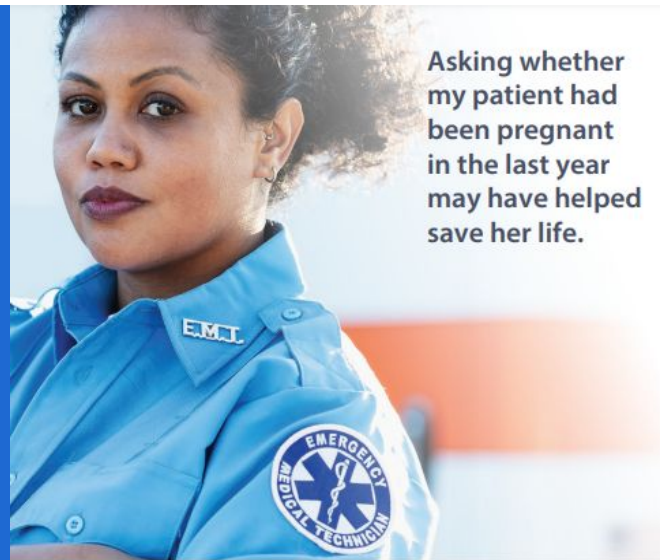


First on Scene

Essential Skills for Prehospital Obstetric Emergencies



Ascension



Asking whether my patient had been pregnant in the last year may have helped save her life.

Life-threatening complications can happen up to a year after pregnancy. Most pregnancy-related deaths are preventable.

Ask whether your patient is pregnant or was pregnant in the last year.

Connect her to the care she needs right away.



Learn more at cdc.gov/HearHer



Who are you?
What geographical areas do you provide service?
What is your clinical background?

Please answer in the chat



Objectives

** NOT ALSO, NRP or NALS Course

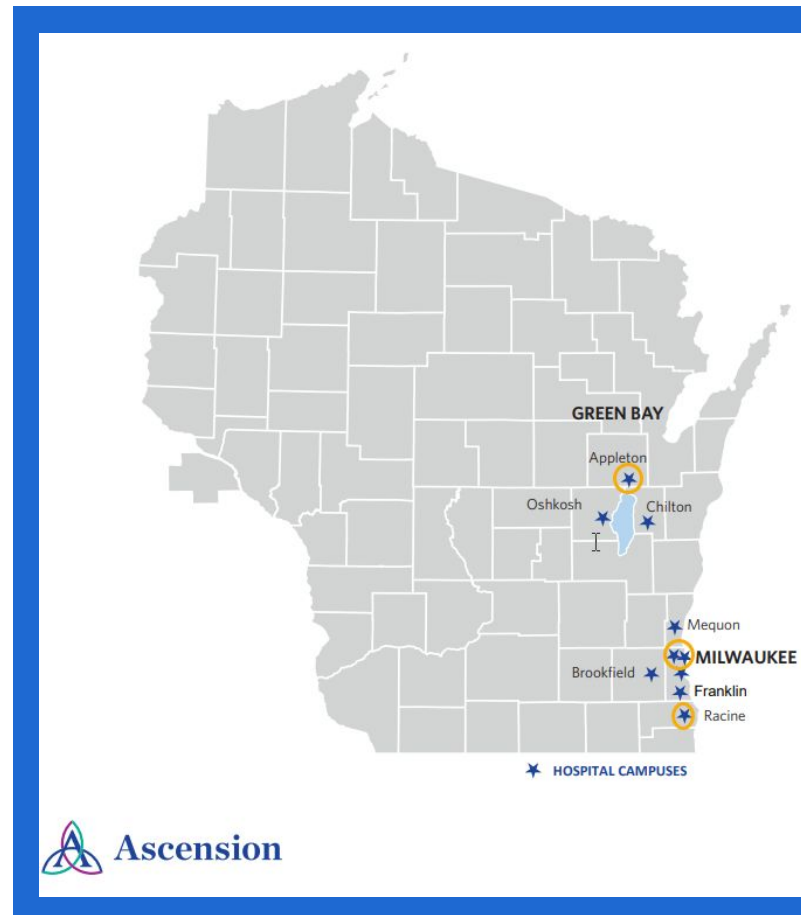
- Recognize maternal warning signs for common OB emergencies
- Implement basic interventions for management of OB emergencies
- Discuss adaptations needed when managing cardiac arrest in pregnant person
- Discuss management of precipitous delivery in a home environment

Although we may use the words “women”, “mother”, “mom” and “maternal” throughout this presentation, we recognize the existence of diversity in gender identity and acknowledge that not all people who present to care self identify as women or exclusively as women. We encourage all providers to ask individuals what words they use to describe themselves and their bodies as part of respectful, sensitive & culturally appropriate care.



Ascension WI

- 10 hospitals
- 4 Labor and Delivery units all with Level III NICU
 - St Elizabeth’s
 - All Saints
 - St Joseph’s
 - Columbia St Mary’s
- 2 OBED’s
- >5,200 babies delivered annually



Early Warning Signs

SAVE YOUR LIFE:

Get Care for These POST-BIRTH Warning Signs

Most women and postpartum people who give birth recover without problems. But anyone can have a complication for up to one year after birth. Learning to recognize these POST-BIRTH warning signs and knowing what to do can save your life.



<p>Call 911 if you have:</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Pain in chest <input type="checkbox"/> Obstructed breathing or shortness of breath <input type="checkbox"/> Seizures <input type="checkbox"/> Thoughts of hurting yourself or someone else
<p>Call your healthcare provider if you have: (you only need one sign) <small>(If you can't reach your healthcare provider, call 911 or go to an emergency room)</small></p>	<ul style="list-style-type: none"> <input type="checkbox"/> Bleeding, soaking through one pad/hour, or blood clots, the size of an egg or bigger <input type="checkbox"/> Incision that is not healing <input type="checkbox"/> Red or swollen leg, that is painful or warm to touch <input type="checkbox"/> Temperature of 100.4°F or higher or 96.8°F or lower <input type="checkbox"/> Headache that does not get better, even after taking medicine, or bad headache with vision changes

Tell 911 or your healthcare provider:

"I gave birth on _____ and I am having _____"
(Date) (Specific warning sign)



- These post-birth warning signs can become life-threatening if you don't receive medical care.
- Pain in chest, obstructed breathing or shortness of breath (trouble catching your breath) may mean you have a blood clot in your lung or a heart problem
 - Seizures may mean you have a condition called eclampsia
 - Thoughts or feelings of wanting to hurt yourself or someone else may mean you have postpartum depression
 - Bleeding (heavy), soaking more than one pad in an hour or passing an egg-sized clot or bigger may mean you have an obstetric emergency

Coming Soon: Neonatal Warning Signs

URGENT MATERNAL WARNING SIGNS

- Headache that won't go away or gets worse over time
- Dizziness or fainting
- Thoughts about hurting yourself or your baby
- Changes in your vision
- Fever
- Trouble breathing
- Chest pain or fast-beating heart
- Severe belly pain that doesn't go away
- Severe nausea and throwing up (not like morning sickness)
- Baby's movements stopping or slowing
- Vaginal bleeding or fluid leaking during pregnancy
- Vaginal bleeding or fluid leaking after pregnancy
- Extreme swelling of your hands or face
- Overwhelming tiredness

If you have any of these symptoms during or after pregnancy, contact your health care provider and get help right away.

If you can't reach your provider, go to the emergency room. Remember to say that you're pregnant or have been pregnant within the last year.



This program is supported by funding from Merck through Merck for Mothers. Merck for Mothers is known as MED for Mothers outside the United States and Canada. AWHONN thanks Kansas for commercial support of the translations of this handout. ©2023 Association of Women's Health, Obstetric, and Neonatal Nurses. All rights reserved. Unlimited print copies permitted for patient education only. For all other requests to reproduce, please contact permissions@awhon.org. 36005

Vital Signs

	Normal Pregnant	Concerning
Heart Rate	60-100	>110 at rest*
Respiratory Rate	12-20	>22*
Pulse Ox	>=95% on Room Air	Use supplemental O2 to maintain Pox
Blood Pressure	No change	>140 / 90 >160 / 110 Hypertensive Emergency
Temperature	No change	>=100.4F*, increase temperature increases metabolic and oxygen demands birthing person & baby
MAP	No change	<65

*Presence of any 2 of these meets SIRS criteria for pregnancy/immediate postpartum, if infection is suspected





Delivery Supplies



Precipitous/Uncomplicated Delivery

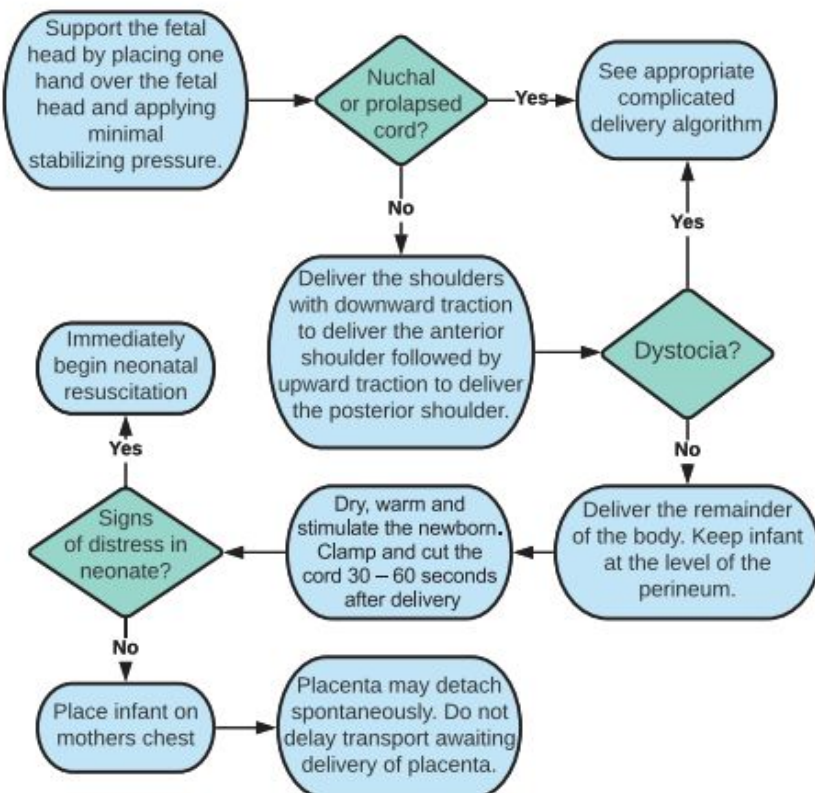
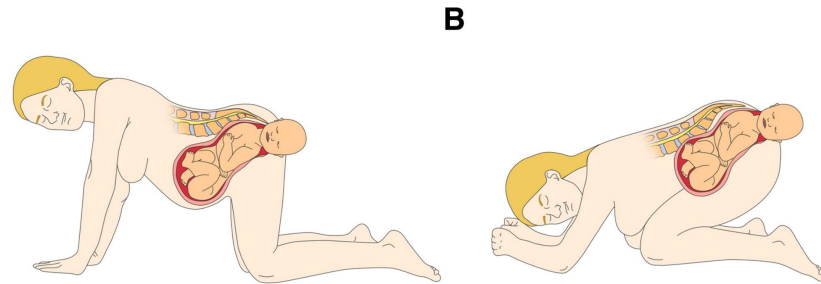
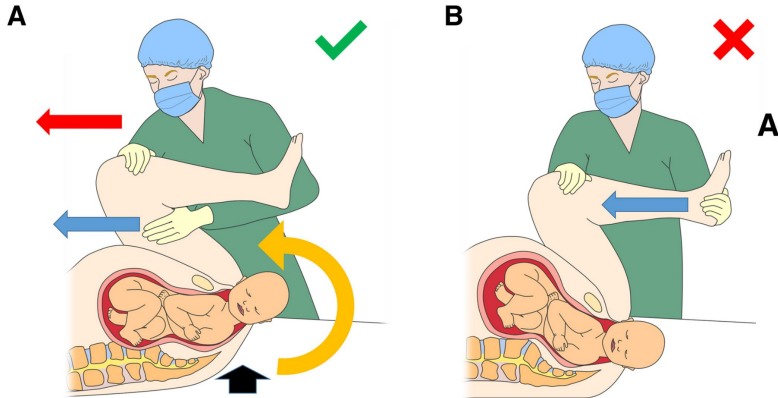
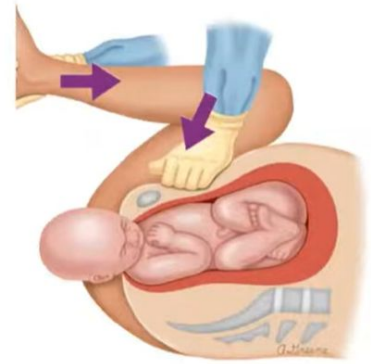


Image: <https://en.wikipedia.org/wiki/Childbirth>



Shoulder Dystocia

- Turtle Sign
- McRoberts
- Suprapubic pressure to attempt to dislodge shoulder.
- Gaskin
- Attempt to angle baby's head as posteriorly as possible but NEVER pull.
- Continue with delivery as normal once the anterior shoulder is delivered.

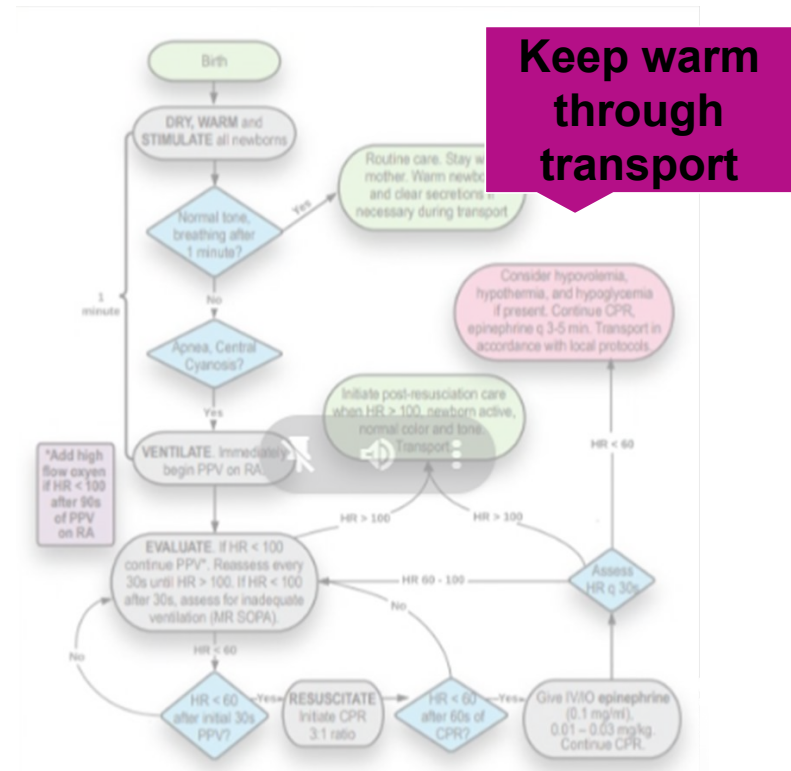


Newborn Care

Warm, Dry & Breathing

- **Warm & Dry** & stimulate to promote transition to neonate
- HR > 100
 - HR < 100 or respiratory distress - PPV
 - PRE Ductal Pulse Ox (R hand/wrist), EKG
 - HR < 60 after airway/ventilation (< 1%)
- Tone - flexed
- Color - pink centrally
 - Acrocyanosis is normal at birth

[Grunting and flaring \(Audio\):](#)
[Grunting & Retractions Visual \(24-45s\)](#)



Acrocyanosis

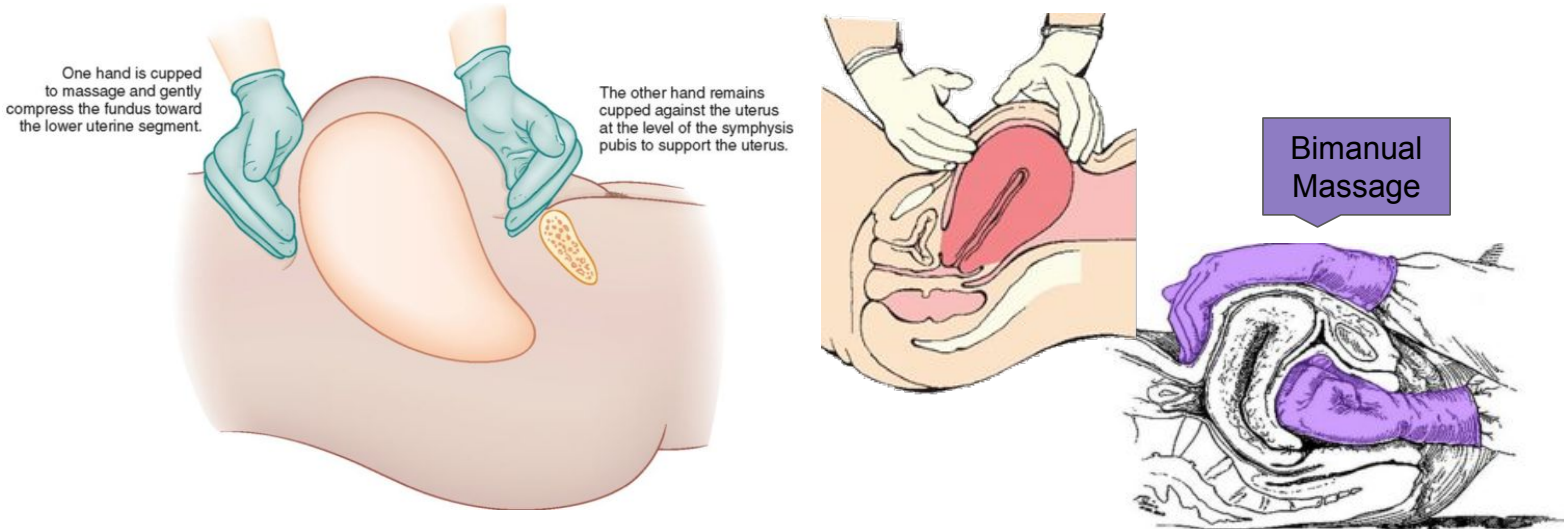


Live Childbirth Video from Global Health Media
[“Helping Babies Breathe at Birth”](#)



Fundal Assessment & Massage for Hemorrhage Prevention

A fundal assessment is performed Q15 minutes to assess and prevent PPH. Fundal massage is necessary as it stimulates the uterus to contract clamping off blood vessels at the placenta site. The fundus should remain firm to help prevent hemorrhage.



Images: <https://coreem.net/core/post-partum-hemorrhage/>
<https://clinical.stjohnwa.com.au/clinical-skills/obstetrics/postpartum-haemorrhage>

Quantify Blood Loss



PREGNANCY BIRTH & BEYOND

Visual Estimate of Blood Loss in an Inflatable Birth Pool

100mls

300mls

500mls

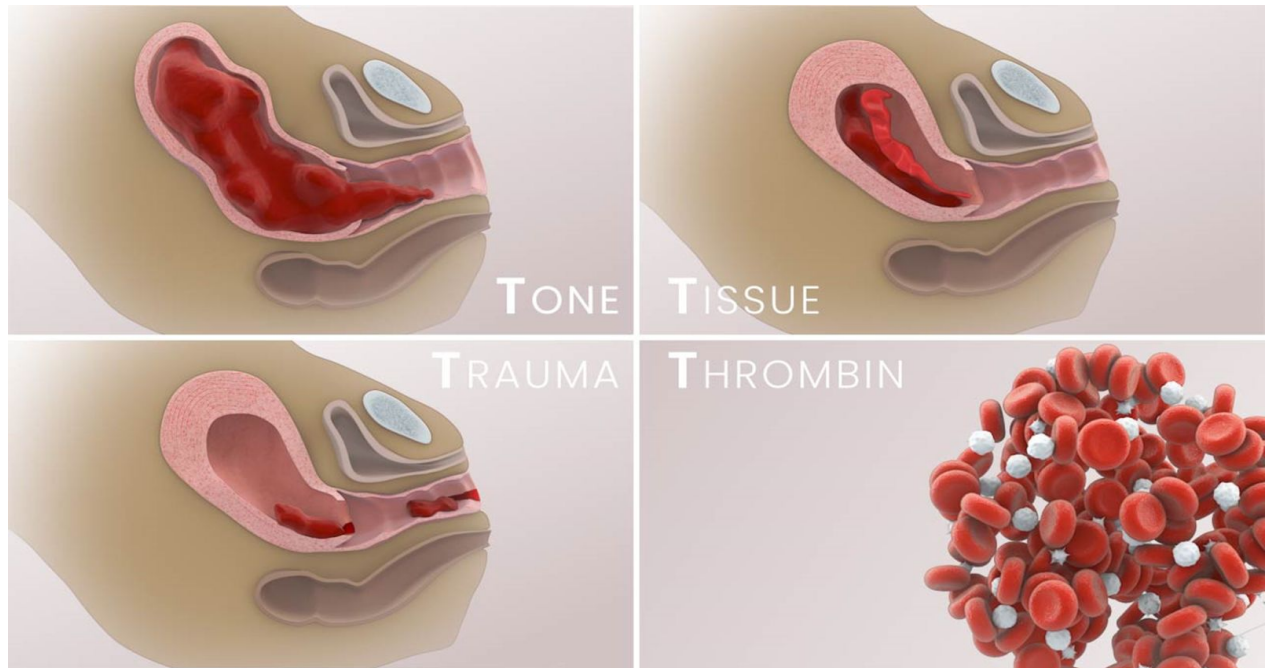
1000mls

Each amount was measured and poured into the water in the inflatable birth pool. Water was ~37 degrees Celsius. We used real blood (not simulated).

www.pregnancy.com.au



Four Ts of Hemorrhage



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Medications for Postpartum Hemorrhage

Uterine Atony (Tone)

- **Oxytocin (Pitocin™) 10 units/mL IM - prophylaxis & treatment**
- Methylergonovine (Methergine®) 0.2 mg/mL IM (*refrigeration required*)
- Carboprost (Hemabate®) (15-methyl PG F2a) 250 mcg/mL IM (*refrigeration required*)
- Misoprostol (Cytotec®) 600 mcg tablets buccal

Prevent clot breakdown (Thrombin)

- Tranexamic Acid (TXA) 1gm IV



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Fundal Assessment/Massage: [Tiktok video](#)

Immediate Care After Birth: https://youtu.be/1a0_cDrvrCo?si=fQkhHHDjlp3tuw04

Managing Third Stage of Labor (Placental Delivery):

https://www.youtube.com/watch?v=_JgOjTdAW-M&list=PLxVdpaMfvxLBhxWfYh7-5MWCii2v9Utfh&rco=1

Bimanual Massage/Uterine Compression (Global Health):

<https://www.merckmanuals.com/professional/multimedia/video/uterine-compression>

Manual Aortic Compression: [https://www.ajog.org/article/S0002-9378\(24\)00929-3/abstract](https://www.ajog.org/article/S0002-9378(24)00929-3/abstract)



CVD & HTN

Red Flags for Cardiovascular Disease

- Shortness of breath at rest
- Chest pain at rest, with minimal exertion or ripping/tearing in quality
- Palpitations associated with near syncope
- Severe orthopnea
- Resting HR ≥ 120 bpm
- Resting systolic BP ≥ 160 or < 90
- Resting RR ≥ 25
- Oxygen saturation $\leq 94\%$, with or without personal history of CVD
- Loud systolic murmur, diastolic murmur, S3, or S4
- Wheezing, crackles on lung exam
- Distended neck veins

Other Signs and Symptoms

may be vague but can include:

Chief Complaints

- Dyspnea
- Edema
- Cough
- Change in exercise tolerance
- Paroxysmal nocturnal dyspnea (PND)

Physical exam findings

- Desaturation with ambulation
- Murmur
- Peripheral edema

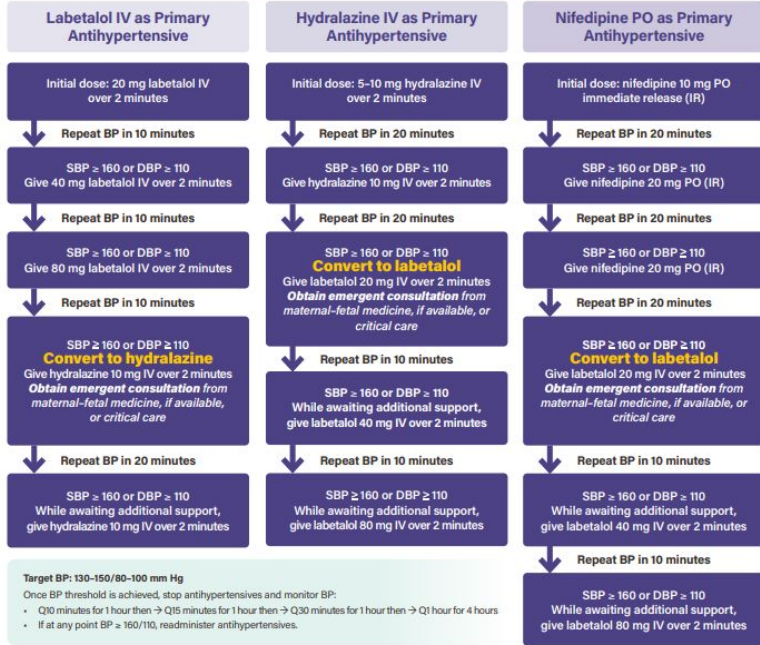


Treatment Recommendations for Sustained Systolic BP ≥ 160 mm Hg OR Diastolic BP ≥ 110 mm Hg*

*Antihypertensive treatment and magnesium sulfate should be administered simultaneously. If concurrent administration is not possible, antihypertensive treatment should be first priority.

Management Considerations — Choose any of the three agents as primary antihypertensive but consider the following:

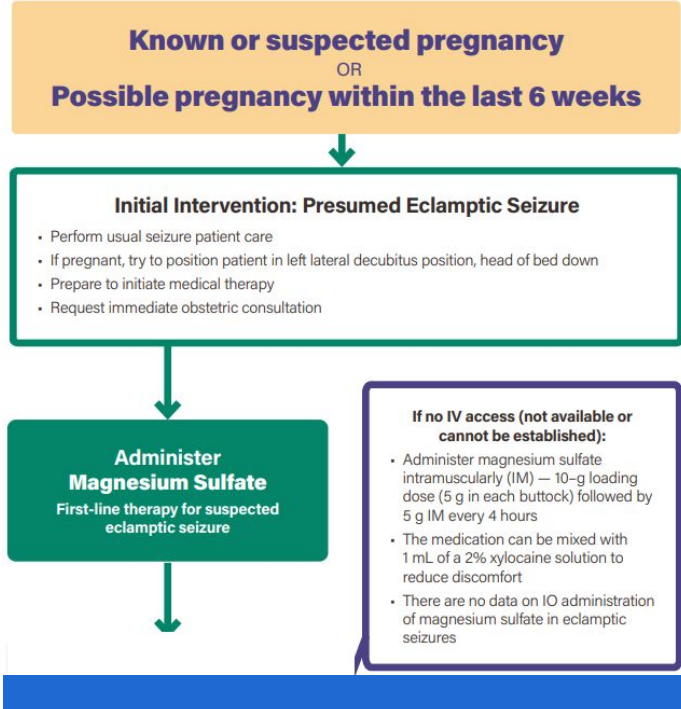
- If no IV access initially, choose nifedipine.
- If the patient has a history of asthma **OR** is bradycardic, choose hydralazine or nifedipine as the initial agent.



Target BP: 130-150/80-100 mm Hg
Once BP threshold is achieved, stop antihypertensives and monitor BP:
• Q10 minutes for 1 hour then → Q15 minutes for 1 hour then → Q30 minutes for 1 hour then → Q1 hour for 4 hours
• If at any point BP $\geq 160/110$, readminister antihypertensives.

Adapted from Druzin ML, Shields LE, Peterson NL, Sakowski C, Cape V, Morton CH. Improving Health Care Response to Hypertensive Disorders of Pregnancy, a California Maternal Quality Care Collaborative Quality Improvement Toolkit, 2021.

Eclampsia Algorithm

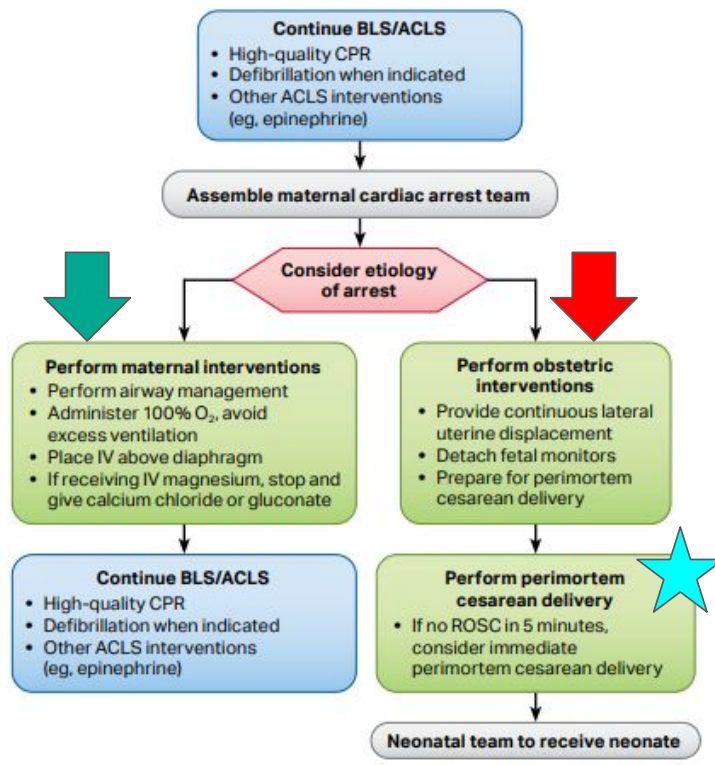


Maternal Cardiac Arrest

Potential Etiology of Maternal Cardiac Arrest

- A** Anesthetic complications
- B** Bleeding
- C** Cardiovascular
- D** Drugs
- E** Embolic
- F** Fever
- G** General nonobstetric causes of cardiac arrest (H's and T's)
- H** Hypertension

Cardiac Arrest in Pregnancy In-Hospital ACLS Algorithm

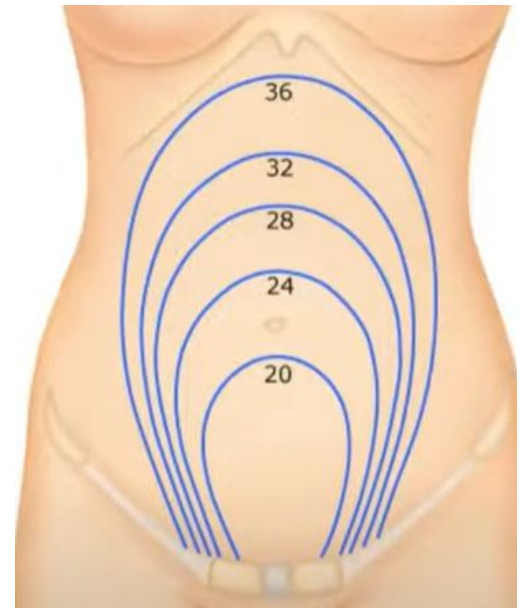


Maternal Cardiac Arrest

Uterine displacement (Push/Pull)

Do not delay for fetal heart tone monitor/check

Shortest possible interval to delivery - Transport STAT!



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Transportation

Safety !!

Avoid supine if pregnant

- Sidelying
- High fowler's
- Hands/Knees, if cord prolapse (trendelenburg?)

Prevent neonatal hypothermia

- Skin to skin
- Blankets
- Thermal mattress
- Bag/Saran Wrap

Availability of OB Services

- **Advance notification** to hospital to alert ED, OB and Neonatal teams



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Testing Child Restraint Devices for Ambulances

On June 8, 2024, NASEMSO will conclude a 15-month project—Method for Testing Child Restraint Devices in Ground Ambulances—funded by the National Traffic Highway Safety Administration’s (NHTSA) Office of Emergency Medical Services (OEMS). This project takes the critical, initial steps to improve the safety of children transported by ambulance.

Method for Testing Child Restraint Devices in Ground Ambulances Project Overview

This project is the first phase of a three-step process to develop, validate, and publish these three new child restraint test methods. The focus of this first phase was to draft crash test methodology intended to evaluate the safety of commercially available devices used to secure children in the back of an ambulance. Test methods were drafted for three unique transport situations:

1. supine pediatric patients;
2. seated pediatric patients or child passengers; and
3. supine neonatal patients.



Neonatal Transport

Keep Warm



KangooFix Neonatal Restraint System



Emergency Child Restraint

SMALL	MEDIUM	LARGE
4-18lb 2-8kg	13-46lb 6-21kg	42-110lb 19-50kg

Key Takeaways

Precipitous Delivery

- Cut/Remove clothes
- Support perineum to control delivery of head
- Clamp/Cut cord after 30-60 seconds

Newborn Resuscitation

- WARM, DRY & BREATHING
- Transport skin to skin if possible

OB Hemorrhage

- Fundal massage
- IM Oxytocin if available
- Treat like trauma patient

Shoulder Dystocia

- Don't pull
- No Fundal Pressure
- Maneuvers & position changes

Cord Prolapse

- Elevate presenting part
- Notify hospital STAT

Maternal Cardiac Arrest

- Uterine displacement (push/pull - no tilt)
- ACLS
- Hospital STAT - resuscitative CS



Resources to Learn More

ACEP Childbirth & Newborn Resuscitation Toolkit for EMS (includes videos & algorithms):

<https://www.acep.org/pediatrics/education/education-articles/managing-childbirth-and-newborn-resuscitation-toolkit-for-the-ems-provider>

ACOG: Identify and management OB emergencies in Non Obstetric Settings (ED,EMS,UC)

https://www.acog.org/programs/obstetric-emergencies-in-nonobstetric-settings?utm_source=vanity&utm_medium=web&utm_campaign=programs#acog

AIM OB Emergencies in NonOB Settings:

https://saferbirth.org/wp-content/uploads/FINAL_AIM_OERRK.pdf

Global Health Media: Childbirth Series:

https://youtube.com/playlist?list=PLxVdpaMfvxLBhxWfYh7-5MWCii2v9Utfh&si=qjO_xucUH-gRte6

Helping Babies Breathe: <https://globalhealthmedia.org/video/helping-babies-breathe-at-birth/>

OB readiness in ED:

https://www.ihs.gov/sites/MCH/themes/responsive2017/display_objects/documents/obredmanuald



Questions?

Contact information

Courtney.pickar@ascension.org



Thank you for all you do for
our pregnant & postpartum
families!



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