
THE ROLE OF MEDICAL SIMULATION

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BACKGROUND

The use and recognition of the value of medical simulation continues to grow. There is a growing body of literature that demonstrates the efficacy of medical simulation, but a review of this data is beyond the scope of this discussion.

It is important to recognize that medical simulation represents a spectrum of tools that spans from low fidelity drills to high fidelity, inter-professional, interdisciplinary team simulations. Effective simulation programs must be designed with clear learning objectives and tailored to available resources and instructor expertise. They do not require extensive resources to be effective.

While simulation can be used to address knowledge gaps in the identification and treatment of preeclampsia, its greatest value lies in its potential to help teams “put it all together.” Whether conducted in a dedicated simulation lab or in real patient care areas (in-situ simulation), inter-professional team training allows for:

- Testing of new policies and procedures
- Demonstration of skills in a more realistic environment
- Identification of systems issues and the ability to test new systems
- Instruction in techniques to improve communication and coordination of treatment teams, e.g., human factors, etc.

EDUCATIONAL MATERIALS

When constructing simulations for preeclampsia and eclampsia there are several variables to consider:

1. Different locations:

- Location of the patient – LDR (labor, delivery and recovery), Postpartum, L&D triage, Emergency Department

2. Different diagnoses:

- Diagnosis: preeclampsia without severe features vs. severe preeclampsia, eclampsia,
- Requirements for successful treatment – e.g., will one (1) dose of anti-hypertensive medication be sufficient, or will the team be required to proceed with multiple doses/drugs to be successful?
- Simulation expertise and resources of the participating medical center.

It is not possible to create a scenario that addresses all these variables. For the purposes of this program, two sample scenarios are provided that require the management of severe preeclampsia and eclamptic seizures that are refractory to magnesium. Both scenarios provide detailed information essential for an effective simulation experience, including debriefing guides specific to the scenario and a more generic debriefing guide

for teamwork/communication skills.

Scenarios provided include:

1. A version that covers both low fidelity and high fidelity simulations.
2. A detailed version created for teams that have high fidelity capabilities. This particular version includes programming and details for teams using SimMan3G.

There is no expectation that these scenarios alone will be adequate. Rather, these are simply examples that can be modified to include different clinical environments, differing levels of clinical complexity, and differing levels of simulation expertise/resources.

The scenarios are listed below and can be found in the appendices G through N.

- Severe Preeclampsia and Eclampsia in LDR v2.0 SimMan3G
 - Scenario Part 1: General Information
 - Scenario Part 2: Learning Objectives
 - Scenario Part 3: Patient Background Information
 - Scenario Part 4: Equipment/Materials List
 - Scenario Part 5: Program Algorithm & GUI (Graphic User Interface) Notes
 - Scenario Part 6: Debriefing Objectives
 - Scenario Part 7: Debriefing Guide/Evaluation

Simulations can be done with or without SimMan3 equipment.