

Teaching Newborn Diagnosis and Management Through Simulation Stations

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- The purpose of this presentation is to highlight creative low to mid-level simulation opportunities to enhance education for nurse practitioner students in learning diagnosis and management of the newborn infant.



Newborn Simulation Exercises



- Neonates are vulnerable population
- Families lack experience and knowledge in managing neonatal problems
- NNP's, PNP's and FNP's must learn newborn and infant care
- There are well known common problems encountered in the newborn period.
- Clinical experience does not always provide opportunities to diagnose and manage all newborn problems.

Background



- Lack of comprehensive learning within the “real” clinical setting
- Simulation offers a safe learning environment for students
- Simulation offers the opportunity to debrief the scenario, an area for further student development.

Rationale for Simulation Experience



- Apgar Scoring
- Jaundice
- Heart murmurs
- Feeding disorders or difficulties
- Hypoglycemia
- Thermoregulation: Hypothermia



Common Newborn Problems



- Breastfeeding in the Newborn
- Transient Tachypnea of the Newborn
- Suspected Sepsis
- Family Discharge Teaching



Common Newborn Problems



- Students sign up for time blocks.
- Faculty and Preceptors are assigned a scenario
- Standardized parents can be paid actors, teaching assistants or other faculty unknown to students
- Students are given reading materials ahead of sim day
- Students rotate through learning stations
- Simulation is usually low level
- Evaluation of learning can be verbal or written: SOAP note

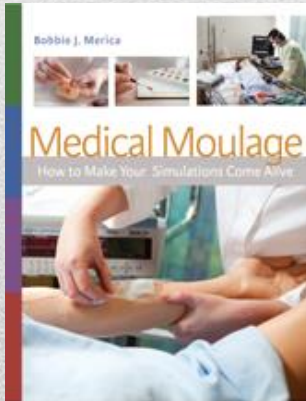
Setting the Scenarios



- Family Discharge

Teaching:

- Challenging Parent/s
- Infant with special needs
- Standardized parent with manikin infant



- Jaundice in the Newborn:

- Moulage manikin infant
- Include parent discussion
- Sign out to MD
- Determination of appropriate labs

Choosing Content



- SMARTER: Simulation Module for Assessment of Resident Targeted Event
 - Objective method of learning
 - Development of the scenarios
 - Scenario scripts for Standardized parents
 - Scenario determinations for manikin responses/presentation



SMARTER Tool



Objectives for Students:

- High Risk, Low Volume
- Unfamiliar patient problems
- Identified problems; no or little experience to practice care.

Smarter Tool



Objectives for sim:

- Determine APGAR scores for a newly born infant.
- Complete a physical exam on a newly born infant.

Preplanned Triggers:

- Set the stage for scenario
- Guide Student to make decisions
- Offer some common but abnormal findings for interpretation

Scenario Example: APGAR Scoring and Newborn Exam



Guiding or Course Outcome: NONPF core competencies for NP practice: Uses advanced health assessment skills to differentiate between normal, variations of normal and abnormal findings.

1. Objectives for the simulation	1.Clinical content (to meet learning objective)	1. Knowledge, Skills, Abilities (that underlie good performance)	1. Pre-planned triggers (events during the simulation that trigger student to display KSAs)	1. Targeted Responses (objectively observable behaviors that allow evaluation of KSAs)
Objectives for sim: 1. Determine APGAR scores for a newly born infant. 2. Complete a physical exam on a newly born infant.	Completes Apgar Scoring based on Physical parameters: Activity Pulse Grimace Appearance Respiration	1.Uses formal scoring tool to determine 1 and 5 minute apgar scores for infant. 2.Five factors are used to evaluate the baby's condition and each factor is scored on a scale of 0 to 2, with 2 being the best score: 1.activity and muscle tone 2.pulse (heart rate) 3.grimace response (medically known as "reflex irritability") – this cannot be simulated, given as -1 4.appearance (skin coloration) 5.respiration (breathing rate and effort)	Birth status: Born at 3:30pm, via NSD at 40 weeks gestation. 1 minute VS: HR 128, RR 18, irregular; Activity moving, not yet crying Grimace: 1 Color: hands and feet are pink 5 minute VS: HR 130, RR 30, regular, crying Activity: moving, crying active Grimace: 1 Color: normal, hands and feet are pink *Small cephalohematoma is present on infant’s scalp/ No other abnormalities on PE.	1.Asks history questions from chart or nurse to include: pregnancy complications, labor length and status, type of delivery, intended feeding type, other symptoms present. 2. Completes components of physical exam to determine apgars and continued physical assessment to include: Assessment of fontanel and head Eye exam and red reflex ENT exam Heart and lung sounds MS – hip flexion

Course Number: NURS 648 Newborn Clinical



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Students:

Knowledge, Skill Abilities (KSA)

APGAR scoring:

1. Activity and muscle tone
2. Pulse
3. Grimace (cannot be simulated)
4. Appearance: skin coloration
5. Respiration: RR and effort

Complete History and Physical Exam

APGAR

Simulation: Manikin



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Student/Simulation Evaluation:

Debriefing with Good Judgement Model

Documentation of simulation experience

Preconceived ideas compared to post-event?

Evaluation responses to simulation

Evaluation



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