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# Effects of Monthly Simulation Experiences on Neonatal Resuscitation Confidence and Competency Levels in Nurses

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## Abstract

Neonatal resuscitation program (NRP) is a set of interventions that may be performed to assist a newborn after delivery with airway, breathing, and circulation. It is crucial for all members of the healthcare team caring for a newborn to hold this certification and demonstrate competency. Typically, NRP course renewals occur every two years. If delivery situations do not regularly require further implementation of NRP interventions, it may become more difficult for nurses and other members of the healthcare team to feel confident with their skills. The purpose of this study is to explore how monthly simulation experiences in the obstetrics department affect nurses and their confidence and competency levels in neonatal resuscitation.

**Keywords:** neonatal resuscitation, simulation, confidence, competency levels

## Introduction

Simulation provides a real-life learning scenario where nurses can practice skills in a safe environment. It is also a time where questions can be asked and can be stopped to go over a skill in more detail if needed. Simulation is especially beneficial in neonatal resuscitation. NRP can be intimidating because of how important it is in order to help save a newborn's life. The goal of simulation is to increase both confidence and competency levels in the nurse. NRP simulation can be completed with either high-fidelity or low-fidelity infant mannequins. NRP simulation experiences can be organized by creating various scenarios that may occur in practice. The nurses can then move through the steps of neonatal resuscitation including when to give oxygen and start compressions if needed.

Neonatal resuscitation simulation experiences will allow the nurses to focus on communication and teamwork skills. The nurses will also have the opportunity to participate in debriefing after each scenario to provide immediate feedback on what went well and what needs to be worked on. In fact, one study found that the implementation of regular simulation experiences for neonatal resuscitation improved actual patient outcomes (Pong et al., 2021). Therefore, monthly simulations would be beneficial in every obstetrics department.

## Review of Literature

- NRP simulation has shown significant improvement in confidence and performance levels, as well as improved patient outcomes (Pong et al., 2021).
- Regular simulation maintains long-term memory and allows skills to be performed smoothly when needed in emergency situations (Choi et al., 2023).
- Studies have shown a significant decay in skills as early as two months after NRP class (Garvey & Dempsey, 2020).
- Offering more frequent training, evaluation, and feedback more than once every two years prevents NRP skill decay (Margaret Nguyen et al., 2022).
- Frequent simulations are recommended to optimize skill retention and confidence (Zahno et al., 2022).

## Methodology

**Research Question:** Do monthly neonatal resuscitation simulation experiences increase confidence and competency levels in nurses?

**Design and Role of Participants:** One year long quality improvement project to determine if monthly simulations improve confidence and competency levels of nurses in neonatal resuscitation. Participants will complete a survey before and after simulation experiences.

**Ethics:** Consent will be obtained from each participant and project will be approved by IRB.

### Plan Do Study Act Implementation

**Plan:** Improve confidence and competency levels of nurses in neonatal resuscitation

**Do:** Implement monthly NRP simulation experiences and drills in the obstetrics department for one year

**Study:** Assess confidence and competency levels of nurses in NRP after monthly simulation experiences for one year

**Act:** Based on results, continue implementation of monthly NRP simulations to increase confidence and competency levels in nurses.

## Anticipated Results

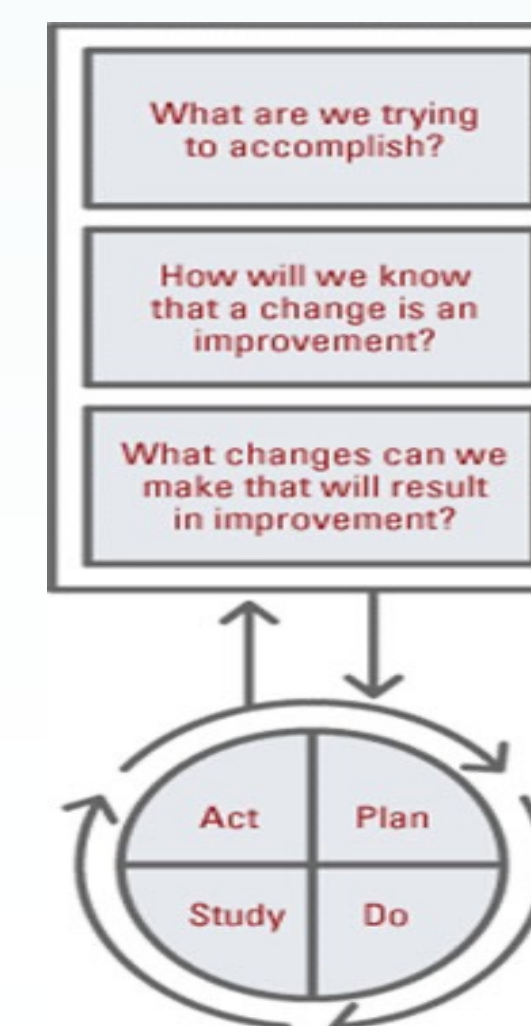
Implementation of monthly neonatal resuscitation simulations will lead to:

- Improved confidence levels in nurses
- Improved competency levels in nurses
- Increased teamwork and communication in nurses
- Improvement in overall patient outcomes

These findings fit into the current knowledge that simulation experiences improve confidence and competency levels as well as the potential to improve overall patient outcomes.



Neonatal Resuscitation Program (NRP): 5 changes... Cae Healthcare. Simulation Based Medical Education Solutions. (2023). Retrieved from <https://www.caehealthcare.com/blog/neonatal-resuscitation-program-nrp-5-changes-to-come/>



Plan-Do-Study-Act (PDSA) Directions and Examples. Content last reviewed September 2020. Agency for Healthcare Research and Quality, Rockville, MD. <https://www.ahrq.gov/health-literacy/improve/precautions/tool2b.html>

## Conclusion

It is crucial for nurses to feel both confident and competent in neonatal resuscitation. In order to prevent a decline in skills, regular practice is necessary. Simulation provides a safe learning experience that allows the nurse to practice effective communication and teamwork skills, as well as gain feedback. Simulation experiences can include either high or low fidelity infant mannequins. One study has shown that there was no difference in NRP performance between those who used high and low fidelity mannequins (Pong et al., 2021). This will also help with costs to implement simulation experiences. Regular neonatal simulation experiences increase confidence and competency levels in nurses, especially in rural hospitals who may have less deliveries that require NRP to be completed (Zanno et al., 2022). This will then lead to improved patient outcomes. Therefore, monthly neonatal resuscitation simulations should be implemented in all hospitals.

## Recommendations for Future Research

It is recommended to complete this study in various obstetrics departments in both rural and urban areas.

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