

Rural SimCenter Scenario Template Anola Che BD (today)

Scenario Name: Neonatal Abstinence Syndrome	Learner Preparation Exercise:		
High Fidelity X Low Fidelity Professional Level: ☐ Advanced ☐ Intermediate ☐ Beginner Learning Objectives: 1. Recognize NAS in a newborn and initiate appropriate treatment 2. Initiate appropriate NICU management of NAS in newborn 3. Demonstrate Appropriate use of the modified Finnegan Scale Secondary Objectives: 1. Understand care management goals for NAS 2. Ability to use Finnigan or Modified Finnigan Scoring System 3. Identify 3 non-pharmacologic treatments for NAS	Review: (Insert skills or reading students should review) Patrick SW, Barfield WD, Poindexter BB, AAP COMMITTEE ON FETUS AND NEWBORN, COMMITTEE ON SUBSTANCE USE AND PREVENTION. Neonatal Opioid Withdrawal Syndrome. Pediatrics.2020;146(5):e2020029074 Neonatal Abstinence Syndrome: Finnegan Scoring available at: https://ncpoep.org/guidance-document/neonatal-abstinence-syndrome-overview/neonatal-abstinence-syndrome-nas/ Shan, F., MacVicar, S., Allegaert, K. et al. Outcome reporting in neonates experiencing withdrawal following opioid exposure in pregnancy: a systematic review. Trials 21, 262 (2020). https://doi.org/10.1186/s13063-020-4183-9 Neonatal Abstinence Syndrome scoring: Stanford Lucille Packard Nursery: Drug exposed infants. https://med.stanford.edu/newborns/professional-education/drug-exposed-infants/neonatal-abstinence-syndrome.html#jittery_movements Schierholz, E., French,R., Boucher, AM. (2020). Caring for infants and families affected by neonatal-abstinence syndrome. American Nurse Journal Volume 15, Number 1. Available at: https://www.myamericannurse.com/caring-for-infants-and-families-affected-by-neonatal-abstinence-syndrome/ Insert Scenario Summary (Basic overview of Case) Baby girl Anola Che is a 39 week infant admitted to the NICU at 2 hours of age for tachypnea, tremors, vomiting, high pitched cry and hypertonicity. The mother had no prenatal care. Total Time Duration: 60 minutes Set-up 10 minutes Simulation 20 minutes		
	Debrief 30 minutes		



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Initial Subjective Data:

Background Information:

Mother has a history of barbiturate use, smoking and injecting OxyContin IV for the past 2 years. Pregnancy was complicated by recurrent UTIs. The mother attempted self-detoxification with methadone obtained illicitly 2 weeks prior to delivery. Maternal drug screening positive for oxycodone, methadone and methadone metabolites and negative for barbiturates or alcohol.

Past History:

Patient is a 39 week gestational female infant – birth weight 2864 grams, born to a 24yo para 1 gravida 1 woman by spontaneous vaginal delivery.

Presenting History:

At birth the baby was noted to have a shrill cry. Apgar scores were 7 and 10 at 1min and 5min. The baby initially required oxygen therapy for transient respiratory distress. The baby was admitted to the NICU at 2 hours of age. Baby is jittery and irritable on admission

Patient Description and Image

Name

Age Anola Che
Birthdate (2 hours ago)
Gender Female
Weight 2864 gm
Height 22"
Allergies NKDA



Supplies	Set-up Notes: What is needed for the patient (simulator/actor) and what is needed for the patient room?
IV Set Up Saline Lock IV IV Pump Second IV Fluid Type: Infusion Rate: Tubing: Med Dispense List (Other meds to be set up by instructor) (Only list meds to be accessed through med dispense)	Setting: ☐ICU ☐Emergency ☐Medical ☐ Surgery/OR ☐Out-Patient ☒ Neonatal ICU Monitor Setup: ☐ Primary ECG ☐ Secondary ECG ☐ Pulse ☐ Respiratory Rate ☒B/P ☒ SPO2 ☒ Temp ☐ CO2 Other Settings
Medication List 1. Morphine sulphate every 4 hours orally - 0.05 to 0.1 mg/kg/dose 2. Acetaminophen prn 3. IV Fluids to replace loss Equipment: Nasal Cannula O2 Mask Non-Rebreather	Moulage: -mottled skin -runny diarrhea diaper -cyanosis
 ☑PPE (goggles, gloves, etc) ☑ Penlight ☑ Crash Cart ☑ EMR ☑ Thermometer ☑ Glucometer ☑ NG Tube ☑ Suction ☑ Chest Tube ☑ Other Please Describe Additional Equipment Needs: Oxygen T-piece – infant warmer used in neonatal ICU 	Patient Actors Requested: • Age: 20s-30s • Gender: Mother in OB unit-rooming in • Clothing: mother in hospital gown, father in street clothes • Relationship to Patient: Parents Paperwork* □ Physician Orders □ Chart □ Lab Reports
	* Attach Reports to the file

Scenario Progression: Admission Information - Baby 2 hours old

Initial State: Frame 1		Initial Patient History		
Vital Signs		Body System Assessment	Patient Finding	
Cardiac Rhythm: sinus tachycardia		Neurological/Sensory	Exaggerated startle response	
Rate: 188		Cardiac	tachycardia	
Respiratory Rate:68 with retractions		Pulmonary	tachypnea	
Blood Pressure:64/41	Blood Pressure:64/41		hypertonia	
SPO2: 74% Temp: 38°C		Gastrointestinal	Increased rooting/ Emesis and watery diarrhea	
General Conditions to be in place for Scenario: Newborn in NICU		Genitourinary	Feeding not tolerated	
		Skin/Wound	mottled	
		• Vocal	High pitched cry	
Correct Action: Supplemental Oxygen consider oral morphine or	Move to Frame: 2	Initial Lab/Diagnostics	Initial urine and meconium drug screens are negative	
methadone. Encourage breast feeding and non-pharmacologic			Glucose: 48	
treatment.			Modified Finnegan score is 14	
No Action: inappropriate maternal history or fails to recognize NAS	Move to Frame: 5			

Facilitator Notes: With 3 consecutive Finnegan scores > than 8 or 2 scores > than 12--consider use of morphine or methadone to treat withdrawal symptoms. Non pharmacologic treatment is encouraged: breast feeding, swaddling, low stimulation, cuddling etc.

Frequent feeding and formula supplementation to avoid hunger.

Frame 2-Baby 6 hours old		Change in Patient Condition	
Vital Signs		Body System Assessment	Patient Finding
Cardiac Rhythm:160		Neurological/Sensory	jittery
Pulse:160		Cardiac	
Respiratory Rate:56		• Pulmonary	
Blood Pressure:68/48		Musculoskeletal	Continued hypertonia
SPO2: 96 on supplemental oxygen	SPO2: 96 on supplemental oxygen		No emesis, watery stools
Temp: 37°C		Genitourinary	
Patient status: Baby improves with non-pharmacologic treatment and is successful breast feeding.		Skin/Wound	Skin turgor wnl-cap refill wnl
		Vocal Complaint	High pitched cry
Correct Action: Continuous monitoring and use of non-pharmacologic treatment until pattern of Finnegan scores are	Move to Frame: 3	• New Lab Reports	Repeat urine shows positive for oxymorphone but negative for methadone.
established.			Modified Finnegan score is 9
No Action –delay in treatment Move to Frame: 5			

Facilitator Notes:

Baby improves and is able to tolerate breast feeding after admission and starting non-pharmacologic treatment. Consider use of morphine sulphate for opioid withdrawal. Baby remains on supplemental oxygen, swaddled tightly and low lights and stimuli.

Frame 3 9 hours after delivery		Change in Patient Condition	
Vital Signs		Body System Assessment	Patient Finding
Cardiac Rhythm: Sinus		Neurological/Sensory	Continues jittery
Pulse:166		Cardiac	
Respiratory Rate: 58		Pulmonary	
Blood Pressure:68/48		Musculoskeletal	
SPO2: 98 on supplemental oxygen		Gastrointestinal	Watery diarrhea
Temp: 37°C		Genitourinary	
General Conditions to be in place for Scenario: Infant continues to show signs of opioid withdrawal		Skin/Wound	
		Vocal Complaint	Irritable, inconsolable cry
Correct Action: Consider oral morphine or methadone to treat withdrawal symptoms.	Move to Frame: 4	Initial Lab/Diagnostics	Modified Finnegan score: 8
No Action	Move to Frame: 5		

Facilitator Notes: With the start of pharmacologic treatment infant begins to improve

Frame 4	Change in Patient Condition		
Vital Signs		Body System Assessment	Patient Finding
Cardiac Rhythm: Sinus		Neurological/Sensory	Baby resting-no jittery movements
Pulse:168		Cardiac	
Respiratory Rate:48		Pulmonary	
Blood Pressure:68/46	Blood Pressure:68/46		
SPO2: 98	SPO2: 98		WNL
Temp: 37		Genitourinary	
		Skin/Wound	
		Vocal Complaint	Baby content
Correct Action: continue Morphine treatment to maintain low Finnegan scores and titrate down over hospital stay	Move to Frame: END	New Lab Reports	Modified Finnegan score 3

Facilitator Notes:

Baby requires treatment for opioid withdrawal. Students should maintain opioid treatment titrated to modified Finnegan score

Frame 5- Baby 12 hours old		Change in Patient Condition	
Vital Signs		Body System Assessment	Patient Finding
Cardiac Rhythm: Sinus Tachycardia		Neurological/Sensory	Extremely jittery-inconsolable
Pulse:190		Cardiac	tachycardia
Respiratory Rate:74		Pulmonary	tachypnea
Blood Pressure:72/60	Blood Pressure:72/60		hypertonic
SPO2: 61%		Gastrointestinal	Severe diarrhea
Temp: 38		Genitourinary	
Condition worsensBaby continuous crying-respiratory depression with tiring		• Skin/Wound	dehydration
		Vocal Complaint	Continuous crying
Correct Action	Move to Frame: END	New Lab Reports	
Wrong Action Move to Frame:			
No Action	Move to Frame:		

Facilitator Notes: End Scenario and review treatment for Neonatal Abstinence Syndrome

No treatment FRAME: 1 Admission Rhythm: Sinus Tachy Rate: 188 B/P: 64/41 Resp: 68 SPO2: 74 Temp: 38 C Vocal Cue: shrill cry FRAME: 2 (6hours old) Rhythm: Sinus Rate: 160 Consider morphine treatment Resp: 56 B/P: 68/48 SPO2: 96 with O2 Temp: 37 C Vocal Cue: irritable cry FRAME: 3 (9 hours old) Rhythm: Sinus Rate: 166 Resp: 60 B/P: 68/48 SPO2: 98 with O2 Temp: 37 C Vocal Cue: increased irritability FRAME: 4-(12 hours old) END Scenario Rhythm: Sinus Rate: 166 Resp: 60 B/P: 68/48 SPO2: 98 with O2 Temp: 37 C Vocal Cue: decreased irritability

Scenario Progression Algorithm:

FRAME: 5 Failure to recognize NAS

Rhythm: Sinus Tachy Rate: 190 Resp: 74 B/P: 72/60 SPO2: 61 Temp: 38 C

Vocal Cue: jittery and crying



PATIENT ACTOR INFORMATION

Patient Actors Roles:

Mother Father

Suggested Dialogue for each Actor

Mother shows concern for baby but struggling with her own withdrawal—wants to be referred to treatment

State she feels bad about how her mistakes are hurting the baby

Father supportive of both mom and baby-history of heroin use but now sober

Key Points to emphasize:

Desire to breast feed Inability to care for child without help—"I don't know what to do" Contact social worker to establish treatment after mom and babies discharge

Suggested Character Development:

Mother unsure with each evolving situation

"I don't know what to do because she won't stop crying

"I hurt too"

Father can provide support and suggests maybe his mother can help care for the child.



Debriefing Points:

Instructors should developed a structured debriefing and develop questions related to:

Objectives:

- 1. What were the symptoms that lead you to the NAS diagnosis?
- 2. What are the first steps that were taken to address the infants problems? What was your management plan?
- 3. Were you able to apply the modified Finnegan scale to this situation?
- 4. What were some of the non-pharmacologic tools you used to sooth the baby and help with symptoms?
- 5. What were the indications pharmacologic support would be needed?
- 6. What is the typical observation time for infants presenting with NAS

1. Teamwork

- a. What members of the healthcare team are important to include in management of NAS
- b. Did you understand the nursing role
- c. Were treatment plans agreeable to all members of the team
- d. Was communication with the team and family adequate?
- 2. Patient Safety-what precautions need to be taken to assure patient safety
- 3. Patient Teaching-what teaching opportunities are present with NAS in the care of the mother and baby
- 4. Were medication calculations difficult or are there visual aids to help with fluid/med management

Tips for Debriefing

- 1. Learner focused
- 2. Allow enough time for learning (2-3 times the scenario length)
- 3. Focus on the process not the individual
- 4. Keep the debriefing positive