



# Empowering Obstetric Care



## Mastering Trainer Techniques for Hypertensive Emergency Simulation

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DATE: May 30<sup>th</sup>, 2025

# Objectives

- Verbalize the benefits of simulation related to hypertension disorders of pregnancy
- Describe the components of implementing simulation
- Describe the debriefing process and the importance for self-reflection
- Understanding of various modalities of simulation and able to choose at least one method to consider implementation



# Creating better teams through simulation

- Improve outcomes
- Teamwork & Communication-
  - Improve interprofessional relationships
  - Safety without consequences
- Identifies gaps
- Allows for self-reflection



# Challenges to simulation

- Time
  - Lack of training
  - Belief it is not useful
- Lack of space or equipment
  - Complicated scheduling
  - Lack of funding
  - Staffing
- Concerns of engagement



# Logistics

Stakeholders Buy-in

Administration  
Employees/staff  
Learners  
Instructors  
Certification agencies

Preparation and  
scheduling

Facilitators  
Timeframe  
Inclusion with interprofessional teams  
Review of objectives  
Utilization of equipment and tools if available or time allows  
Debriefing guidelines

# Pre-simulation Preparation



## **Learning Objectives:**

3-5 objectives

Skills

Communication

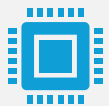
Identification

Management



## **Roles & Responsibilities:**

Assign specific roles



**Materials and Equipment:** prepare and anticipate for the unexpected



# Education & Skill building



## **Provide education prior for simulation vs drills**

Newsletters

Flyers

Online platform

In person staff meetings



## **Practice skills prior to simulation in stations**

Accuracy in B/P monitoring- manual cuff if available

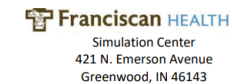
Deep tendon reflexes

Review of policies



# Where to start?

- Saferbirth.org
- Thesimstech.org
- Healthysimulation.com
- AHRQ.gov
- CMQCC- Hypertension toolkit
- ACOG
- AIM – OB/ED sims
- AWHONN POEP modules & administrative simulation scenarios
- AWHONN escape rooms neonatal and perinatal
- Quality OB within HealthStream (online platform)
- Vendors websites



## SIMULATION SCENARIO DESIGN WORKSHEET

Today's Date:		Name of Scenario Author:	
		Email:	
		Phone:	
<b>GENERAL SCENARIO INFORMATION</b>			
Est. Pre-briefing Time:	Est. Scenario Time:	Est. Debriefing Time:	Course #:
Title of Scenario:			
A. Hypertension in pregnancy-assessment of patient			
Brief Description:			
39.2 W HTN, induction for labor. Placed in labor room at 0600. Consents signed and patient placed on FHR monitor.			
Setting of Sim: L/D room			
Facilitators:			
Dates of Sims:		Pilot Date :	

# Steps to Curriculum Development

## Steps

1. Needs identification
2. Needs analysis of targeted learners
3. Goals & objectives
  - SMART goals
4. Educational strategies
5. Implementation
6. Evaluation and feedback

## Work needed

- Needs assessment & review of literature
- Identification of new educational tool or method
- Development of scenarios
- Descriptive study of implementation
- Assessment tool
- Cost effective analysis report

# Simulation concepts

- Realism
  - Reliability
  - Validity
    - Content
    - Construct
    - Face
    - Predictive
  - Feasibility
- Should occur in conjunction with other curriculum programming
  - Used for both formative and summative assessments and is most valuable when integrated throughout the training curriculum



# Readiness

Anyone can use the tools for success

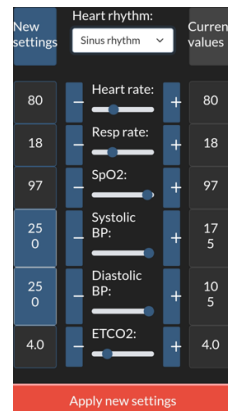
- Includes prebuilt scenarios
- Equipment and set up instructions
- Debriefing tools
- Equipment care
- Standardized patients
  - Patient – live actor or manikin
  - Family

## Simulation High or Low Fidelity?

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- Perform sims even without the high tech
- Equipment suggestions:
  - Task trainers- pelvis
  - Mamma Natalie
  - Gaumard Noelle





Nifedipine 10mg Capsule

Strength: 10 MG  
 Pill Imprint: IMI 10  
 Color: Red-brown  
 Shape: Capsule



# Resources

- Create vitals simple cue cards or printed vitals
  - NRP app
  - Metronomes for FHR
  - Control vitals
- Photos of equipment
- Stickers on empty bottles for meds (label maker)

## Equipment

- Start with a basic kit- expired supplies
- Blood- Halloween stores, red sugar free jello
- Sweat- 1/3 glycerin + 2/3 water
- Cleaning supplies/ baby wipes

## What do you want to do now?

Click one of the buttons below to continue:

Control vital signs

Use this device as the controller - update the vital signs and waveforms which will be displayed on the monitor

Display patient monitor

Display the patient monitor, showing vital signs and waveforms



# Day of simulation

# PREBRIEF

- Introductions to facilitators and team
- Orientation to room and equipment
- Promote psychological and emotional safety
- FOLLOW the code of conduct:

## 3P's

**P**rofessional

**P**articipate with purpose

**P**rivate



### OB SIMULATION AGREEMENT

- Welcome and thank you for coming to Simulation
- We hope today will be a great opportunity for learning and opportunity for team communication. Today is not a test or a competition!
- Our goals are:
  1. Utilize clinical skills to maintain patient stability and safety during an obstetrical event.
  2. Practice communication an emergent situation, focusing on SBAR- Situation, Background, Assessment, and Recommendations; including closed loop communication.
  3. Participate in a debriefing with opportunity for growth.
- To make the most of this EDUCATIONAL OPPORTUNITY.
  1. Participate as a professional - treat it as a realistic patient care experience!
  2. Challenge yourself- this is an environment where mistakes are okay and plan on them to learn!
  3. Engage as a team
  4. Don't let "sim-isms" subtract from your learning.


Simulation is also a safe environment. I will maintain and hold confidential all information regarding the performance of myself and all individuals of team!

Name: \_\_\_\_\_ Date: \_\_\_\_\_

# Expectations of roles

**Hypertension Role Playing**

Primary clinician/ Nurse	Provider	Charge RN	Second clinician/ RN/ Support staff/ Runner
Assessment- vitals & Sx Call for help- SBAR to all • Provider notification to include when bedside evaluation is expected	Give orders for meds and treatment Bedside evaluation & give orders	Help with safety- seizure pads, suction & O2 • May serve as Team Leader • Delegate tasks if available • Assist medication within 60 min • Recorder • Secure pads	Help with safety- seizure pads, suction & O2 IV access/ labs Utilize the protocol & algorithms
Administer medication within 60 min & document Patient support- stay & support, consent & education	Follow up on status & labs Informed consent and patient debriefing		



## Do you have team expectations?

- Rapid response teams/ OB rapid response
- Charge RN roles/ House supervisor/ Triage or Resource nurse
- Provider
- Anesthesia
- Recorder
- Ancillary services (as applicable for the scenario)
  - Laboratory
  - Blood bank

## Role playing

- Provide scripts for actors from those who would normally perform those roles
  - Needed if acting in a different capacity than normal
- Name badge for roles



# Hypertension Role Playing

Primary clinician/ Nurse	Provider	Charge RN	Second clinician/ RN/ Support staff/ Runner
Assessment- vitals & Sx	Give orders for meds and treatment	Help with safety- seizure pads, suction & O2	Help with safety- seizure pads, suction & O2
Call for help- SBAR to all <ul style="list-style-type: none"> <li>• Provider notification to include when bedside evaluation is expected</li> </ul>	Bedside evaluation & give orders	<ul style="list-style-type: none"> <li>• May serve as Team Leader</li> <li>• Delegate tasks if available</li> <li>• Assist medication within 60 min</li> <li>• Recorder</li> <li>• Seizure pads</li> </ul>	IV access/ labs
Administer medication within 60 min & document	Follow up on status & labs		Utilize the protocol & algorithms
Patient support- stay & support, consent & education	Informed consent and patient debriefing		

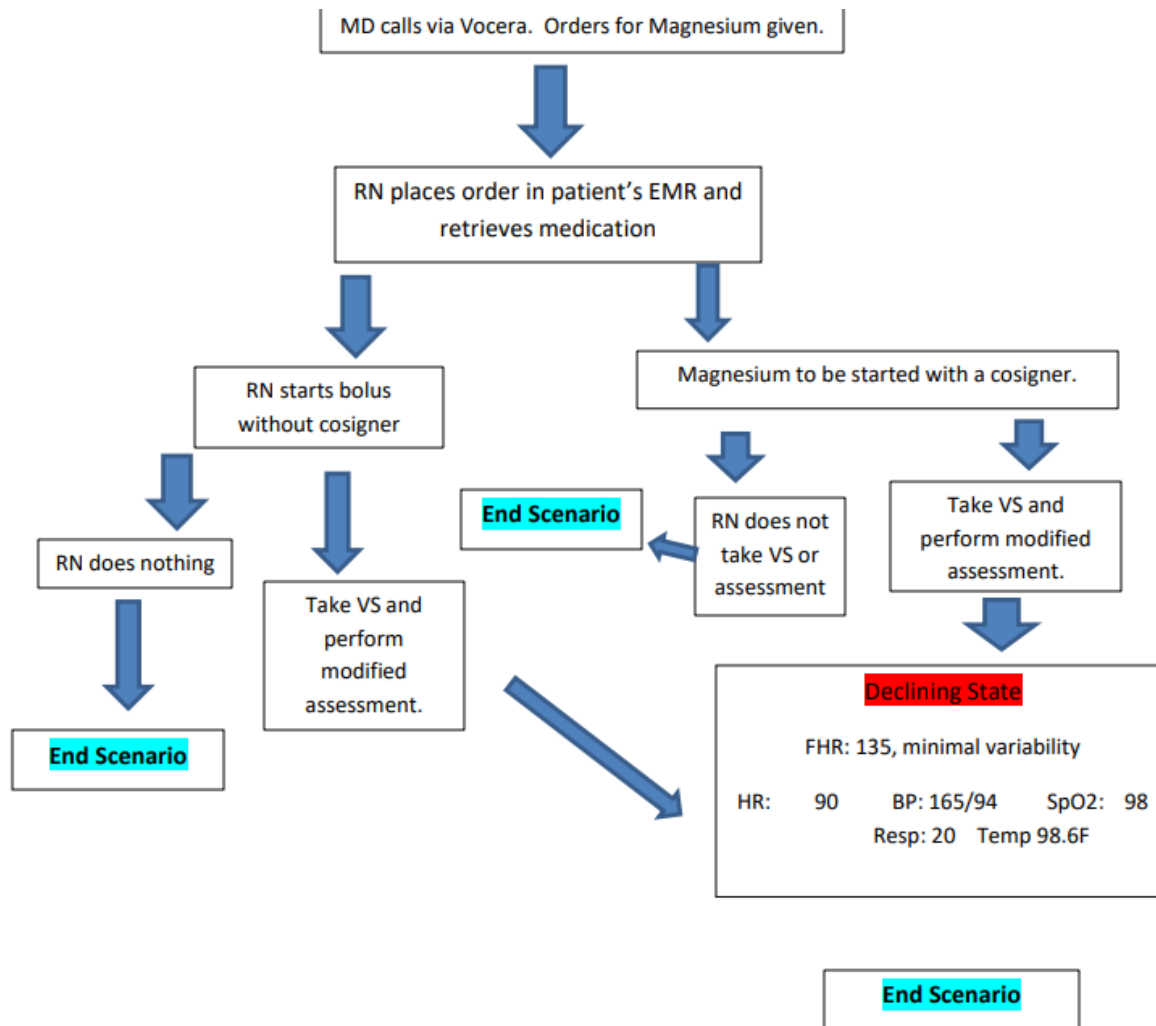
# Conducting the Simulation

**Scenario Setup:** Describe the environment and context of the simulation.

- Facilitator- primary focus is communication
- Timeline
- Rules of participation
- Videotaping for debriefing, deleted after

**Intervention Protocols:** Outline the immediate care needed, algorithms and policies utilized, pharmacological interventions, and transport protocols.

**Barriers-** consider issues that may normally come up in an emergency, (ex: multiple family members, language barrier, emotional escalation)



©Franciscan Health

## Facilitator role:

- Include steps for patient evaluation blood pressure monitoring, urinalysis, etc.
- Redirect as needed
- Cues to refocus & promote psychological safety
- Take notes to assist with debriefing

# Debriefing

## Key concepts:

- Experience Sharing:  
Facilitate a discussion about observations and feelings.
  - How do you feel?
  - What went well?
- Review Outcomes
- Feedback and Improvement



## Facilitating the Debrief

- Observe for key behaviors related to objectives
- Allow an opportunity for all team members to speak “1- minute sound bite for the quiet people”
- Use open ended questions and allow for participants to answer
- Self discovery is powerful



# Things that will blow-up your debriefing:



Concentrating on Simulation Limitations



Clinical Issues



Problem-Solving



Ethics



Policy Debate

# Additional findings.....

Concerns brought to attention  
but not able to be solved in the  
debriefing...

## Policy or Protocol

- Not followed
- Did not know role
- Lack of knowledge of policy

## Equipment or Environment

- Technical failure
- Physical environment issue
- Not available

## System Process failure

- Interdepartmental service support failed
- Unit service support failed
- Communication failed between teams

# Variety of Simulation

## 1. Didactic:

- Classroom education
- Online learning modules

## 2. Scenario-Based Learning

- Create realistic scenarios
  - In person
  - Teams/Zoom meetings- remote
  - Virtual reality
  - Tabletop scenario
  - Case study review

## 2. Gamification: Games Exercises/ Escape rooms


- Improve engagement
- enhance learning




# Case Study Reviews

- Review your own cases to have ownership of accountability
- Be careful with what is shared and make sure not identifiable
- Add safety component: may stir up feelings
- Judgement free zone
- Identify process improvement

CMQCC


 Postpartum Case Study




- ▶ 24-year-old G2, P0-0-1-0, 39 weeks
- ▶ Prenatal course unremarkable, GBS (+)
- ▶ Blood pressure normal throughout prenatal period
- ▶ Presented to the office with complaint of regular uterine contractions
- ▶ Cervical exam: 3 cm dilated
- ▶ BP: 142/95
- ▶ Urinalysis negative for protein

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CMQCC

 Postpartum Case Study



**Post-op Day #6 - #9**

- ▶ Extubated shortly after admission
- ▶ BPs remained elevated; BP max 148/98; SBP mostly 130s; DBP mostly 80's
- ▶ Platelet count 370,000, AST 30, ALT 33, Creatinine 0.9 mg/dl
- ▶ Urinalysis: Negative for protein
- ▶ Persistent, mild headache with some postural component
  - Anesthesia consult obtained; Conservative treatment
- ▶ MRI: "no evidence of ischemic injury"; no parieto-occipital edema suggestive of PRES (Posterior Reversible Encephalopathy Syndrome)

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\*Slides Available at CMQCC HTN toolkit

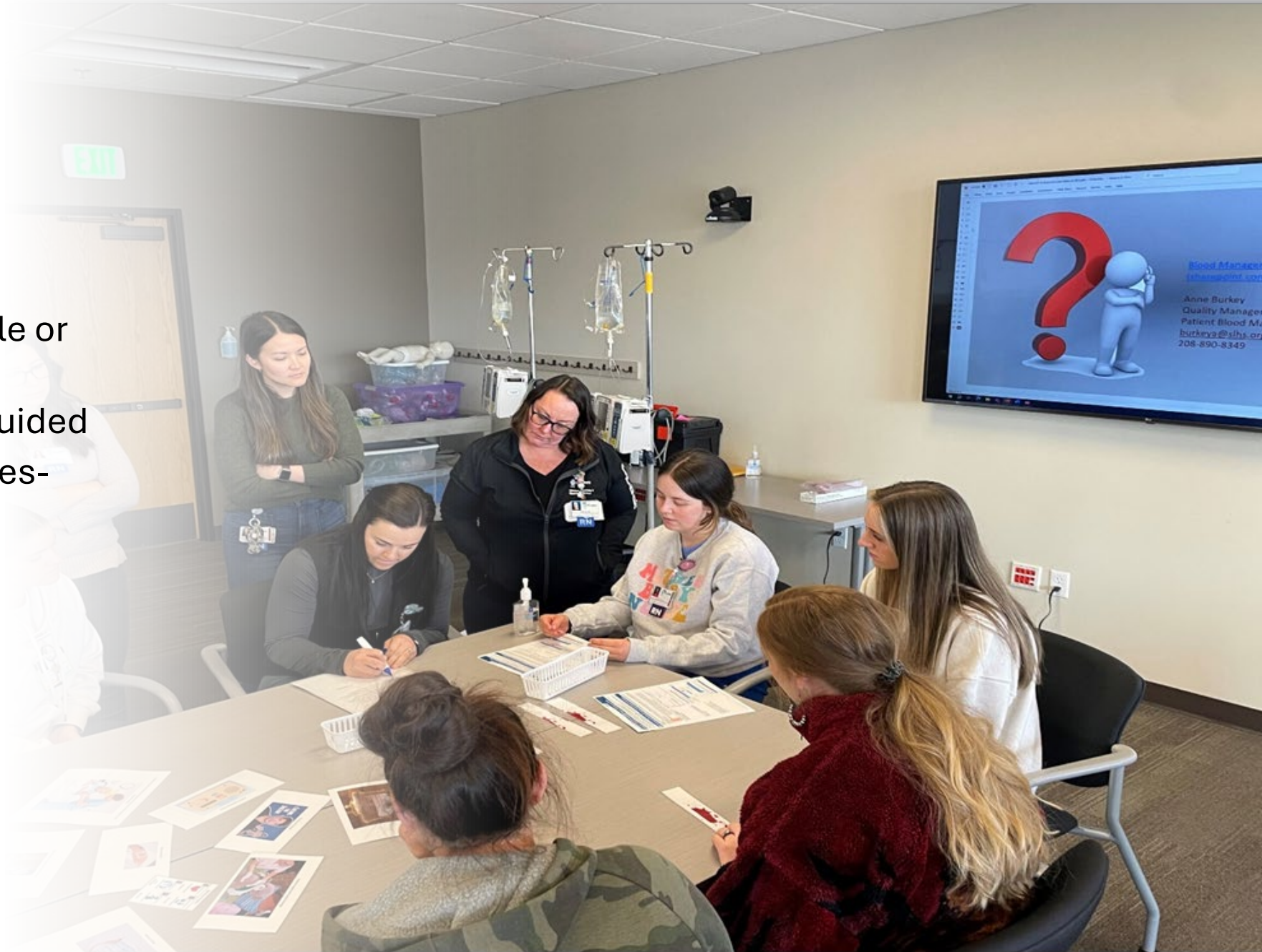
# Tabletop Simulation

- An exercise that uses a progressive simulated scenario
- Scripted interjections to take you through a process
- Identify a medical emergency and escalate a plan of care
- Strengthening readiness and identifying gaps in preparedness
- Share information of early identification
- Escalate help and management of emergency following policies and procedures
- Coordinate interprofessional teamwork and clear communication
- Conduct a gap analysis
- Debrief
- Action plan identified



# Tabletop Facilitation

- Deliver at a nursing huddle or small group
- Can facilitate or be self guided
- Can utilize some resources-
  - Pump settings
  - B/P cuff



# Tabletop simulation

## EMERGENCY DEPARTMENT SCENARIO

Patient arrives to Emergency  
Department after hours

### Situation

Crystal is a 20 yr. old G1P1 that delivered at 40-2/7 weeks with a vaginal delivery 5 weeks ago. She has struggled with anxiety since delivery. Patient presents with a baby in arms, states not feeling well for the last 48 hours. "I have not been sleeping well and have a headache that will not go away"



## INITIAL ASSESSMENT

### Vitals:

- B/P 162/112
- HR 80
- RR 18
- SaO2 97%
- T 98.8 F
- Headache
- Moderate epigastric pain
- DTR's 3+
- General edema
- Anxiety

What is your initial  
response?





Repeated vitals in 15 minutes:

BP 174/105

HR 88

RR 20

SaO<sub>2</sub> 96%

What would be the next anticipated interventions & orders?

## THE POWER OF COMMUNICATION

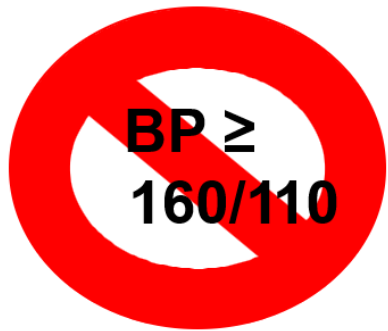
INITIATE CALL TO CHARGE RN, ESCALATE TO ED PHYSICIAN & OB ON

CALL PROVIDER, **GET HELP**

CONSIDER TRANSFER TO OB WITH RN PRESENT

FOR RAPID INTERVENTION W/IN 60 MIN OF  
RECOGNITION)

Administer Medications ASAP to Prevent Stroke:  
< 30-60 minutes of first severe range



NEED  
TO  
TREAT

What 3 medications are utilized as a first line agent for an acute Hypertensive Crisis?

### Hypertensive Emergency in Pregnancy/Postpartum

Applies to all forms of HDP: chronic, gestational, and preeclampsia with or without severe features

Systolic	Diastolic	Action
≥ 160	≥ 110	Repeat BP within 15 minutes. If BP remains within severe-range - treat within 30-60 minutes (ideally ASAP).

***DO NOT WAIT TO TREAT  
THE HYPERTENSIVE  
EMERGENCY***



# REVIEW ALGORITHM FOR DOSAGE AND INTERVALS

- IV Labetalol (Normadyne)
- IV Apresoline (Hydralazine)
- PO Nifedipine (Procardia)

How much Magnesium Sulfate is administered as a bolus and how fast is it given?

## Acute Treatment Algorithm

Evaluation and Treatment of Antepartum and Postpartum Preeclampsia/Eclampsia

### Part 2: Antihypertensive Treatment Algorithm for Hypertensive Emergencies

Target BP: 130-150/80-100 mm Hg

Once BP threshold is achieved:

- ▶ Q10 min for 1 hr
- ▶ Q15 min for 1 hr
- ▶ Q30 min for 1 hr
- ▶ Q1hr for 4 hrs

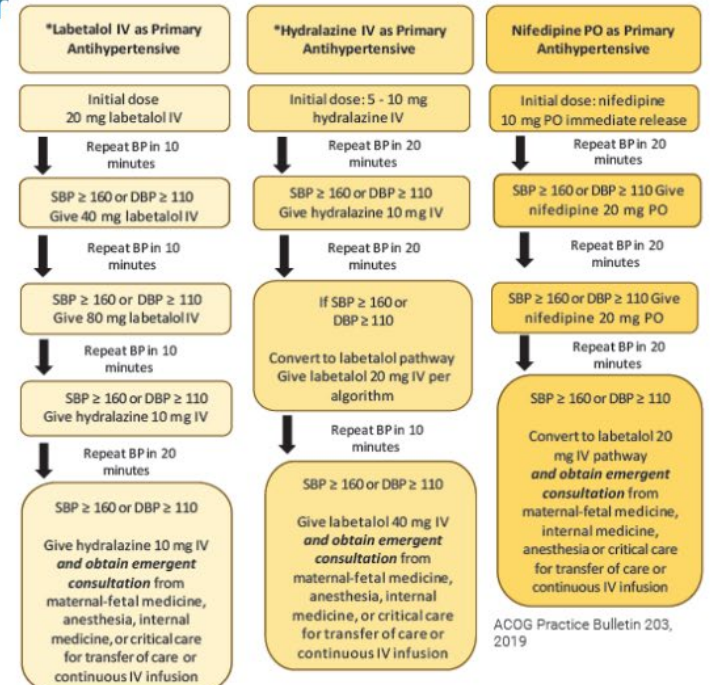
\*Intravenous hydralazine or labetalol should be given over 2 minutes. In the presence of sinus bradycardia or a history of asthma, hydralazine or nifedipine are preferred as initial agents. If maternal HR > 110, labetalol is preferred.

ACOG Practice Bulletin 203, 2019

CMQCC

Treatment Recommendations for Sustained  
Systolic BP  $\geq$  160 mm Hg or Diastolic BP  $\geq$  110 mm Hg

\*Antihypertensive treatment and magnesium sulfate should be administered simultaneously. If concurrent administration is not possible, antihypertensive treatment should be 1st priority.



ACOG Practice Bulletin 203, 2019

# YOU ARE A HYPERTENSION HERO!

## ■ Outcome:

- Crystal was admitted to Med Surg for 72 hours with an OB consult and received Magnesium therapy and 2 dosages of Labetalol at mg and 40 mg, was discharged without further complications.
- No current pain or pre-eclampsia severe features
- Adequate urine output
- She currently has maintained her B/p in the SBP 130-150's/ DBP 80-90's
- She will be evaluated again in the office within 3 days after discharge per recommendations, patient has a B/p cuff available at home to monitor
- Given education on POST BIRTH WARNING SIGNS





# Quick Round Table Discussion Scenarios

## Severe Features

- Case: A 32-year-old woman at 34 weeks presents with a blood pressure of 160/110 mmHg and severe headache but no proteinuria.

Task: Discuss the criteria for diagnosing preeclampsia with severe features and initial treatment priorities.

## Postpartum Monitoring

Case: A woman with diagnosed preeclampsia is 3 days postpartum and records a blood pressure of 145/92 mmHg.

Task: Identify necessary postpartum monitoring and management steps to prevent complications.

## Emergency Response

A 30-year-old woman at 36 weeks experiences sudden upper right abdominal pain and a blood pressure spike to 170/115 mmHg.

Task: Coordinate an emergency response plan, including medication administration and possible delivery.

## Sudden Onset Headache

Case: A 34-year-old woman, 28 weeks pregnant, arrives at the emergency department with a sudden onset of a severe headache and a blood pressure of 168/112 mmHg.

Task: Assess for signs of preeclampsia with severe features and decide immediate interventions



# Remote simulation

## **PROS:**

- May reach large groups in one session
- Less time for set up and break down
- Decrease cost for staffing time and convenient
- Free Teams/Zoom options
- Can still be utilized during disasters/pandemics
- Interactive

## **CONS:**

- Time consuming to develop
- You will need to record your own videos
- Must be tech savvy
- If too many participants can be overwhelming in talking over one another

# Virtual Opportunities

- Utilize the HELP within your platform for presentation mode
  - Zoom, Webex, or Teams Live
- **Set up:**
    - Laptop
    - Computer monitor
    - Utilize extended screen feature, monitor will then act as your control screen
    - Open PowerPoint on your PC and drag to the control screen
  - **Prebriefed**
    - Review objectives
    - Introduce participants
    - Orientation to room and equipment
    - Communicate who you want to join and ask for responses
    - If a lab, medication, piece of equipment etc. is asked for that is not built into the scenario inform the participant that it is not available
  - The facilitator may need to prompt movement through the sim Debrief

A group of five healthcare professionals, including nurses and doctors, are gathered around a patient lying on a gurney in a hospital room. They are all wearing red bouffant caps, face masks, and blue gloves. The patient is lying on their back, and the team appears to be performing a procedure or assessment. Medical equipment, including monitors and IV stands, are visible in the background.

# Acute Hypertensive Crisis virtual simulation example

Recorded or live simulation



# REVIEW VIRTUAL SIMULATION RULES

Come  
prepared!



Raise your  
hand to talk!



Be  
respectful!



Find a quiet  
place!

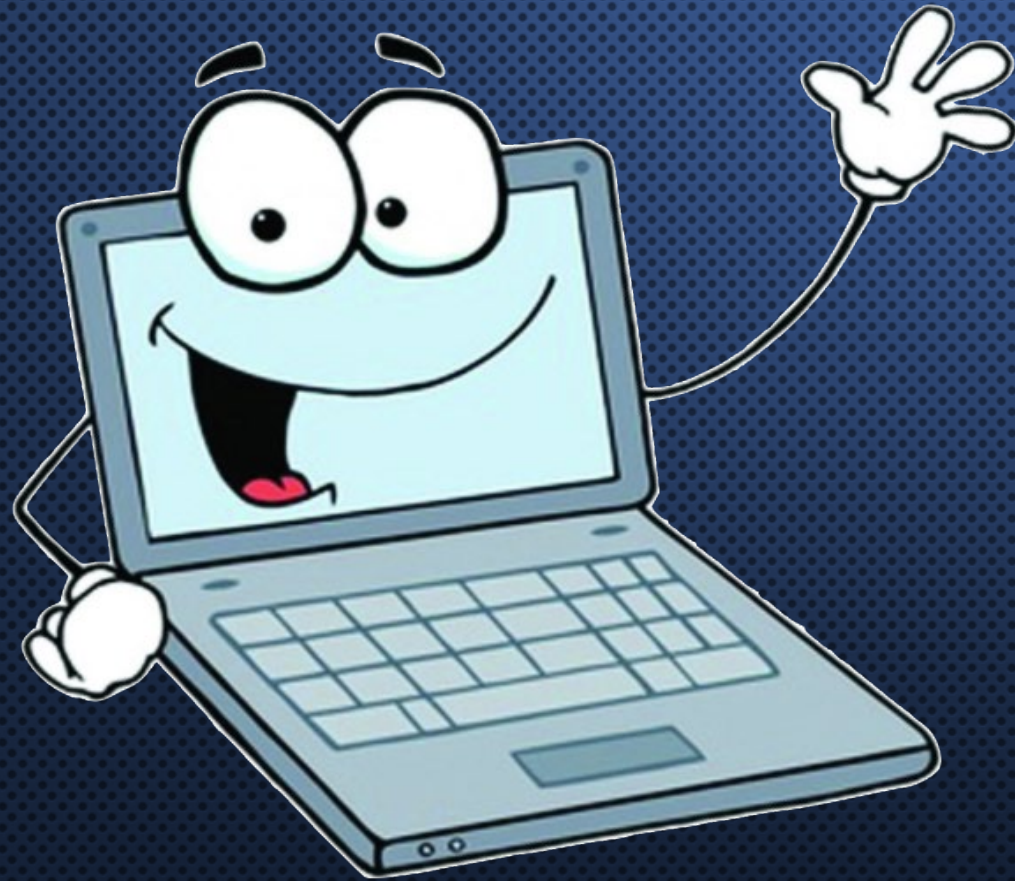


No eating!





# EQUIPMENT CHECK



Turn on  
video!



Mute  
yourself!





# FACILITATOR , TEAM INTRODUCTIONS & ROOM ORIENTATION



**DR. Pat  
Caplinger**

TEAM MEMBERS MAY PLAY THE ROLE OF: NURSE, OB RESIDENT, NEONATOLOGY,  
ANESTHESIA



# REMEMBER....



- THIS YOUR OPPORTUNITY TO PRACTICE IN A SAFE ENVIRONMENT
- EMBRACE THE WORLD OF SIMULATION
- THE MORE YOU TREAT THE SIMULATION AS “REAL” THE MORE BENEFIT YOU AND YOUR TEAM WILL RECEIVE.



# EQUIPMENT



CRASH CART



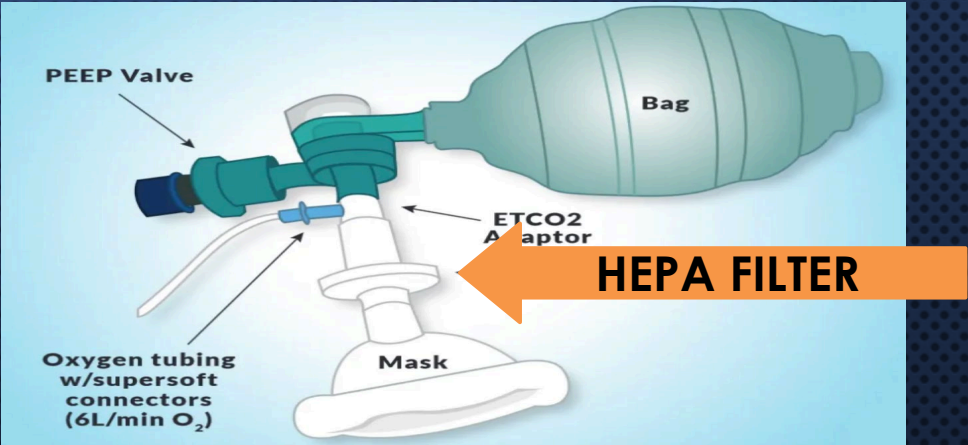
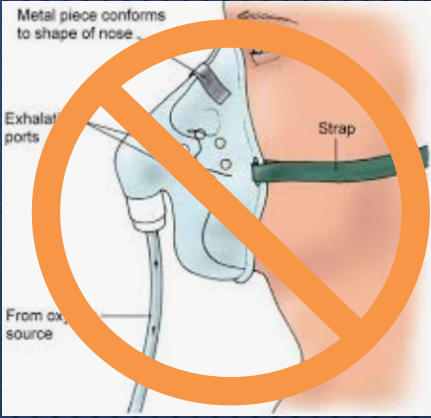
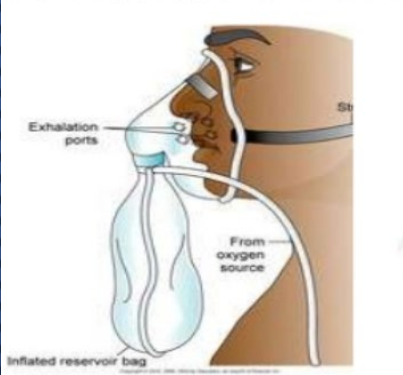
EMERGENCY C/S KIT



PPE CART

# AIRWAY EQUIPMENT

Non rebreather mask



CO<sub>2</sub> MONITOR





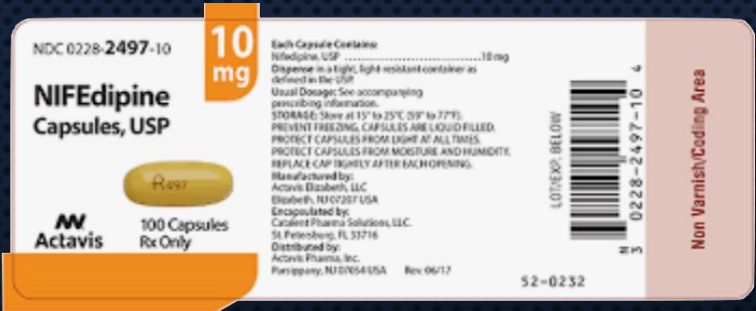
HYDRALAZINE



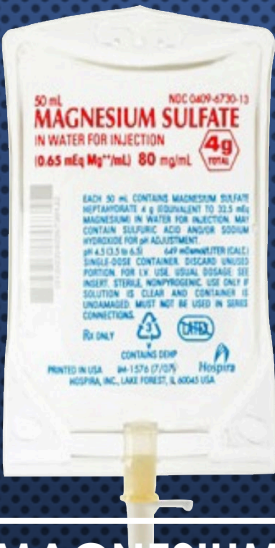
LABETALOL



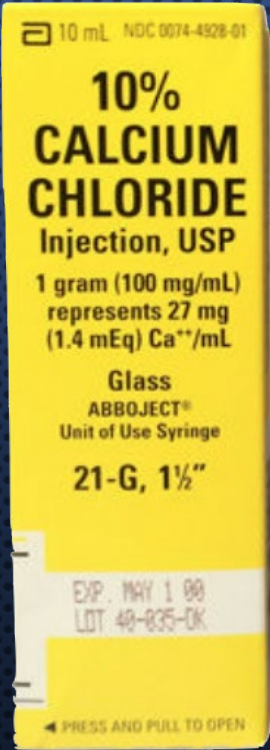
NIFEDIPINE



# PHARMACY



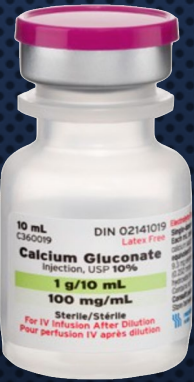
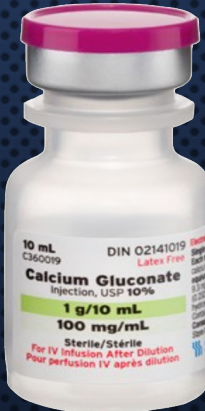
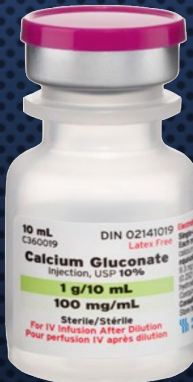
MAGNESIUM SULFATE



CALCIUM CHLORIDE



EPINEPHRINE



CALCIUM GLUCONATE





# LET'S REVIEW OUR KEY OBJECTIVES:

## ACUTE THERAPY-THE A, B,Cs OF MEDICATIONS



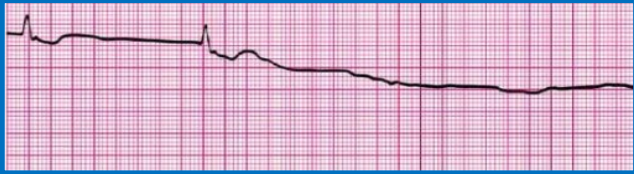
- ANTIHYPERTENSIVE MEDICATION-WITHIN THE FIRST **60 MINUTES**
  - A. APRESOLINE IV (HYDRALAZINE)
  - B. BETA-BLOCKER-LABETALOL IV
  - C. CALCIUM CHANNEL BLOCKER-NIFEDIPINE PO
- MAGNESIUM SULFATE ADMINISTRATION
- EVALUATION OF FETAL STATUS
- DELIVERY PLANNING

KEEP IN MIND: NIFEDIPINE HAS THE BEST PROFILE FOR BP CONTROL AND CEREBRAL PERFUSION

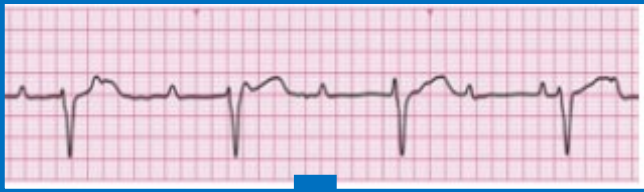


## Non Shockable Rhythms

### Asystole



### Pulseless Electrical Activity



Resume Chest Compressions



Epi 1mg IV Q 3-5 minutes

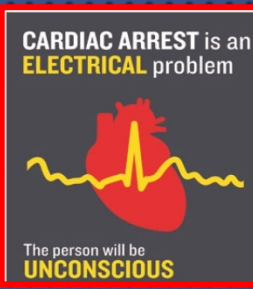
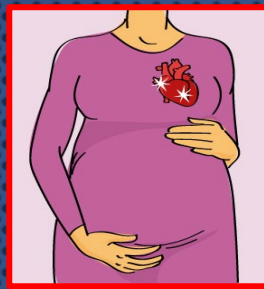
Rule Out Hs and Ts

Hs

Hypoxia  
Hypovolemia  
Hydrogen  
Hyper/Hypo K  
Hypothermia  
Hypoglycemia

Ts

Toxins  
Thrombus  
Tamponade  
Trauma  
Tension Ptx



No Pulse and No Respirations

Call  
Code

Code Cart  
Emergency  
C/S Kit

Chest  
Compressions

Left Uterine  
Displacement

Ventilate  
Intubate ASAP

Analyze Rhythm  
Check for Pulse

Non  
Shockable  
Rhythm

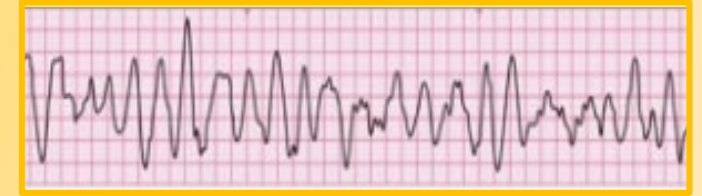
**SHOCKABLE  
RHYTHM**

### 5 Minute Rule

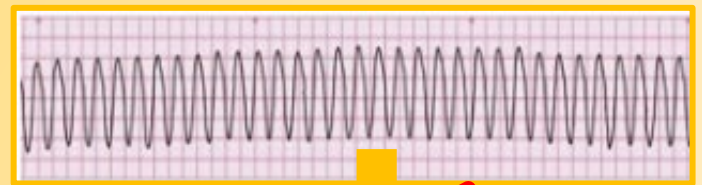
If no cardiac activity at  
4 minutes:  
Proceed with Resuscitative  
Cesarean Section

## Shockable Rhythms

### VENTRICULAR FIBRILLATION



### VENTRICULAR TACHYCARDIA



**SHOCK**

Resume Chest Compressions x  
2 min

**SHOCK**

Resume Chest Compressions x  
2 min

Epi 1mg IV after 2<sup>nd</sup> Shock  
Amiodarone 300mg after 3<sup>rd</sup> Shock



# SCENARIO # 1

MAGGIE 30 WK ADMITTED FOR PREECLAMPSIA ON  
MAGNESIUM. NEW ONSET SEVERE HEADACHE AND  
VISUAL CHANGES

BP: 177/105 P: 72 RR: 24 O2 SAT: 94%



# Maternal Cardiac Arrest Simulation

SARSCoV2 Negative Patient

**IN THE ROOM: NURSE 1**



# **P1-CLIP 1-NURSE AT BEDSIDE PT REPORTS NEW ONSET SYMPTOMS OF SEVERE FEATURES**

## ***NURSE PROMPT-"I NEED ORDERS"***

1. RECOGNIZE SEVERE HTN- ASSESS VITALS & SYMPTOMS
2. CALL PROVIDER & FOR ADDITIONAL HELP
3. REQUEST MEDICATIONS, IV & LABS

***PROMPT-If **P** FAILS TO ORDER ANTIHYPERTENSIVE MEDICATION OR MENTION MAGNESIUM SULFATE***



S1-V2



**IN THE ROOM: NURSE 1, OB Provider**



## P2-CLIP 2-PT COLLAPSE → CODE BLUE BUTTON

**NURSE: “WHAT DO I NEED TO DO?”**

1. GET THE ROOM READY INITIATE CPR
2. GIVE SBAR
3. LUD

**NP-PROMPT IF NEEDED**



S1-V3



**IN THE ROOM: NURSE 1, OB HOSPITALIST**  
**ENTER ROOM: NURSE 2, CHARGE NURSE, OB PROVIDER**



# DEBRIEF

HOW DID YOU FEEL?

WHAT WENT WELL?

WHAT WOULD YOU DO DIFFERENTLY?

NOT  
PREPARED

SUPPORTED

CONFIDENT







## QUICK LESSONS DEFIBRILLATION PROCESS



REMEMBER, MINIMIZE BREAKS IN CHEST COMPRESSIONS  
AND LUD

# HEAD SET- Virtual Reality- 3D or 360degree- Immersive VR

## Advantages

- Can be run by one person and short bursts of teamwork and realism with AI generated scenarios
- Repeatedly practice to improve retention
- Rich, interactive
- Body tracked avatars
- Student entered approach
- Cost per learner gets cheaper over time
- Lowers anxiety & increase cognitive load, improve creativity
- Games to practice soft skills

## Disadvantages

- Initial cost is high
- Lacks existing educational content creating custom is expensive and time consuming
- Education to high tech
- Cybersickness & technological challenges
- Technological support to users and designers

ESCAPE ROOMS



- ▶ The equipment set up is the same as the virtual PowerPoint simulation
- ▶ Run 2 or more zoom rooms simultaneously
  - ▶ Facilitator and embedded participants for each room
  - ▶ Have exact objectives for each room for participants to escape and move to the next room
  - ▶ The first team to make it to the debriefing room wins
  - ▶ Another option is to run one room at a time keeping track of the time it takes each group to get to the debriefing room. The fastest time wins. This prevents the need of having multiple facilitators and embedded participants.
- ▶ Have a set number of objectives for each room. When those objectives are met, the group 'moves' on to the next room.

# VIRTUAL ESCAPE ROOMS/SIM COMPETITION



# Virtual Escape room

## Hypertensive crisis Example



- **Objectives/Escape room rules:**

- Participants will move through 3 successive escape rooms
- The first room will begin with a scenario and each room thereafter will have an update on the patient's status
- You will be asked a question at the end of the presentation of the scenario and each of the clinical updates.
  - The questions will have multiple answers.
  - You need only to get 4 answers to move on to the next room.
  - If you take the time to get more of the total answers built into the scenario/updates, then you will get more points towards winning the game.
  - Thus, your team may not have the fastest time but could beat the team that does by collecting more points along the way. It's up to your team strategy.



# Escape room 1

Mrs. Smith is a Caucasian 41yo G1P0 at 37 5/7 weeks with a di/di twin pregnancy.

She was sent to L&D from her primary OB providers office for evaluation with elevated blood pressures of 142/90 and 149/92.

She denies headaches, visual changes or RUQ pain.

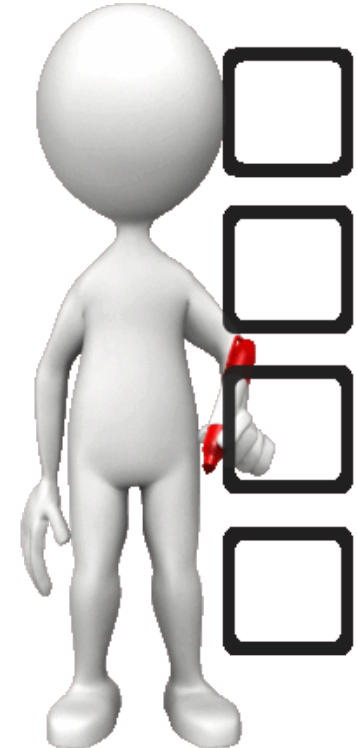
She endorses good fetal movement. Denies contractions, leakage of fluid or vaginal bleeding.

PMHX: Morbid Obesity, Type II Diabetes

PSHX: T&A

POBHX: G1, di/di twins, IVF, AMA

Name at least 4 risk factors for hypertensive crisis in this patient



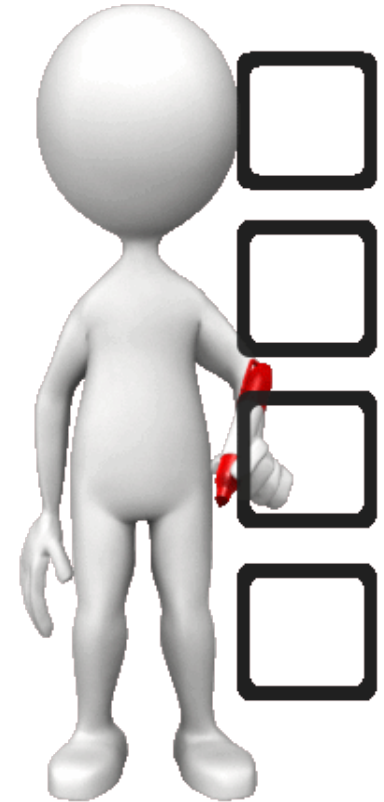


# Escape room 2

Mrs. Smith  
is now in  
triage, and  
you are  
called to  
the  
bedside:

- She is alert and oriented and is complaining of a sudden onset of a headache with a pain scale of 8/10 in upper abdomen
- Serial vitals were set at every 15 minutes:
  - BP 162/110 HR 56 RR 16 O2 Sat: 95%
  - BP 165/96 HR 58 RR 18 O2 sat: 97%
  - BP 160/100 HR 58 RR 18 O2 Sat: 96%
- Bedside glucose 89
  - Neurologic exam: DTR 3+ bilaterally, no clonus; visual changes
- Fetal Heart tracing: Baby A and B are Category 1 and she is contracting q 4 min

**State 4 key assessment findings to move to  
next room**





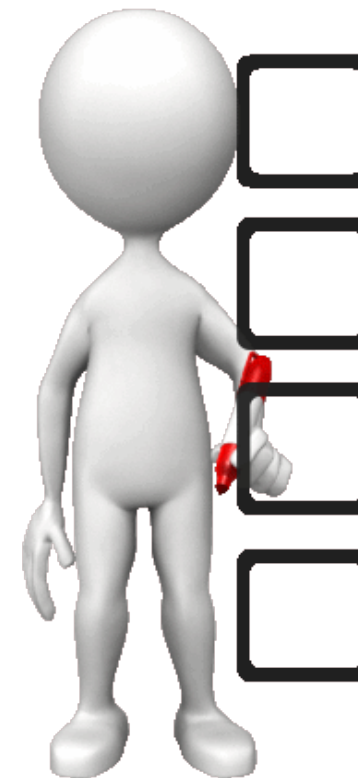
# Escape Room 3

## Interventions that have been completed

- Fetal monitoring: category 1 for both babies
- Serial vitals: last antihypertensive given 20 minutes ago and BP is currently 160/110, Pulse ox: 95%
- IV
- Labs: serology normal and p/c ratio 0.3
- Antihypertensive given as above
- Cervical exam: closed/thick/high

You believe that Baby A is breech from your cervical exam. As you are performing a bedside US that confirms that Baby A is breech, Mrs. Smith begins to seize and both babies are bradycardic. Now what?

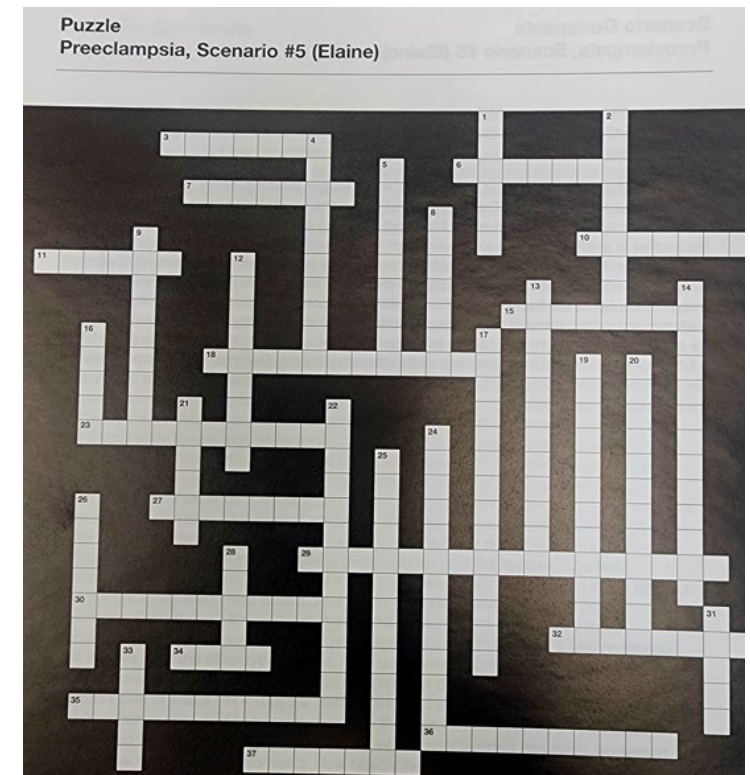
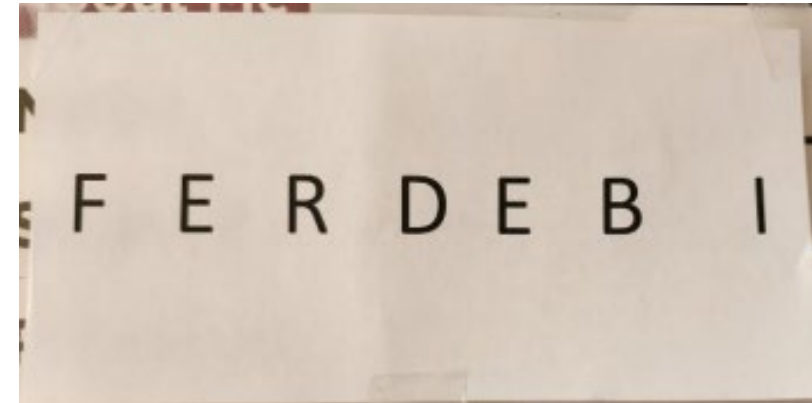
Name at least 4 interventions to ESCAPE



# Gamification built into simulation

- **Engaging Interactive Components:**

- Polls/Quizzes
- Word search
- Scramble
- Bingo
- Puzzles
- Scavenger hunt
- QR scanning for more clues
- Jeopardy
- *Competition if desired*





# Add real-time polls

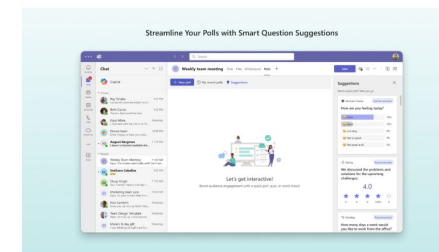
- Easily create choice polls, quizzes and word cloud polls before or during your meeting (Slido)
- Tabs
  - Add as a tab at the top of a group chat, channel, or meeting
- Bots
  - Complete tasks, find info, and chat using prompts
- Messages
  - Insert content from the app directly into messages

Poll: Names not recorded ; Results shared

## Magnesium Sulfate

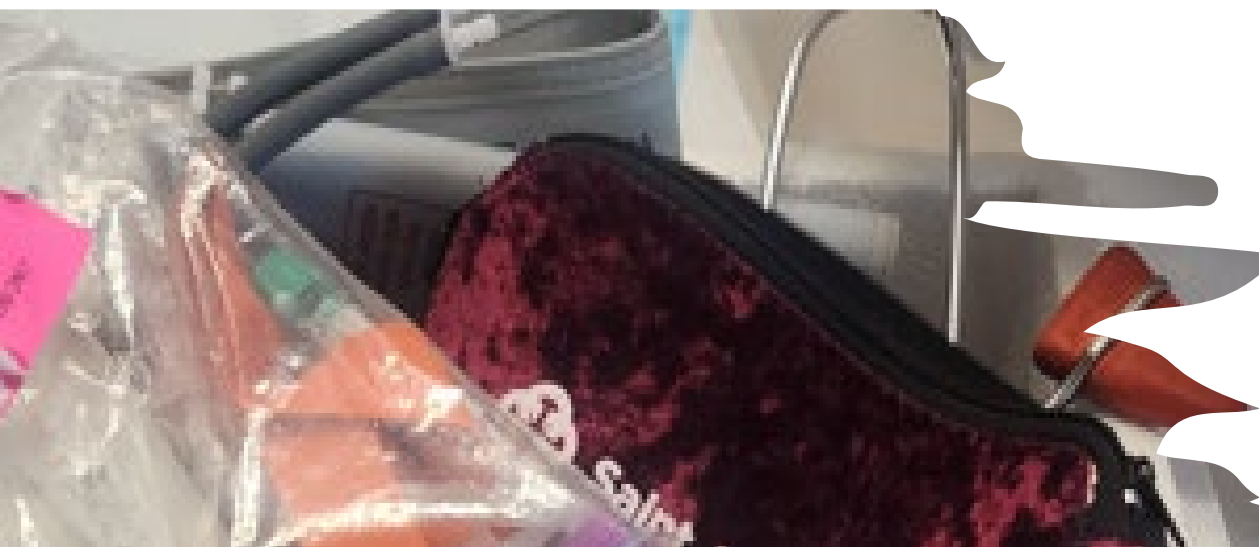
- ☐ Decreases CNS activity and reduces seizure potential
- ☐ Encourages fetal maturation
- ☐ Lowers blood pressure
- ☐ Causes peripheral vasoconstriction

**Submit Vote**



Easily create polls with your team in Microsoft Teams





# Hypertension Escape Room

# Escape Room Set Up

- HTN escape room
  - Teamwork
  - Crossword puzzle for review
  - Meds and doses
  - IV pump programing Magnesium Sulfate
  - Crossword puzzle
  - Protocol utilization and reference



# Jeopardy

- Easy to build
- Fun engagement
- Student centered
- Review of education comprehension
- Healthy competition can offer prizes!
- <https://jeopardylabs.com/>

New onset of HTN (>140/90) that occurs after 20 wks. gestation in pregnant patients without previous high BP, proteinuria, or other symptoms, or lab values

What is gestational hypertension

Given PO or IV and is contraindicated for patients with asthma

What is Labetalol?

Patho	Meds not Beds	Define Time	HELLP Me	OH NO	Labs are not Dogs/Potpurri
100	100	100	100	100	100
200	200	200	200	200	200
300	300	300	300	300	300
400	400	400	400	400	400
500	500	500	500	500	500
Team 1		Team 2			
100		100			
+		+			
-		-			



# Medication matching: doses, protocols

## Perinatal Hypertensive Crisis Urgent Protocol - **Nifedipine**

- RN order set
- 10mg PO x1
- ASAP within 60 minutes of first severe range BP
- Repeat BP in 20 minutes for response to med
- *Order Set: OB Perinatal Hypertensive Crisis Urgent Protocol – choose Hypertensive panel*

## Perinatal Hypertensive Crisis Urgent Protocol – **Eclampsia: Magnesium Sulfate**

- Loading does of 6gm IV over 20 minutes
- If unable to obtain IV access: may administer 10gm IM (max 5mL per injection site)
- After completion of loading dose: maintenance dose per provider order
- *Order Set: OB Perinatal Hypertensive Crisis Urgent Protocol – Choose Eclampsia*





# Scavenger hunts: digital finding the policy/protocol and resources

**YOUR PATIENT HAS HAD 2 BP'S >160/110  
WHAT DO YOU DO NEXT?**

Question #1	Question #2	Question #3
<ul style="list-style-type: none"><li>Where is the Urgent Protocol for managing a Hypertensive Crisis located?</li></ul>	<ul style="list-style-type: none"><li>What is the optimum time for treating BP's with medication following recognition of a hypertensive crisis? How did you know this?</li></ul>	<ul style="list-style-type: none"><li>The provider wants to use the Labetalol Care Guideline to manage BP's. Where do you find this?</li></ul>





“Start by doing what’s  
necessary; then do what’s  
possible & suddenly you  
are doing the impossible”

- Saint Francis of Assisi



# References:

- **Guidelines:** Refer to ACOG guidelines or WHO recommendations.
- **Key Readings:** Provide articles or case studies relevant to hypertensive emergencies in pregnancy.
- **Online Platforms:**
  - **AIM: [Simulation and Drills for Patient Safety | AIM](#)** Simulation and drills for patient safety, includes all resources needed plus videos, can pause to ask learners next steps.
  - **American College of Obstetricians and Gynecologists (ACOG):** ACOG often provides guidelines, case studies, and potentially simulation resources in the field of obstetrics.
  - **Society for Simulation in Healthcare (SSH):** SSH offers resources, accreditation, and conferences focused on healthcare simulation, including obstetrics.
  - **Preeclampsia Foundation:** <https://preeclampsia.org/> offers health information for women & families, Provider education and research information.
  - California Maternal Quality Care Collaborative (CMQCC)- simulation scenarios within toolkit
  - **MedEdPORTAL:** An open-access resource where educators share peer-reviewed teaching materials, such as simulation scenarios, that cover a variety of medical education topics, including obstetric emergencies.
  - **SIM-one:** A healthcare simulation network that often provides resources and tools for educators and healthcare professionals, including in the area of obstetrics.
  - **Local Medical Institutions:** Some universities and hospitals have specialized programs or partnerships in obstetric simulation training which might offer courses or resource sharing.
  - **Conferences and Workshops:** Look for events specifically focused on obstetrics and gynecology, where simulation training might be a focus.
  - **Online Healthcare Education Platforms:** Websites such as Coursera, Udemy, and others may also offer specific courses or resources tailored to obstetric simulation.

# Questions & Answers

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