common complaint is headache in up to 60% of patients. Headache in a recently pregnant patient will likely be isolated but should prompt an investigation into the possibility of delayed postpartum preeclampsia.

Seizures in the first and early second trimester (<20 weeks) or well into the postpartum period probably are due to Central Nervous System (CNS) pathology and warrant full evaluation, including computed tomography (CT) scanning of the head, lumbar puncture (if clinical evidence of meningitis or concern for hemorrhage exists), determination of electrolyte levels and urine or serum toxicologic screening. Do not overlook other neurologic causes of seizure, particularly if the seizure occurs more than 24-48 hours after delivery.

RECOMMENDATIONS FOR QUALITY IMPROVEMENT:

1. ED triage protocols must identify patients who are currently pregnant or have delivered in the previous six (6) weeks. If the patient’s medical records are not available, then simple questioning of the patient, family, Emergency Medical Services (EMS), etc., may provide this information. This information must then be clearly communicated to the treatment team.

2. ED personnel should be familiar with the risk factors and characteristics of delayed postpartum preeclampsia and eclampsia.

3. Do not overlook other neurologic causes of seizure, particularly if the seizure occurs more than 48 hours after delivery.

4. Implementation of the CMQCC protocol (see Appendix F, pg.108-109) protocol for diagnosis and treatment of preeclampsia and eclampsia in the Emergency Department. This can be reinforced through the use of educational tools in other sections of this toolkit and with the use of drills and simulations.

EVIDENCE GRADING
Level of Evidence: C

REFERENCES


Guidelines

- Checklists
- Protocols
- Supply Lists
- Simulations
Supply Lists – Toolbox

• Basic “tools” - supplies
• What will you put in your toolbox?
• Have on hand and know where it is
• Know what they are for
• Know how to use them
• Each topic might have its own “space”
Guidelines

- Checklists
- protocols
- Supply Lists
- Simulations
It won’t happen
We don’t deliver babies
We don’t take care of pregnant moms
There is a hospital down the road with maternity services
No one here knows how to take care of moms and babes
Simulations

<table>
<thead>
<tr>
<th>Simulations are about failing</th>
</tr>
</thead>
<tbody>
<tr>
<td>High risk/low frequency events</td>
</tr>
<tr>
<td>Run through simulations</td>
</tr>
<tr>
<td>• This is where you find what you don’t know, or don’t have available</td>
</tr>
<tr>
<td>Help plan resources that will be needed</td>
</tr>
<tr>
<td>Virtual Simulations</td>
</tr>
<tr>
<td>• In-Person simulations (when allowed)</td>
</tr>
<tr>
<td>Can tailor to specific facility needs</td>
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</tbody>
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Mobile Simulations

- Mobile Simulation capabilities to bring to your facility.
- Different fidelity levels available
- Different Simulations available
Tentative Didactic Calls

- **3\textsuperscript{rd} Monday of each month – Noon – 1:30 pm**

- **Upcoming Dates and Topics**
  - May 17\textsuperscript{th} Maternal Assessment
    - MEWS (Maternal Early Warning Signs)
    - Physiological Changes of Pregnancy
    - PBWS (post birth warning signs)
    - Transfer an OB patient – if and when indicated
  - June 21\textsuperscript{st} Care and Transfer of the Maternal Trauma Patient
Tentative Didactic Calls

- Upcoming Dates and Topics
  - July 19th, 2021
    - *Preeclampsia*
    - *Eclampsia*
    - *Gestational Hypertension*
    - *Late onset preeclampsia/eclampsia*
    - *Transfer of a maternal hypertensive patient*
Hot Off The Press !!

Identification and Management of Perinatal Emergencies in Non-Obstetric Settings Arlene Remick, MPH and Catherine Turvey, MPH
Pregnancy-Related Deaths

Postpartum is a high-risk period for adverse maternal events

**TIMING OF PREGNANCY-RELATED DEATHS**
- 24% during pregnancy
- 34% day of delivery or within 24 hours postpartum
- 19% 7-42 days postpartum
- 24% 43-365 days postpartum

**Leading underlying causes of pregnancy-related deaths**
- 14% Cardiovascular and Coronary Conditions
- 13% Hemorrhage
- 11% Infection
- 10% Embolism
- 9% Cardiomyopathy
- 9% Mental Health Conditions
- 8% Preeclampsia and Eclampsia

Emergency Management of Pregnant and Postpartum Patients

- Postpartum individuals with OB complications may seek emergency care in non-obstetric settings, including:
  - Emergency Medical Services transport
  - Hospital-based emergency department
    - Rural hospital emergency department with limited or no obstetrical support
  - Stand-alone emergency room
  - Urgent care facility
Thank You

I would like to acknowledge the following people who helped this loooooong ago ER nurse. The following people were my resource as clinician non OB professionals.

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• Cody Babbitt ER RN
Questions ?
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