Maternal Resuscitation – Anaphylaxis

Rating Levels:
1 – Team meets all criteria
2 – Team meets criteria with minimal prompting
3 – Team requires retraining to meet criteria

Rating Team Competency Criteria:

OVERVIEW
The care team will:

*1) Listen to the initial **scenario** presented by the group facilitator*
*2) Hold a **briefing** session to discuss risk factors and roles after the facilitator presents the initial case (limit to five minutes)*
*3) Simulate patient care management (**teamwork in action**). The facilitator intervenes as little as possible. (limit to 30 minutes)*
*4) Participate in a structured **debriefing** lead by the facilitator. (approximately one hour)*

Videotape to playback sections during debriefing if possible.

INITIAL SCENARIO
"Although most pregnant women are generally young and healthy, many clinical situations and complications could lead to a cardiac arrest in a pregnant woman. Some of these risk factors may be present simply because of the pregnancy, (i.e. embolisms), but some pregnant women have additional risk factors. Before we proceed with the drill on maternal resuscitation, identify some risk factors or clinical situations that may lead to a cardiac arrest."

_____ **Brief: Identifies Risk Factors for and Causes of Cardiac Arrest**

- ☐ Hypertensive disorder of pregnancy
- ☐ Embolism (thrombotic, amniotic fluid, air, fat)
- ☐ Hemorrhage (placenta previa, abruption placenta, uterine rupture, and postpartum)
- ☐ Surgery or Trauma
- ☐ Infection
- ☐ Anesthesia
- ☐ Cardiomyopathy or other heart conditions
- ☐ Cocaine Use
- ☐ Tobacco use
- ☐ Thyroid Storm
- ☐ Pre-gestational diabetes
- ☐ Family history early myocardial infarction or hypercholesterolemia
- ☐ Anaphylaxis

"As a healthcare professional in an obstetrics unit, what measures will you take to always be prepared for a maternal resuscitation?"

_____ **Brief: Prepares Adequately for Resuscitation**

- ☐ Maintain clear access routes to the patient and emergency supplies
- ☐ Routinely check emergency supplies, such as oxygen and suction
- ☐ Check crash cart regularly, including the function of the equipment (oxygen, suction, defibrillator) and be familiar with its contents
- ☐ At the beginning of every shift, designate roles for staff members if a code is called, so everyone will know what to do right away (code leader, code assistant, desk monitor, and all others will assume temporary care of other patients on the unit until the situation is resolved)

_____ **Brief checklist: Team preparation**

- ☐ Who is on core team? Ensures adequate staffing for delivery (whenever feasible, have two nurses present for delivery)
- ☐ All members understand and agree upon goals?
- ☐ Roles and responsibilities understood?
- ☐ Plan of care?
- ☐ Staff availability?
- ☐ Workload?
- ☐ Available resources?

"A 21 year old G1P0 at 39 weeks by LMP c/w a seven week ultrasound was admitted to the unit in active labor at 5 cm. FHR is reassuring. You are currently trying to locate her medical record. She speaks minimal English, and her primary language is Spanish. You've requested an interpreter, but they have not arrived. You are waiting to complete a full assessment until the interpreter arrives, but you have been able to obtain basic information. You call the laboratory and find that the patient is group B strep positive. What information do you need with regards to group B strep prophylaxis?"

_____ **Teamwork in action: Assesses for allergies prior to administering medication**

"When you ask about allergies, the patient says, 'No,' and you give her 5.0 million units of IV penicillin. Shortly after, she has a large amount of emesis and says she 'feels funny.' She is very pale and is breathing rapidly."

Facilitator now observes the team in action to evaluate their performance.

Facilitator throws in challenges: significant other passes out or objects to needed intervention, magnesium not available, bed unplugged, language barrier …

_____ **Teamwork in action: Identifies signs of deterioration**

- ☐ Identifies likelihood of an anaphylactic reaction
- ☐ Alerts the Rapid Response Team (insert your facility's emergency notification process here):

  _____

  _____

  _____

  _____
- ☐ Notify Anesthesia
- ☐ Positions patient in recumbent position with lower extremities elevated and hip roll to displace the uterus

- ☐ Provides supplemental oxygen in the patient room
- ☐ Requests crash cart and pulls out critical supplies
- ☐ Requests preparation of epinephrine and Benadryl
- ☐ Anticipates early intubation by preparing intubation supplies
- ☐ Obtains HR, blood pressure and oxygen saturation

"The rapid response team has not arrived yet. Her blood pressure was 90/45, but the patient lost consciousness and stopped breathing. What you will do next?"

_____ **Teamwork in action: Identifies need to initiate Primary CABDEs (Circulation, Airway, Breathing, and Defibrillation): Airway and Breathing**

- ☐ **Although the American Heart Association changed the Basic Life Support sequence from ABC to CAB in 2010, Advanced Cardiac Life Support providers should tailor the sequence of actions to the most likely cause of the arrest. In this case, Airway and Breathing need to be addressed first**
- ☐ Assesses airway by looking for rhythmic chest/abdominal movement, listening for exhaled breath sounds and feeling for air on the cheek
- ☐ Locates equipment
- ☐ Notes time of apnea (knowing the four-minute rule if no pulse or breathing for perimortem cesarean)
- ☐ Positive pressure ventilation according to AHA guidelines (Each breath given over one second, watching for chest rise)
- ☐ After two breaths have been given, the pulse is checked using the carotid artery

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"You palpate a rapid pulse."

- ☐ Provides rescue breathing at a rate of one breath (over 1 second) every five to six seconds

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"The rapid response team (or facility term:_____) arrives to help you with emergency and successfully intubated the patient. Her heart rate is 130 and blood pressure is 88/40. Continue your care."

_____ **Teamwork in action: Coordinates Treatment for Anaphylaxis**

- ☐ Benadryl
- ☐ Consider steroids (IV Solu-Medrol
- ☐ Epinephrine per ACLS
- ☐ Volume expanders

"You are unable to obtain a blood pressure for the patient. She is cyanotic."

_____ **Teamwork in action: Continues Primary CABDs: Circulation**

- ☐ Determines if patient is pulseless and identifies possible need for chest compressions
- ☐ Provides firm support for the back. Locates available backboards and uses them
- ☐ Position patient in left tilt to minimize aortocaval compression
- ☐ Demonstrates appropriate landmarks for compressions slightly higher than normal placement on sternum to adjust for elevation of diaphragm and abdominal contents caused by gravid uterus.
- ☐ Chest compressions started at a rate of 30 compressions to 2 breaths; 100 bpm if intubated

- ☐ Ensures full chest recoil
- ☐ Ventilations at a regular rate one breath every six to eight seconds (8 to 10 breaths/minute) and chest compressions can be delivered without interruption.
- ☐ Assigns roles to staff that respond to the code
  - Airway
  - Chest compressions (two or three persons to rotate; rotate every 2 minutes)
  - Medications
  - Recorder
  - Runner
  - NRP qualified staff for neonatal care if cesarean delivery is needed
- ☐ Recorder informs code staff every two minutes for rhythm checks

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"The time is two minutes since her cardiac arrest. Additional resources include the most recent ACLS Guidelines Handbook from the crash cart."

_____ **Teamwork in action: Continues Primary CABDs: Defibrillation**

- ☐ Removes external and internal fetal monitoring
- ☐ Attaches defibrillator to patient with the leads in the correct position
- ☐ Turns monitor on and lead II is selected to view the rhythm
- ☐ Verifies that no one is touching the patient by stating, "I'm clear, you are clear, we are all clear."
- ☐ Charges defibrillator to 200 Joules or less on a biphasic defibrillator (or per manufacturer recommendation) and delivers one shock
- ☐ Ensures two large-bore IV's are in place
- ☐ If patient has a shockable rhythm (VT/VF), give one shock, 120 to 200 joules then five cycles of CPR. If still in a shockable rhythm, give a second shock at 200 joules and resume five cycles of CPR
  - Epinephrine 1 mg IV/IO and repeat every three to five minutes **OR** one dose of vasopressin 40 U IV/IO and replace the first or second dose of epinephrine then five more cycles of CPR
- ☐ If patient still has a shockable rhythm, give a third shock at 200 joules and resume CPR. Consider antiarrhythmics during CPR
  - Amniodarone 300 mg IV/IO once, then consider an additional 150 mg IV/IO once **OR** lidocaine 1 to 1.5 mg/kg first dose, then 0.5 to 0.75 mg/kg IV/IO, maximum three doses or 3 mg/kg.
- ☐ Rotates people doing chest compressions every two minutes when rhythm checks are performed

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"You are now over three minutes into the code, and the patient still does not have a pulse. What is your next step?"

_____ **Teamwork in action: Facilitates cesarean delivery**

- ☐ Initiates cesarean section* (May incorporate emergency cesarean delivery drill)
- ☐ Continues maternal resuscitation efforts during cesarean delivery

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"The patient stabilized after receiving more volume expanders and a dopamine drip."

_____ **Teamwork in action – Initiates secondary CABDs:**

Verify that IV lines are maintained and patent

- ☐ Monitor cardiac rhythm and vital signs; intervene as indicated
- ☐ Search for and treat reversible causes

_____ **Teamwork in action teamwork – core tools:**

- ☐ **Huddle** (for critical issues and emerging events)
- ☐ **Situation Monitoring**: STEP (Status of patient; Team members; Environment; Progress towards goal)
- ☐ **Shared Mental Model**
- ☐ **SBAR** (Situation; Background; Assessment; Recommendation)
- ☐ **Check back** (closed loop communication)

_____ **Teamwork in action teamwork – other appropriate tools:**

- ☐ Cross monitoring (monitoring actions of other team members)
- ☐ Feedback (Timely; Respectful; Specific; Directed toward improvement; Considerate)
- ☐ Advocacy and assertion (Advocate for patient; Assert corrective action in firm and respectful manner)
- ☐ Two-challenge rule for informational conflict; Anyone can "stop the line" after concern voiced twice
- ☐ CUS (I'm Concerned; I'm Uncomfortable; This is a Safety issue)
- ☐ I'M SAFE checklist (Illness; Medication; Stress; Alcohol and Drugs; Fatigue; Eating and Elimination)
- ☐ Collaboration (Win/win; commitment to common mission)
- ☐ Call out (for critical information)
- ☐ Handoff

"Your patient is delivered and the neonate is stable. What complications will you assess for in the mother and infant?"

_____ **Teamwork in action content: Assesses possible maternal complications**

- ☐ Airway, breathing, circulation
- ☐ Coagulation studies
- ☐ Transfer to intensive-care setting
- ☐ Treatment for coagulopathies
- ☐ Treatment for hypotension
- ☐ Treatment for uterine atony
- ☐ Neurological consult if neurological deficits present

_____ **Teamwork in action content: Assesses possible neonatal complications**

- ☐ Hypoxic brain injury (Obtains cord blood gases)
- ☐ Death

"When and how will you discuss the emergency with the family?"

_____ **Discusses effective communication with patient and family members**

"Tell me about what you will document and what forms are needed in your facility for adequate documentation (including applicable policies)."

_____ **Discusses adequate documentation**

"Is there a plan in your facility to debrief emergency situations? What can be learned and/or gained from debriefing session?"

_____ **Debriefing**

- ☐ What went well and why?
- ☐ What could have gone better and why?
- ☐ What would you do different next time?

- ☐ Communication clear?
- ☐ Roles and responsibilities understood?
- ☐ Situation awareness maintained?
- ☐ Workload distribution?
- ☐ Did we ask for or offer assistance?
- ☐ Were errors made or avoided?
- ☐ Did our team have a shared and understood plan of care?

Facilitator now discusses team performance during the drill, reviewing points of success and recommendations for improvement.

Date: _____

Observer: _____ Title:_____

Participants:

_____ _____
_____ _____
_____ _____

Summary of Training:

Competency Validated (circle one) YES NO
If no, discuss the areas of concern and repeat the scenario and document below

Competency Validated following remediation YES NO
If no, unit leaders must be informed so re-education and training can be addressed