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Safety Action Series

Conducting Drills on Hypertension in Pregnancy



Speakers



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Disclosures

- Kristin Atkins, MD, FACOG has no disclosures
- Jenifer Fahey, CNM, MSN, MPH is on the Board of Directors and is a co-founder of PRONTO International, an NGO that conducts simulation-based trainings

Objectives

- Identify the importance of conducting interdisciplinary simulation drills for hypertension
- Describe how to conduct simulation drills for hypertension
- Provide methods for a successful debriefing including
 - Creating a safe environment
 - Encouraging reflective learning
- Identify key questions for tailoring drills based on your organization's resources
 - Where to begin?
 - What resources are available?
 - What are your objectives?



Why Simulation?

- Because it is safe for the patient
- Because it **can** be safe for the learner
- Because it is practical
 - Can be standardized
 - Can be repeated
 - Can be scheduled
- Because it works
- Because it is becoming a requirement
 - ...it **can** also be fun!

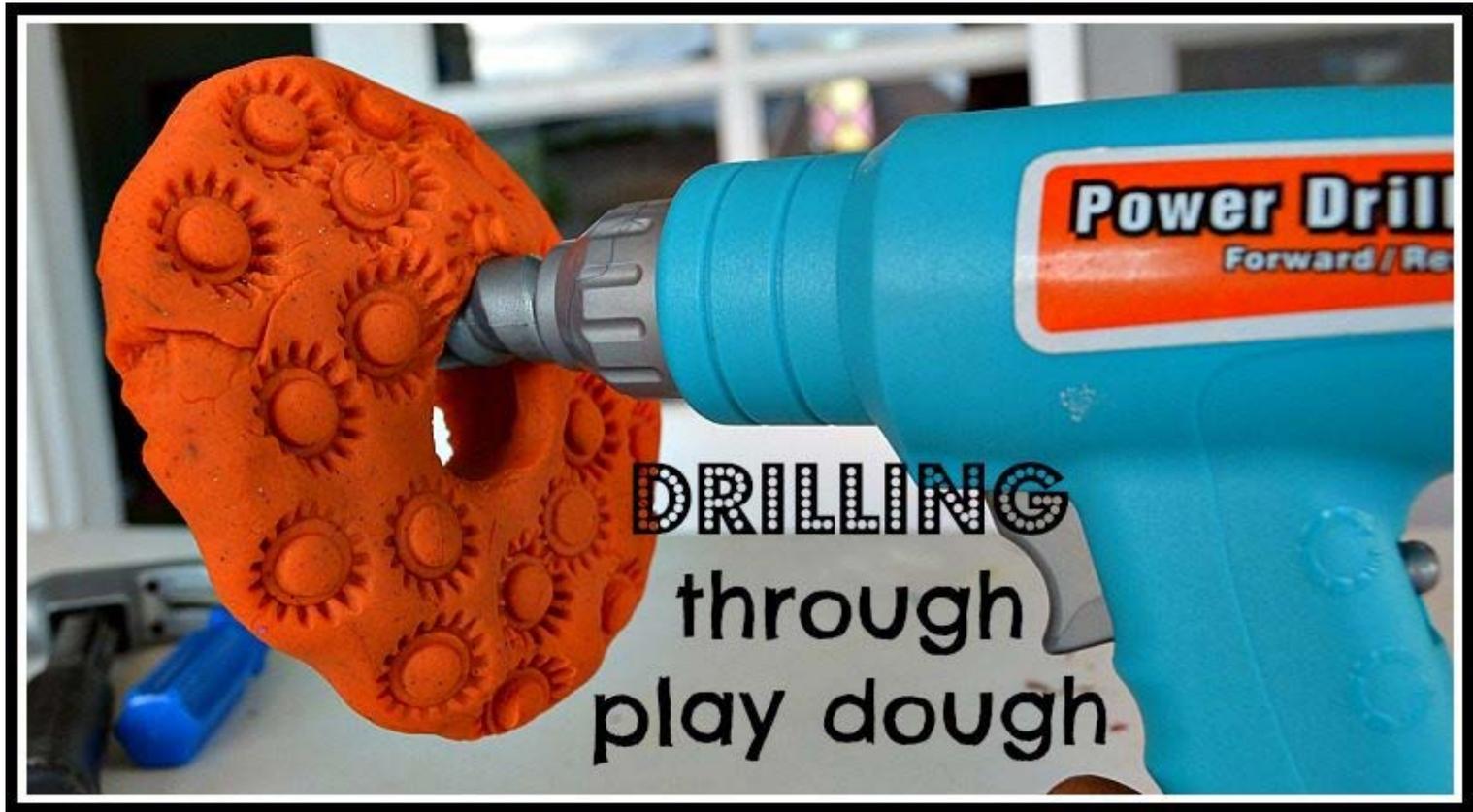


Applications of Simulation

- Learn and/or practice procedures
- Learn and/or practice management and decision-making
- Learn and/or practice teamwork and communication
- Test new procedures, guidelines, protocols
- Recreate rare events or events when things went wrong
- Identify latent system errors



What is a Simulation “Drill”?



<http://cdn6.kidsplaybox.com/wp-content/uploads/2013/01/play-doh-ideas.jpg>



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What is a Simulation “Drill”?

- In other fields
 - Simulation is table-top exercise
 - Drill is a real-time exercise that involves the actual mobilization and use of personnel and material resources.
- In medical simulation, terms “simulation” and “drill” often used interchangeably.



What is a Simulation “Drill”?

- For our purposes:
 - A drill is a type of simulation that is:
 - Short (5-20 minutes not counting debrief)
 - Centered around a triggering event/situation
 - Standardized
 - Designed for team members who work together in setting where real-life emergency would occur.***
 - A hypertension drill is a type of drill that involves a hypertension-related event as trigger



Purpose of Simulation Drills

- Practice teamwork & communication
 - Within L&D
 - Across services
- Practice clinical management
- Test protocols/guidelines new equipment etc.
- Identify latent system errors
- *Not* ideal for students/didactic



Defining “In Situ”

- In home institution vs. outside institution
- In actual patient care area vs.
 - In-house simulation center
 - In-house space adapted to replicate patient care area



Benefits vs. Disadvantages of In-Situ Simulation

Advantages

- Convenience
- Cost
- Realism

Disadvantages

- Cost
 - Personnel
 - Simulators
- Expertise



In-situ

- Most realistic
- Most likely to disrupt and be disrupted
- Requires most careful scheduling & planning



Creating Your Simulation Drill

- Identify your goals and objectives for the drill
- Select a clinical case that best suits your objectives
- Write your scenario
- Test your scenario
- Implement
- Evaluate



Potential Clinical Scenarios for Hypertension Drills

- Preeclampsia
- Eclampsia
- Hypertensive urgency
- Stroke



Common Errors/Problems in Managing Hypertension

- Failure to initiate magnesium sulfate
- Failure to give sufficient magnesium sulfate
- Failure to initiate antihypertensive medication
- Failure to give adequate type/amount antihypertensive medication
- Failure to transfer woman to higher level of care
- Failure to recognize severity of disorder
- Moving to delivery without adequate maternal stabilization





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Goal Examples

- Teams will improve their response to hypertensive events.
- Teams will communicate better during hypertensive events.
- Teams will respond in a timely fashion to signs of preeclampsia.
- Teams will be able to efficiently evaluate a patient who presents with seizures.
- Teams will effectively manage a patient who is actively seizing.



Objectives Examples

- Team will be able to elicit and recognize the signs of preeclampsia with severe features.
- Participants will be able to initiate magnesium sulfate prior to the onset of eclamptic seizures.
- Participants will be able to administer antihypertensive medications to control severe range blood pressures.
- When ordering antihypertensive medications, providers will use closed-loop communications.



Select a Case to Meet Goals and Objectives

- Woman comes into triage with signs and symptoms of preeclampsia with severe features
- Team gets called to ED for pregnant woman who is seizing
- Woman seizes on postpartum floor



Select a Case to Meet Goals and Objectives

- **Woman comes into triage with signs and symptoms of preeclampsia with severe features**
- Team gets called to ED for pregnant woman who is seizing
- Woman seizes on postpartum floor



Anatomy of a Simulation



- Story Board
 - General overview
 - Decision points
- Supplies, equipment, (including simulator)
- Set-up checklist
- Pre-brief guide
- Debriefing guide
- Evaluation



Overview

- Pt is a 19 year old G2P0010 at 33 weeks and 2 days EGA who presents to triage with complaint of nausea, headache, and not feeling well (“I think I may have the flu.”) On exam her BP is 154/98, has brisk reflexes and 2+ protein on urine dip.



Planning Your Drill

- What simulator are you going to use?
 - Patient actress
 - Task trainer
 - Hybrid
 - Full body mannequin
- How are you going to provide the following?
 - Vitals including fetal heart rate
 - Lab results
 - Imaging
 - Back up help (how will they call out)

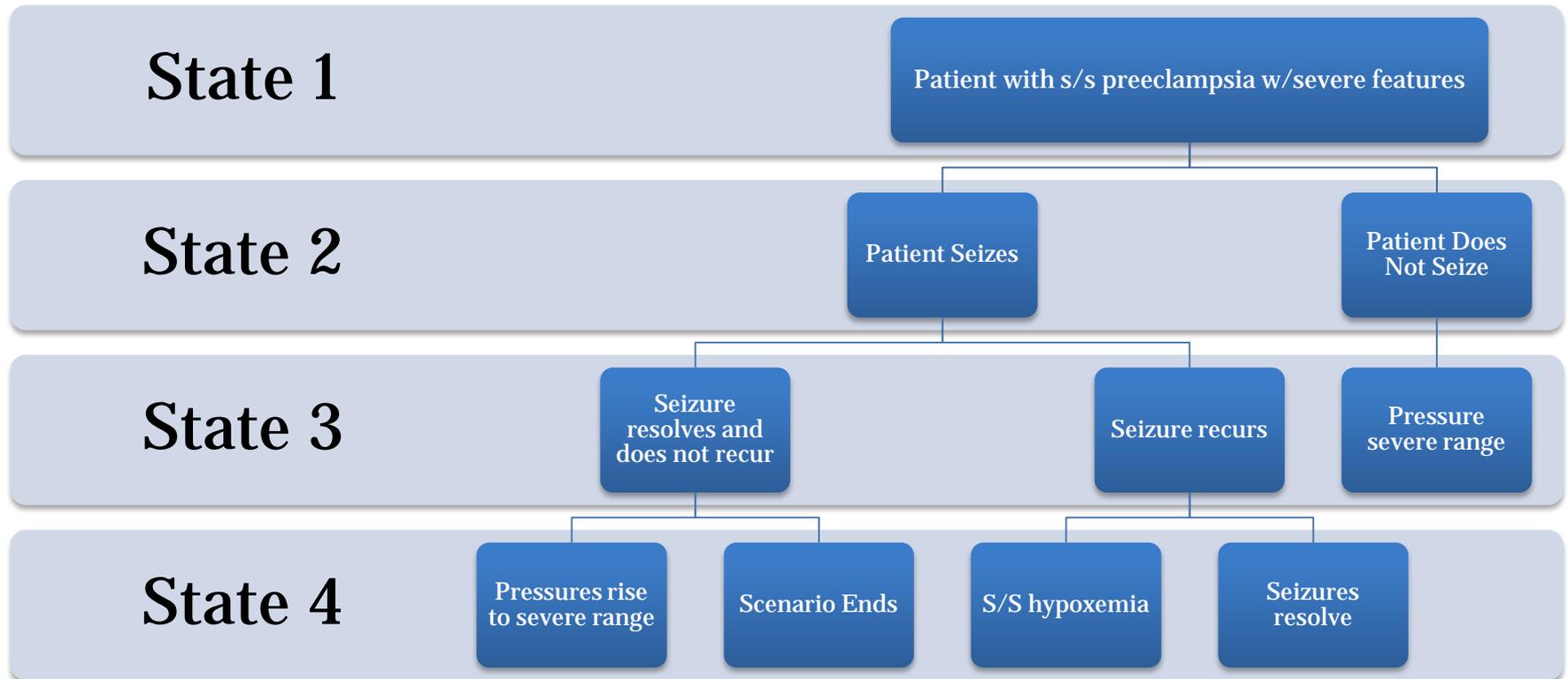


Planning Your Drill

- What participant roles will be needed?
- What confederate roles will be needed?
 - Significant others?
 - Other services?
- What equipment and supplies do you need
 - Medications
 - Fetal heart rate monitor
 - Patient chart
 - Imaging/Image



Planning Your Scenario



State Details

- What is patient status?
 - Vitals
 - LOC
- What are key actions/prompts of state?
 - Complain of headache
 - Seize
- What are trigger points to move to different state?
 - Start mag sulfate
 - Administer hydralazine
- When will you end the scenario?



Run a Full Dress Rehearsal



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Show Time!



Source: PRONTO International



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Pre-Brief

- Lay out the goals for the session
- Create an environment of safety
- Let them see the setting/”meet” the patient
- Let them know how they will do the following:
 - Examine the patient
 - Obtain meds
 - Administer meds
 - Start IV
 - Call for help
 - Obtain and send labs





**KEEP
CALM
AND
AND LOVE
PLAN B**



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Debriefing Goals

- Facilitator-led discussion that allows participants to review the facts, thoughts, impressions and reactions after a simulation
- Goal is to allow learner to create a framework around the simulation experience that they can then apply to real life
- A good debriefing can save a bad simulation while a bad debriefing can kill even the best simulation



Debriefing No No's

- **NOT** a time to:
 - Lecture (facilitators should do the least amount of talking in the room)
 - Teach techniques/maneuvers (this is better for a different type of simulation session)
 - Point out negative individual/team behaviors from outside the simulation (e.g. “the last time we had this happen on the floor, Dr. X did not start the mag sulfate on time and the patient seized”)
 - Ask test-type questions (e.g. “Jenifer, what medications do you give for hypertensive urgency?”)
 - Focus on individual errors
 - Focus on technical/AV aspects of simulation
 - Conduct remediation of individuals



Tips on Debriefing

- **Have a debriefing guide.**
- Make your questions open ended, non-judgmental:
 - Begin questions with what, how, or why to encourage deeper discussion
 - e.g. “What are some of the things that helped you take care of this patient?” “What things would you change if you were to have an opportunity to repeat this scenario?”)
- Follow-up on participant comments
 - Make the participant feel their contribution is important.
 - “Yes, that is a very good point, Dr. Atkins, often the noise level in the room is so high, that participants have a hard time hearing each other and important information gets missed.”



Tips on Debriefing

- Try to include all participants, but do so in a way that is non-threatening. You can often do this by finding something that a shyer participant did during the simulation that was positive
 - e.g. “Jenifer, I noticed that you lowered the bed and put up the guard rails, can you tell me your thoughts during that moment? Did you have other thoughts to share about how the scenario went?”
- Guide the participants to bridge between the simulation and real life.
 - “What did you notice in the scenario that was similar to how these events happen in real life” “How do we best deal with that when it happens?”



Our Experience at UMD SOM

- Residents, MFM Fellows, Midwives, Generalists, MFM, Anesthesiologist, Nursing
 - Required for nurses and residents
 - “Optional” for rest of team
- Leadership and logisticians
- Involvement of risk management
- Combination of in-house simulation center and in patient rooms
- Scenarios based on real-life cases (prevent the “that would never happen here” excuse)
- Patient actress, hybrid, NOELLE
- Multidisciplinary PLANNING team and DEBRIEFING team



Challenges and How We Overcame Them (or at least tried)

- Scheduling
- Difficulty in addressing identified systems issues
- Discomfort with debriefing
- Incorporating additional services



Useful Resources

- ACOG: <http://www.acog.org/About-ACOG/ACOG-Districts/District-II/SMI-Severe-Hypertension>
- CMQCC Preeclampsia Toolkit: <https://www.cmqcc.org/resources-toolkits/toolkits/preeclampsia-toolkit>



Useful References

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Q&A Session

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David Lagrew, MD, FACOG
Medical Director, Physician Informatics
Chief Integration and Accountability Officer
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Lisa Kane Low, PhD, CNM, FACNM, FAAN
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