CLINICAL SIMULATION

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Section 1: Demographics

Scenario Title
: **Neonatal Resuscitation at Whitfield**
Simulated Patient Name(s): Baby Tori Simms
Simulated Patient Age: newborn

Developer: Mercedees Willis
Developer Email: membry@uab.edu

Revising Author	Date Revised

TIME	
Setup	
Simulation	
Debrief	
TOTAL	

Target Learner Groups
Whitfield Regional Hospital L&D team, including L&D RNs, OB/GYNs, Responding OR team.

Learner Objectives

At the end of the session, learners should be able to…
1. *Demonstrates resource utilization by calling for help appropriately, prioritizing tasks and triaging as required.*
2. *Demonstrate understanding and recognize signs of fetal decompensation.*
3. *Implement appropriate algorithm for neonatal resuscitation.*
    a.
    b.
    c.
4. *Demonstrates communication skills by and updating mother on status of infant.*
5. *Discuss next steps on disposition of intubated baby.*
 	
Know who to call
Know how to stimulate and bag infant
Know what drugs to give, where to find them, how much to give
Update mother if possible
 	
How to transport baby?—Demonstrate or Discuss next steps on disposition/environment

Umbilical cord kits? UVC NRP epi or ET tube

Scenario Synopsis for Facilitator
At delivery baby is limp and unresponsive. There is no meconium. Baby has poor tone and is blue. Baby weighs 3.3 kg (7.26 lb) Term delivery.

Upon Delivery Baby has low apgar scores, limp, and unresponsive requiring resuscitation.

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This scenario will be used as the second case in a 3-part series or can be used as a stand-alone scenario.

Scenario A – Imminent Delivery – Normal
Scenario B – Fetal Delivery with Complications
Scenario C – Imminent Delivery- Complicated (Precipitous/Breech with Prolapsed Cord)

Type of Debriefing
Advocacy Inquiry (A/I) and Plus/Delta (+/Δ).

Section 3: Setup

Simulator / Scenario / Files	AV Considerations

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Simulator to use: Baby Tori *Patient to use in Computer:* *Scenario Title in Computer:* *Supporting Files, Documents, etc:*	*Video Recording:* YES / NO *Video Streaming:* YES / NO *Other: Headsets* Due to accreditation requirements, we will record all simulation debriefings

Initial Simulator Setup	
Clinical Setting	Delivery Suite
Bed Type	Warmer
Body Props	Covered in amniotic fluid
Body Position	Flat
IV Access	N/A
Wounds/Dressings	Amniotic Fluid to simulate recent delivery/lubricant
Moulage	
Wig	
Arm Band	

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Monitors	NOTES
Heart Rate	
NIBP	
Temperature	
Oxygen Saturation	
Respiratory Rate	
Apgar Scores	

Equipment / Supplies	NOTES
UAC, UVC kits	
Baby Linens	
Pedi Ambu Bag	
Neonate Code Cart (et tubes, bag, laryngoscopes w/blades)	
Neonate Drugs (epi)	
Suction	
Towels	
O2	

Additional Setup/Environmental Notes:

- Will need two bedside tables
- Extension cords
- Powerbox to power plug in equipment

Setup:
· Baby warmer
· O2 wall with functioning blender
· Spo2 probe
· Blankets
· Bulb syringe
· Neo-puff with mask and BVM
· 3.0 ETT
· CO2 colorimetric device
· Laryngoscope and 0 miller blade
· 1 cc syringe
· 3 cc syringe
· 3 way-stop-cock
· 1mg 1:10,000 Epi

Section 4: Prebrief

Prebrief Information

- Welcome (Restrooms, pagers, cell phones, time line)
- Purpose of Simulation
- Video / Photo Release (if applicable)
- Confidentiality and Safe Learning Environment
- Mannequin Features
- Embedded Simulation Persons
- Fiction Contract
- Debriefing
- Basic Assumption
- Safety Phrase
- Questions from learners

Scenario Stem for Learner

Baby Tori

At delivery baby is limp and unresponsive. There is no meconium. Baby has poor tone and is blue. Baby weighs 3.3 kg (7.26 lb)
Term delivery.

Upon Delivery Baby has low apgar scores, limp, and unresponsive requiring resuscitation.

1 point for flexed arms and legs
1 point for HR below 100 bpm
0 point for grimace
0 for appearance
0 for respiration
= INITIAL APGAR is 2

Have APGAR SCORE chart in hand.

Activity (muscle tone)
Pulse
Grimace
Appearance
Respiration

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Section 5: Scenario Information

Summary plot of scenario for director or facilitator
Baby Tori

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Baby Tori

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Activity (muscle tone)
Pulse
Grimace
Appearance |

Commented [WML(1): Insert concerning apgar scores

Patient history for voice operator (mannequin only): Anything that should come up in a basic history and physical assessment should be listed here for the voice operators to quickly and accurately refer to.
Name/Age/DOB: *Baby Tori*
Patient Case Progression: initially limp, pink up, responsive VS after intubation
Other Pertinent information:

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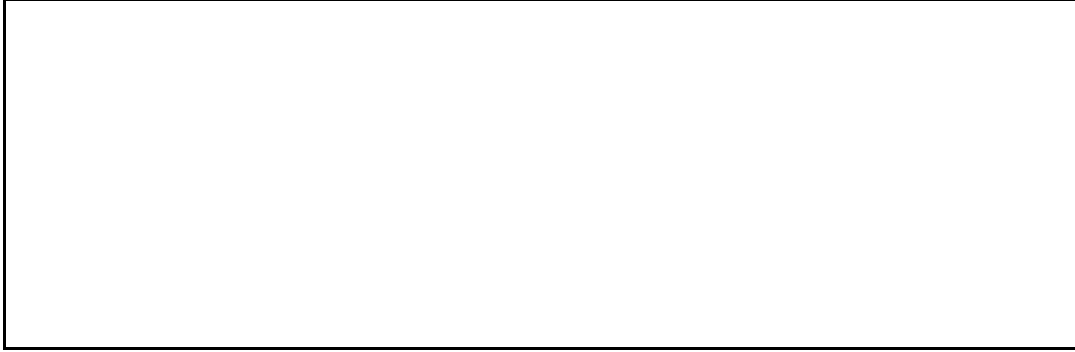
Scenario Progression:
Baby Tori

Baseline: At 1 MIN				Time: *1-2 mins*				Sounds		
HR 40	Rhythm *Sinus brady*	BP	O2 Sat 58%	RR *apneic*	Pulses *present*	Temp *36.5F*	Eyes *closed*	Lung *clear*	Heart *brady*	Bowel

Patient vocalizations: not crying, no meconium, minimal resp effort

Expected learner actions:
- Dry & warm
- Position airway
- Consider suctioning (mouth then nose)
- Stimulate

Operator notes/prompts: (The simulator will need to be on to create chest rise with the BVM. For this reason, it is NOT recommended to run this case with the simulator off).

Transition to next state: once they begin positive pressure ventilation

State 1:				Time:				Sounds		
HR 52	Rhythm Sinus brady	BP	O2 Sat 72%	RR apneic	Pulses	Temp	Eyes closed	Lung	Heart	Bowel

Patient vocalizations: poor tone, limp, not crying

Expected learner actions:
 -check HR (below 100)
-Continue stimulation (slaps foot, flicks heel, or rubs back)
-Provide PPV with appropriately sized mask
--Consider intubation/SpO2 monitor

Operator notes/prompts:

Transition to next state: once intubated or chest compressions start

State 2:				Time:				Sounds		
HR 48	Rhythm brady	BP	O2 Sat 72%	RR	Pulses	Temp	Eyes eyes	Lung	Heart	Bowel

Patient vocalizations: not crying

Expected learner actions:
-Chest Compressions
-Intubate (if not already done)
-Consider emergency UVC (umbilical venous catheter)

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State 3:				Time:				Sounds		
HR 50	Rhythm brady	BP	O2 Sat 72%	RR	Pulses	Temp	Eyes eyes	Lung	Heart	Bowel
Patient vocalizations: not crying										
Expected learner actions: **Consider or give epi** **Operator notes/prompts:**										
Transition to next state: transition to next state once intubated and considered or given epi.										

State 2:				Time:				Sounds		
HR 120 bpm	Rhythm sinus	BP	O2 Sat 98%	RR 38	Pulses	Temp	Eyes eyes	Lung	Heart	Bowel
Patient vocalizations: Begins to Cry										
Expected learner actions: **-plan for next steps** **-transfer of care**										
Operator notes/prompts:										
Transition to next state: END SCENARIO										

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Section 6: Embedded Simulation Persons (ESP)

ROLE	Simulated Name	NOTES
Nurse	*Mercedees*	*Helpful, give information- however you are unsure of where things are as you are a traveler.*

Scenario Description, Background, Progression for ESP
Baby Tori At delivery baby is limp and unresponsive. There is no meconium. Baby has poor tone and is blue. Baby weighs 3.3 kg (7.26 lb) Term delivery. Upon Delivery Baby has low apgar scores, limp, and unresponsive requiring resuscitation.

Commented [WML(2): Insert concerning apgar scores

Role-specific ESP Information:

ROLE:	Information, Frames, Cues, Phrases
Apgar Scores— Initial Score is 2 (points for activity and pulse) Color-blue VS- brady and apneic	

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Section 7: Debriefing Plan

REACTIONS: *The purpose of this section is to clear the air so a learning conversation can occur. Try to tie reactions to learning object ives you plan to cover. Try to frame in emotions. NOT WHAT DID YOU THINK,* **How do you feel***?*

FACTS: *Give basic facts of case so learners don't spend debriefing time debating or wondering what was going on with patient. More advanced learners can give report. This should be no more than 3 sentences, brief facts of the case.*

PREVIEW: *In one or two sentences, give learners preview of the main topics you will cover in debriefing. These can be broad such as communication, patient safety, and management of SVT or they can be specific such as recognizing signs and symptoms of pancreatitis and unde rstanding resources related to new diagnosis of HIV. Purpose is to let learners know where you are headed.*

UNDERSTAND & EXPLORE: *Choose one, or a combination, of the following methods based on the amount of time available for debriefing, experience level of the debriefer, level of expertise of the learners, and reactions the learners shared in the reactions phase: A/I, +/Δ, or Advocacy/Coach. Be sure to preview every time you move to the next objective or topic.*

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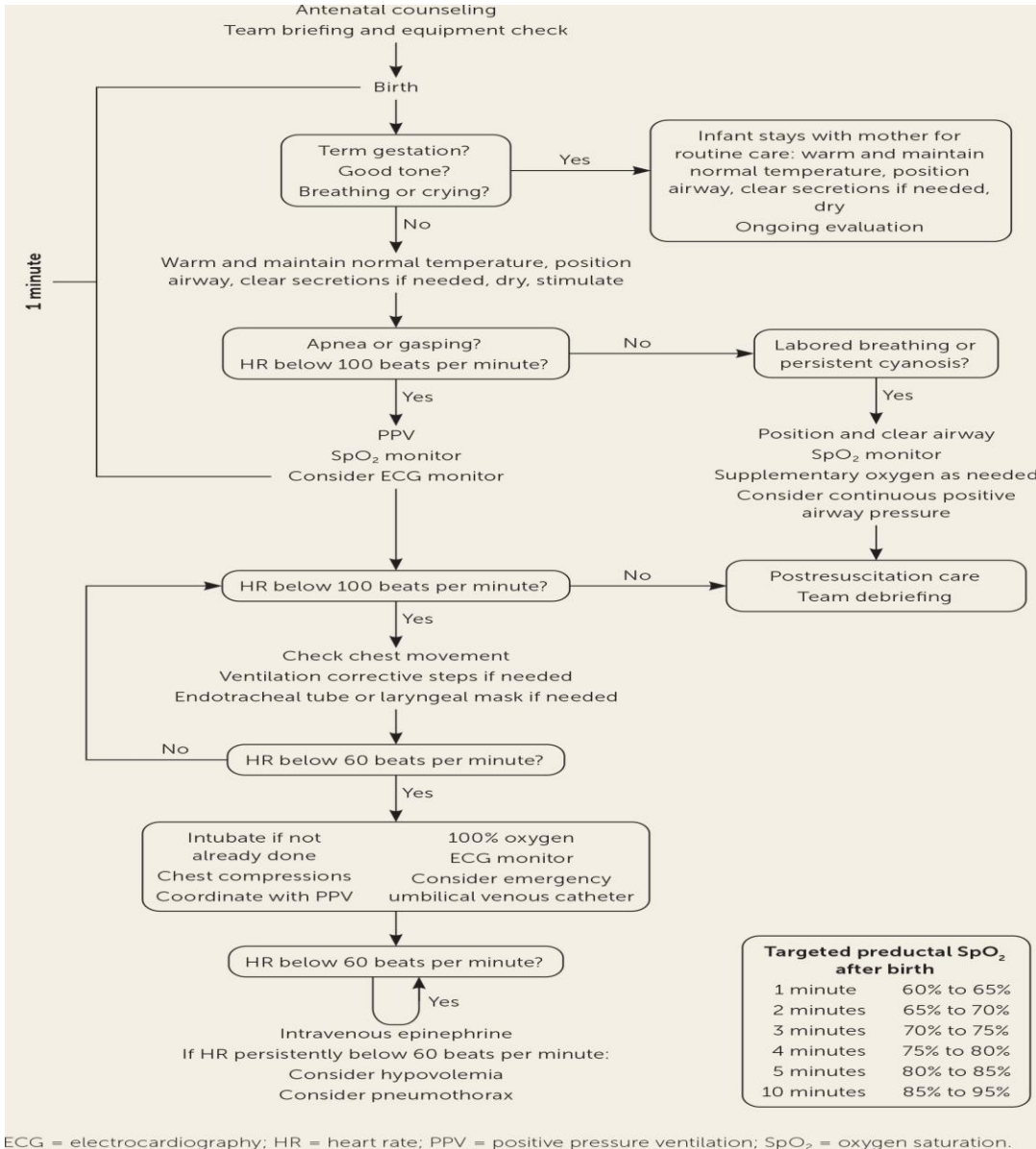|	
UNDERSTAND & EXPLORE: *Choose one, or a combination, of the following methods based on the amount of time available for debriefing, experience level of the debriefer, level of expertise of the learners, and reactions the learners shared in the reactions phase:*	
SUMMARY: *Ask learners to summarize their "take-aways."*	

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Section 8: Facilitator Information

Basic Science, Clinical Information, or other Background that will be helpful for facilitator/debriefer

Apgar Scoring System

	Indicator	0 Point	1 Point	2 Points
A	Activity (muscle tone)	Absent	Flexed arms and legs	Active
P	Pulse	Absent	Below 100 bpm	Over 100 bpm
G	Grimace (reflex irritability)	Floppy	Minimal response to stimulation	Prompt response to stimulation
A	Appearance (skin color)	Blue; pale	Pink body, Blue extremities	Pink
R	Respiration	Absent	Slow and irregular	Vigorous cry

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Antenatal counseling
Team briefing and equipment check

Birth

1 minute

Term gestation?
Good tone?
Breathing or crying? —— Yes →

Infant stays with mother for routine care: warm and maintain normal temperature, position airway, clear secretions if needed, dry
Ongoing evaluation

No

Warm and maintain normal temperature, position airway, clear secretions if needed, dry, stimulate

Apnea or gasping?
HR below 100 beats per minute? —— No → Labored breathing or persistent cyanosis?

Yes

PPV
SpO_2 monitor
Consider ECG monitor

Yes

Position and clear airway
SpO_2 monitor
Supplementary oxygen as needed
Consider continuous positive airway pressure

HR below 100 beats per minute? —— No → Postresuscitation care
Team debriefing

Yes

Check chest movement
Ventilation corrective steps if needed
Endotracheal tube or laryngeal mask if needed

No

HR below 60 beats per minute?

Yes

Intubate if not already done
Chest compressions
Coordinate with PPV

100% oxygen
ECG monitor
Consider emergency umbilical venous catheter

HR below 60 beats per minute?

Yes

Intravenous epinephrine
If HR persistently below 60 beats per minute:
Consider hypovolemia
Consider pneumothorax

Targeted preductal SpO_2 after birth

1 minute	60% to 65%
2 minutes	65% to 70%
3 minutes	70% to 75%
4 minutes	75% to 80%
5 minutes	80% to 85%
10 minutes	85% to 95%

ECG = electrocardiography; HR = heart rate; PPV = positive pressure ventilation; SpO_2 = oxygen saturation.

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