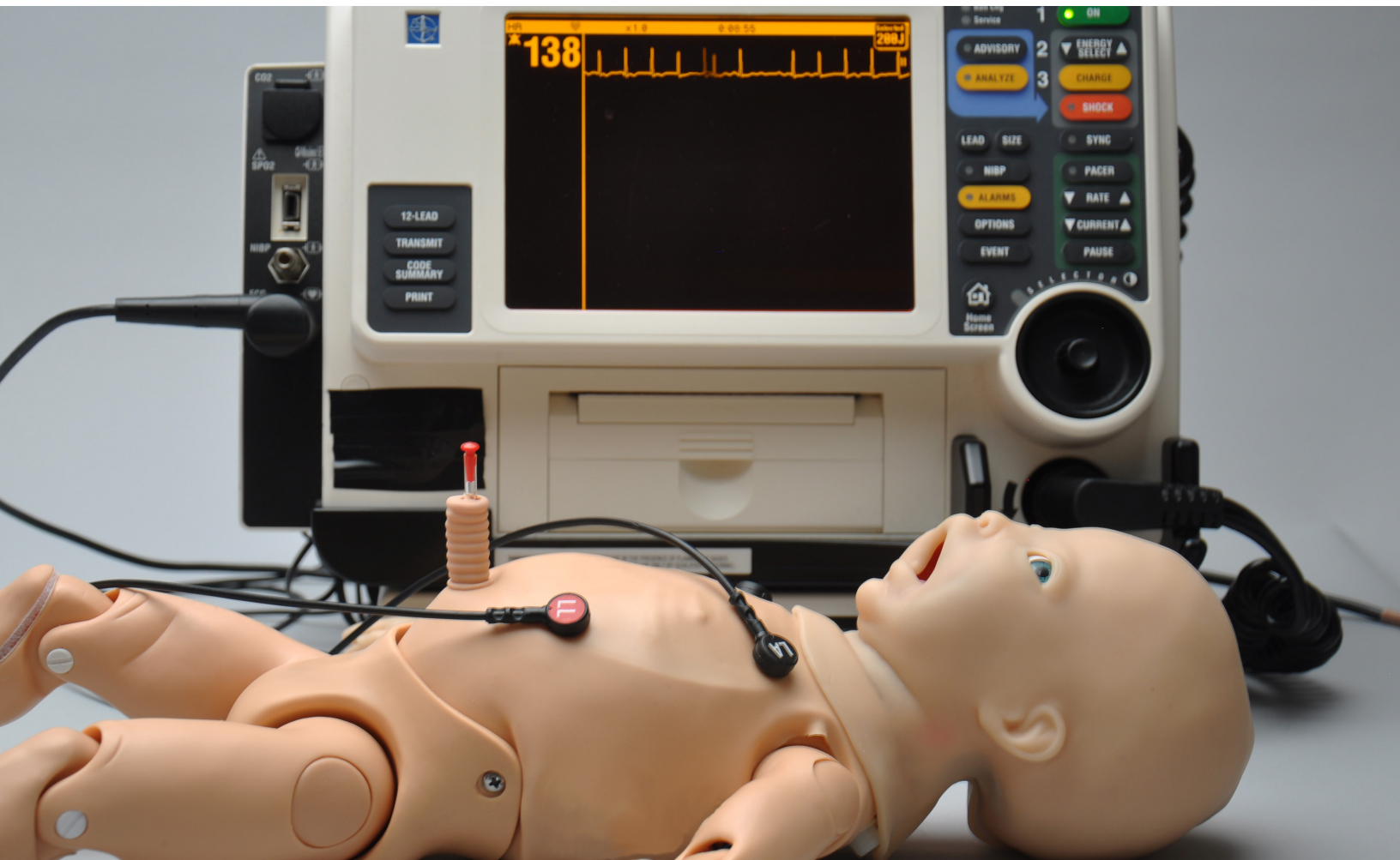


# Code Blue® III Neonate

## S300.110



**Gaumard®**  
Simulators for Health Care Education

The Code Blue® III Neonate is an interactive educational system developed to assist a certified instructor. It is not a substitute for a comprehensive understanding of the subject matter and not intended for clinical decision making.

**User Guide 14.9.1**  
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# Care and Cautions

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## Overall Warnings

Remember that damage caused by misuse is not covered by your warranty. It is critical to understand and comply with the following guidelines:

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### GENERAL

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- Never disconnect the communications module while the UNI software is running. The software will halt, and the module may be damaged.
- Do not wrap this or any other Gaumard product in newsprint.
- Indelible marks made with ballpoint pens, ink or marker cannot be removed.
- Only use Gaumard's provided simulated blood. Any other simulated blood containing sugar or any additive may cause blockage and/or interruption of the vasculature system.

### WARNING

Vein tubing contains latex which may cause allergic reactions. Users allergic or sensitive to latex should avoid contact. Discontinue use of this product and seek medical attention if an allergic reaction occurs.

- Replacement parts are available from Gaumard Scientific or from your Distributor.

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### OPERATING CONDITIONS

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Operating Code Blue III Neonate outside these ranges may affect performance:

- Operating temperature: 50°-95° F (10°-35° C).
- Humidity: 5%-95% (non-condensing).

---

### STORAGE CONDITIONS

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- Storage temperature: 32°-113° F (0°-45° C).
- Humidity: 40%-60% (non-condensing).
- Do not stack or store heavy materials on top of the carton.

---

### PROCEDURES

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- Do not attempt to intubate without lubricating the airway adjunct with silicone lubricant (provided). Failure to do so will make intubation very difficult and is likely to result in damage.
- Mouth to mouth resuscitation without a barrier device is not recommended, as it will contaminate the airway.
- Treat Code Blue III Neonate with the same precautions that would be used with a real patient.
- The use of needles larger than 23 gauge will reduce the lifetime of the lower arms' skin and veins.
- When the arm veins require replacement, contact Gaumard to arrange for a lower arm exchange. Refer to the "Consumables and Replacement Parts" section of this guide, and contact customer service for more information.

---

### CLEANING

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- The Neonate should be cleaned with a cloth dampened with diluted liquid dish washing soap.
- Remove all traces of any lubricant.
- Do not clean with harsh abrasives.
- Do not use povidone iodine on the simulator.
- Dry thoroughly.
- Code Blue III Neonate is "splash-proof" but not water-proof. Do not submerge or allow water to enter the interior of the simulator.

---

### SET UP

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- Code Blue III Neonate will only power on when connected to the AC power supply.



---

# Getting Started

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## Overview

Your Code Blue III Neonate simulator is an advanced life support training simulator equipped with the following features:

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### AIRWAY

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- Oral and nasal intubation
- Use an ET tube or LMA
- Oral intubation plus suctioning
- Sensors detect depth of intubation
- Unilateral chest rise with right main stem intubation

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### APPEARANCE

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- Articulating head, neck, jaw, arms and legs

---

### BREATHING

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- Accommodates assisted ventilation
- Bilateral lung expansion with realistic chest rise
- Ventilation is measured and logged

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### CIRCULATION

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- Conductive skin regions allow for ECG monitoring with real equipment
- Chest compressions are measured and logged
- Left side brachial and radial pulse
- Umbilical pulse
- Blood pressure auscultation in left arm
- Korotkoff sounds audible between systolic and diastolic pressures

---

### SIMULATOR

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- Physical size is 50th percentile at 40 weeks gestational age
- Realistic airway with tongue, vocal cords, trachea and esophagus

- Heart, lungs and ribs
- Venous access
- Umbilical catheterization
- Patent umbilicus
- Intraosseous access at right tibia
- IV training on the right arm
- Intramuscular injection sites in deltoids and quadriceps for placement exercises

---

### OTHER

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- Powerful yet intuitive user controlled software interface.

---

### INCLUDED ACCESSORIES

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- Multimedia laptop
- Genuine Windows® OS
- USB communications module
- Communication cable

**See shipping manifest for an up to date equipment list.**

## Terminology

It is wise to spend a moment familiarizing yourself with some of the terminology that will be used to discuss simulation with the Code Blue III Neonate system.

---

### FACILITATOR

---

The person conducting the simulation; an instructor or lab staff member.

---

### UNI

---

The Code Blue III Neonate User Interface software application, used to control the simulator and evaluate care providers.

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**PALETTE ITEM**

---

Any full or partial set of physiological parameters that have been grouped and saved together under a single name.

---

**PROFILE**

---

A unique configuration, including custom Palette, Scenarios, and options. Each Profile acts as a separate program, in that changes made to one profile have no effect on others.

---

**PROVIDER**

---

A person participating in the simulation as a healthcare provider.

---

**SCENARIO**

---

A saved sequence of physiological states, like a “playlist.” Scenarios provide a level of automation that unburdens the facilitator and allows standardized presentation of symptoms.

---

**SCENARIO ITEM**

---

A Palette Item that is part of a scenario. Scenario Items may also represent a fixed delay period (“Wait”) or a pause (“Wait Indefinitely”).

---

# Equipment Set Up

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## Control Computer

The simulator is controlled from a laptop computer equipped with a USB communication module.

Refer to the laptop's documentation for important information regarding use, charging, and care before continuing.

## Communication Module

The Code Blue III Neonate is powered on via a hard wired connection within a minute of the UNI software initializing.

Outlined below are the steps for connecting the neonate to the control laptop for a hard wired connection.

1. Connect the AC adapter to the power port located on the right side of the neonate.



2. Connect the communication cable (blue Ethernet cable provided) to the communications port located on the right side of the neonate.



3. Connect the communication cable to the USB communication module.



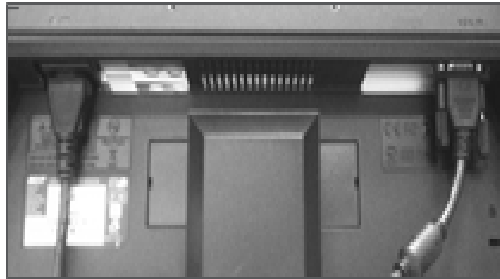
4. Lastly, connect the communication module to an available USB port on the laptop, then power up the laptop computer.



5. Double click on the UNI icon to start the application.

**WARNING**

**Never disconnect the communication module while the UNI software is running. Doing so can seriously damage the module.**



.....  
**EXTENDED SCREEN VIRTUAL MONITOR (OPTIONAL)**  
 .....

The control computer utilizes an extended monitor to display the simulator’s vital signs. Follow the steps below to connect the monitor screen to the laptop computer.

1. Begin by locating the laptop’s power input and video output. The location of these ports may vary by computer model.



2. Connect the charger’s AC plug into the power outlet and the power adapter plug into the laptop power port.
3. Connect the video cable to the video-out port on the laptop.



4. Connect the video cable to the LCD monitor screen.

5. Connect the AC cord plug to the power outlet and the other end to the monitor’s AC input.
6. Turn on the laptop and the additional LCD monitor.

The UNI will load and launch the Virtual Monitor application automatically. Vital signs will display on the additional LCD monitor.

**WARNING**

**Never disconnect the communication module while the UNI software is running. Doing so can seriously damage the module.**

If the extended monitor does not display an extended image of the home screen, navigate to the appendix for instructions.

.....  
**CONTROL TABLET PC (OPTIONAL)**  
 .....

The tablet PC is preloaded with the UNI control software used by the facilitator to initialize the simulator and control the vital signs.

Before turning on the computer for the first time, please review the documentation included with the product for important care and warning information.

.....  
**ALL-IN ONE TOUCH VIRTUAL MONITOR PC (OPTIONAL)**  
 .....

The All-in-one touch Virtual Monitors PC allows Gaumard Monitors software displays simulator’s vital signs in real time.



## VIRTUAL MONITOR PC SETUP

Refer to the manufacturer's documentation included with the virtual monitor system components for important safety, installation, and start-up information before turning on the computer for the first time.

To setup the virtual monitor PC:

1. Place the all-in-one PC within line of sight of the controlling computer
2. Connect the power supply
3. Connect the USB keyboard and mouse receiver
4. Turn on the computer

## VIRTUAL MONITOR WIRELESS CONNECTIVITY

The control PC and the all-in-one virtual monitor PC automatically establish a wireless link at startup. The wireless connection allows the Gaumard control software to transmit the vital signs information to the Gaumard Monitors software.

To verify the wireless link between the two computers, click the wireless icon located on the task tray. The wireless network name is configured at the factory and may differ from the one seen below. To troubleshoot connection issues between the virtual monitor computer and the controlling tablet, please refer to the Appendix section, page 88 .



## GAUMARD MONITORS

After the wireless connection is established, double click or tap the Gaumard Monitors icon to start the vital signs software.



The Gaumard Monitors software is now ready to receive the vital signs information generated by the UNI control software.



For more information about the Gaumard Monitors , please refer to the "Working with UNI" section, page 28.

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## WIRELESS COMMUNICATION MODULE (OPTIONAL)

---

Code Blue III Neonate has the optional feature to be powered on via wireless connection. This would eliminate the need to connect the communication cable to the simulator for it to function.



The wireless connection option also comes with a battery that is pre-installed in the manikin allowing

# Code Blue® III

## Neonate Features

### Airway

#### NASAL AND ORAL INTUBATION

The Code Blue III Neonate's airway can be intubated orally using endotracheal tubes and nasally using a nasopharyngeal tube. Code Blue III Neonate also allows providers to use a LMA.



Procedure	Recommended Device Size
Intubation (Blade size)	Miller 0
LMA	Size 1
Nasal Intubation	8 Fr catheter
Oral Intubation	ETT 3.0 no cuff
Suction	6 Fr catheter

#### WARNING

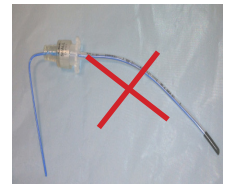
- Always lubricate tubing prior to performing any nasal or oral intubation. Failure to do so will make intubation very difficult and is likely to result in damage.
- Do not apply silicone or mineral oil directly into the mouth and airway.

#### INTUBATION SENSOR

Once intubated, sensors detect the depth of the intubation tube. If the tube is inserted too deep the left lung is disabled automatically, realistically demonstrating right mainstem intubation. Correcting the tube position enables the left lung.

**ET tube with black colored end might interfere with the correct intubation sensor detection.**

**ET tube with clear end is recommended as shown below.**



#### CRYING SOUNDS

Code Blue III Pediatric can produce audible crying sounds. Use the software controls to change the sound type and adjust the volume. Auscultate using a standard stethoscope.



# Breathing

---

## AIR RESERVOIR

---

Code Blue III Neonate's pulses and breathing with chest rise features are driven by pressurized air held in the system's internal reservoir.

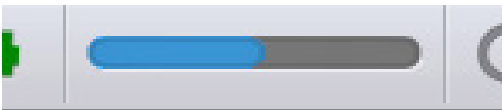
Activating these features consumes air pressure from the internal reservoir. It may be necessary to refill the system during exercises.

Follow the steps below prior to starting a simulation session:

1. Connect the black line to the black port on the Pediatric's left side.



2. Squeeze the bulb repeatedly until the air reservoir indicator in the software shows full



This tool located next to the battery indicator fills with a blue bar as the reservoir fills. Image currently shows about half full.

---

## LUNG SOUNDS

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Left and right lung sounds are available: normal, inspiratory stridor, grunting, wheezing, and crackles. These sounds are synchronized with the breathing patterns and chest rise.

---

## VENTILATION

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Practice BVM techniques using an infant sized mask having a thick seal. Ventilate via endotracheal tube with manual or mechanical ventilation. Bilateral lung expansion is perceived with realistic chest rise.



---

## COMPRESSION

---

Realistic chest cavity allows students to experience the correct force needed to perform proper chest compressions.

Depth of chest compressions are measured and logged in mmHg.



Proper chest compressions during CPR result in palpable umbilical pulses.

# Cardiac

---

## HEART SOUNDS

---

Code Blue III Pediatric is equipped with realistic heart sounds which are tied to a user defined heart rate and selectable rhythms

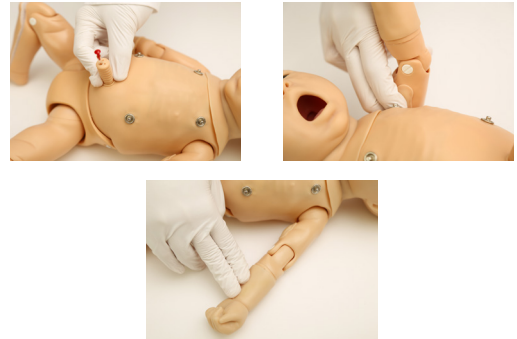




# Circulation

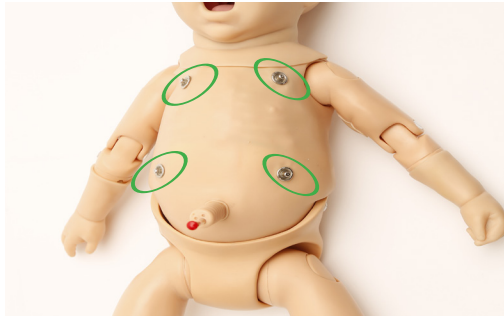
## PALPABLE PULSES

The Code Blue III Pediatric is equipped with multiple automatic pulse sites that operate continuously as long as there is air in the Air Reservoir.



## ECG MONITORING

Code Blue III Neonate conductive skin sites allow the attachment of real ECG electrodes. This feature permits the user to track cardiac rhythms with their own equipment just like with a human patient.



Pulses are synchronized with the ECG and are dependent on blood pressure.

To activate the pulses, fill the air reservoir following the instructions in the “Breathing” section above.

Pulses cannot be felt after the air reservoir runs out of air.

### WARNING

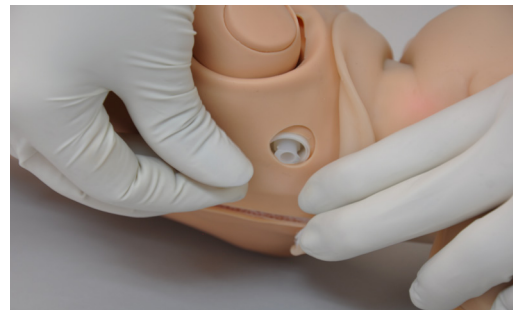
**Do not physically pace or defibrillate the simulator. The Gaumard User Interface contains a virtual function which can be used if defibrillation or pacing simulation is desired.**

## PROGRAMMABLE BLOOD PRESSURE

Programmable blood pressure can be read using a Code Blue III Neonate modified sphygmomanometer. In addition, users can auscultate the Korotkoff sounds programmed via the software.

## CONNECTING THE MODIFIED CUFF

1. Locate the Luer-Lock port on neonate's left posterior shoulder and remove the cap.



2. Connect the Luer-Lock fitting, located on the end of the modified BP cuff extra branch, to the Luer-Lock port on neonate's left shoulder. Some facilitators prefer to make this connection before commencing a simulation session.



**Calibrate the BP cuff before measuring blood pressure. Refer to the "Working with UNI" section for instructions.**

## INTRAVENOUS EXTREMITIES

The Code Blue III Neonate is equipped with right IV training arm that can be used for bolus or intravenous infusions as well as drawing fluids.

### WARNING

**Do not attempt to fill IV system without the drain hose in place.**

**Always leave the drain hose connected when injecting fluids into the system.**

**Use only Gaumard's provided simulated blood. Any other simulated blood brand containing sugar or any additive may cause blockage and/or interruption of the vasculature system.**

## FILLING THE IV ARM

1. In order to fill the IV arm, screw in one of the luer-connectors into each of the ports on the arm.



2. Loosen the clamp on the drain tube and connect it to either of the luer-connectors. Place the loose end of the drain tube into a nearby receptacle for liquids.



3. Using one of the provided adaptors, fill the syringe with water or pre-mixed Gaumard Blood Concentrate.

**To avoid spills and stains, it is recommended to practice with water before using Gaumard Blood Concentrate.**

4. Attach the open end of the syringe's adapter with the remaining luer-connector to the arm.



5. Slowly fill the arm using the syringe until it starts flowing out of the drain tube.
6. Once you see that there are no air bubbles escaping through the drain tube, fasten the clamp on the drain tube.
7. Remove the syringe's assembly from the arm's port.
8. Remove the now-free luer-connector and replace it with one of the short clear stoppers.



9. Remove the drain tube and replace the final luer-connector with a short clear stopper. If running an IV line, the drain tube should remain in place with the clamp open.



10. The IV arm is prepared and ready for use. Proceed to the "Draining the IV Arm" section when finished using the arm.

---

## DRAINING THE IV ARM

---

1. Remove one of the short clear stoppers and replace it with one of the luer-connectors.
2. Connect the drain tube to the tall white adapter in the arm. Ensure that the drain tube's clamp is fastened prior to attaching it to the arm.



3. Set the loose end of the drain tube in a receptacle for collecting fluids.
4. Remove the remaining short clear stopper and replace it with a luer-connector.
5. Fill the syringe assembly with air and connect it to the luer-connector.
6. Loosen the drain tube's clamp
7. Slowly push the air through the system to force the remaining liquid out.
8. Repeat step 6 until there is no more liquid in the arm.
9. After successfully pushing out all of the water from the arm, disconnect the drain hose and the syringe assembly.
10. Remove the luer-connectors..

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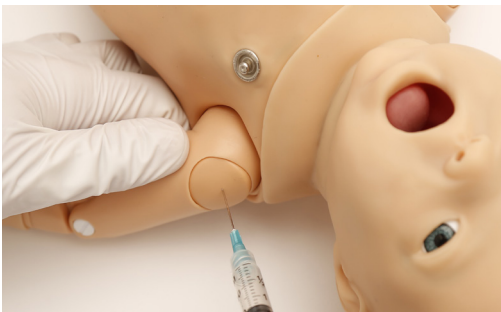
## INTRAMUSCULAR INJECTION SITES

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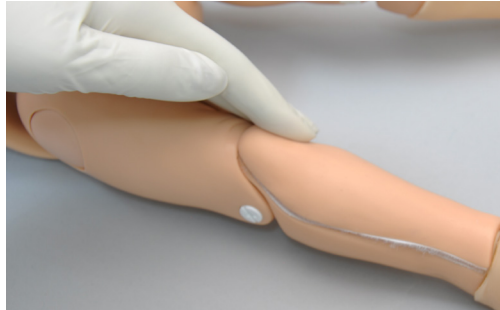
Intramuscular sites are present on both deltoids and quadriceps of the Neonate for placement exercises.

### WARNING

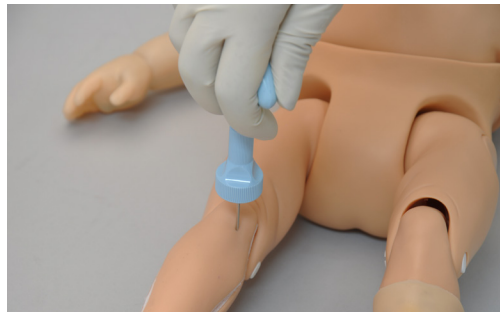
Do not inject fluids into the intramuscular sites.



1. Follow the instructions “Replacing and Filling the Tibia” to fill the tibia bone with fluids.
2. Palpate tibial tuberosity.



3. Insert bone aspiration needle below tibial tuberosity. Note the sharp decrease in needle resistance as it passes into the bone marrow cavity. Remove stylet, aspirate bone marrow, and infuse fluids.



### WARNING

Always drain and flush the reservoir after simulation.

---

## INTRAOSSIOUS ACCESS

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I/O access is used for the infusion of fluids, blood and/or drugs directly into the bone marrow of the tibia or other large bone. Setting up an intraosseous access line is an invasive procedure that can be simulated with the Code Blue III Neonate.

The following procedure describes how to use the I/O access feature:

---

## REPLACING AND FILLING THE TIBIA

---

1. To replace or fill the tibia bone, remove the cover from the tibia.



2. Gently remove the bone from its slot in the neonate's right leg.
3. Remove the black stopper and fill the bone with the desired fluid.
4. Replace black stopper after filling procedure is complete.
5. Place new tibia bone or fluid filled bone into the slot.



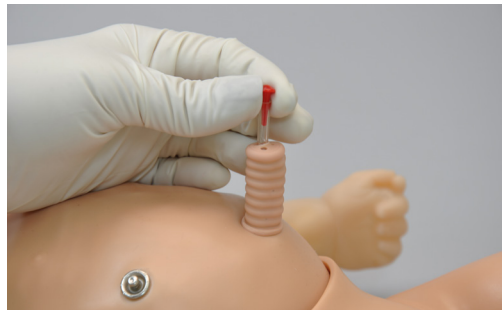
6. Re-attach tibia cover.

---

### UMBILICAL CORD

---

Catheterize or inject the umbilical cord. To fill the umbilical cord with fluid, remove the umbilical plug and inject the umbilical vein with 2 mL of water using the syringe. For catheterization exercises, use a lubricated 6 Fr urethral round tip catheter.



**For catheterization, use a lubricated 6 Fr urethral round tip catheter.**



## Cephalic

---

### CYANOSIS

---

User may choose from various intensities – healthy, mild, severe – and use the hypoxia model to trend improvement or degradation of condition.

Activate central cyanosis using the UNI application.



## ECG Monitoring

One of Code Blue III Neonate most exciting features is the accommodation of real monitoring. In most cases, no special instruction is necessary to use such devices. The neonate's conductive skin sites allow the attachment of real ECG electrodes. This feature permits the user to track cardiac rhythms with their own equipment just like with a human patient.

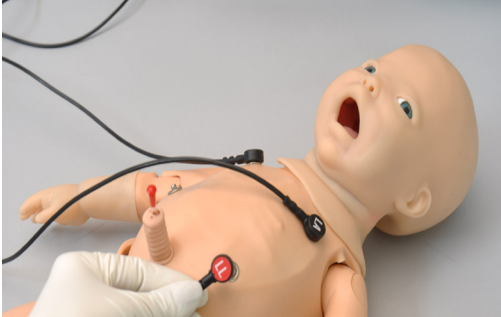


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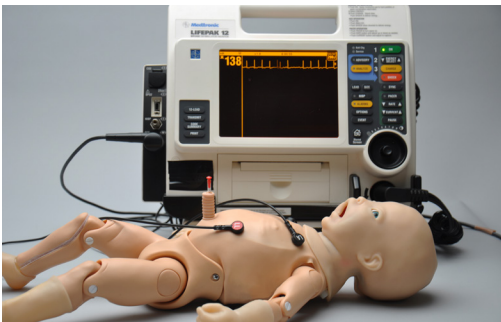
## INSTRUCTIONS FOR USE

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1. Turn on the simulator. Refer to the Equipment Set-Up section.
2. Connect the ECG lead wires on the neonate's ECG sites.



3. Turn on the ECG monitor.



### WARNING

Code Blue III Neonate does not accept real electrical therapy. Instead use the Virtual Shock Panel. Activate the panel from the “General” tab.

Do not physically pace or defibrillate the Code Blue II Neonate. The Gaumard User Interface contains a virtual function that you can use if defibrillation or pacing simulation is desired.

## Other

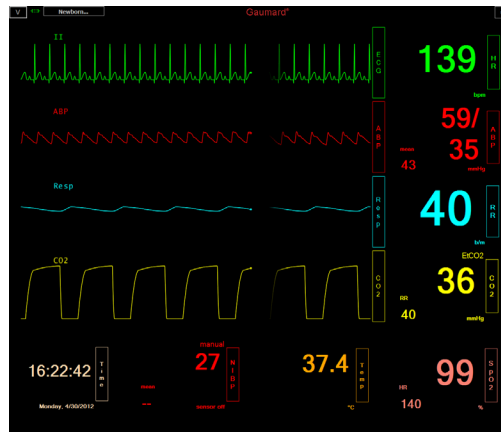
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### VIRTUAL VITAL SIGNS MONITOR

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The Gaumard Virtual Signs Monitor simulates vital sign monitoring equipment. The vital signs are synchronized through a wired connection between the facilitator's laptop and an additional monitor. Each trace can be customized independently; users can set alarms, time scales, boundaries and grid options. In addition, it allows the facilitator to display lab reports, x-rays and other files on the Virtual Monitor screen for use by the provider.

For information on how to setup Gaumard Monitors with UNI, please refer to the Appendix.



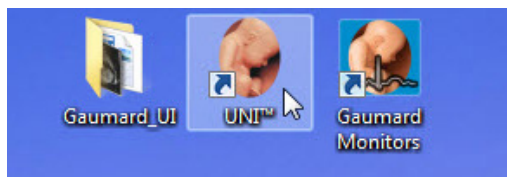
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# Working with UNI™

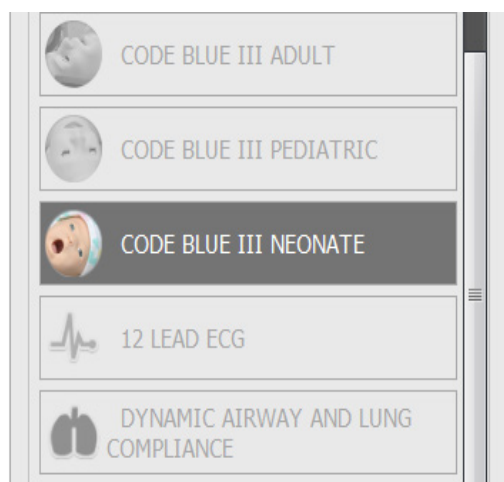
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# Initializing the Simulator

After reading the Care and Cautions section of the guide, double click the UNI™ icon located on the laptop's home screen to start the simulator.



The simulator selection menu is shown. Select Code Blue III Neonate and click “Start”.



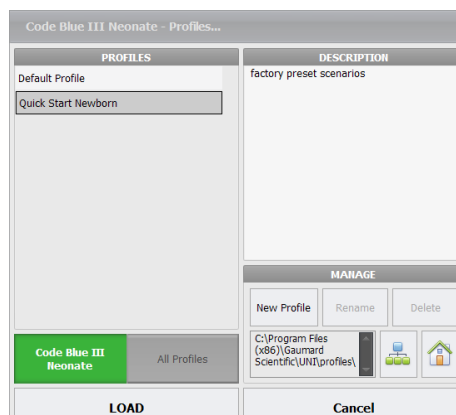
The software activates the simulator within 1 minute after clicking the start button.

## EXTENDED DESKTOP MONITOR (OPTIONAL)

The simulator’s vital signs are automatically displayed on the extended desktop monitor when the UNI software is started. If no image is shown on the extended screen, go to the Appendix section to find information on how to enable the extended monitor.

## PROFILES AND OPERATING MODES

After the startup screen, the profile selection menu is displayed.



A profile is a unique configuration of customized Palettes, Scenarios, and Options. Each profile functions independently, in that changes made to one profile have no effect on the others. The available profiles are: Default and Quick Start HAL.

After selecting a profile, click “Load” to continue.

## DEFAULT PROFILE

The default profile is a convenient starting point that can be customized to fit a particular simulation objective. It includes one preprogrammed palette with healthy vital signs.

## QUICK START NEWBORN

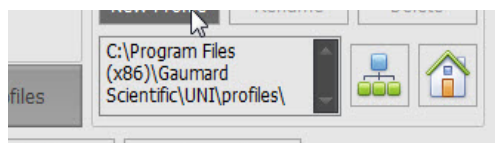
When first starting out with the Code Blue III Neonate, it is recommended that you use the Quick Start Newborn profile, which was created in conjunction with experienced healthcare instructors and working medical professionals.

The Quick Start Newborn profile has applicable Palettes that are useful for simulating common medical emergencies. For many applications, it serves a convenient starting point that can be customized to fit most simulation objectives. It includes ten scenarios.

## MANAGING PROFILES

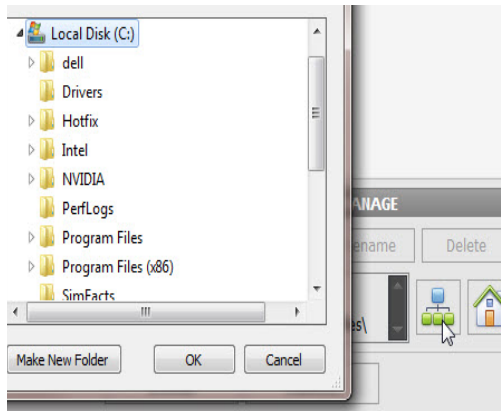
Use the Manage Profile Menu to create a new profile and edit this profile.

Also the profile folder location will be shown below the “New Profile” icon.

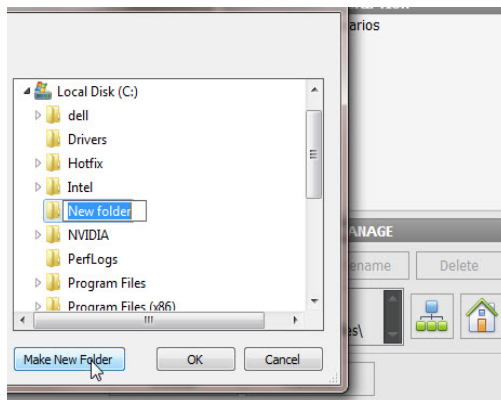




Use the “Map Profiles folder” icon to select the location of the new profile to be created on the server.

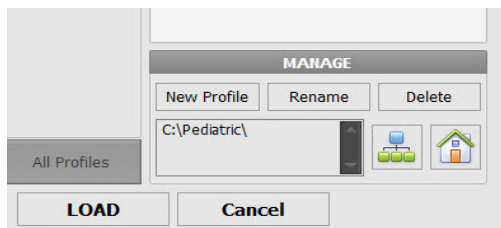


Select the server location and click “Make New Folder” to create the profile folder.



Assign a name to the folder and click “OK”

The new profile folder location will show up. Then proceed to create a new profile, see instructions detailed below.



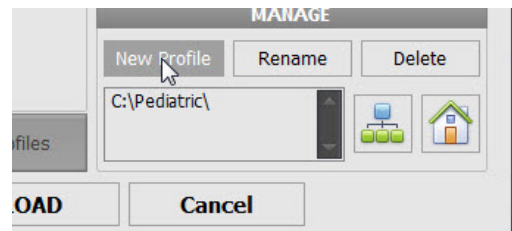
Use the “Home” icon to reset to default profiles folder.

## CREATING A NEW PROFILE

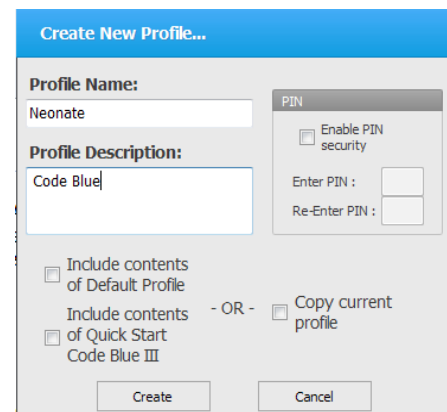
Profiles store palette, scenario, and option settings independently; changes made to one profile have no effect on the others. Below are some examples on how profiles are used.

- Assign one profile to each user of your Gaumard simulator system
- Use profiles to organize and protect palettes and scenarios
- Create a profile dedicated to a specific academic course taught by multiple instructors
- Devote an entire profile to one particular subject area, or even one particular scenario

To create a new profile, click “New Profile”.

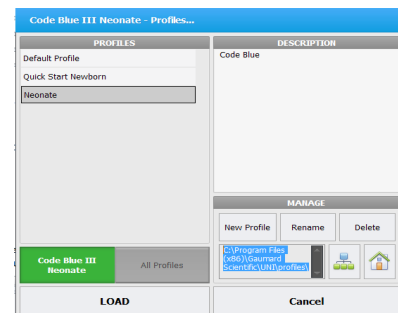


Enter a name for the new profile followed by a description.



Enable the PIN protection to prevent unauthorized users from accessing or making changes to this profile.

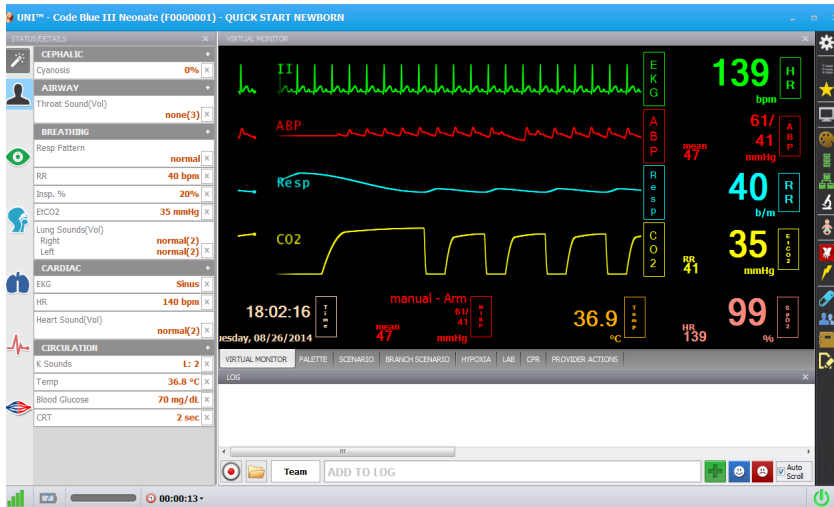
Lastly, click “Create” to save the new profile.



Click “Rename” or “Delete” to change the name of or delete this new profile

# UNI™ Interface

The UNI software is used to control the simulator, monitor the vital signs, and evaluate the provider's performance. The simulation technician or instructor carrying out the simulation operates the UNI software.



## CONNECTION STATUS

Full bars indicate excellent communication between the computer and the simulator (i.e., normal operation).

The indicator is clear when no attempts to communicate with the simulator are being made; for example when the communication module is not connected to the computer.



## BATTERY INDICATOR

The battery status indicator progresses as the battery in the simulator is used. The exclamation mark indicator is shown when there is no communication and battery information cannot be retrieved.



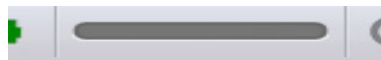
When the battery icon is depleted, the simulator is set to STAND-BY mode automatically to protect some of the simulator's internal components. Simulator will not initialize until connected to the charger or the battery is replaced with a fully charged spare.

Internal battery duration is approximately 6 hours

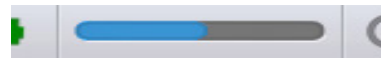
When the battery icon is depleted, the simulator is set to STAND-BY mode automatically to protect some of the simulator's internal components. Simulator will not initialize until connected to the charger or the battery is replaced with a fully charged spare.

## AIR RESERVOIR

The air reservoir indicator shows the percentage of pressurized air held in the system's internal reservoir.



Filling the reservoir will enable the pulses and the breathing for a brief time.

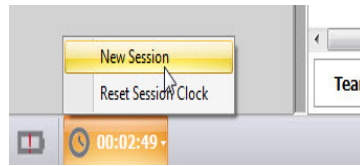


To fill the reservoir refer to the "Working with the Simulator" section.

## SESSION CLOCK

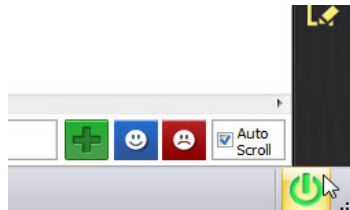
The session timer allows the facilitator to maintain a chronological record for individual simulation sessions. The session timer can be reset from the file menu when a new simulation session begins, or by clicking the session time icon and then Reset Session Clock. Events

during the simulation are logged in accordance to the session time.



### POWER/STAND-BY BUTTON

The power/standby button is located on the bottom right corner of the UNI software. This button is green when the simulator is On and orange when is set to stand-by.

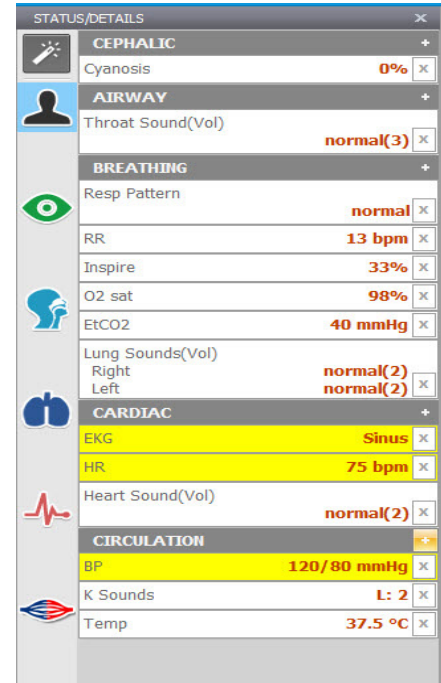


### STATUS/DETAILS CONTROLS

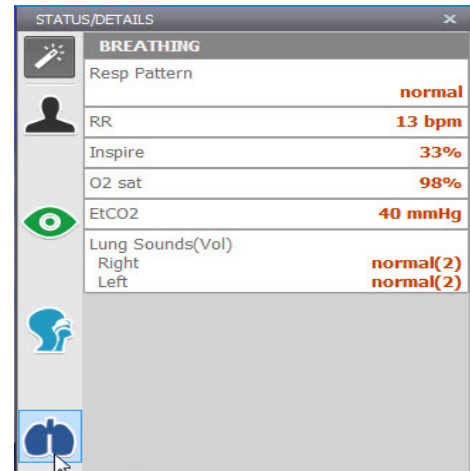
The Status/Details panel is used to monitor and control the simulator's vital signs. The individual parameter controls displayed on the details tab provide the simplest method for controlling the simulator's vital signs, sounds, and features.

The Status/Details tab displays the vital signs controls in a list format.

### SYSTEMS LIST VIEW

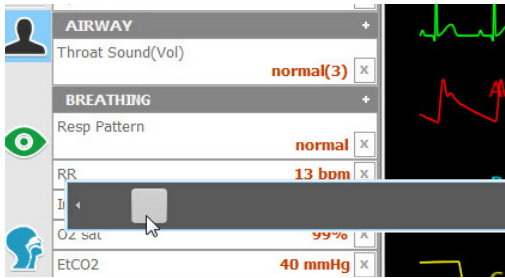


The vital signs controls are divided into separate categories. Click through the categories to view the controls available for the current simulator configuration.

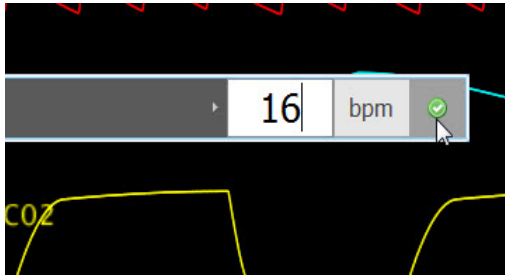


## CHANGING VITAL SIGNS

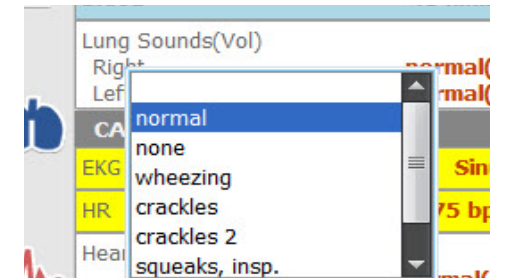
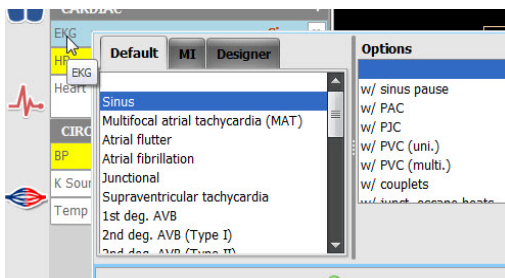
To adjust numerical values click the slider control. (e.g. heart rate, blood pressure, respiratory rate, etc.).



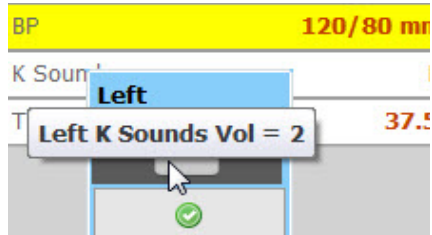
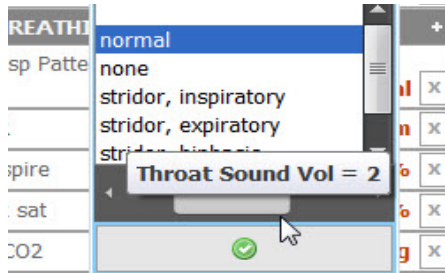
Alternatively, use the keyboard for manual entry and click the green checkmark to confirm the change.



To change patterns, sounds, and rhythms, click on the specific control to display the library (e.g. EKG rhythms, heart and lung sounds, respiratory patterns, etc.).



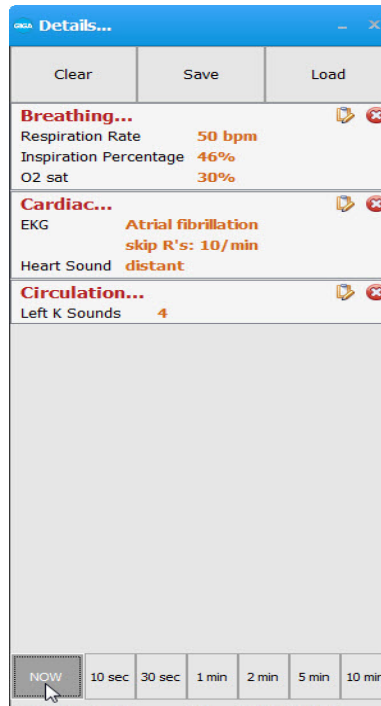
Click the slider control below the sound library to adjust the volume of the sounds.



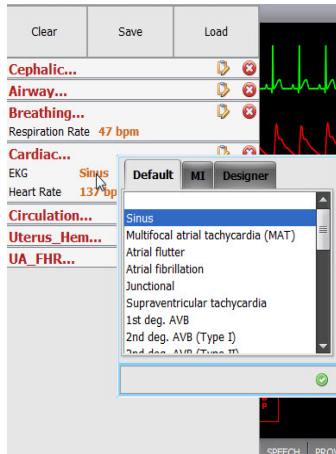
## APPLYING CHANGES

No changes will be made to the simulator's condition until the new settings are submitted using the "Apply" panel.

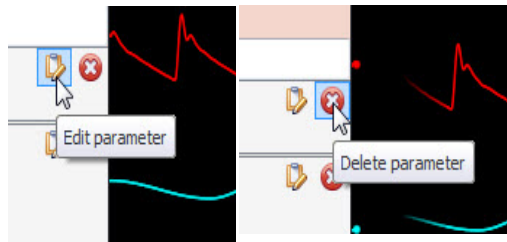
After the list of changes is created, click "NOW" to update the vital signs instantly. Alternatively, click a trending timer to update numerical vital sign parameters (e.g. heart rate, blood pressure) gradually.



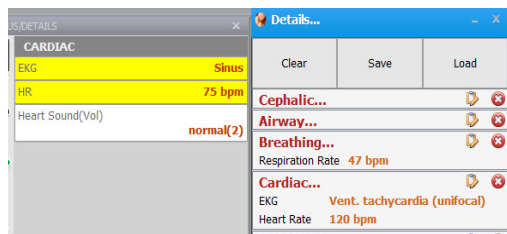
Vital signs can be edited by clicking on the specific parameter



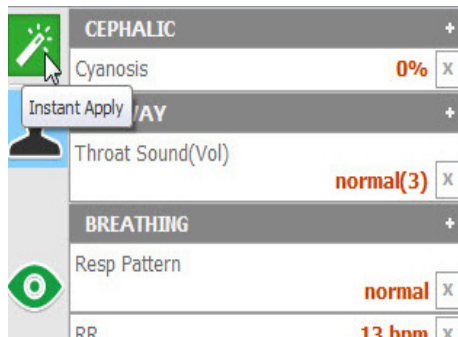
Also, use the edit and remove tabs to edit a new parameter or remove an existing one.



Notice that until the “apply” option is not selected, the vital signs in the Status/Details panel will not reflect the new changes.



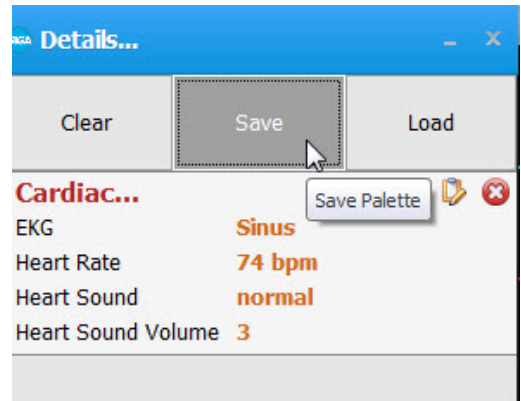
Enable the “instant apply” option and click the control to change the vital sign to a new value without the need to use “Apply” panel. Vital signs undergoing change blink yellow.



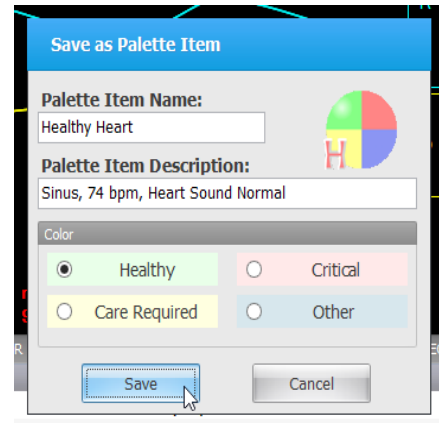
## CREATING PALETTE ITEMS

A palette item stores one or more vital sign settings into a single loadable object. Use a palette item to update a set of vital signs quickly. For example, one palette item can be created to update all the cardiac parameters to a healthy state.

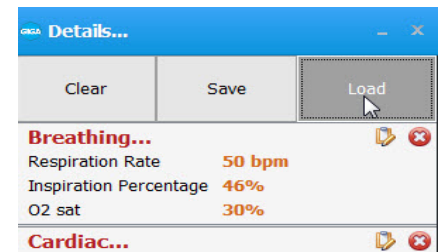
To create a new palette item, set the values for the desired vital signs parameters using the details controls and click “Save”.



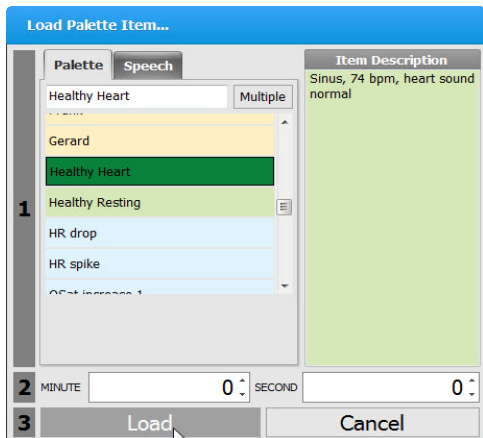
Enter a name for the palette, a description, and choose color code. Click “Save” to create the new palette item. Palette items are stored in the active profile.



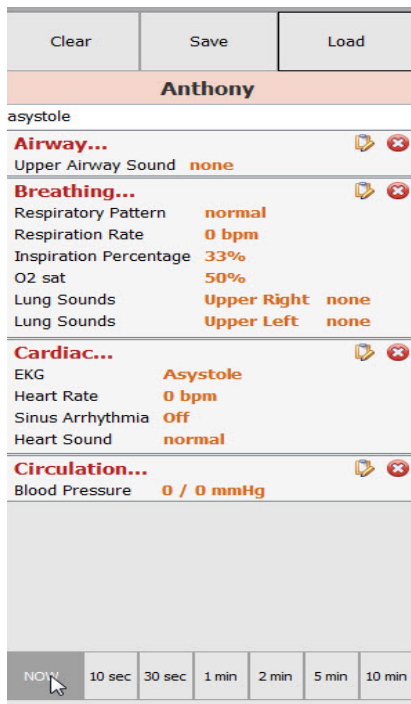
When the palette is needed, click the Load button to select the palette from the library.



Select the palette item from the “Load Palette Item” menu and click “Load”



Click the apply option to submit the changes.



For more information about the UNI software, refer to the digital User Guide under Menu/Help/ Instruction Manual.

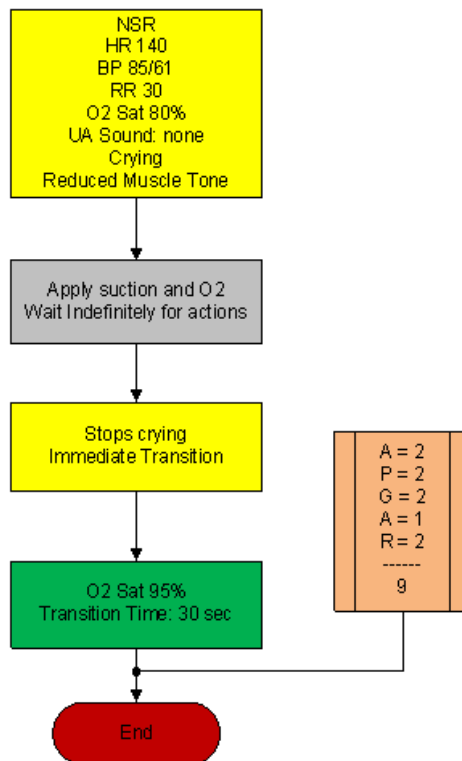
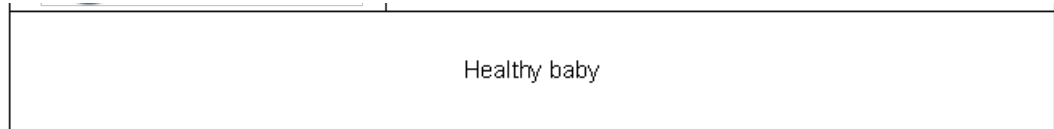
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# Appendix

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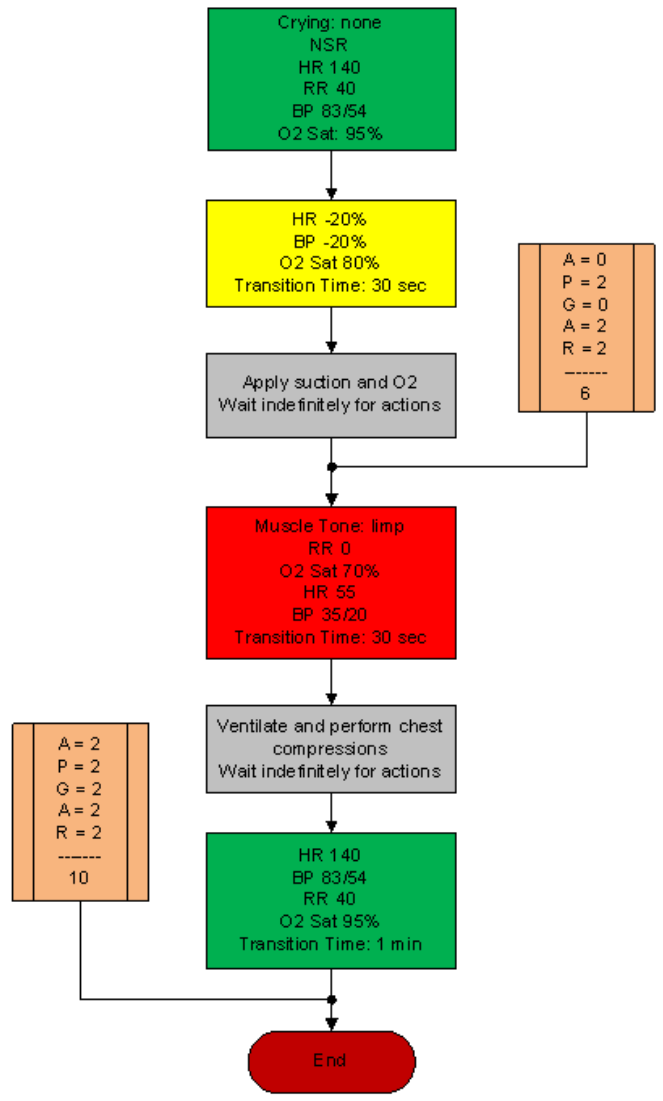
## Factory Preset Scenarios Flowcharts

### Alice's Baby



# Asphyxia

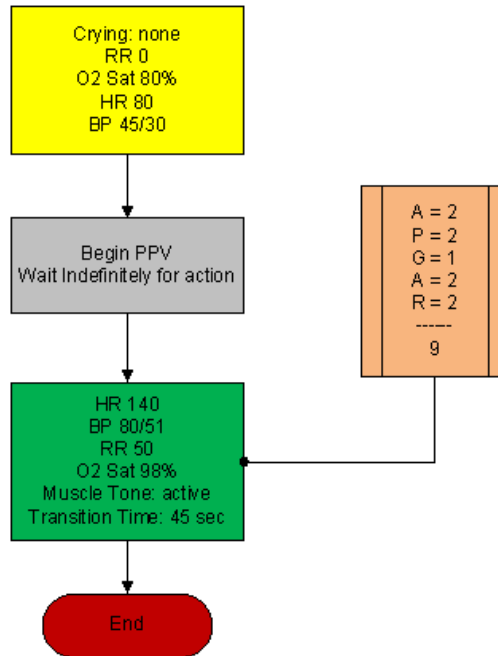
Baby has an asphyxia attack and the providers need to give ventilations to help bring back the vitals to a healthy state.





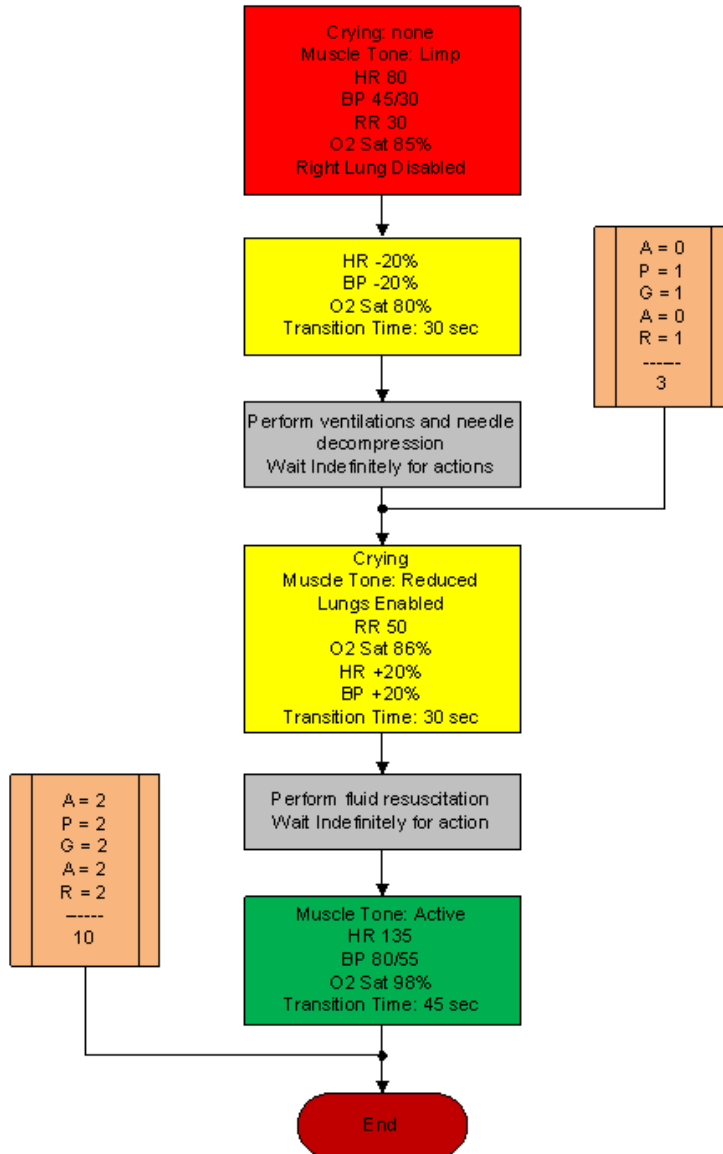
## Beth's (Donna's) Baby

Baby is born with a mild asphyxia that needs attention. Once ventilations are started, the baby's vitals go to a healthy state.



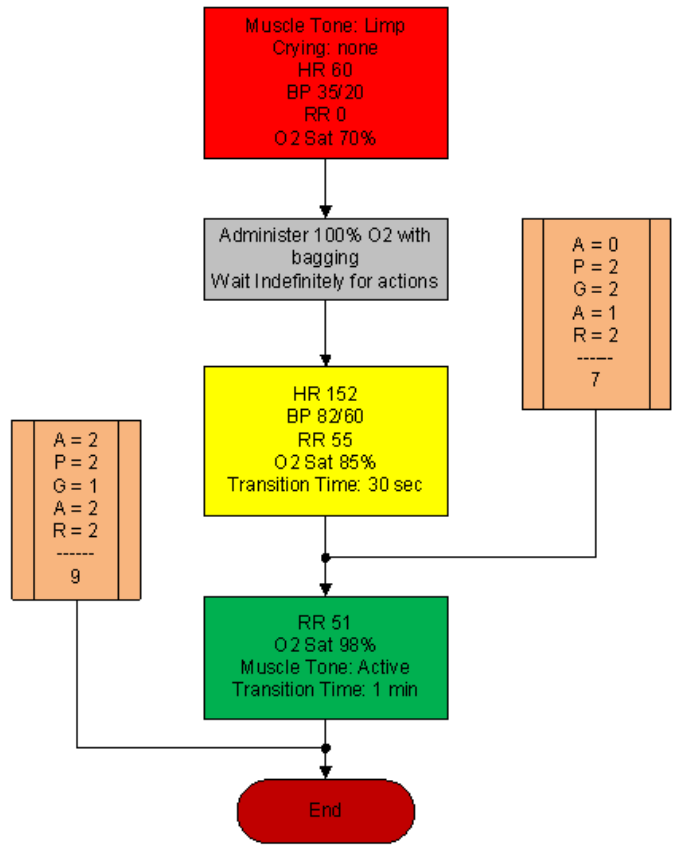
# Cynthia's Baby

Male infant with central cyanosis, limp, flaccid and requires immediate resuscitation. No spontaneous movement of right arm is noted. Stat CXR reveals a fractured right clavicle and right pneumothorax.



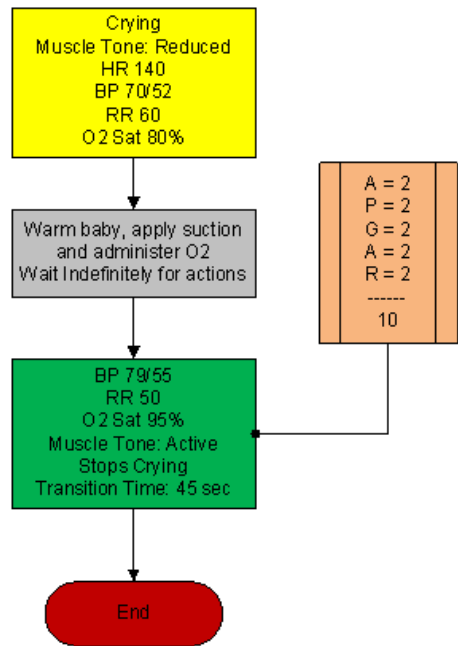
# Elaine's Baby

This baby is born with moderate asphyxia, and will require CPR and oxygen to bring the vitals to a healthy state.



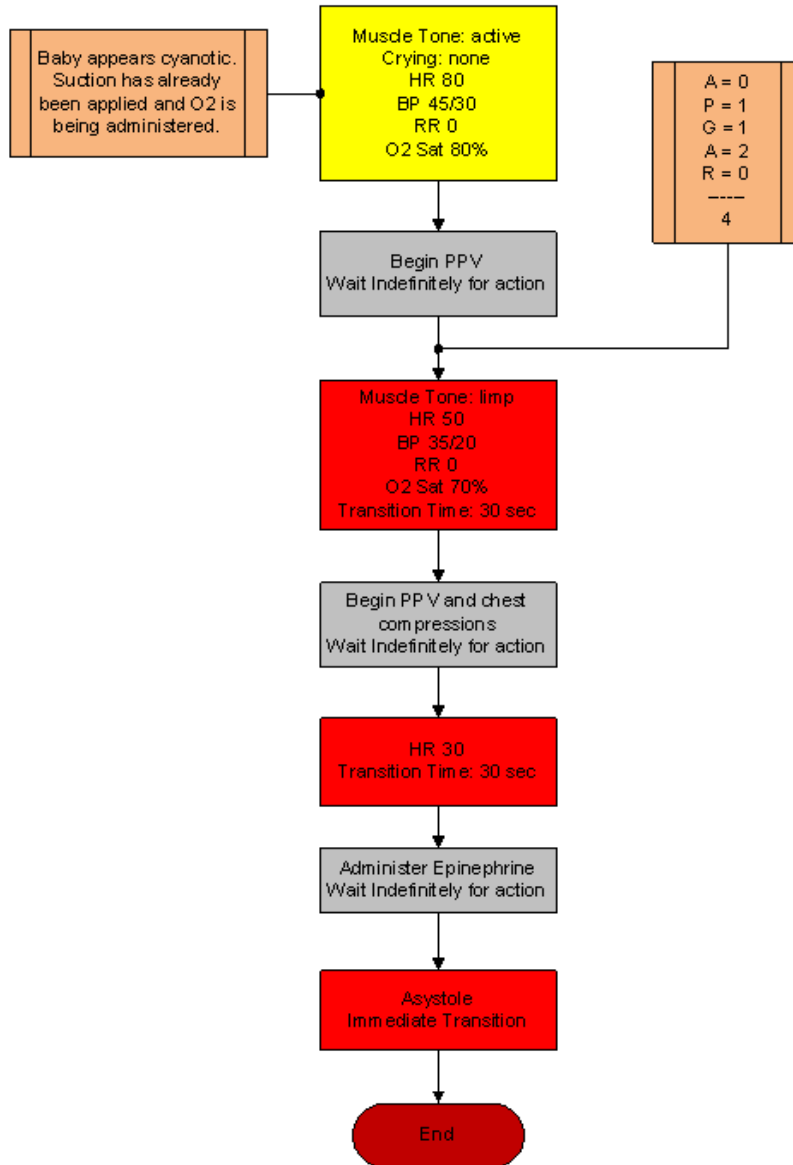
# Francines's Baby

This baby was born through a C-Section and is responsive but needs some attention, after a while all vitals go to a healthy state.



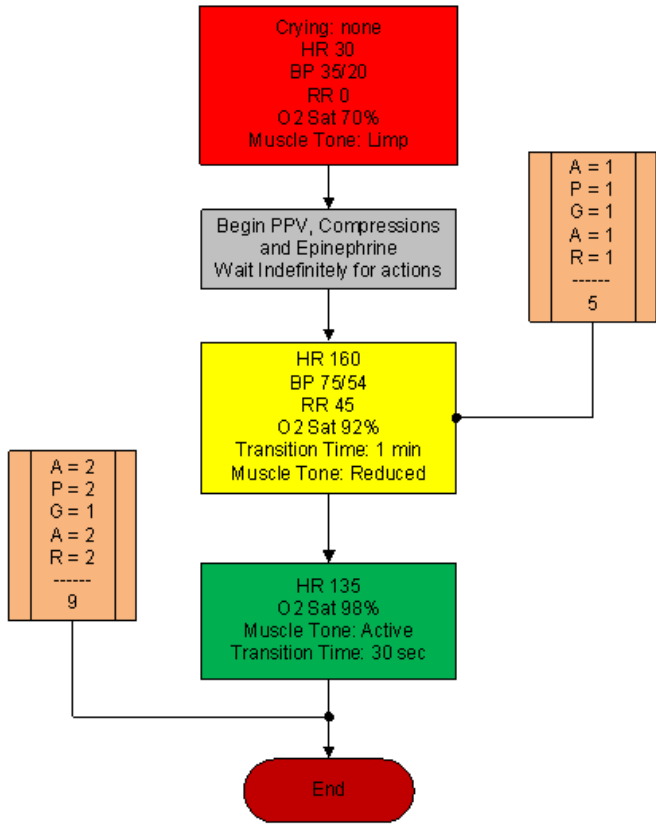
# Gloria's Baby

This baby is born with mild asphyxia, but no matter how good the interventions are, this disastrous intrapartum complication results in neonatal death.



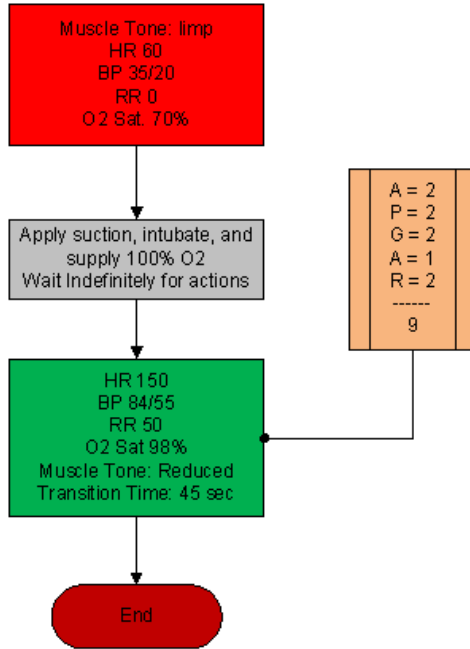
## Helen's (Irene's) Baby

This baby is born with a severe asphyxia that has to be treated immediately. After ventilations and EPI have been given, the baby's vitals go towards a good outcome.



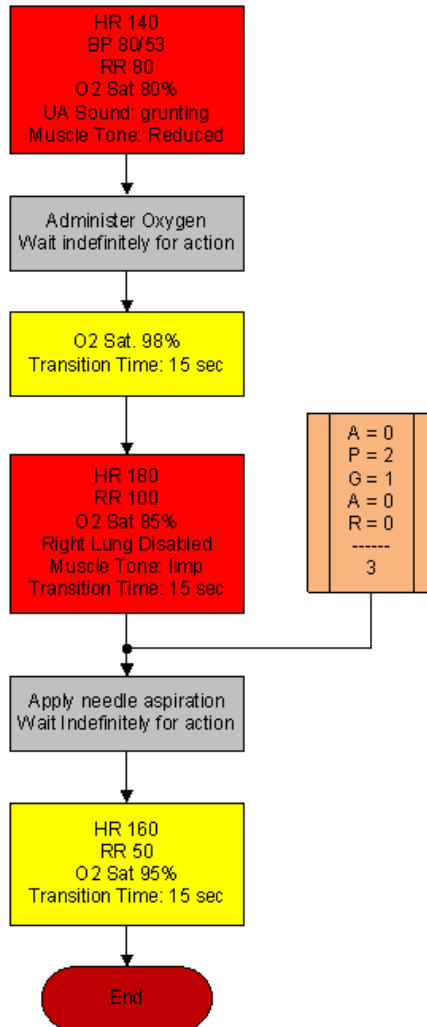
# MAS

## Meconium Aspiration Syndrome



# RDS

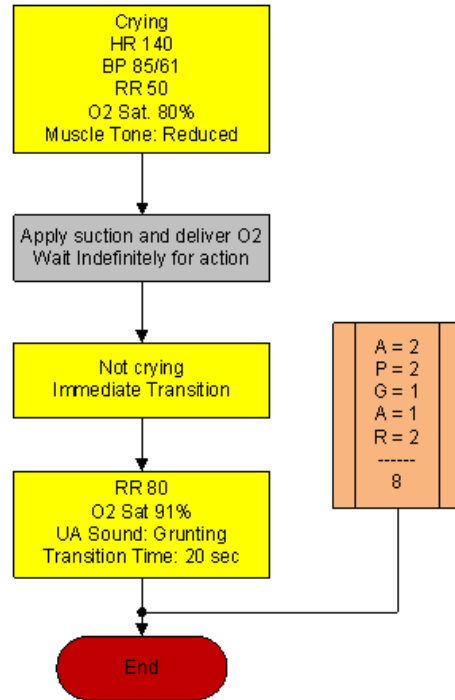
Newborn with mild Respiratory Distress Syndrome gets a pneumothorax after oxygen is given .





# TTN

## Transient Tachypnea of the Newborn



# More about Scenarios

## TIPS ON CREATING SCENARIOS

### THINKING IN TERMS OF PALETTE ITEMS

As described previously, palette items represent complete or partial groups of settings that have been stored as a single item. We learned how applying partial states will hold constant all settings that are left unspecified.

Not only does it take time to customize the palette, but a very large palette also becomes difficult to navigate. So, it is desirable to minimize the number of palette items in each profile. To accomplish this, an experienced facilitator tries to create items that are as generally applicable as possible and can, thus, be applied to a wide range of scenarios. The key is to only include in your palette items the settings that are directly related to the physiological event represented by that palette item.

### SMART SCENARIOS

After reading the Details, Palette, and Scenarios sections of this guide, it should be clear how to build a scenario. You may have already tried building your own or modifying some of the factory presets. The following four guidelines will refine your ability to build the best possible scenarios.

### HOW WILL THE SCENARIO BEGIN?

The first thing to consider is the initial condition of the patient. Create a Palette Item to describe this condition. Make sure that this first step in the scenario is a complete state, indicate some selection for each and every available setting on the Details page. Remember that only the settings you specify will cause a change in Code Blue III Neonate, and all other settings will remain constant. So, by starting with a complete state, Code Blue III Neonate condition will always be the same when the scenario starts, regardless of what he was doing previously.

Likewise, the “transition duration” of the first step in the scenario should be zero, indicating that changes are applied immediately.

### INCLUDE NOTES TO GUIDE THE FACILITATOR DURING THE SIMULATION.

It is common for scenario designers, especially those who act as facilitators, to neglect the importance of notes in the scenario. They think that they will remember the learning objectives, patient history, and other details at the time they are ready to conduct the simulation. They usually don't, especially when revisiting a scenario months after creating it.

When you add “Wait” and “Wait Indefinitely” steps to a scenario, you have an opportunity to edit the item description. Use this description field to hold notes to the facilitator. Typically, scenario designers write notes in that space to indicate what the provider(s) or facilitator should be doing at that point.

Further, when saving the scenario, you may edit the scenario description. This is the best place to put patient history and any other longer notes and instructions.

### ASSUME THAT PROVIDERS WILL DO THE RIGHT THING.

Usually, you should create a scenario with the assumption that the providers will perform correctly. As long as they do, the scenario can be allowed to continue.

Naturally, you must be prepared for what might happen to Code Blue III Neonate when providers deviate from expectations. The consequences of such deviations can sometimes be included in the scenario, punctuated by “Wait Indefinitely” items. In other cases, the simulation will require more direct control by the facilitator via either the Palette or Details page. Ultimately you can use the branching scenario feature to make scenarios with more than one path.

### CHOOSE AUTO-RESPONSE SETTINGS BASED ON THE SCENARIO CONTENT AND THE OBJECTIVES.

As you've seen, auto-responses can be used to free the facilitator's attention. They also enhance realism by presenting instant reactions to the care providers. On the other hand, sometimes it is not possible or desirable to determine the responses before the simulation begins. Different environments and applications call for different settings.

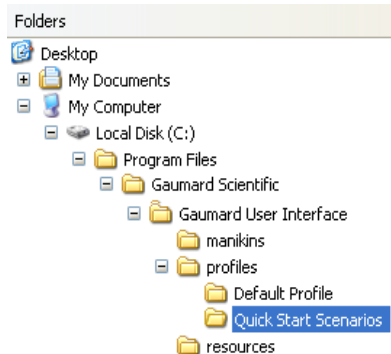
Some teaching practices are best done with the auto-response settings in Prompt mode. Responses must be triggered by a vigilant facilitator. Though it is slower and requires more attention, the benefit of Prompt over other modes is that the simulation can be allowed to go in any direction, and it will be possible to choose the response on a case-by-case basis.

Other learning exercises require a higher degree of automation. For such applications, most facilitators choose Auto mode for the auto-response settings. The key issue is standardized timing of symptom presentation. A consistent, repeatable simulation is essential for fair assessment of that care provider in relation to others and for the broader interpretation of results in the context of training validation studies.

When in doubt, it is best to choose Prompt mode, in which the facilitator will be given direct control of the responses as events are detected.

## File Structure

Advanced users may find it helpful to understand the GaumardUI directory structure. With direct file manipulation, one can easily move palette items and scenarios between profiles, as well as move entire profiles from one computer to another.



## PROFILES

In the GUI program folder is the "profiles" sub-folder (e.g. "C:\Program Files\Gaumard Scientific\Gaumard User Interface\profiles"). All user information is saved there, and it is the only folder that should be modified manually. In the example shown, notice that there are 2 profiles in this installation, "Default Profile," and "Quick Start Scenarios."

## PALETTE ITEMS

Saved as "\*.plt" files, palette items in each profile are located at the top-level of each profile folder. To copy palette items from one profile to another, copy the .plt file found in the source profile folder.

## SCENARIOS

Scenarios are stored as sub-folders within profile directories. Scenarios can also be transferred between profiles by copying the scenario folder and its contents.

### WARNING

**Do not modify files in the "resources" directory or those at the top-level of the "Gaumard User Interface" directory.**

**Do not manipulate files or folders while the GaumardUI software is running.**

**Do not modify or delete "\*.dll," "\*.scn," or "\*.sys".**

# Troubleshooting

Use the following table to find causes and solutions to a number of possible problems.

Symptom	Possible Cause	Solution
"RF module not found" message is displayed when UNI is started	RF module not connected	Connect the RF module to laptop's USB port.
	RF module not identified by the computer	Close the software and try disconnecting the RF module for at least five seconds, then plug it back in and restart the software.
Chest compressions are not properly detected or not detected at all	Is the communication icon empty?	See solution above in section making reference to "RF module not found"
	Chest compressions are only detected when the respiratory rate is set to zero, otherwise they are ignored.	Set respiration rate to zero
	All others	Calibrate chest compressions by going to Setup>Calibration
Artificial ventilations are not properly detected or not detected at all	Is the communication icon empty?	See solution above in section making reference to "RF module not found"
	All others	Calibrate artificial ventilation by going to Setup>Calibration
Pre-built scenarios don't show up	Incorrect profile selected	Select "Quick Start Scenarios" when starting the software.  Should user forget to do so, there's no need to shut down the software and open it again in order to load the pre-built scenarios. Go to "File/Profile" menu and then select "Modeled Scenarios"
BP sound is absent or is not heard at desired volume level	Volume not set to user's criterion	Every sound has a volume control. Play with the volume control to get it to the desired level.

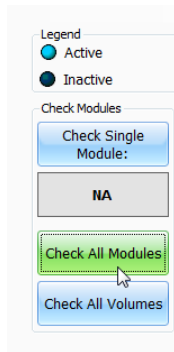
# Diagnostics

The diagnostics tool is used to test the status of the modules that control the simulator's features and functions. On the menu bar, click Help>Diagnostics to open the Diagnostics window.

This window is very useful for troubleshooting because it gives the user feedback on all of the working modules inside the simulator.

To run a complete module test, click "Check All Modules".

Individual modules can be checked by clicking on the specific module you wish to check and then clicking on the "Check Single Module" button. The button will flash green when pressed.



Active modules report light blue, and inactive and not installed modules report black. If there is a specific module that fails to respond please contact Technical Support for advanced troubleshooting steps.

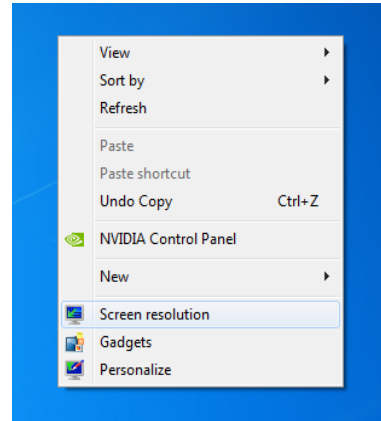
# Connecting to the Gaumard Monitors

To connect the virtual monitor to the GaumardUI, the laptop must be connected to an additional monitor and the desktop must be extended to that monitor. The section below describes in detail how to do both of these things.

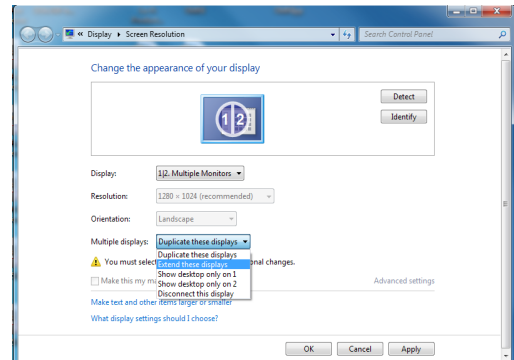
## ENABLING DUAL DISPLAY

The Code Blue III Neonate system uses an extended screen to display the vital signs information. Enable the extended displays using the instructions below. Prior to configuring the extended displays, the monitor must be connected and powered on.

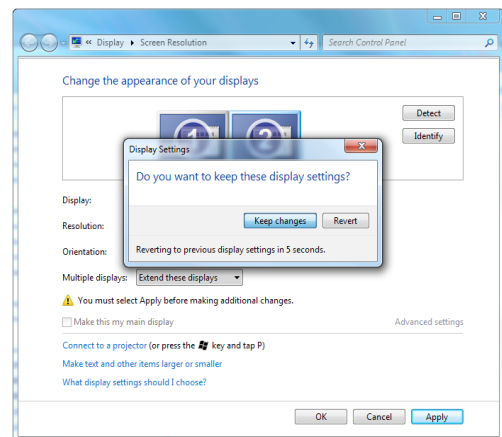
1. Right-click the desktop, then click "Screen resolution".



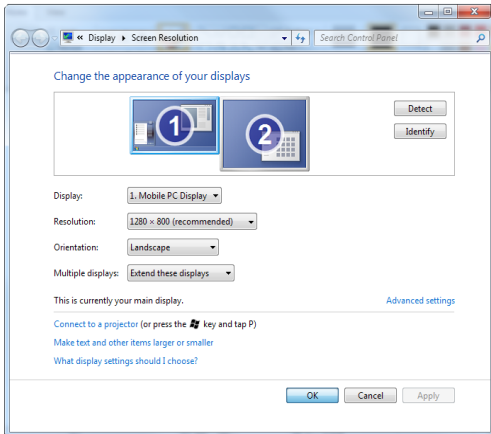
2. From the "Display Properties" window, navigate to the Multiple displays drop-down menu.



3. Select "Extend these displays" from the list and click "OK".
4. The Display Settings window prompts to accept the changes. Click "Keep changes" to continue.



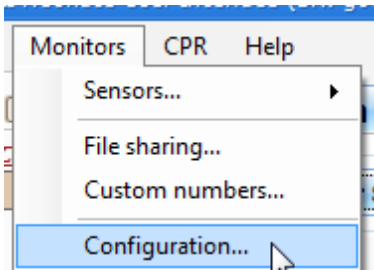
The screens diagram will show that both screens are enabled.



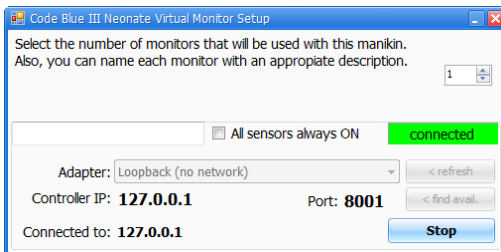
5. Click “OK” to save changes.

## CREATE AN EXTENDED MONITOR CONNECTION

1. Go to the “Code Blue III Neonate Virtual Monitor Set Up” window by clicking on Monitors, Configuration on the GaumardUI.

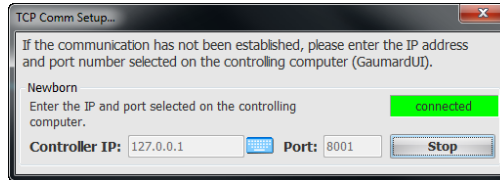


2. On this window, select the “Adapter” you will be using (Loopback (no network)).



The Virtual Signs Monitors should be configured to connect to the Controller IP designated by the selected Adapter (127.0.0.1).

3. Make sure the port numbers are the same for the laptop and the monitor displaying the Vital Signs and click on “Connect”.



# Replacing Common Consumables

## IV Arm Vein

### WARNING

**Vein tubing contains latex which may cause allergic reactions. Users allergic or sensitive to latex should avoid contact. Discontinue use of this product and seek medical attention if an allergic reaction occurs.**

To replace the vein used in the lower right arm, follow the instructions listed below:

### REPLACING THE IV VEINS

1. If there are any adapters attached to the right forearm's two adapter ports, please remove them.
2. Utilizing a flathead screwdriver, carefully remove the white plastic screw at the neonate's right elbow
3. After fully removing the screw pieces from the elbow, remove the current right forearm.
4. Place the replacement arm into the socket where the previous arm used to be. Ensure that the replacement forearm's adapter ports face away from the neonate
5. Align the holes in the replacement forearm and it's socket. Place and fasten the white plastic screw to secure the replacement forearm.



# Gaumard®

Simulators for Health Care Education

## Contact Us

**E-mail Technical Support:** [support@gaumard.com](mailto:support@gaumard.com)

Before contacting Tech Support you must:

1. Have the simulator's Serial Number
2. Be next to the simulator if troubleshooting is needed.

**E-mail Sales and Customer Service:** [sales@gaumard.com](mailto:sales@gaumard.com)

**Phone:** Toll-free in the USA: (800) 882-6655

Worldwide: 01 (305) 971-3790

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