# Code Blue® III Adult

## S300.100

Gaumard®

Simulators for Health Care Education

The Code Blue® III Adult 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 14.2.5**



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# Care and Cautions

# 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:

## GENERAL

- There are inherent dangers in the use of some medical devices. For simulations that incorporate electrical therapy of any kind, always know your equipment and follow the device manufacturers' safety guidelines.
- Never disconnect the communications module while the GIGA 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.

## OPERATING CONDITIONS

Operating the simulator outside these ranges may affect performance:

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

## STORAGE CONDITIONS

- 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

- Do not attempt to intubate without lubricating the airway adjunct with mineral 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 the simulator 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

- The simulator 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.
- The simulator is "splash-proof" but not water-proof. Do not submerge or allow water to enter the interior of the simulator.

## ELECTRICAL THERAPY

- Defibrillation is only allowed on the large sternum and apex sites. NEVER deliver a shock to ECG electrode targets on the shoulders or waist. Doing so will not create a fire hazard, nor is there risk of shock to the provider, but internal damage in the simulator may result. This situation is considered improper use and is NOT covered by the simulator warranty. The system will require repair at our facility.
- Always treat the simulator as a real patient.

## ECG AND ELECTRICAL THERAPY CHECKLIST AND WARNINGS

- Only deliver electrical therapy when the simulator is fully assembled, dry, and undamaged.
- Make sure the defibrillation patches on the simulator are in good condition, including removing any and all gel residue on the defibrillation patches from previous use(s).

- It is a good practice to remove gel residues after every use. Failure to do so will leave behind a film of electrode gel that hardens causing arcing and pitting.
- Do not re-use the gel-adhesive pads. Do not leave them on for next day use.
- Use hard paddles or wet-gel pads preferably.
- Avoid using solid-gel pads since they present higher risk of burning the simulator's skin.
- Gel pads have a shelf life. Make sure they are not expired to avoid arcing.
- Make sure the simulator is not in contact with any electrically conductive surfaces.
- Use the simulator only in a well-ventilated area, free of all flammable gases.
- NEVER attempt to service or modify any of the electrical connections, especially those between conductive skin sites and the internal electronics.
- Discontinue use if any wires are found exposed with damaged insulation.
- Real medical products, especially electrodes, sometimes use powerful adhesives that can be difficult to remove. A gentle, degreasing cleanser may be needed.
- Electrode gel on the skin between any two electrode targets can become a pathway for electrical current, just as in real life. If this occurs, Adult's skin can be burned.
- Do not allow defibrillation pads to overlap ECG sites. Doing so may damage the simulator and cause arcing.
- Should dark traces appear on the conductive patches due to gel residue or previous arcing, use a pencil eraser to remove the traces and then clean with alcohol.
- DO NOT SCRATCH the conductive patches with abrasive objects; doing so will cause irreversible damage to the conductive sites and subsequently cause arcing.

# Getting Started

# Overview

Your simulator is an advanced life support training simulator equipped with the following features:

### AIRWAY

- Oral and nasal intubation
- Use an ET tube or LMA
- Perform Sellick's maneuver
- Airway sounds
- Sensors detect depth of intubation
- Unilateral chest rise with right main stem intubation
- Visible gastric inflation with esophageal intubation

### APPEARANCE

- Color responds to hypoxic events and interventions (healthy, mild cyanosis, severe cyanosis)
- Articulated neck, jaw, arms and legs

### BREATHING

- Spontaneous breathing
- Breathing patterns
- Bilateral lung expansion with realistic chest rise an fall
- Left and right lung sounds synchronized with breathing
- Accommodates assisted ventilation
- Ventilation is measured and logged
- Gastric distension with excessive BVM ventilation

### CIRCULATION

- Conductive skin regions allow for ECG monitoring with real equipment
- Heart sounds may be auscultated and are synchronized with ECG
- Depth of chest compressions are measured and logged in cm or inches
- Bilateral carotid and femoral pulses
- Left side brachial and radial pulses
- Blood pressure auscultation in left arm with modified BP cuff
- Korotkoff sounds audible between systolic and diastolic pressures
- Oxygen saturation placement detection on the left index finger
- Defibrillate and pace using real devices
- Defibrillation snap connectors

### SIMULATOR

- Full size adult simulator
- Realistic airway with tongue, vocal cords, trachea and esophagus
- Preprogrammed speech responses
- Ribcage
- Intraosseous access at right tibia
- IV training on the right arm
- Intramuscular injection sites in deltoids and quadriceps for placement exercises

### OTHER

- Powerful yet intuitive user controller and interface software

### INCLUDED ACCESSORIES

- Multimedia laptop
- Genuine Windows® 7
- 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 system.

### FACILITATOR

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

### GIGA™

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

### 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

# Simulator Set Up

## SIMULATOR PLACEMENT

Prepare the simulation area prior unpacking the simulator. The simulator's designated area should have ample space for multiple participants to move about freely.

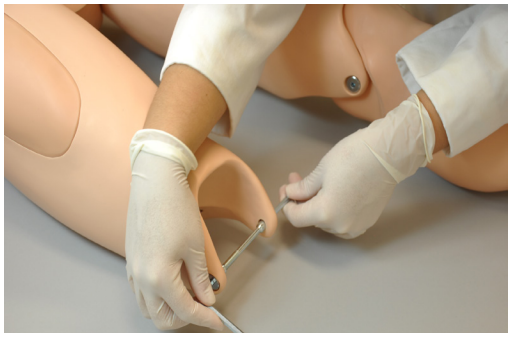
Remove the simulator from the blue case with the assistance of at least two persons. Avoid lifting the simulator by the arms as it could damage the shoulder joints. Rest the simulator on a patient table capable of supporting the weight of a real adult patient.

## LEG ASSEMBLY

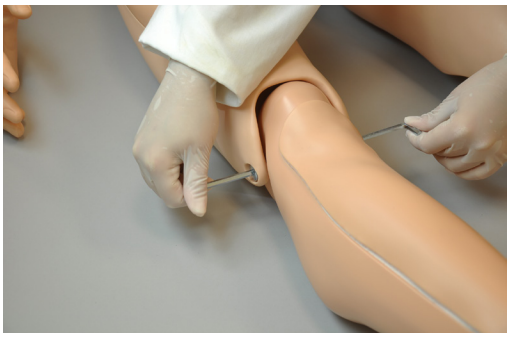
Follow the steps below to install the lower legs.

**Remove the legs when transporting Code Blue III Adult inside the protective case.**

1. Remove the fixed bolts from the knee joints using the hexagonal wrench included.



2. Connect the red pulse line as shown below
3. Position the lower legs and insert the knee joint bolt. Tuck any extra wire and the connector into the lower leg.
4. Replace the bolt and use the two provided hexagonal wrenches to secure the knee bolt without over tightening.



**WARNING**

**Do not over tighten the bolts**

## BATTERY

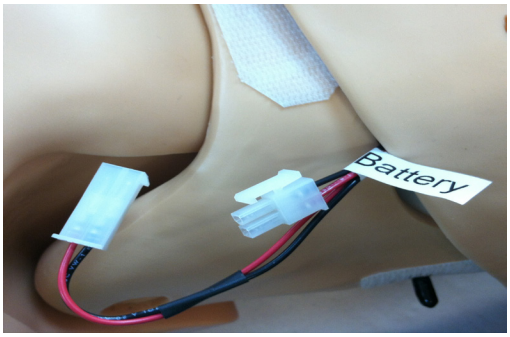
Code Blue III Adult is shipped with the internal battery disconnected. Connect the battery lead as part of the first install process.

**Warning**

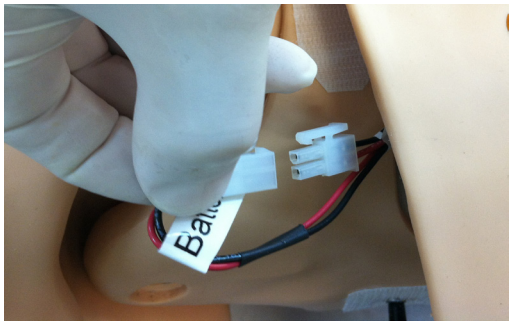
**Do not remove the chest skin.**

To connect the internal battery leads:

1. Locate the connectors on Code Blue III Adult's left hand side.



2. Gently lift the left corner on the chest skin as shown and connect the battery clip.



3. Slide battery leads inside the cavity.

4. Secure the chest skin. Connect the simulator's power charger.

Immediately after connecting the battery leads, Code Blue III Adult is on stand-by mode and ready to be initialized by the GIGA software.

### BATTERY LIFE

Battery charge time is approximately four hours. The AC adapter's status indicator light displays red when the battery is charging and green when the process is complete.

To display the battery level, the GIGA software must first establish a connection with the Code Blue III Adult. For more information about the battery indicator, refer to "Working with GIGA" section, page 25.

**Warning**

**Do not store the simulator with a discharged battery. It is good practice to re-charge the battery at the end of every simulation session. In addition, re-charged the battery at least once every 2 months even if the simulator is not being used; permanent loss of capacity might occur because of self-discharge.**

# Computer Set Up

### CONTROL COMPUTER

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

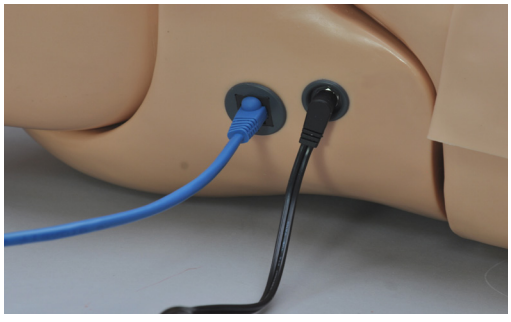
Refer to the laptop's documentation for important information regarding use, charging, and care before continuing.

### COMMUNICATION MODULE

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

Outlined below are the steps for connecting the simulator to the control laptop.

Connect the communication cable (blue Ethernet cable provided) to the communications port located on the left side of the simulator.



Connect the communication cable to the USB communication module.

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

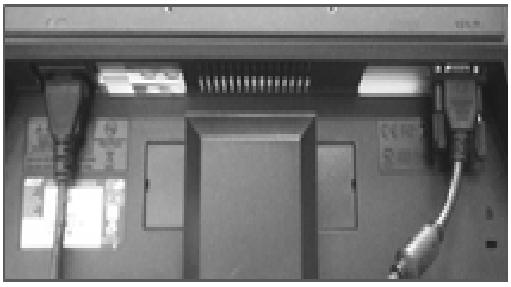
## EXTENDED SCREEN VIRTUAL MONITOR (OPTIONAL)

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

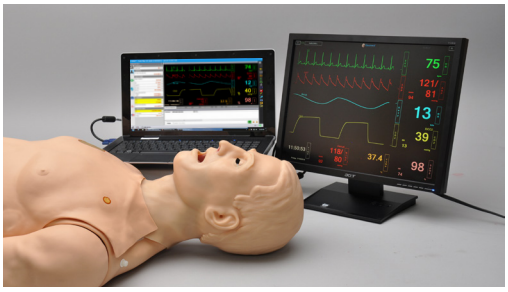
2. Connect the charger's AC plug into the power outlet and the power adapter plug into the laptop power port.
3. Connect the video cable to the video-out port on the laptop.

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 GIGA will load and launch the Virtual Monitor application automatically. Vitals signs will display on the additional LCD monitor.



**WARNING**

**Never disconnect the communication module while the GIGA 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 GIGA 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

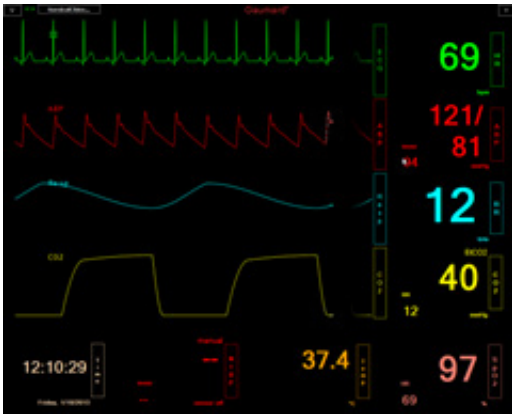
The control PC and the all-in-one virtual monitor PC automatically establish a wireless link at startup. The wireless connection allows the Gaumard control software to transmit the vital signs information to the Gaumard Monitors software.

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.

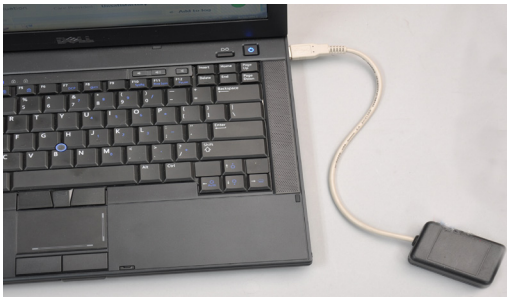

The Gaumard Monitors software is now ready to receive the vital signs information generated by the GIGA control software.




For more information about the Gaumard Monitors , please refer to the “Working with GIGA” section, page 28.

## WIRELESS COMMUNICATION MODULE (OPTIONAL)

Code Blue III Adult 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.

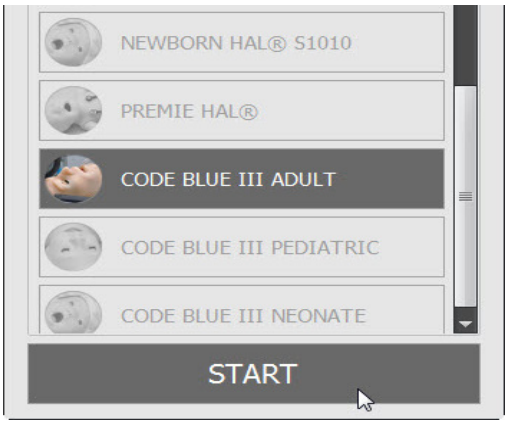


# Working with GIGA™

# Initializing the Simulator

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


The simulator selection menu is shown. Select Code Blue III Adult and click "Start".



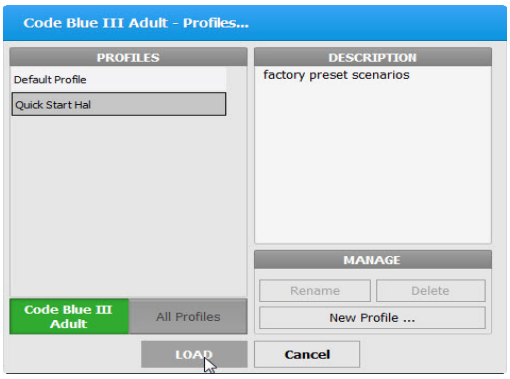

The software activates the simulator within 1 minute after clicking the start button. When the GIGA is not active, the simulator is in stand-by. To address connection and startup issues, go to the Appendix section.

## EXTENDED DESKTOP MONITOR (OPTIONAL)

The simulator's vital signs are automatically displayed on the extended desktop monitor when the GIGA 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.

The Manual mode includes the following profiles:

### 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 HAL

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

The Quick Start HAL 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

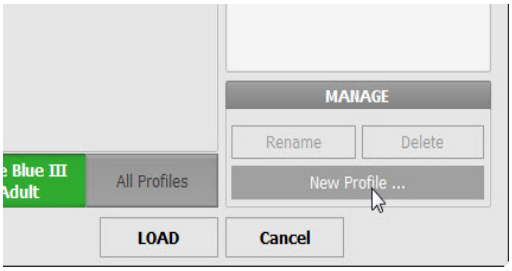
## CREATING A NEW PROFILE

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.

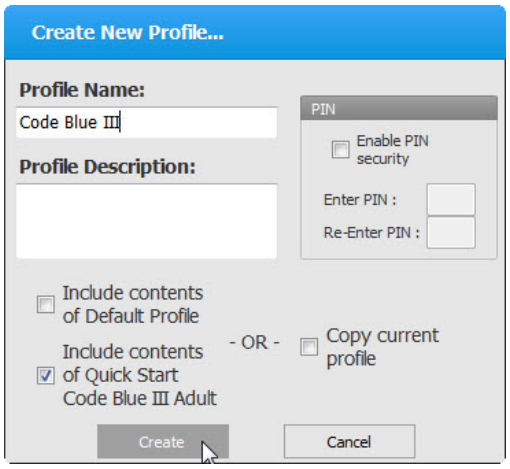
- Assign one profile to each user of your Gaumard simulator system
- Use profiles to organize and protect palettes and scenarios
- Create a profile dedicated to a specific academic course taught by multiple instructors

- 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.




To include scenarios and palettes from other profiles, click the applicable check box. For security, enable PIN protection, which will require a user to enter a four-digit key before loading the protected profile.

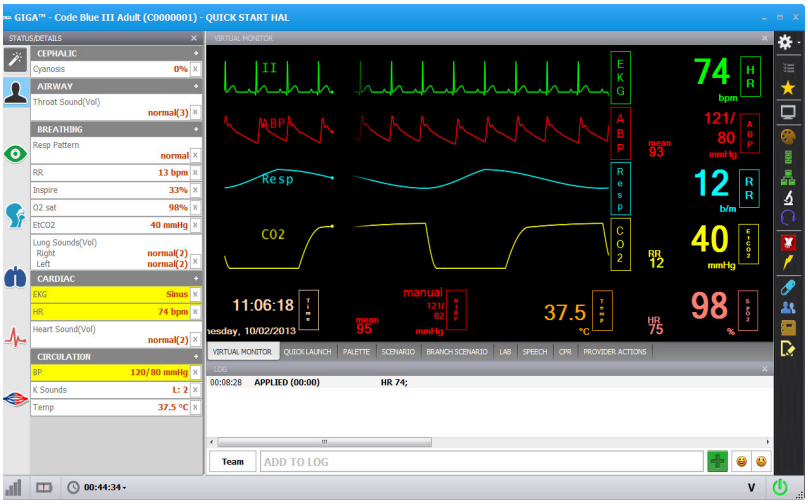
Lastly, click “Create” to save the new profile.

To access the Profiles dialog box at any time, select Profiles, from the File drop-down menu:

# GIGA™ Interface

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

The GIGA control elements and scenario programming procedures are consistent throughout the Gaumard family of middle and high fidelity simulators. Some software controls and features covered in this guide may be hidden depending on the simulator’s hardware configuration and optional upgrades.




## 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.

After the communication is established the simulator will take 60 seconds approximately to start breathing.

## 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.

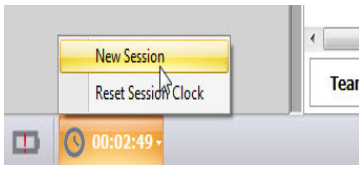
Internal battery duration is approximately 6 hours

**WARNING**

Turn Simulator OFF before replacing the battery. Failure to do so could result in serious damage to the system.

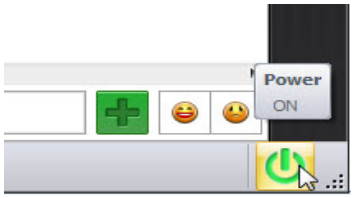
## SESSION CLOCK

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 standby button is located on the bottom right corner of the GIGA software. Use the stand-by feature to conserve battery during lectures.

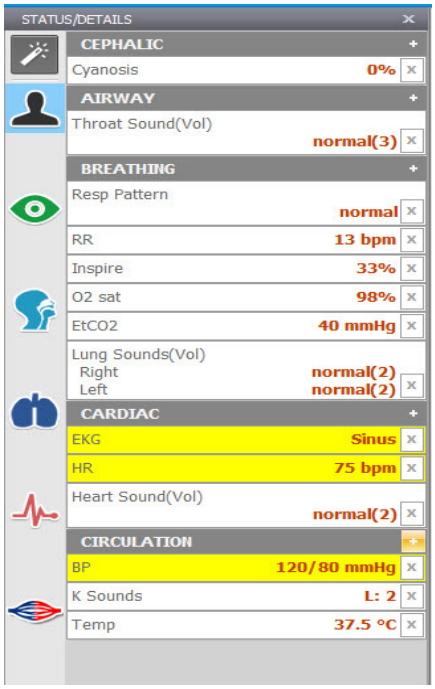


## STATUS/DETAILS CONTROLS

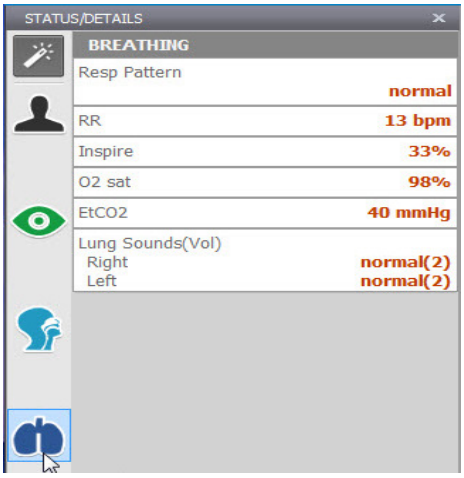
The Status/Details panel is used to monitor and control the simulator's vital signs. The individual parameter controls displayed on the details tab provide the simplest method for controlling the simulator's vital signs, sounds, and features.

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

## SYSTEMS LIST VIEW

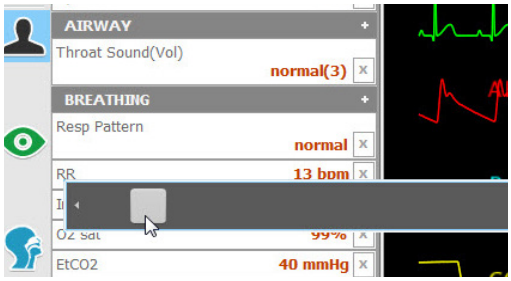



The vital signs controls are divided into separate categories. Click through the categories to view the controls available for the current simulator configuration.

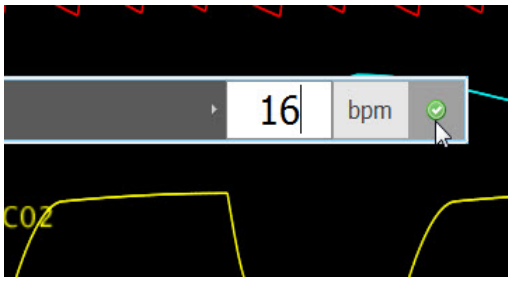



## CHANGING VITAL SIGNS

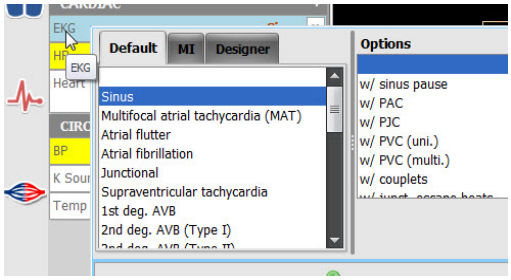
To adjust numerical values click the slider control. (e.g. heart rate, blood pressure, respiratory rate, etc.).

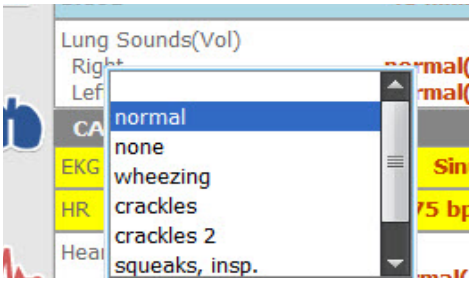



Alternatively, use the keyboard for manual entry and click the green checkmark to confirm the change.

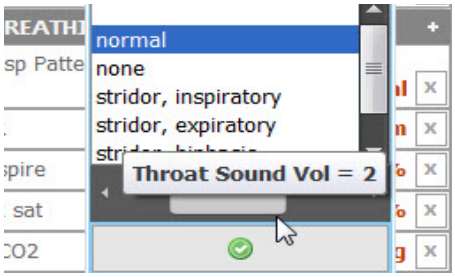


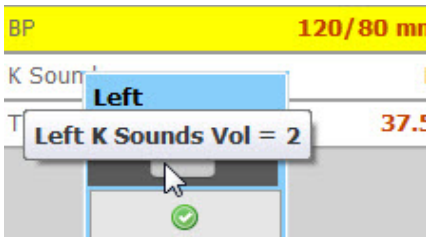

To change patterns, sounds, and rhythms, click on the specific control to display the library (e.g. EKG rhythms, heart and lung sounds,respiratory patterns, etc.)



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

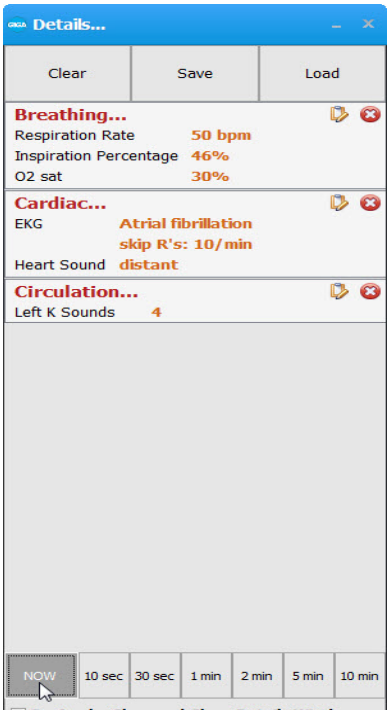


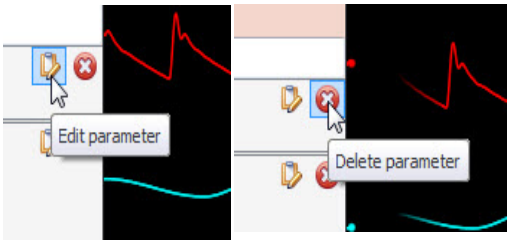

## APPLYING CHANGES

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

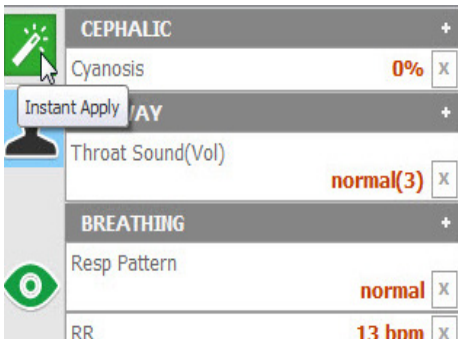
After the list of changes is created, click "NOW" to update the vital signs instantly. Alternatively, click a trending timer to update numerical vital sign parameters (e.g. heart rate, blood pressure) gradually.




Vital sign parameters can be edited or removed using the edit and remove parameter tabs



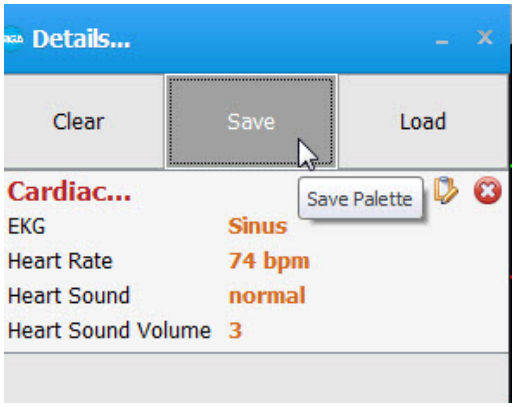

Enable the "instant apply" option and click the control to change the vital sign to a new value without the need to use "Apply" panel. Vital signs undergoing change blink yellow.




## CREATING PALETTE ITEMS

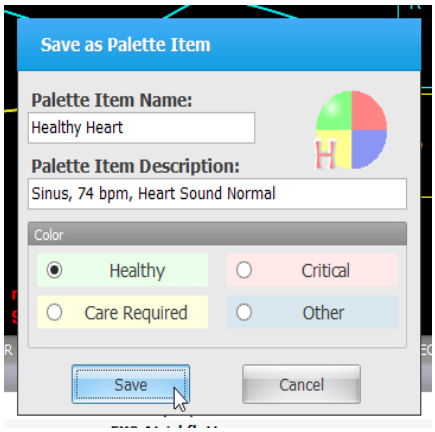
A palette item stores one or more vital sign settings into a single loadable object. Use a palette item to update a set of vital signs quickly. For example, one palette item can be created to update all the cardiac parameters to a healthy state.

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

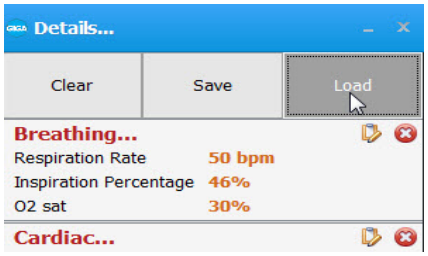



Enter a name for the palette, a description, and choose color code. Click "Save" to create the

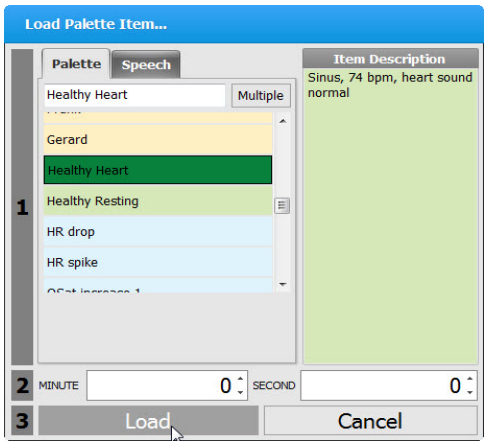
new palette Item. Palette items are stored in the active profile.



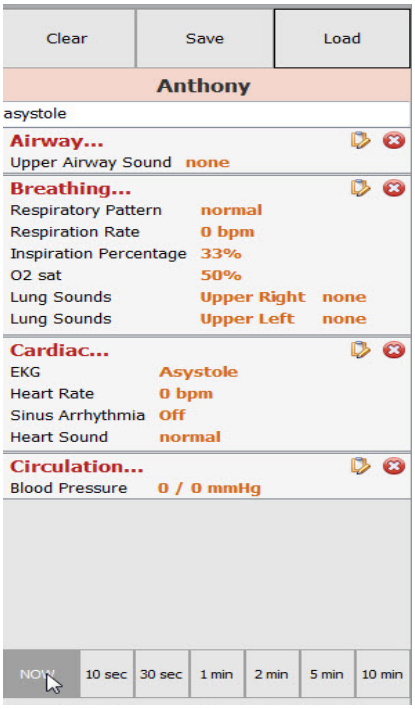

When the palette is needed, click the Load button to select the palette from the library.




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

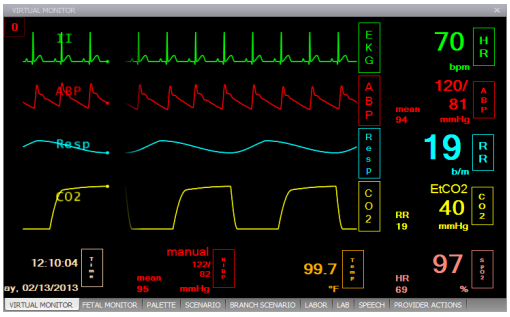



Click the apply option to submit the changes.



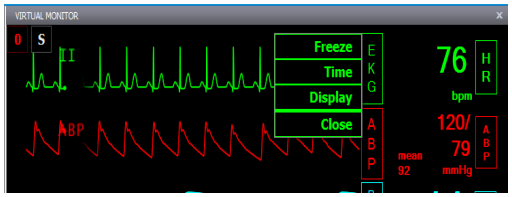

# Virtual monitor

The interactive virtual monitor tab (VM) displays the patient’s vital signs information in real time. The waveform and numerical parameters are interactive, and the layout is fully customizable. If the VM tab is not displayed by default, go to Menu subsection to activate the virtual monitor add-on.




## WAVEFORM MENU

Click on the waveform name to access the options or change the waveform type.

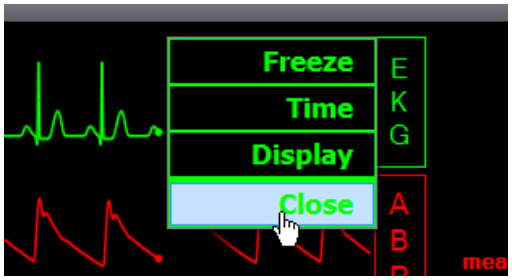



- Freeze- Click freeze to pause a waveform reading. To unfreeze the selection, click the waveform menu and select Go.
- Time- Click on the time option to change the length of the ECG waveform. The options available are 5 seconds, 10 seconds, 15 seconds and 20 seconds.
- Display- Click on the display menu to edit the wave form color, amplitude, intensity and scroll direction.

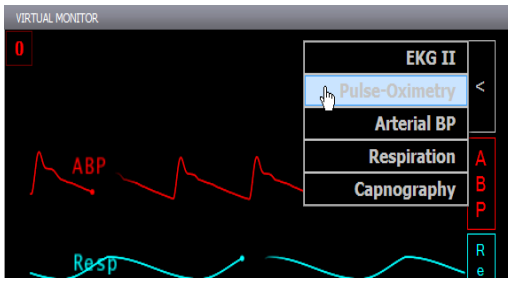
## CHANGING THE WAVEFORM TYPE

The types of available waveforms are Pulse-Oximetry, Arterial BP, and Respiration.

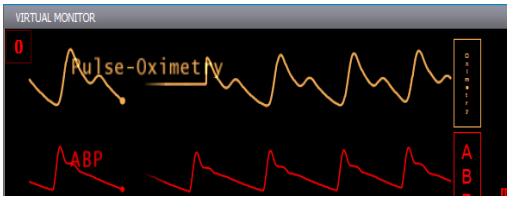
1. To change which waveform is displayed on the ECG graph, begin by clicking the ECG icon then selecting “close”.




2. Click the waveform menu box and choose either the type of wave to be displayed or the ECG lead.



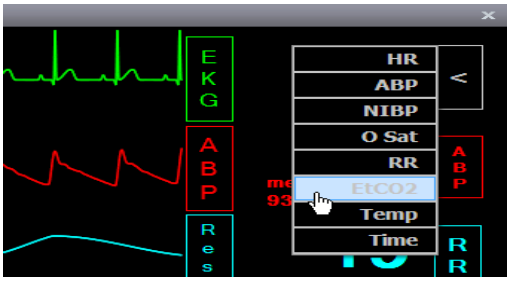

3. The new lead information is now displayed.




## NUMERIC MENU

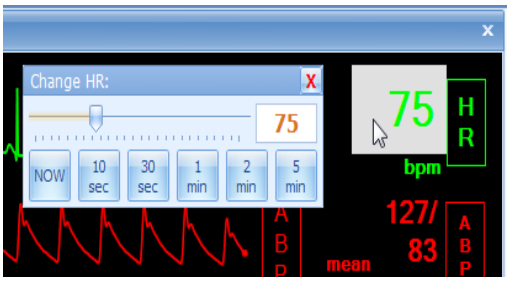
Click the numeric menu to access the numerical parameter options. To change the type of numerical parameter displayed, click the numeric menu and select “close”.


Click the empty numerical menu and select the new parameter type.



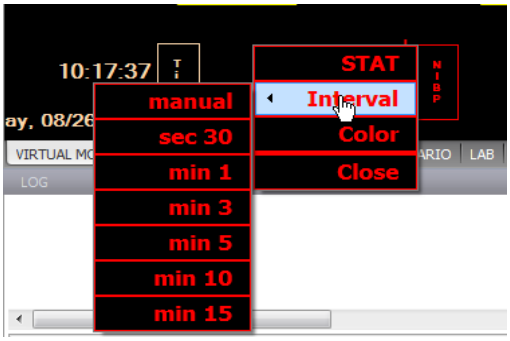

## CHANGING VITAL SIGNS

Vital signs can be adjusted directly from the virtual monitor tab. First, Double click the vital sign parameter to access the floating control window. Then, adjust the parameter to the new value and submit the changes using the Apply NOW or trending option.



## NONINVASIVE BLOOD PRESSURE

By default, the NIBP parameter does not update automatically. Click the NIBP menu and select “Stat” to refresh the reading. Alternatively, set a refresh interval to automate the stat process periodically.



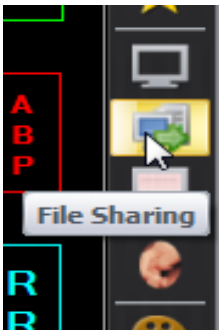

# File Sharing

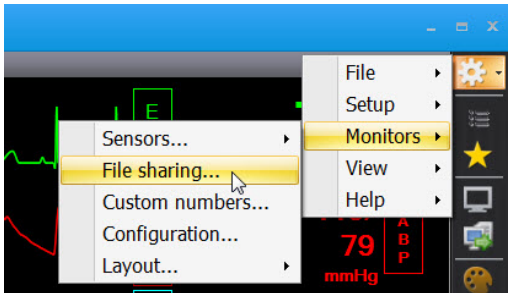
## FILE SHARING

The file sharing menu allows the facilitator to send images, audio, and text files to the virtual monitor screen. Use the file sharing feature to fulfill file requests by the provider during simulation.

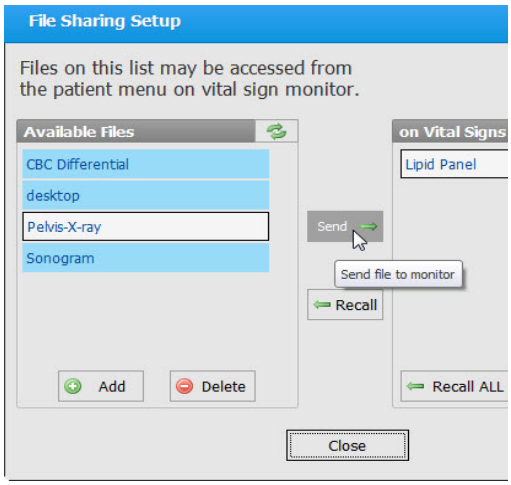
The files used for sharing are stored in the control PC. Before the simulation begins, add mock image (.jpg, .bmp) or text files (.txt) into the Gaumard_UI folder located on the home screen of the control computer.


Open the “File Sharing” control from the icon or from the Menu/Monitors/File Sharing



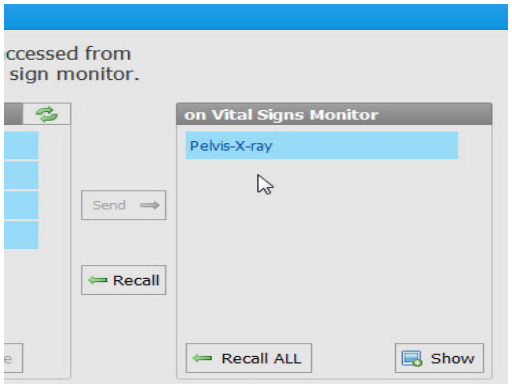




The list of files stored on the Gaumard_UI folder available for sharing is displayed on the left panel. To share a file, select the file from the left panel and click “Send”.

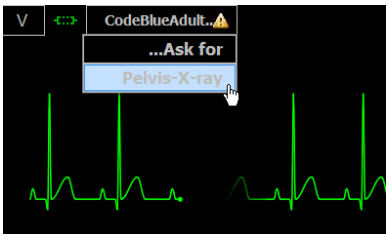



Enter a context name on the pop-up menu and click “OK” to share.

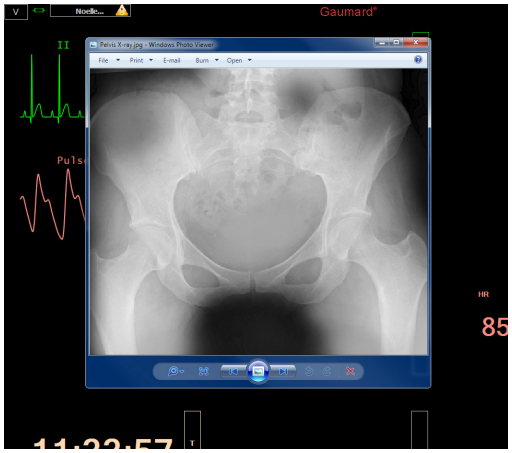
Files currently shared are listed on the “Shared Files” list.



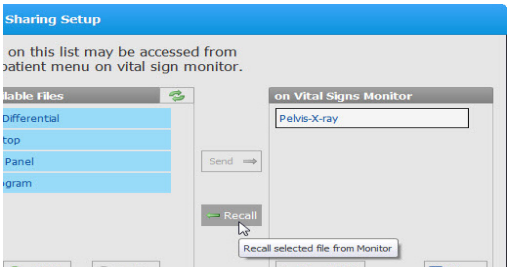

A yellow notification icon is displayed on the patient menu at the top left of the virtual monitor screen. The icon notifies the provider that a file is available for viewing. Click the patient menu and select the file open it.




The x-ray file is now open on the virtual monitor computer.




To discontinue sharing the file, select the file from the file sharing menu and click “Recall”




# Palettes

The Palette page appears identical in both the manual and automatic mode. Each item on the Palette represents a complete or partial physiological state. It displays all of the Palette Items in the active profile. Each profile has its own separately customized Palette. Recall that you can create Palette Items using the Details page.


Apply Palette Items using the buttons at the bottom of the page, just as changes to Simulator’s condition are applied on the Details list.

Editing existing Palette Items is simply a matter of selecting the item you wish to modify and clicking the Edit button. You will be taken automatically to the Details list, and the settings that comprise the selected Palette Item will be displayed. Change them as desired, and click the “Save as Palette Item” button.

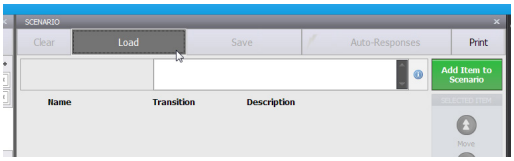
Many of the functions related to Palette Items are also available by clicking the second mouse button (usually the right button) while the pointer is positioned over an Item. Note, when using the tablet computer, this is best done by holding the stylus button while tapping the screen.

# Lineal Scenarios

Scenarios automate the vital sign changes, responses, and software actions required to carry out a complete simulation exercise. GIGA

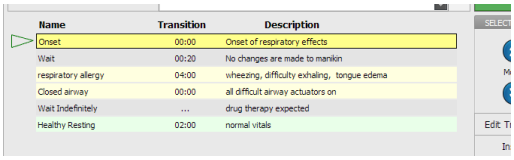
includes several preprogrammed scenario based simulation exercises in the “Quick Start Profile”.

To use a preprogrammed scenario go to the Scenario tab and click “Load Scenario”.




## LINEAR SCENARIO OVERVIEW

A linear scenario is a playlist of vital signs palette items played back in succession.




During the scenario, each vital signs palette updates the patient’s vital signs. The palette’s transition time trends the increase or decrease of numerical parameters (e.g. Heart rate, blood pressure) over seconds or minutes. In the figure below for example, the vital signs palette “Healthy Resting” is programmed with a transition time of 2 minutes. When the scenario reaches “Healthy Resting”, it will take 2 minutes for the vital signs to trend from the previous state to the values programmed within the palette.

| Name | Transition | Description |
|---|---|---|
| Onset | 00:00 | Onset of respiratory effects |
| Wait | 00:20 | No changes are made to manikin |
| respiratory allergy | 04:00 | wheezing, difficulty exhaling, tongue edema |
| Closed airway | 00:00 | all difficult airway actuators on |
| Wait Indefinitely | ... | drug therapy expected |
| Healthy Resting | 02:00 | normal vitals |

Wait palettes do not update or change vital signs. Instead, wait palettes give the participant time to perform an action; this may be treatment in response to a complication or performing a standard assessment.

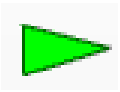
## SCENARIO CONTROLS

Scenarios are controlled from the buttons at the bottom of the tab. The scenario plays palette items in much the same way a music player plays songs. Intuitively, the facilitator can play, stop, pause, skip, or repeat items as appropriate.

The Scenario Position Indicator points to the current item and shows the current status of the scenario. The following paragraphs describe in detail the behavior of each button and indicator.

## SCENARIO POSITION INDICATOR

An unfilled triangle means that the scenario is stopped. When the Play button is clicked, the item being pointed by the indicator is played.



A rapidly blinking triangle means that the scenario is playing the item to which the indicator is pointing.

A slowly blinking triangle means that the scenario is paused at the item to which the indicator is pointing.

## SCENARIO PLAYER CONTROLS

Plays the item to which the scenario position indicator is pointing. This button has two states: play or pause.

Pauses the scenario. This state of the play button is only active when the scenario is playing. It is disabled when a ‘Wait indefinitely’ item is playing because in such case the scenario is already paused.

The Stop button has two behaviors depending on when it is clicked. When clicked once, the Stop button halts the scenario at the end of the item currently playing. When clicked a second time, the scenario is stopped immediately. For example, if the item currently playing has a transition of 1:00 minute and the Stop button is pressed when it has 0:10 seconds left, the scenario will be halted at the end of the transition (i.e., in 10 seconds). If the Stop button is clicked again within those remaining 10 seconds, the scenario stops immediately.

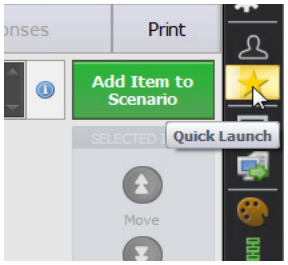
The Next button advances the indicator to the next item on the scenario regardless if the scenario is playing, paused, or stopped. It can also be used to move the indicator to select an item before playing it.

Similar to the Next button, the Previous button returns the indicator to the previous item in the scenario.

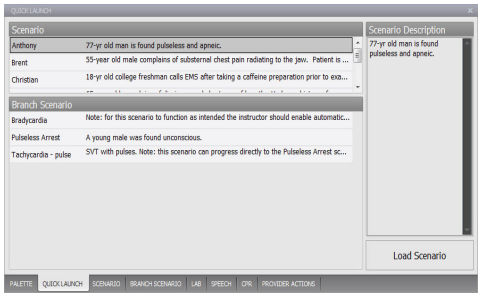
The Reset button stops the scenario immediately and returns the indicator to the first item in the scenario.

## SCENARIO QUICK LAUNCH

Use the scenario Quick Launch tab to start a scenario with a single click.




The Quick Launch tab displays all of the scenarios saved in the active profile.



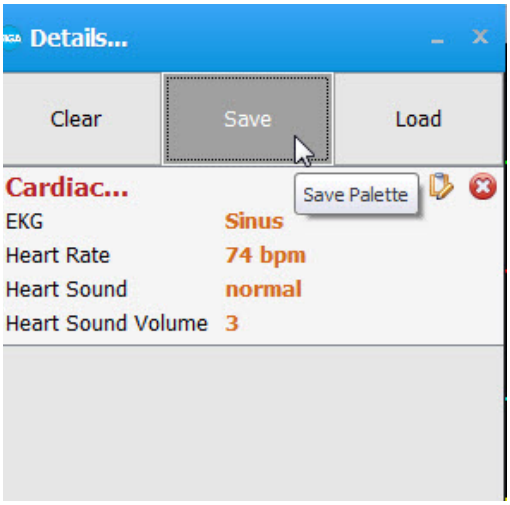

## CREATING NEW LINEAL SCENARIO

The general process of creating a new linear scenario is the following:

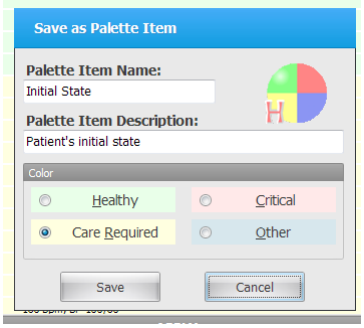
- Create a vital sign palette item for each state in the scenario
- Add the vital signs palettes and wait times to the scenario
- Play the scenario
- Modify and edit palettes
- Save the scenario

## CREATING PALETTE ITEMS

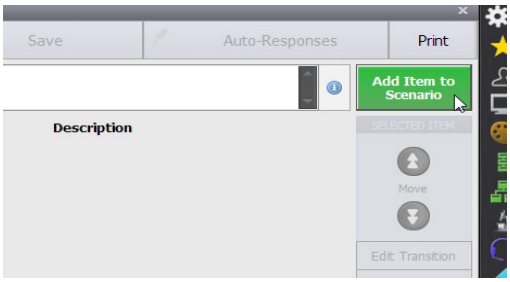
1. First, create the palette items that you will use in your scenario. Use the Status/Details to change the controls that best describe the condition you are trying to simulate. Not every field has to be populated in order to save a palette item.



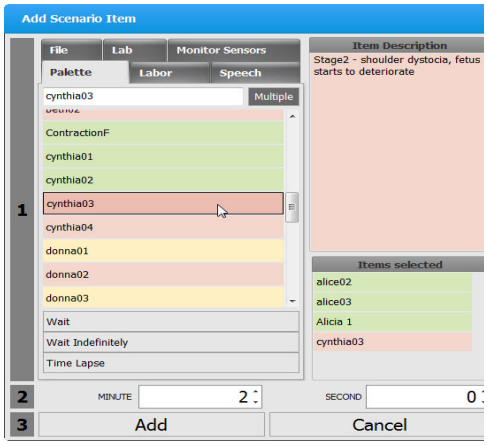

2. Save your palette(s) by clicking on the “Save Palette” button on the upper right side of the page. The “Save As Palette Item” dialog box is now displayed. Assign a name to the Palette Item and specify a brief description. Also, select a color that represents the palette’s condition: green for healthy, red for critical, yellow for care required, and blue for other. Click Save.



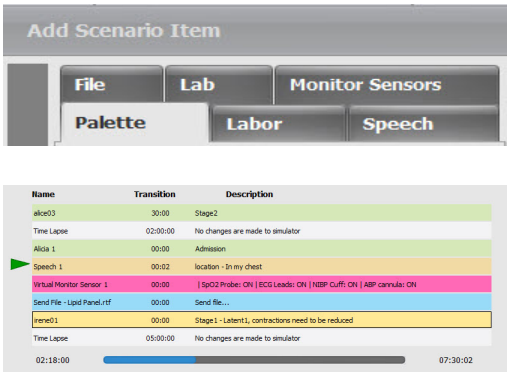
3. After creating all the palettes, go to the Scenario tab and click on the “Add to Scenario” button.



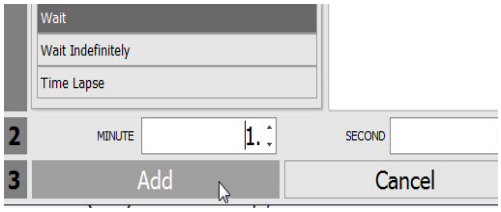

4. Select a single palette or enable Multi to select Select a single palette or enable Multi to select multiple palettes at the same time. Specify a transition time for the palette and click “Add”.



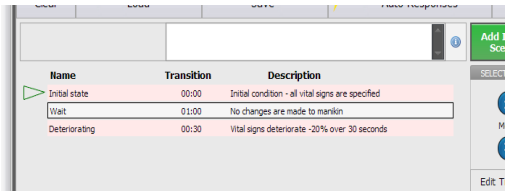

5. Repeat step 4 to add more palettes, labor scenarios, wait times, speech, monitor sensors, files, and labs.



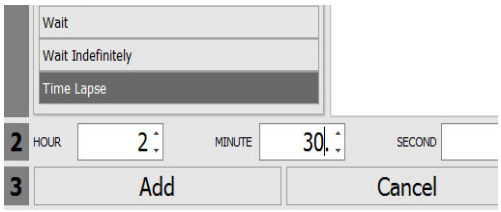

6. A “Wait” item maintains vital signs values steady for the transition time allotted. Insert a “wait” item to give the provider time to perform an action or an assessment. For example, auscultating blood pressure or gathering general information about the patient. Alternatively, add “Wait Indefinitely” to hold the vital signs until the “next item” button is clicked from the playback controls.



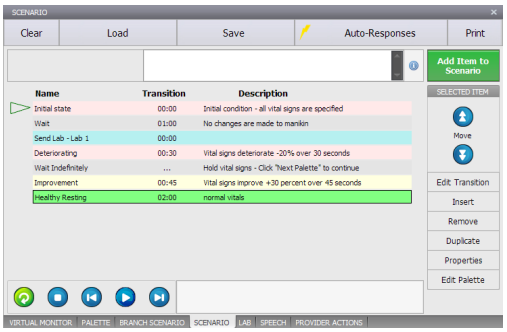

7. The wait palette item is now added.



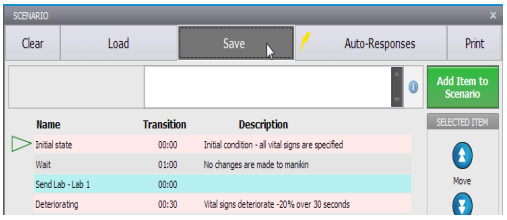

8. Also add “Time Lapse” to set a real time for the scenario. For example, applying a medication might take 2 and half hours to have the effect on the patient. So by adding this time lapse the real time can be reflected in the scenario but it will happen in 10 seconds



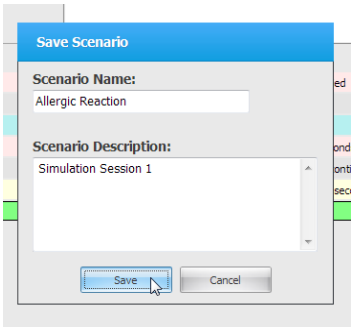

9. Add more palette items and then use the “Selected Item” menu to make any changes.




10. Click “Save Scenario” to store the scenario in the current profile for later use.



11. Type in a name and a description for the new scenario and click Save.



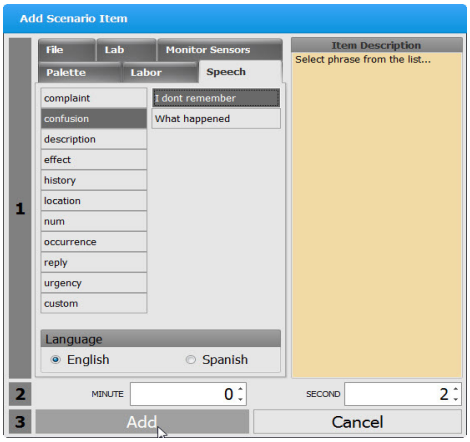

## ADDITIONAL SCENARIO FEATURES

Incorporate the following features into a scenario for added realism.

- Auto responses – move onto the next palette item automatically when virtual electric therapy is detected
- File sharing lab reports, and monitor sensors – Send files and lab reports to the virtual monitor computer, and enable monitor sensors
- Speech – add phrases or custom speech

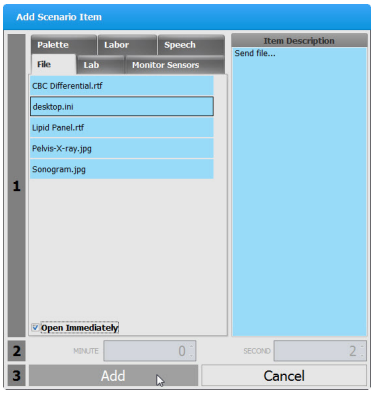
## SPEECH

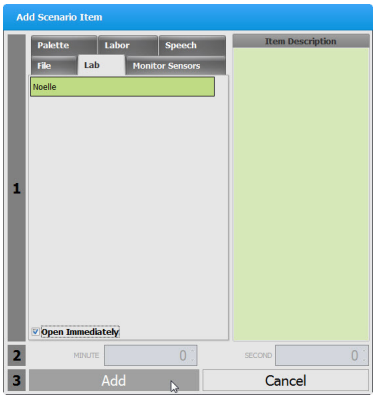
Add realism to a scenario by integrating automated speech phrases. Click the Add to scenario button and select Speech. Then, select the type of speech and phrase using the menu.



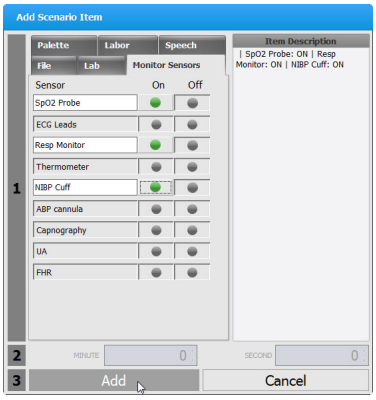

## FILE SHARING, LAB REPORTS, AND MONITOR SENSORS

The scenario can also automate the distribution of shared files, labs and monitor sensors. Click “Add to scenario”, and then use the “File”, “Lab” ,and “Monitor Sensors” tabs to select from available documents and sensors. For more information making files available refer “File Sharing” section. To create a new lab report, refer to “Lab” sections.



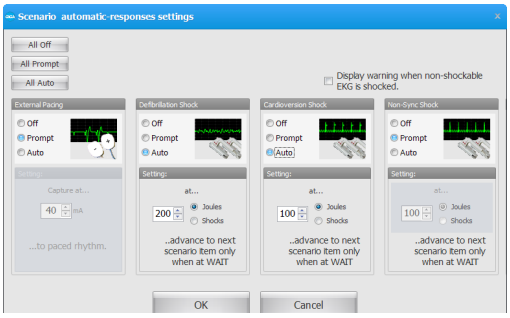

Select the sensors to be “ON” for the scenario




## AUTO RESPONSES

The scenario auto-response settings move the scenario to the next palette when electrical therapy is detected. Electrical therapy can be applied by the facilitator via Virtual Shock panel or by the care provider using real medical equipment if the simulator supports it.

**Auto-responses advance to the next palette if the virtual shock is applied while a "wait indefinitely" palette is playing and the heart rhythm is "shockable".**

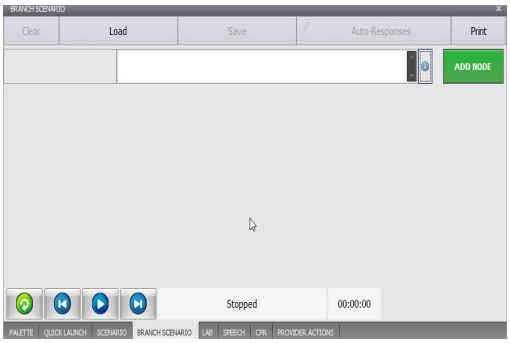



The three response options are defined below:

- Off - The scenario does not respond to the electric therapy.
- Prompt - The software detects the electrical therapy and prompts the user for approval before advancing to the next palette.
- Auto – Advances to the next palette automatically only if the electrical therapy meets the threshold specified

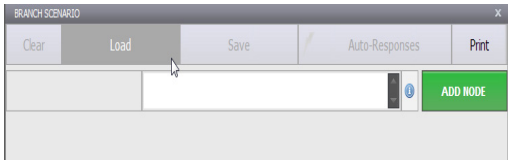
# Branching Scenarios

Unlike linear scenarios, which move from one palette to the next, the trajectory of a branching scenario can change in response to the participant's actions. Click the "Branching scenario" tab to access the branching scenario window.




## BRANCHING SCENARIO SCREEN

Use the panel buttons to clear, load, and save new scenarios, or to switch from branching to linear scenarios. Click "Load Scenario" to access the preprogrammed branched scenarios in the current profile.




## CREATING A NEW BRANCHING SCENARIO

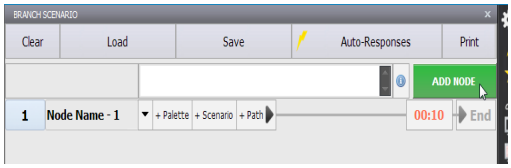
The process of creating a new branching scenario is the following:

- Add nodes
- Add palettes or scenarios to each node
- Add paths to nodes that require provider action
- Create key events to alter the progress and trajectory of the nodes within the scenario

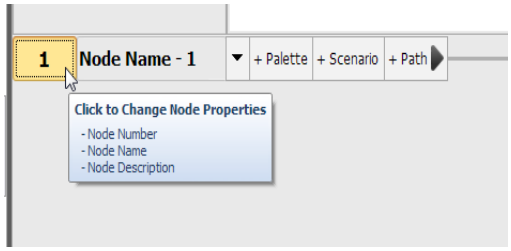
## ADDING NODES

A branching scenario will consist of several "Nodes". Each node is pre-configured to run a scenario or a series of palettes. The facilitator will then activate key events that will alter the trajectory of the nodes.

1. To begin, click Add node near the top of the window.

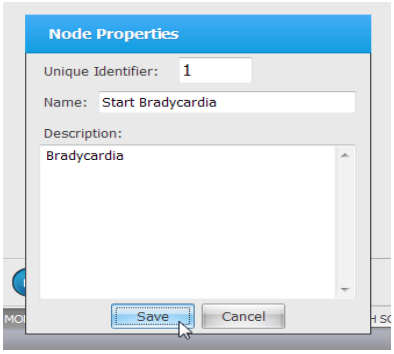



2. To edit the node name and description, click the node's identifier number button. Click Save to apply changes.



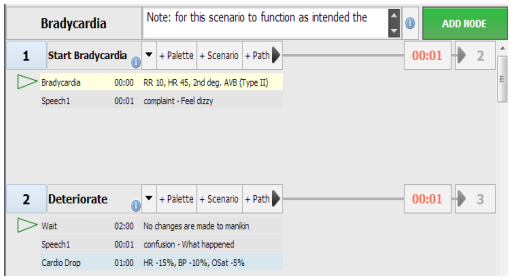

In this example, the following nodes will be created: [1] Start Bradycardia, [2] Deteriorate, [3]

Interventions, and [4] Atropine, [5] Epinephrine, [6] Dopamine and [8] Pace as possible responses.

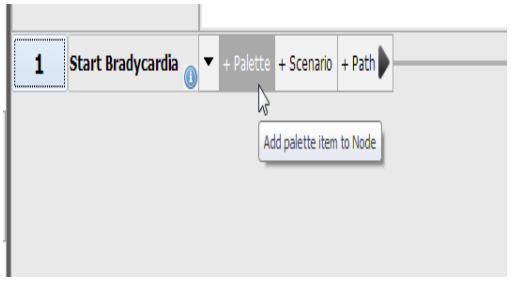



## ADDING PALETTES OR SCENARIOS TO A NODE

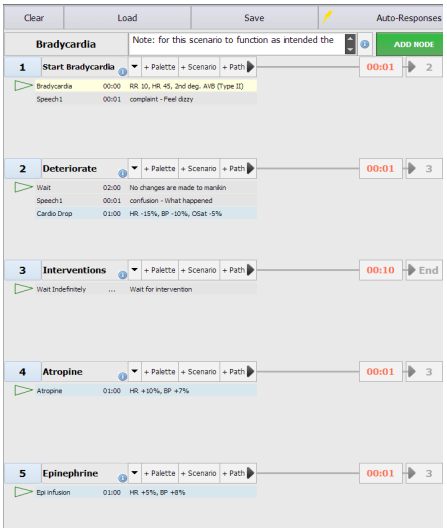
Configure each node with a set of palettes or scenarios.




Click Add Item to add specific palette items or Add Scenario to add full scenarios to this node. Repeat the process and add palettes to the rest of the nodes.




Add more nodes each with palette items to simulate every stage in the scenario. In this example, several nodes simulate the effects of medications that maybe administered to the patient by the provider. The first two nodes simulate the complication [1] Start Bradycardia, [2] Deteriorate. The following nodes: [3] Interventions, [4] Atropine, [5] Epinephrine, [6] Dopamine and [7] Pace are activated only when the provider administers the applicable medication or electrical therapy. Each node is programmed with palettes that simulate the effect described.

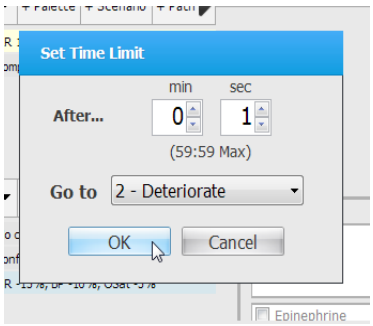



## ADDING PATHS

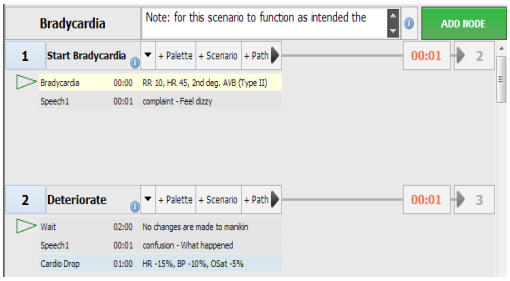
A path refers to the trajectory from one node to another after the last palette in a node expires.

1. Click on the time limit icon to modify the “go to” point for the default path. After the last palette expires, the scenario will move on to the node as indicated by the arrow.


2. Configure the countdown timer and the “go to” point for the default path. Click ok to save.



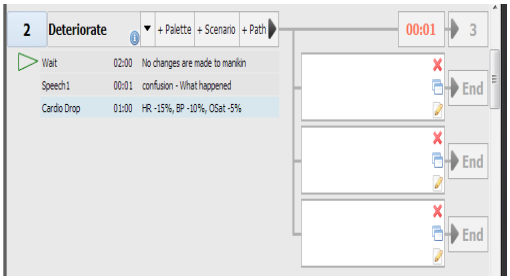
3. Node 1 is now configured to continue to Node 2 as indicated by the path's "go to" point.



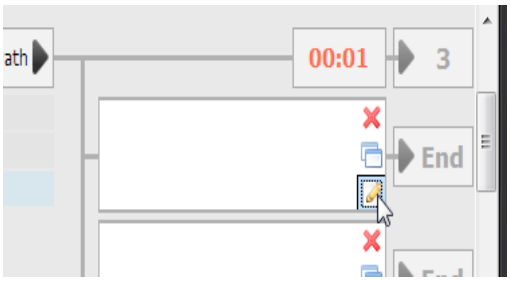

## KEY EVENTS

Key events allow the facilitator to alter the trajectory of a branched scenario. This is done by assigning multiple paths to a single node, then selecting one of the paths when the provider completes a desired task. To add a key event to a node:

1. Click the Add path button, then the edit button located on the right.



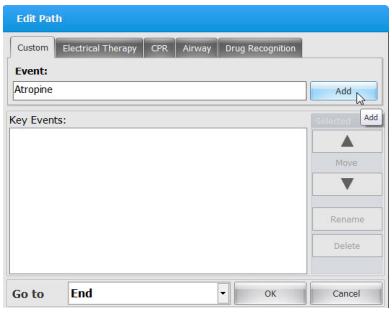

2. Use the Edit Path window to name, rename, sort and create key events.



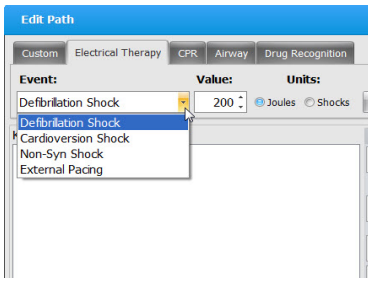

## KEY EVENTS MENU

A key event is the action expected by the participant. The Key Event Menu includes Custom, Electrical Therapy, CPR, and Airway.

Custom tab allows to type a name for the event and then click "Add".



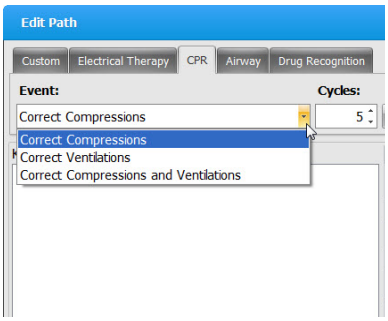

The remaining key event tabs like Electrical Therapy, CPR, and Airway, have a drop down menu to select the different options.




The Electrical Therapy key event includes:

- Defibrillation Shock
- Cardioversion Shock
- Non-Sync Shock
- External Pacing

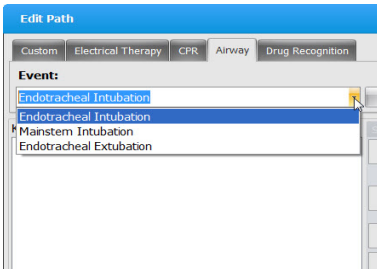
Select one of the options, then, set the parameters for response to either joules or number of shocks and click "Add"




The CPR key event includes:

- Correct Compressions
- Correct Ventilations
- Correct Compressions and Ventilations.

Select one of the options, then set the amount of cycles and click “Add”.

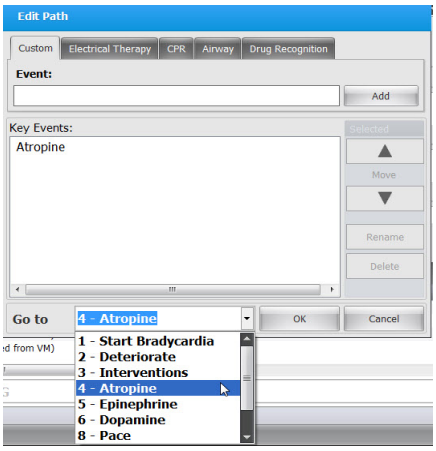



The Airway key event includes:

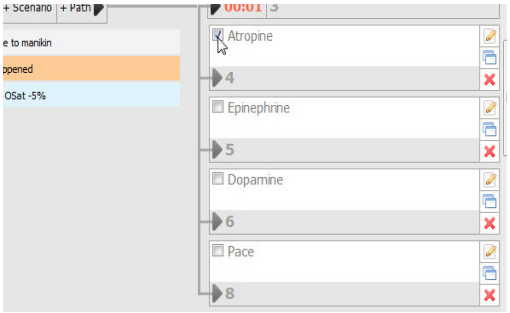
- Endotracheal Intubation
- Mainstem Intubation
- Endotracheal Extubation

Select one of the options, then click “Add”.

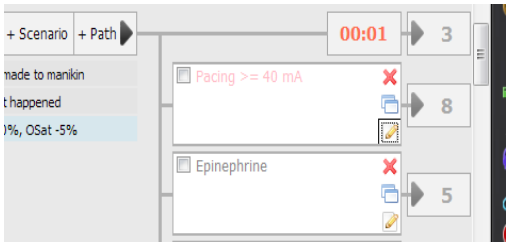
After the event is added to the Key Events list, assign the node that this action will move the scenario to, using the “Go to” menu. Click “OK” to save changes.




In the figure below, node 2 is configured with four alternate paths. Once the provider performs any one of the actions listed as key events, checkmark the key event to activate the alternate path.

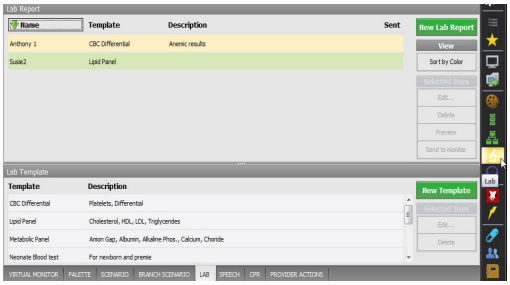



The key event is now programmed to move the scenario to node 8 if pacing is detected.




# Labs

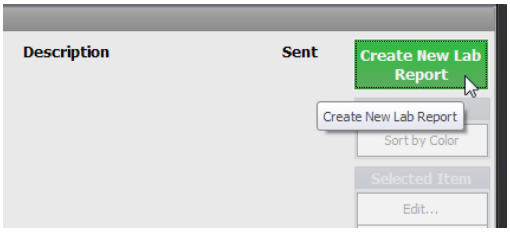
Use the Lab tab to create mock laboratory tests results to aid the participants during simulation. In addition, create new laboratory templates to supplement different types of scenarios. Once a laboratory report is created, send the file to the virtual monitor screen for the provider to access during the exercise.



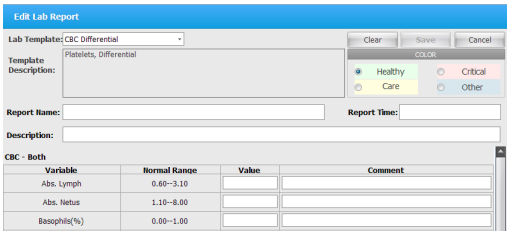

## PREPARING A LAB REPORT

To create a new lab report with mock test results:

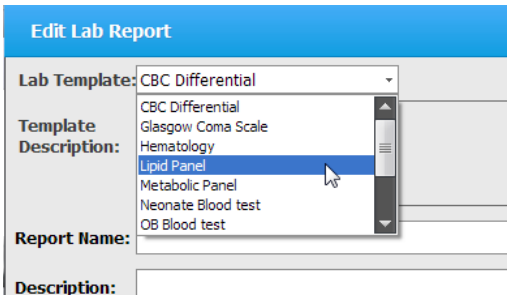
1. Click “Create a New Lab Report” on the right panel.



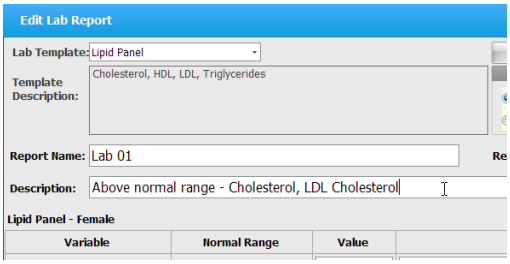

The “Edit Lab Report” window is displayed.



2. Select a “Lab Template” from the drop down menu.

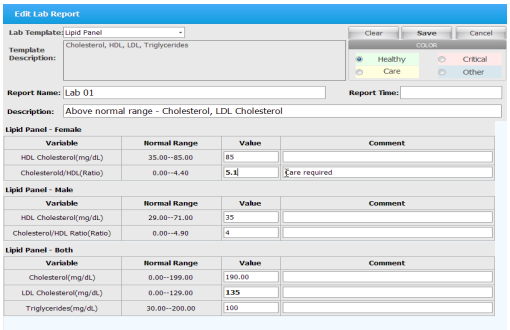



3. Enter a report name, a report time, and a description. In addition, select a color tag for the lab report on the right panel. Color tags aid the sorting of lab reports on the report list window.

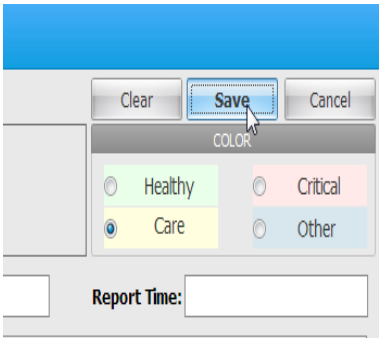



4. Enter the test results in the “Value” column. Include any comments associated with the test performed.

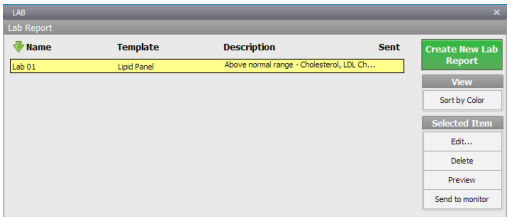
**Lab result values for each of the preprogrammed scenarios in the Quick Start HAL profile are included in the HAL Workbook.**



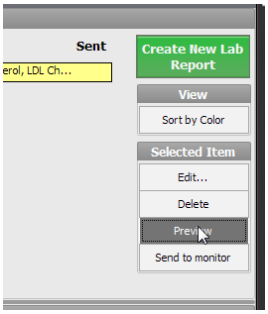

5. Click “Save” to create the lab report.



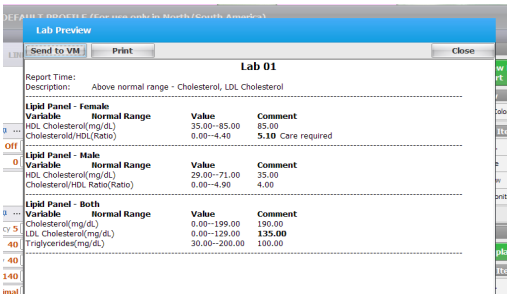

The newly created lab report is now listed in the “Lab Reports” section. Sort lab reports by name, template, description, or color tag.




6. Click “Preview” to review the final lab report.




The preview window displays the test results how the provider will see them on the virtual monitor screen. If the computer is connected to a printer, click PRINT to create a hard copy.

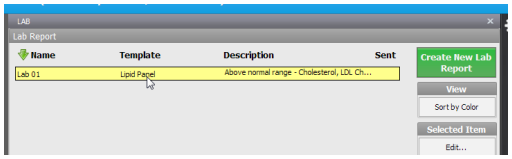



## SEND TO MONITOR

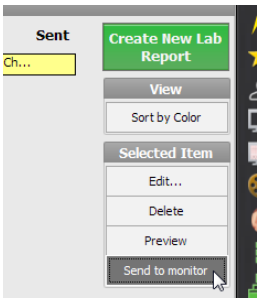
Send the completed lab report to the virtual monitor screen to assist the care provider.

To transfer the lab report to the virtual monitor screen:

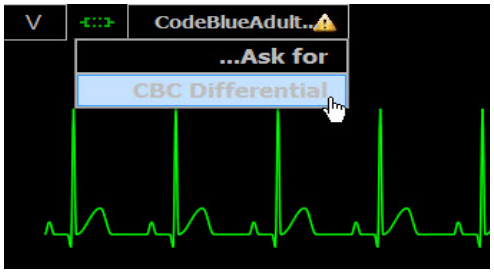
1. First, select the report from the lab reports list.



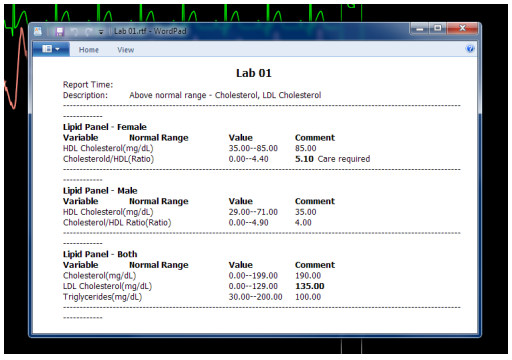

2. Click "Send to Monitor" button to transfer the lab report to the virtual monitor.



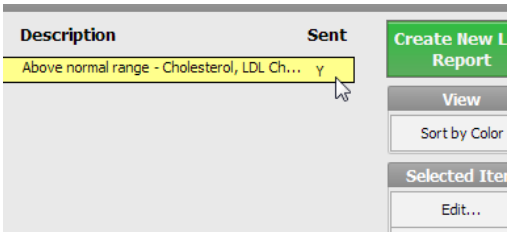

3. An exclamation icon notifies the provider a file is ready for access on the Gaumard Monitors. Instruct the participant to click the patient menu drop down and select the lab report.




4. The lab report opens using the system's default application.




5. The letter Y represents a shared document. Click the "Stop Sharing button" on the right panel to remove the lab report items from the Gaumard Monitors menu.



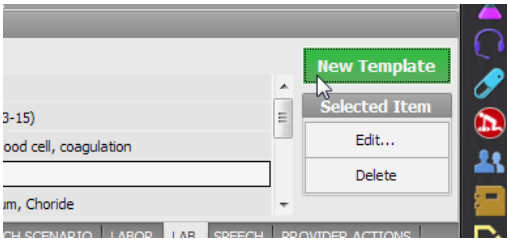

An editable copy of the lab report is stored inside the Gaumard_UI folder on the computer's home screen. Go to page 30 for information on how to access other files from the Gaumard Monitor screen.

## CREATING A LAB TEMPLATE

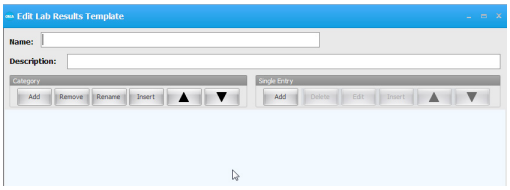
Build new lab templates to supplement new scenarios.

To create a new laboratory test template:

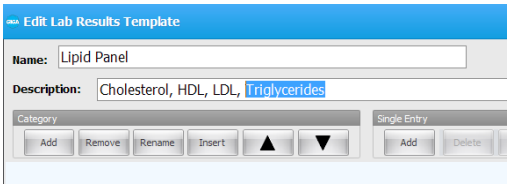
1. Navigate to the bottom of the tab and click "New Template".



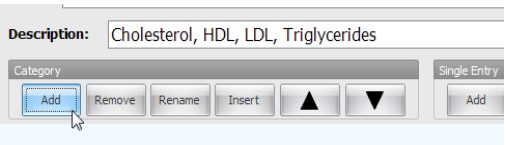

The "Edit Lab Results Template" window is displayed.



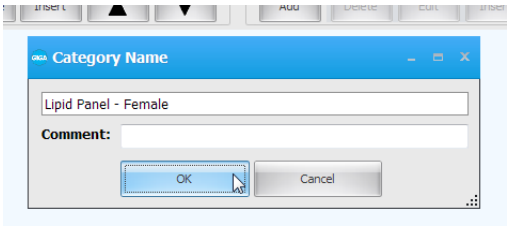

2. Enter a name for the new template followed by a description.



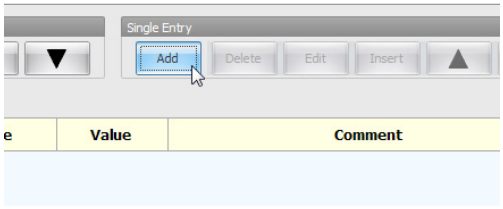
3. Create categories to group a series of tests in a lab report. Click “Add” to create a new category.



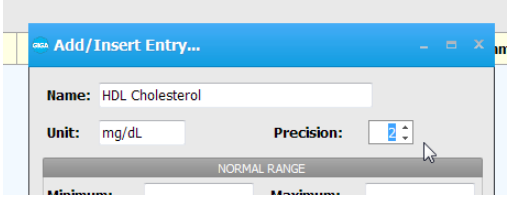

4. Enter the name of the category and click “OK”.



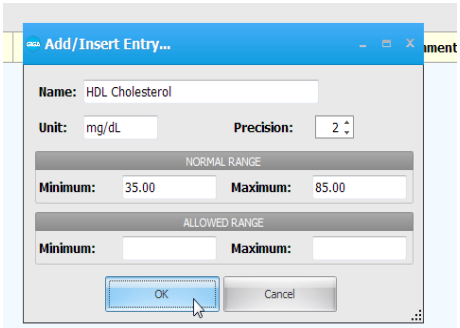

5. Click “add” on the “Single Entry” menu to create a new test under the current category.



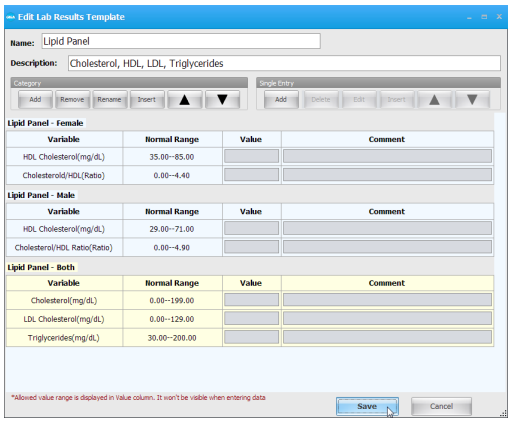

6. Enter the name of the test, the unit, and decimal precision.



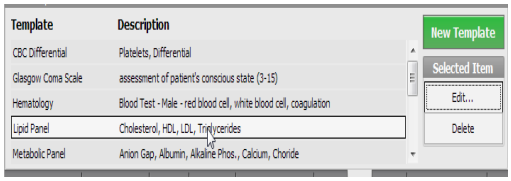

7. Enter a “Normal Range” as a reference for the provider. The normal range is visible on the lab report. The “Allowed Range” restricts the minimum and maximum value that can be entered in a test result. Click “OK” to add the new test.




8. Repeat the process to add more tests and categories. Click “Save” to create the new lab template.



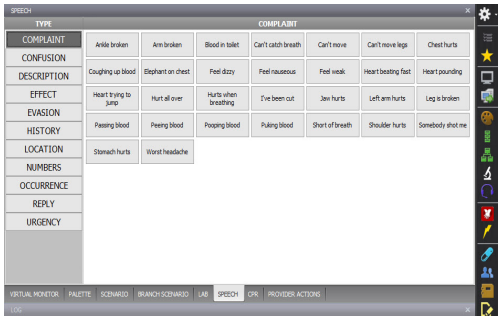

The new template is listed on the “Lab Template” section at the bottom of the Lab tab. Use the buttons on the left panel to edit or delete lab templates.




# Speech

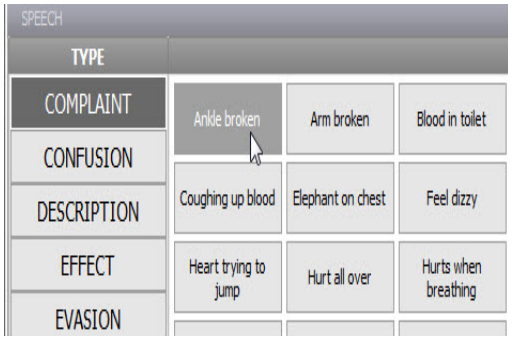
## PRERECORDED SOUNDS

Select the Speech tab to command the simulator to speak aloud. The collection of speech and other sounds covers a wide range scenarios.



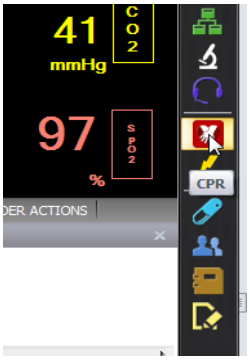

Click the phrase button to have the simulator speak the phrase aloud. Alternatively, program the phrases into a scenario to have the simulator

speak automatically, for more information, refer to “Scenario” section.



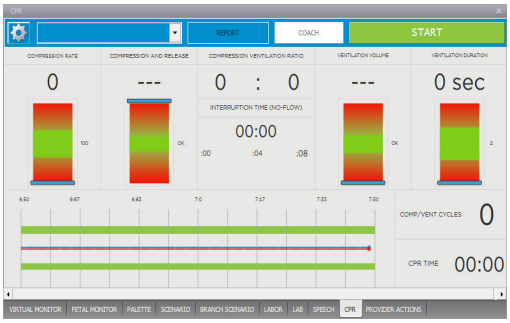

# CPR

GIGA features a CPR performance evaluator and trainer. Click the CPR icon on the vertical menu bar to open the CPR window.




This tool allows the instructor to get real-time feedback on the current compressions and ventilations being done by the providers. Also, it will register real or virtual electrical therapy.

**It is important to know that the chest compressions will only give feedback to the instructor if the blood pressure is below 60, and ventilations will only be reported if the respiration rate is set to zero.**

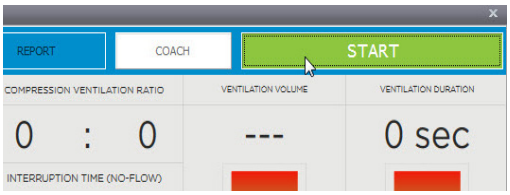



Open this window when your students or providers are ready to start performing compressions and/or ventilations

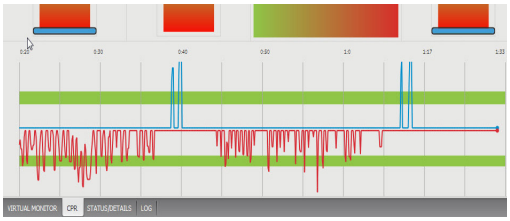
## TESTING

The test mode provides compression and ventilation feedback in real time without audible cues.

To begin, press the Start button. Perform compressions and ventilations to obtain:

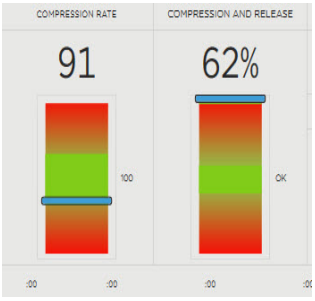



- Graphical representation of compressions and ventilations: the ventilations are represented by the blue segment and the compressions by the red segment.



- Compression rate and depth indicators:

The compression rate and depth indicators are located to the left of the CPR window. The indicator's fill color changes between the following states:




1. Yellow: compression was too shallow.
2. Green: compression was performed correctly.
3. Red: compression was too deep.

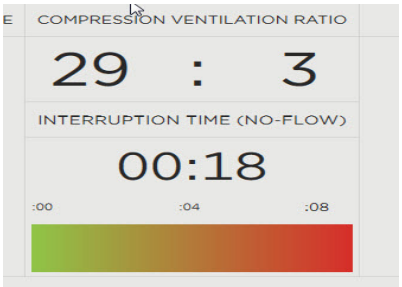
- Ventilation volume and duration indicators

The ventilation volume and duration indicators are located to the right of the CPR window. The indicator's fill color changes between the following states:


1. Yellow: Ventilation was too weak
2. Green: Ventilation was performed correctly
3. Red: Ventilation was too strong

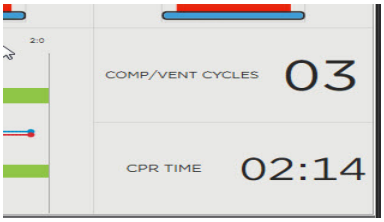
- Compression/Ventilation Ratio and No-Flow Time

Compression/Ventilation ratio is located in the center of the CPR window. The No-Flow Time shows the time without performing compressions.



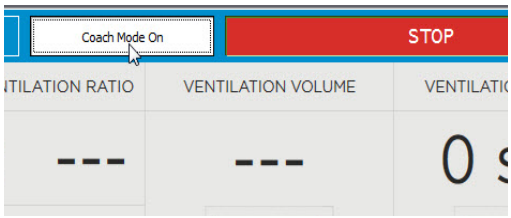

- Comp/Vent Cycles and CPR Time

Comp/Vent Cycles value shows the number of cycles performed. The CPR Time shows the total time of the CPR activity.



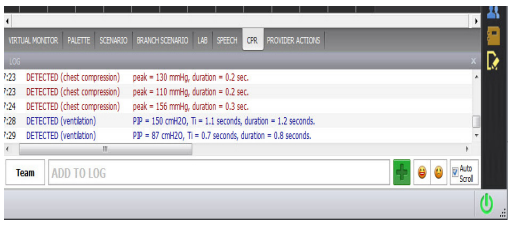

## COACH

The coach mode is enabled when the Coach button is pressed.




The coach mode generates visual and audible cues of the compression to ventilation ratio programmed in the Options menu. A high-pitched beep, signals the care provider to perform compressions. A low pitched-beep, signals the provider to perform ventilations. If the provider performs CPR at a correct rate, the beep signals volume will decrease. If the rate is out of range, the beep signals volume will increase again.

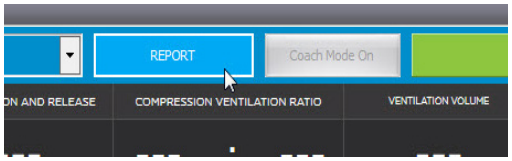
Compression and ventilation data is displayed in the log window as CPR is performed by the provider

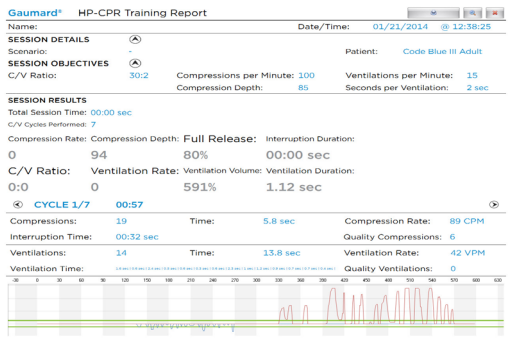



## REPORT

Access the report after completing a CPR session. This window displays a summary of the most important parameters during CPR training. To access the report, press the Open Report

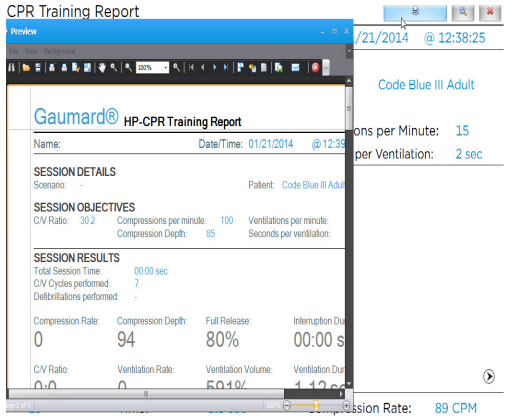
button. Note that this button is disabled until the Stop button has been pressed.




The report will show the session details and objectives, and the session results.

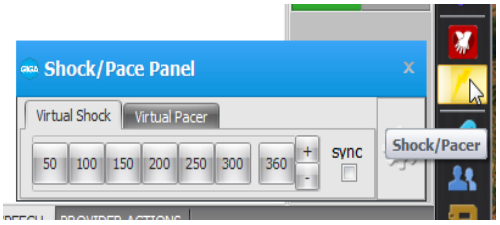
Print or save the report data by pressing the print button located on the top right of the window.




# Shock/Pace Panel

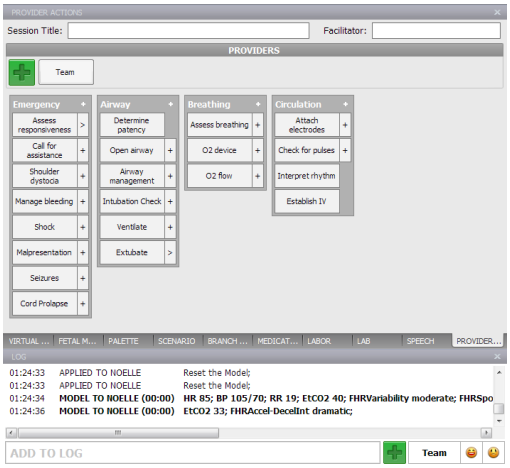
The shock panel is a floating window used to apply electrical therapy to the patient virtually. Go to Scenarios section for more information on how to work with the “auto responses” feature and the virtual shock panel.

Click the lightning icon to open the “Shock/Pace” panel.



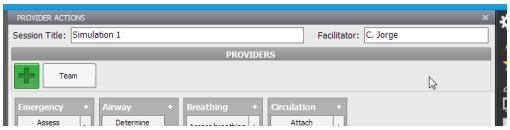

# Provider Actions

Use the Provider Actions tab to track actions performed by the provider manually. Each option on the Provider menu generates a time stamped entry in the text log below.




## SESSION INFORMATION

Enter the session tile information and the name of the facilitator at the start of the session. The information is included in the final log report.

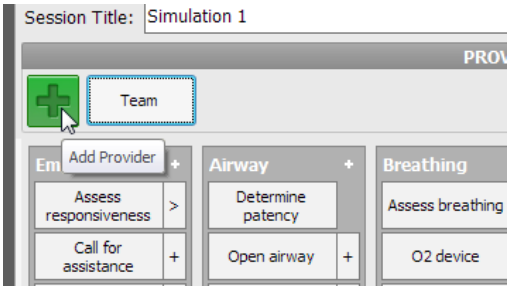



## TEAM LOGGING

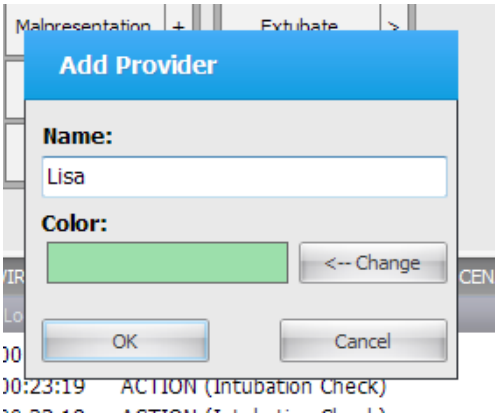
The team logging feature is used to track the individual actions of up to six providers manually. The feature records the name of the provider with the action as an event entry in the log.

To add a new provider to the Provider Actions” window:

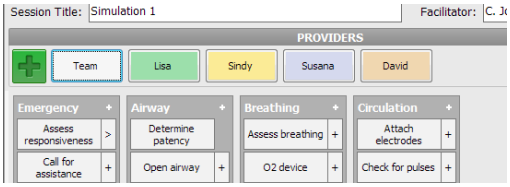
1. Click Add" button to add a new provider.




2. Enter the provider's name and select a color tag. Click OK to save the provider.

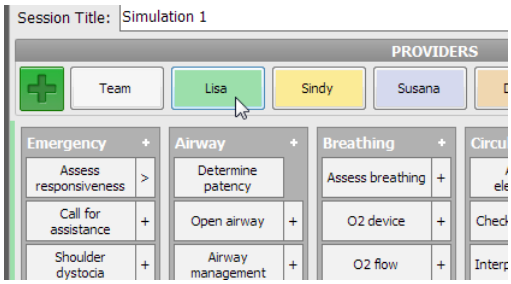



3. The provider is now added to the log tab. Repeat the steps to add up to six different providers.

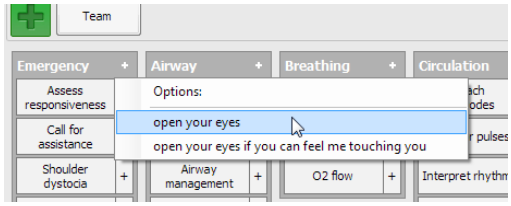



## TRACKING PROVIDER ACTIONS

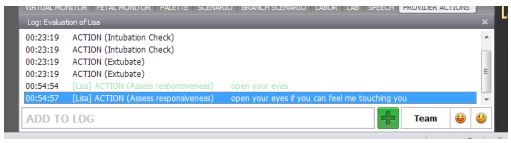
Provider actions can be tracked as a team or individually. Click the provider's name to set the provider as active and track the actions individually.



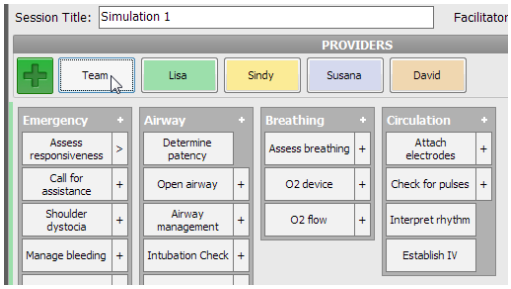

Click the appropriate option to track the action. For example, if the provider assesses the patient's responsiveness by requesting them to open their eyes, click the "Assess responsiveness" button and select "Open your eyes".




The following log entry is generated with the name of the active provider who performed the action:



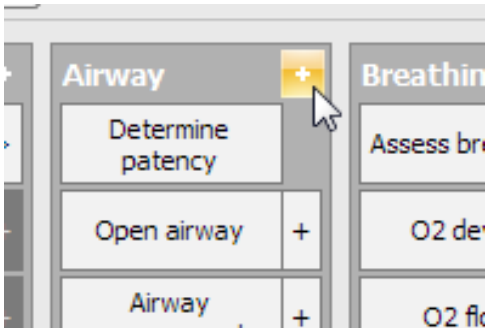

Click the "Team" button to deactivate the active provider and return to general logging. Right click the provider button to delete or rename a provider.



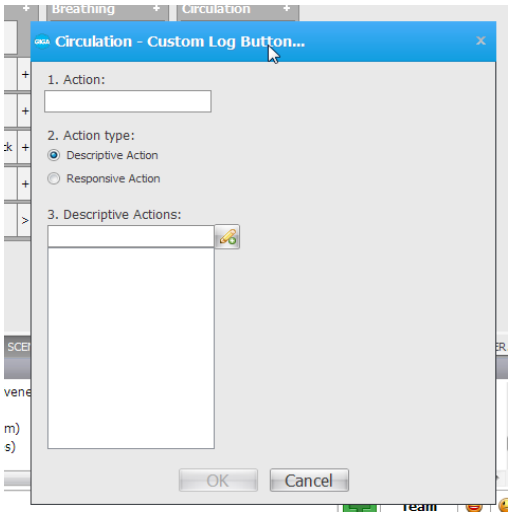
## CREATING NEW PROVIDER ACTION BUTTONS

Create new clickable provider action buttons to expand the library of actions. To add a new action to an existing category:

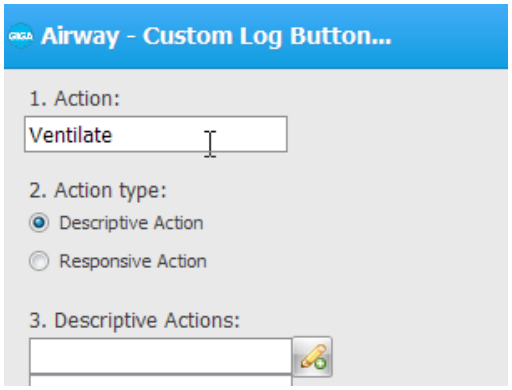
1. Click the + button on the category



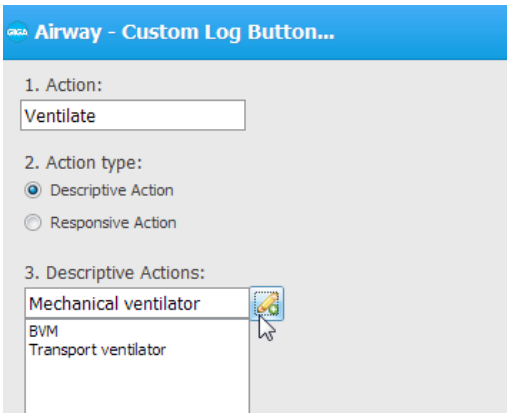

2. The category menu is displayed



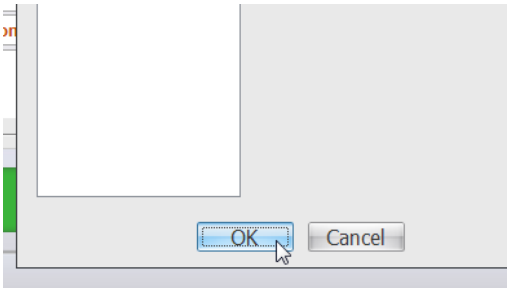

3. Enter the name of the action and select the type of action



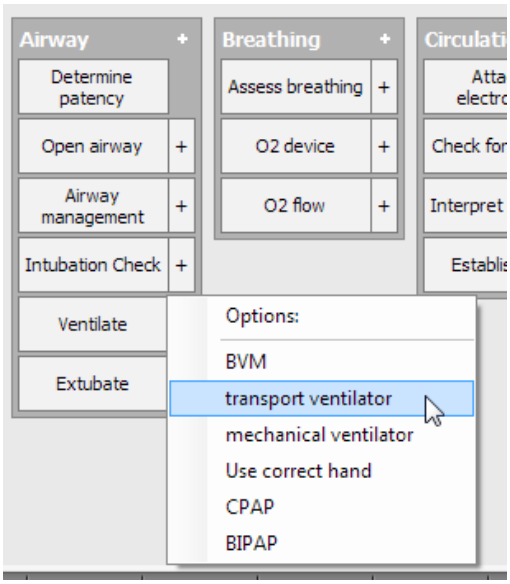

4. Enter a description for the possible action and click + to add. Repeat the process to add several actions.




5. Click OK to save



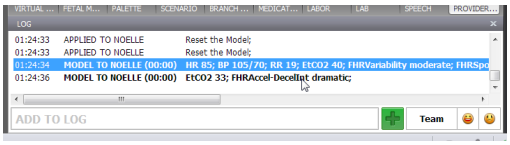

The new action is listed in the airway category.



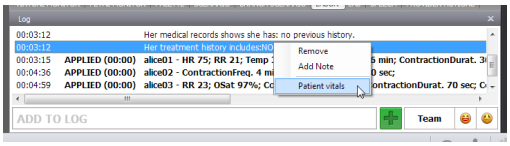
# Event Log

The event log records a time stamped entry of events that occur during the simulation session. It addition, every individual entry records a snapshot of the vital signs parameters when the event occurred. The text log records the following events:

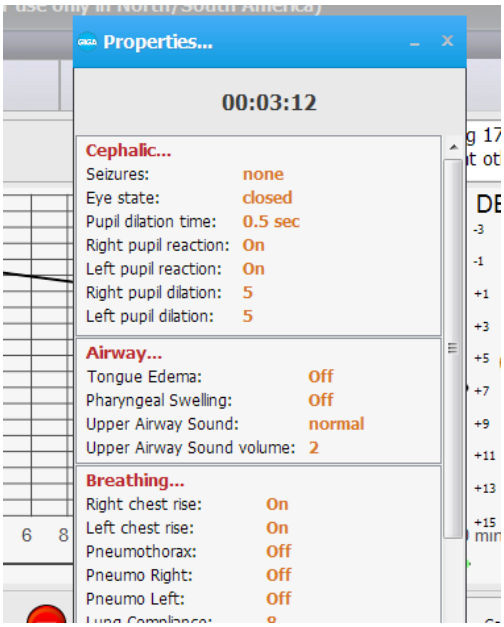
- Vital sign changes applied manually or made by scenario
- Events detected by onboard sensors (e.g. intubation sensor, defibrillation sites)
- Preprogrammed speech phrases
- Satisfactory or unsatisfactory evaluation
- Facilitator notes




Select an entry from the list and right click to view additional options.

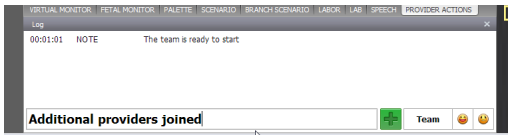



Select “patient vital signs” options to view a snapshot of the vital signs values when the event occurred.



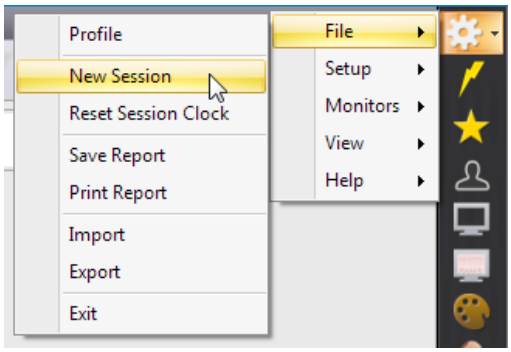

## ADDING NOTES

Enter notes into the “add to log” field to record notes manually. The information is categorized in the log as “NOTE”.




## CREATING A NEW SESSION LOG

The log event “time stamps” reference the GIGA session clock. At the start of a new simulation exercise, click File>New Session to reset the session clock 00:00:00, reset any vital parameters settings, and clear all the event entries.




## SAVING THE LOG INFORMATION

The log information is recorded in a rich text format. Export the log information to save a detailed history of the events that occurred during the session.

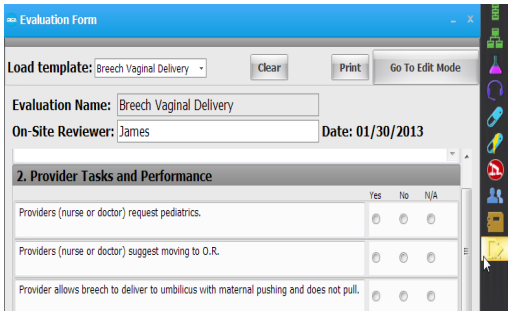
To save the session log report as a text file:

1. Click FILE>Save report
2. Enter a name for the report
3. Select the desired name and path, and click “Save”.

# Evaluation Form

The evaluation tool assists facilitators in reporting and assessing provider interaction using a questionnaire form. A completed evaluation

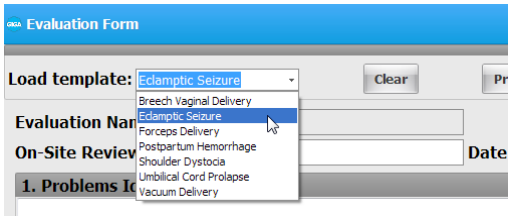
form can then be stored as a digital document or printed for distribution.



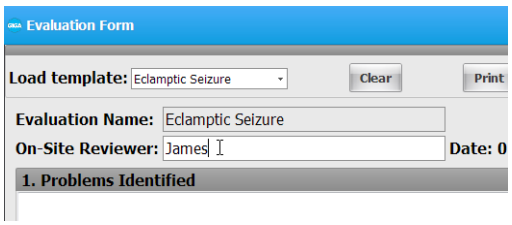

## USING BUILT-IN EVALUATION FORM TEMPLATES

Several preprogrammed evaluation templates included in the GIGA software. Each template includes a set of multiple-choice questions, fill in the blank, and true or false questions for a variety of scenarios.

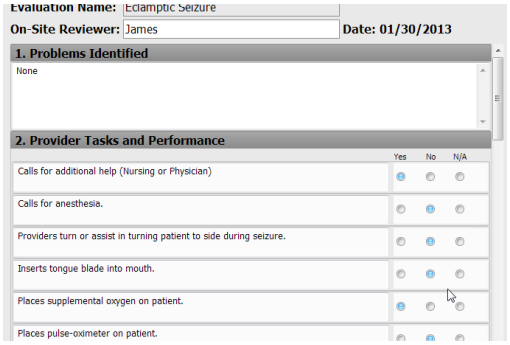
Select an evaluation template from the “Load template” drop down to begin.



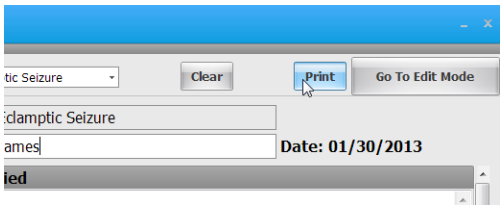

Enter the name of the facilitator administering the evaluation in On-Site Reviewer field.



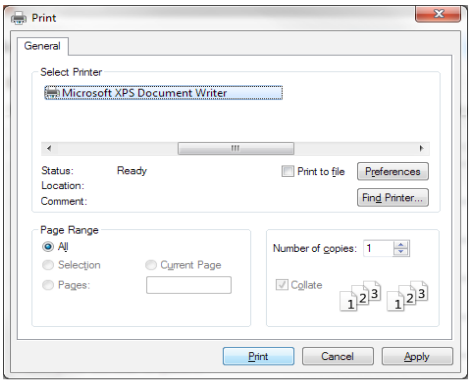

Complete the form by answering each question.



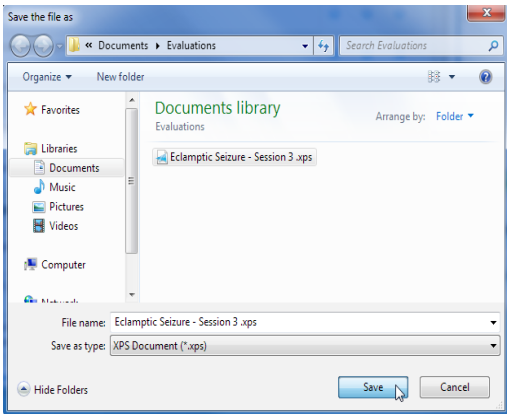

Click “Print” at the top right corner of the screen once the evaluation is completed.




Select the Microsoft XPS Document writer to save the finished evaluation as digital document. Click “Print” to save the digital copy in the system.

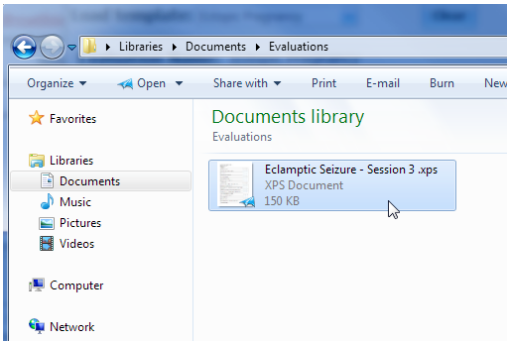


Enter a name for the evaluation and click “Save”.

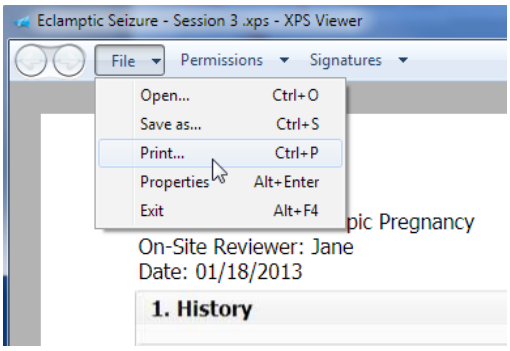



## PRINTING AN EVALUATION

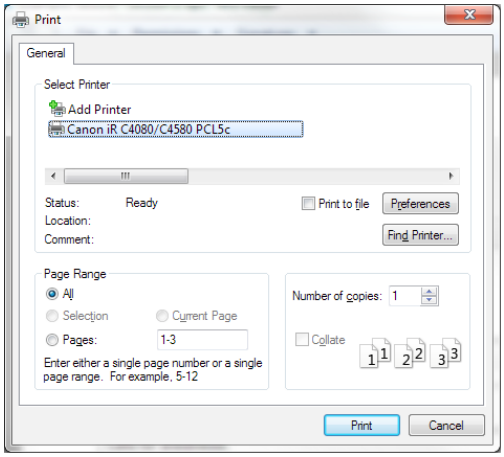
If the PC is connected to a printer, select and open the evaluation document saved in the previous step.




Navigate to the XPS Viewer file menu and select “Print”.




Select the printer device from the list box and click print.

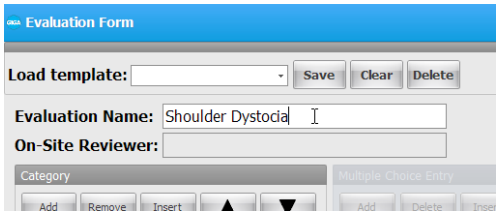



It is recommended that documents be first saved as XPS files before being printed into hard copies.

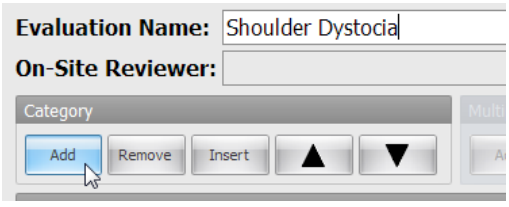
## CREATING NEW EVALUATION TEMPLATES

Create new evaluation templates for new scenarios using the edit mode. To enter the edit mode, toggle the “Go To button” located on the top right of the evaluation form window.

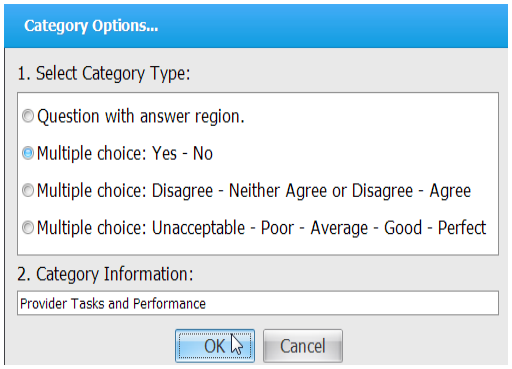
Enter a name for the new evaluation template in the “Evaluation Name” field.



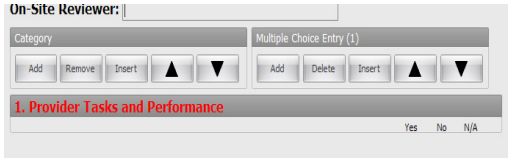

Click “Add” on the Category menu.



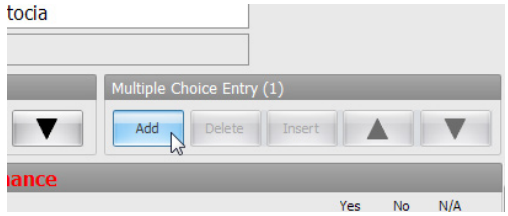
Select the category type and enter the category title. Click OK to save.



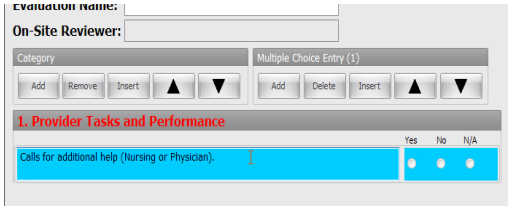

The new category is now created.



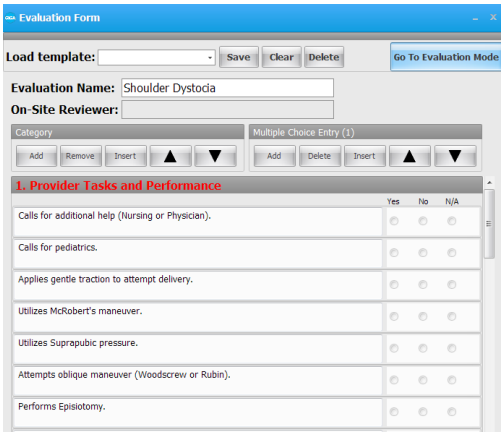

Highlight the new category and then click “Add” on the “Multiple Choice Entry” menu.



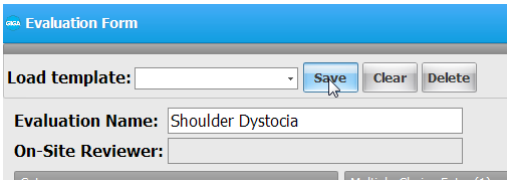

Type the evaluation statement in the new multiple choice field.



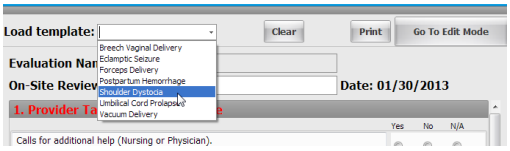

Repeat the previous steps to add more categories, questions, and multiple-choice options.




After the evaluation template design is complete, click Save at the top of the window.

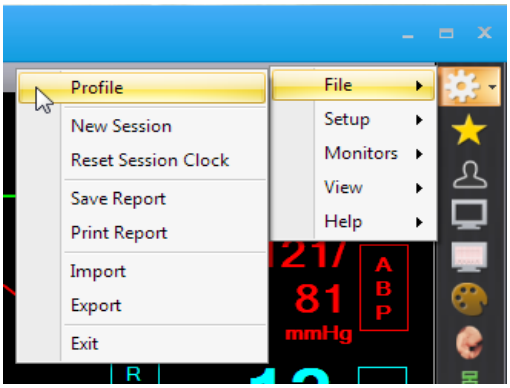



The evaluation form is now available for use.




# Menu Bar

## FILE



## PROFILE

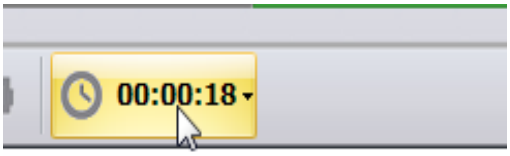
Click the Profile menu option to open the Profiles menu. To switch to a different profile, select the operating mode and the new profile and click “Load”.

## NEW SESSION

Clicking New Session in the file menu will:

- Clear any loaded/playing scenario
- Clear any loaded/playing palette
- Reset vital signs to normal values
- Clear out log page
- Restart the session clock.

The session clock is located at the bottom of the dialog box.



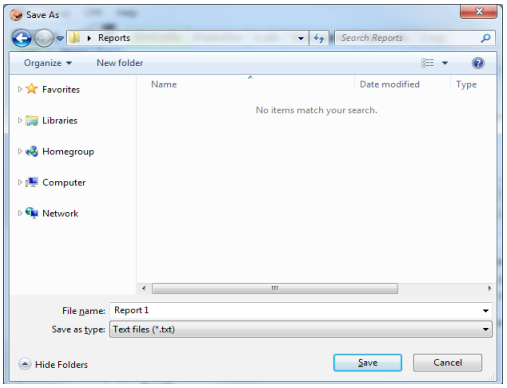

The shortcut key for staring a new session is: Ctrl + N

## RESET SESSION CLOCK

Clicking on Reset Session Clock resets the clock back to zero. It does not have any effect on the transition time remaining on a scenario; it does not reset the vital signs, or clear out loaded scenarios. The facilitator can also reset the session clock by clicking on the Session button next to the session time.

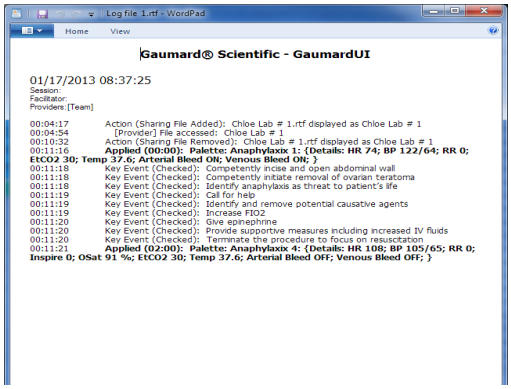

## SAVE REPORT

This option allows you to save all the information recorded in the log page as a text file. Clicking on it brings up the “Save As” dialog box:




Select the desired name and path, and click “Save”.

The shortcut key for saving a report is Ctrl + S. For a sample report, look at the figure below:




## PRINT REPORT

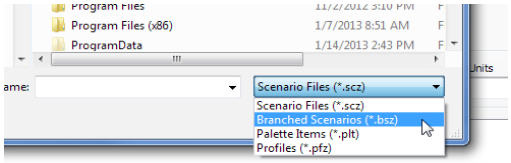
This option allows you to print a text file containing all the information in the log for the latest session. Clicking on “Print Report” brings up the Print dialog box. The shortcut key for this option is Ctrl + P.

## IMPORT

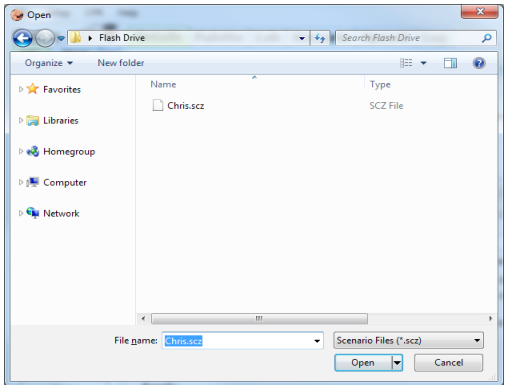
Use the “Import” menu to import palettes, scenarios, and modeling patients created on another PC or stored in a backup location.

To import an item into GIGA:

1. Click File>Import on the menu to access the “Open” menu.
2. Set the type of file to import.




3. Browse to the location where the item is saved and click “Open” to import.



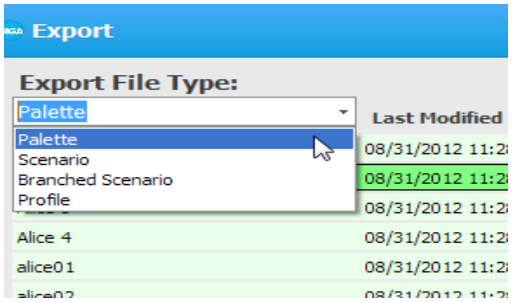

The scenario file is copied to the GIGA scenario library automatically.

## EXPORT

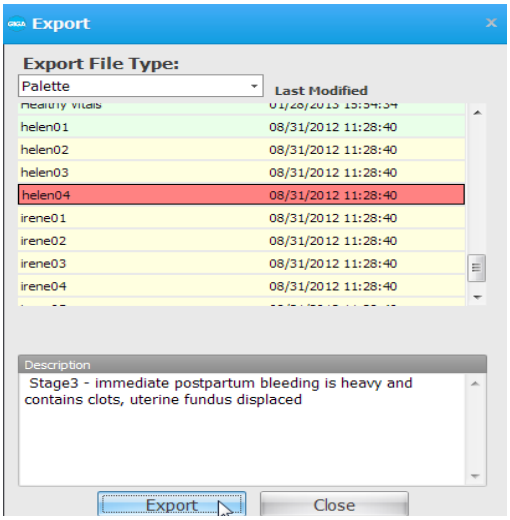
Use the Export feature to backup palettes, scenarios (branched or linear), and model patients files.

To export an item and save it to a location on the computer:

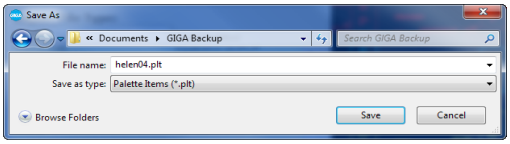
1. Click File > Export to open the “Export” menu
2. Select the file type from the “Export File Type” drop down menu:



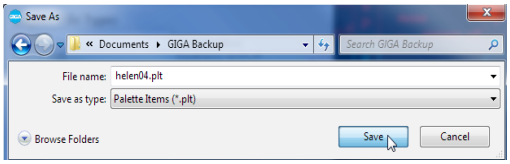

3. Select the item to export from the list and click “Export”




The “Save As” window is displayed.



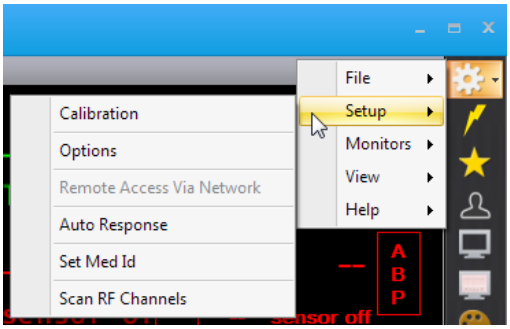

4. Browse to the location where the file will be saved and click “Save”.




## EXIT

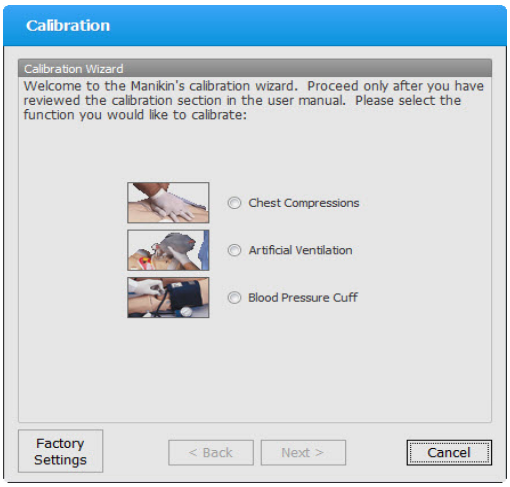
Click File > Exit to close the GIGA software and turn the simulator off. Alternatively, click the power bottom and click the X icon near the top corner of the screen.

## SETUP



## CALIBRATION

This tool allows you to easily calibrate the sensors inside the simulator. First choose which function you would like to calibrate: chest compressions, artificial ventilations, or blood pressure cuff. The Simulator will not breathe or have chest rise during any calibration procedure.



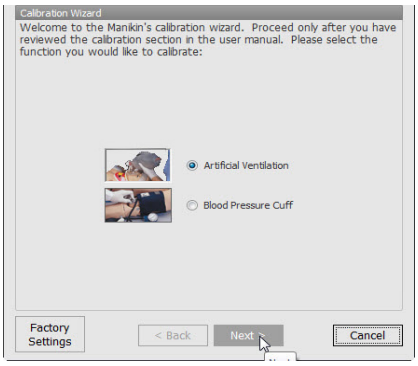

The procedures for each specific calibrations are described in the sections below.

- Chest compressions
- Artificial Ventilations
- Blood Pressure Cuff

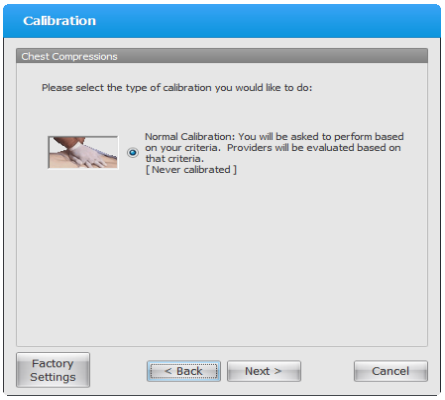
**If the simulator includes a compression sensor that determines the depth in inches/cm, the calibration for chest compression will be disabled.**

## ARTIFICIAL VENTILATIONS

This tool helps you calibrate the artificial ventilations to your specific criteria. That is, you will be telling the system what a correct artificial ventilation is. Providers will be evaluated by the system based on this criteria.



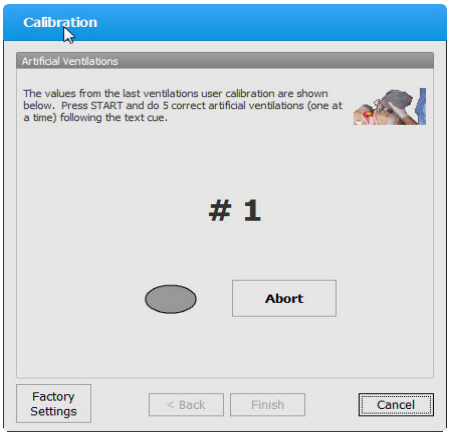

After making the Artificial Ventilation menu selection, this dialog box is displayed:




Click next to proceed with the calibration.


The software will now ask you to perform a number of "correct" artificial ventilations, depending on what you are calibrating.

The facilitator should follow the text cue on the screen to perform just ONE ventilation at a time, until prompted for the next one.




- The wizard prompts you with a "#1".
- Perform one correct artificial ventilation.

- A green filled oval indicates that the ventilation was successfully recorded.
- The wizard prompts you with “#2”.
- Perform a second correct artificial ventilation.
- A green filled oval indicates that the ventilation was successfully recorded.
- Continue the process as instructed by the screens.

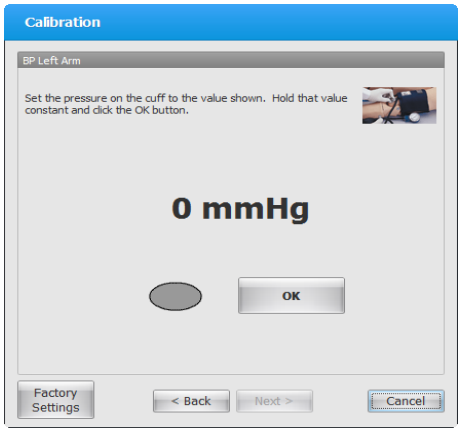
At the end of the calibrating session, the wizard shows the average peak, depth, and duration values for the procedure. If you feel you performed the procedures correctly, click the “Save” button. Otherwise, press the “Back” button to repeat the calibration. Notice that you can go back, abort or cancel at any time during the procedure.

## BLOOD PRESSURE CUFF

Blood pressure cuff calibration should be performed only when the Korotkoff sounds do not match the systolic and diastolic values set from the computer.

1. To calibrate, place the blood pressure cuff on the left arm.
2. Select which arm you will like to calibrate.
3. You will then be prompted to set the BP cuff to a certain pressure, hold that pressure constant, and press the “OK” button. Follow the text cue on the screen and repeat the procedure for each pressure level until “Done” is displayed.

For example, if calibrating the left arm:



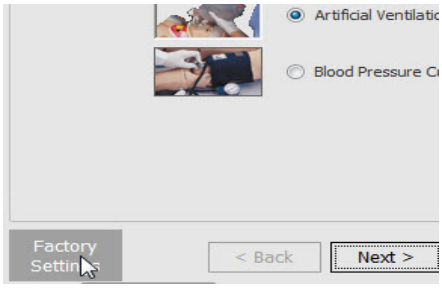

1. The wizard prompts you with “0 mmHg.”
2. Set the pressure on the BP cuff to 0 (i.e. cuff valve open).
3. Click the “OK” button.

A green filled oval indicates that the value was successfully set.

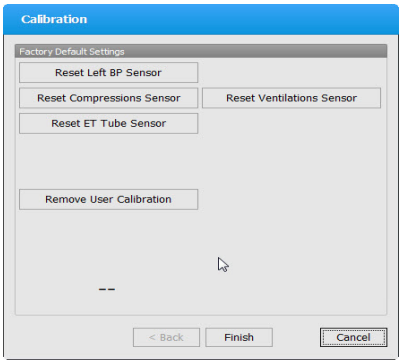
4. The wizard then prompts you with “20 mmHg”.
5. Set the pressure on the BP cuff to 20 mmHg.
6. Click the “OK” button.
7. A green filled oval indicates the value was successfully set.
8. Continue the process as instructed by the screens.
9. Once the prompt reads “Done”, go back and calibrate another function or click the “Finish” button to close the calibration wizard.

## FACTORY SETTINGS

Factory Settings is a very useful tool to consider when recalibrating. It restores the sensors to factory settings over-riding any calibrations performed by users.




Make sure that when you are restoring the sensors to the factory settings that no one is practicing chest compressions, ventilations, intubation or reading a blood pressure. Any of these actions may interfere with the reset. Each time that one of these sensors is clicked a message will appear at the bottom left of the screen notifying the user of the status of the reset (OK, or TRY AGAIN). Should the Sensor not respond, please refer to the troubleshooting guide or contact Customer Support.

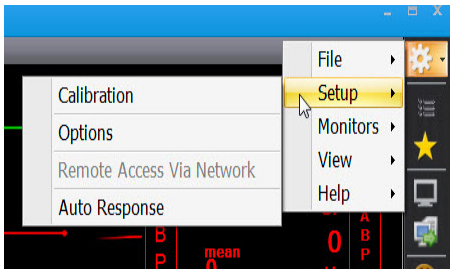



At the end of calibrating a function, the Calibration Wizard resets the simulator for the changes to take effect and displays the message “Done”. If the wizard displays the message “Can’t reset”, it simply means that the new calibration values will take effect next time you start the software. If the

changes need to take immediate effect, simply close the GIGA software, wait about one minute (for the simulator to turn off), and then start GIGA again.

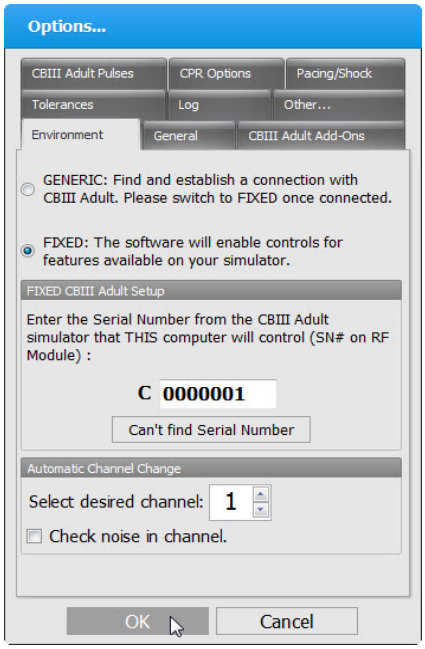
## OPTIONS

Navigate through the Options menu to configure software settings and enable additional features.



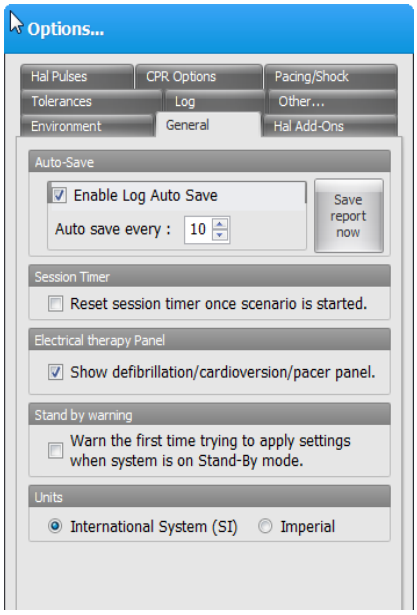

## ENVIRONMENT

The environment tab is used to configure the connectivity options. Select the “GENERIC” option to scan and connect to the nearest simulator. Alternatively, select the FIXED option and enter the simulator’s serial number to connect to a specific simulator only. The FIXED mode is required to enter activation code for upgrade features.




## GENERAL

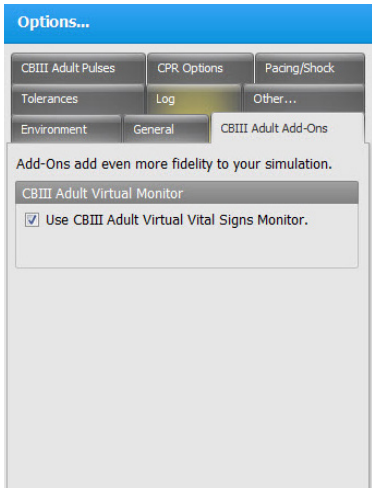
This tab allows the facilitator to:




- Enable auto saving of the log
- Save your current log report
- Enable stand-by warning
- Select units (SI or English)

## SIMULATOR ADD-ONS

Activation codes enable upgrade and additional software features.



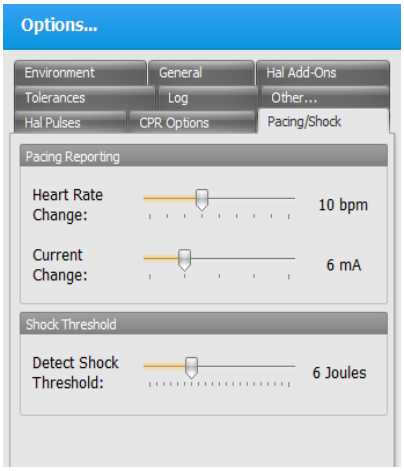

Activation codes are unique to the simulator’s serial number. Before entering a code to activate a feature, go to the Environment tab, set the connectivity mode to FIXED, and enter the simulator’s serial number.

- Simulator Virtual Monitor activation code

Add-ons will vary according to each simulator

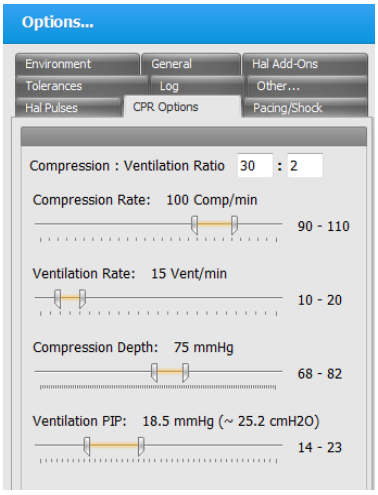
## PACING/SHOCK

GIGA can detect small variations in the heart rate and current during pacing. Each variation could trigger a programmed auto response or create a new entry in the log event. Adjust the threshold for each parameter so only the changes greater than the ones specified will be detected by the GIGA software.




## CPR OPTIONS

Configure the CPR trainer parameters to meet the most current CPR standards.

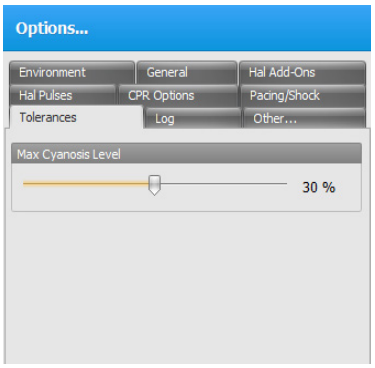



Use the controls in this window to adjust error margin allowed by the CPR intensity and rate:

- Set the number of compressions per minute
- Set number of ventilations per minute
- Set average of compression depth
- Set average of ventilation PIP (peak inspiratory pressure)

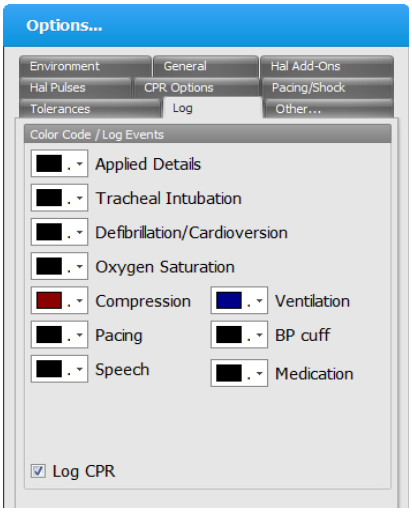
## TOLERANCES

Use the Tolerances to adjust the maximum cyanosis level.




## LOG

Log event text entries are color-coded. Use the log tab to customize the color of each log entry type. Also, select or deselect “Log CPR” to have CPR recorded in the Log window.



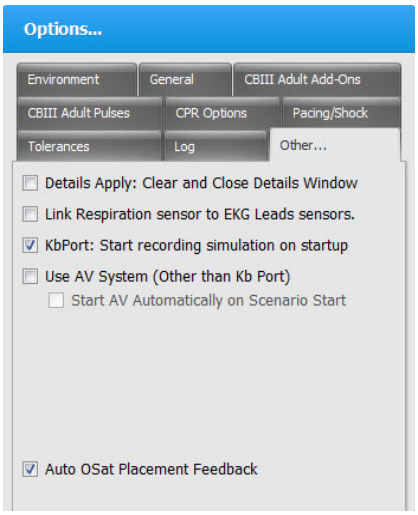

## OTHER

Checkmark “Details Apply: clear and close details window” to show the value of each palette’s vital signs parameter on the Details tab control fields.

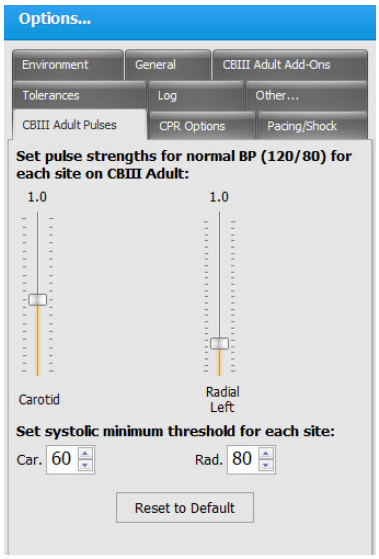
Checkmark “Link respiration sensor to EKG leads sensors” to generate artifacts with each compression.

Checkmark “Use AV system other that Kb Port” to display the audio and video configuration menu on the menu tab.

Checkmark “Auto Osat Placement Feedback” to detect the placement of an $O_2$Sat monitor on the left index.



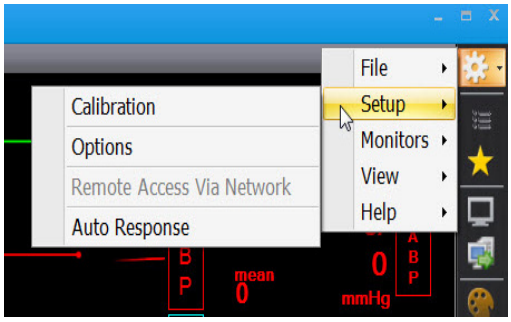

## CODE BLUE III PULSES




- Pulse Strength - Adjust the pulse strength control to fine tune the pulse intensity felt at a normal blood pressure.

## REMOTE ACCESS VIA NETWORK

The “Remote Access via Network” feature allows GIGA to communicate with the simulator remotely using the virtual monitor PC as the RF transmitter. The alternate configuration may provide better connectivity in environments with numerous walls or obstructions between the simulator and the control PC.




The USB RF module drivers must be installed on the virtual monitor PC before the “Remote Access via Network” feature can be configured.

Go to www.Gaumard.com to download the latest USB RF module drivers using PC with internet access. Do not connect the Virtual Monitor PC to the internet. Transfer the USB RF module setup file to the virtual monitor PC using a USB drive and complete the installation.

To configure the “Remote Access via Network” connection:

1. Connect the simulator’s USB RF module an available USB port on the virtual monitor PC
2. Verify that both computers are connected to the ad-hoc network (e.g. GaumardNet,)
3. Initialize GIGA on the tablet PC open the Remote Access via Network menu from the Setup menu
4. Select the Remote access via network radio button
5. Verify that Wireless Network Connection is selected from the adapter list
6. Click “Find available” to auto configure the port used for this connection
7. Write down the controller IP and port number, then click “Connect”
8. Navigate to the V menu on the virtual monitor computer and select “Remote access Via Network”

Please wait 30 seconds for the feature to initialize

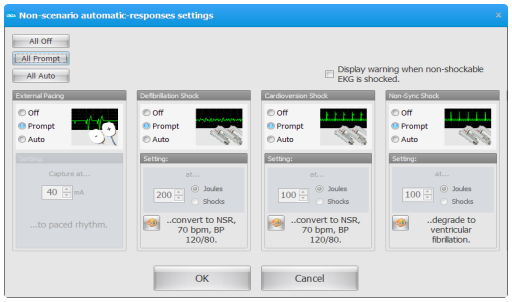
9. Enter the “controller IP” and “port number” as shown on step 7 and click “connect”

## AUTO RESPONSES

The Non-Scenario Automatic Response feature allows the facilitator to set preprogrammed responses to electrical therapy events. When the electrical therapy is detected, auto-responses can automatically load a specific palette

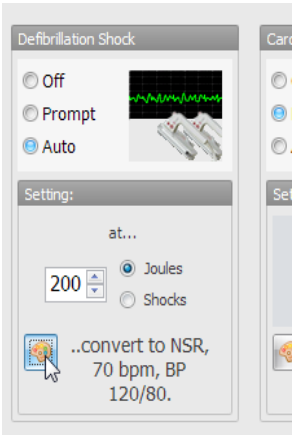
item or prompt the facilitator before making preprogrammed changes to the simulator's vital signs.

Non-scenario response settings detect electrical therapy administered when a scenario is not in progress. For information on how to configure auto-responses for use during a scenario, go to Scenarios section. To activate the virtual shock panel for administering electrical therapy virtually, go to Menu>Options>General.

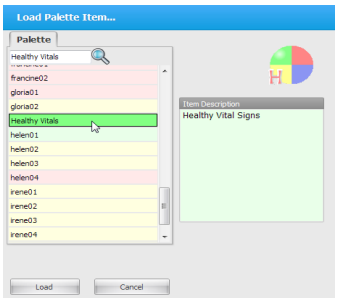



- The behavior of each auto response option is explained below:
- Off - The software does not respond to the electric therapy
- Prompt - The software detects the electrical therapy and prompts the facilitator before applying the changes configured in the "Settings" section.
- Auto - The software automatically detects the electrical therapy and compares it to a threshold selected by the provider. If the threshold is met, the vitals will automatically change to the parameters specified on the "Settings" section.

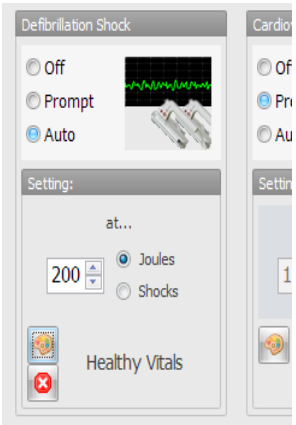
Each type of electrical therapy has a unique set of default parameters. For example, the default response to a defibrillation Shock applies the following vital sign parameter changes: NSR, 75 bpm, BP 120/80. Click the palette button to program a specific palette item as an auto-response.




Select the desired palette from the "Load Palette Item…" window and click "Load".



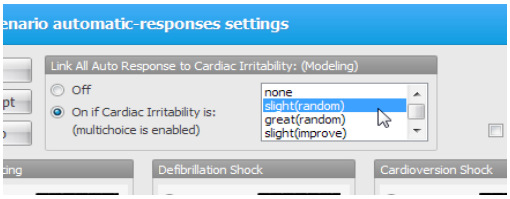

The defibrillation shock auto-response is now configured apply the "Healthy Resting" palette if a virtual defibrillation shock of 200 Joules or greater is detected. The programmed response palette is listed in the "settings:" panel.



## AUTOMATIC MODE NON-SCENARIO AUTOMATIC RESPONSES

The “Automatic Mode non-scenario Automatic Responses” are unique to the automatic mode.

Link All Auto Response to Cardiac Irritability - Auto-responses will work only if the cardiac irritability option on the details page matches the selection on this window.




An event prompt is displayed if electrical therapy is detected and the cardiac irritability set does not match the selection on the responses window.

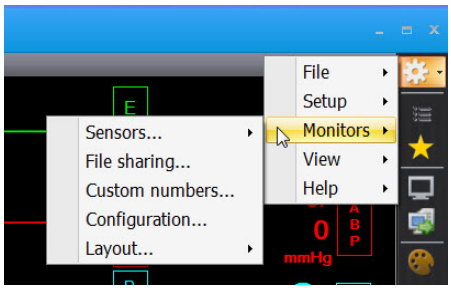
Drug Model Effect – Configure the auto-response behavior for drug administration.

- Auto – Apply the drug effects based on medication’s programmed properties and dosage
- Prompt – Display a confirm prompt before applying the drug’s effects

The tallest bar represents the strongest channel.

## MONITORS

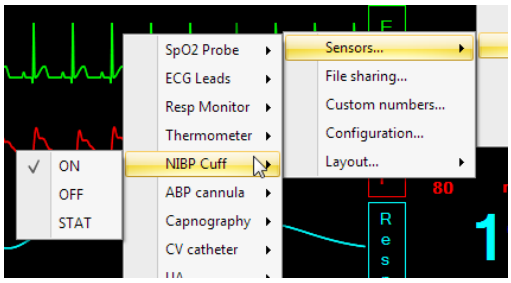
Use the Monitors drop down menu to enable/ disable sensors on the virtual monitor screen, share files, program custom scalars, and verify the connection between the GIGA and Gaumard Virtual Monitor software.




If the “Monitors” drop down is not showing, go to Setup>Options> Add-ons, and checkmark “Use Virtual Vital Signs Monitor.”

## SENSORS

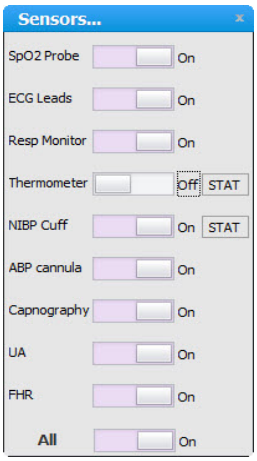
Use the sensors option to enable or disable any of the waveforms displayed in the vital signs monitor. Select the waveform and click “ON” to display the readings on the virtual monitor screen. To disable a parameter reading, click “OFF”. The vital signs monitor sensors defaults to “All On.”




Some sensors, such as NIBP and Thermometer feature a STAT control that will allow the facilitator to activate readings on the virtual monitors from the controller software.

## SENSOR CONTROL WINDOW

The sensor control window is a floating panel with on/off toggle controls. Click Monitors> Sensors> Window to open the floating sensor control panel.




Move the slider to enable or disable the sensors displayed on the virtual monitor screen. The sensor will show up as ON or OFF. In the example above, all the sensors are on except the thermometer.

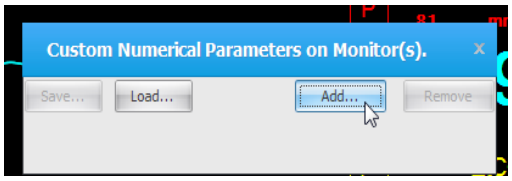
## FILE SHARING

The file sharing menu allows the facilitator to send images, audio, and text files to the virtual monitor screen. Refer to “File Sharing” section above for more information.

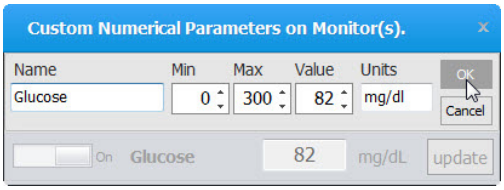
## CUSTOM NUMBERS

Use the custom numbers feature to add custom numerical parameters to the Gaumard Monitors screen. For example, glucose levels or platelets count.

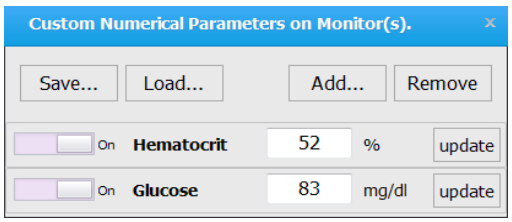
On the GIGA menu bar click Monitors>Custom Numbers to open the “Custom Numerical Parameters on Monitor” menu. Click the “Add” button to create a new parameter.

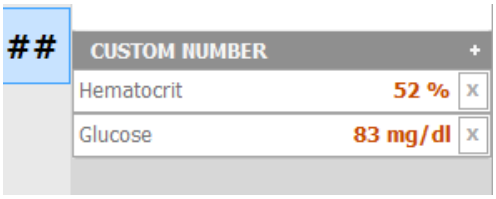



Type the name, minimum value, maximum value, initial value and units of the new parameter and then click “OK”.

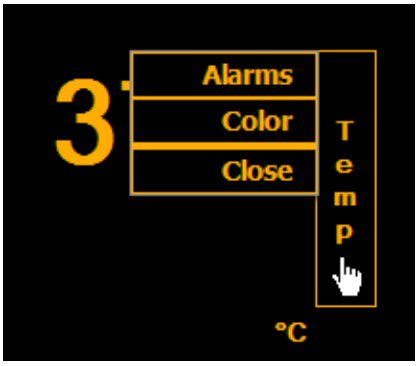



The scalar parameter is now created. The user can either enter a value for the parameter and click “Update”, or modify the value from the STATUS/DETAILS control

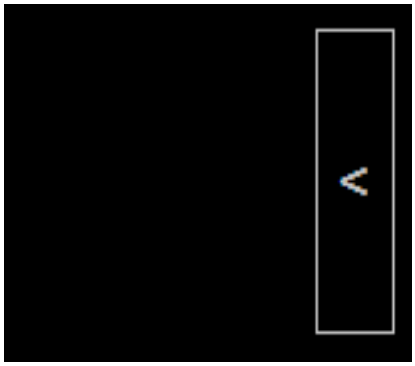


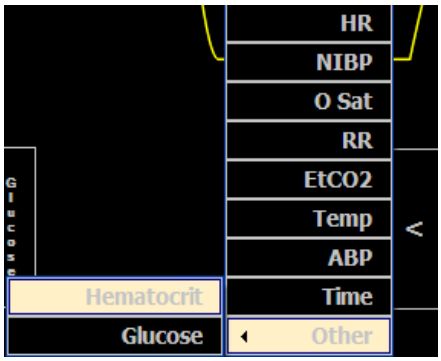

On the virtual monitor screen, click on a scalar’s menu and select “Close” to make the entry available for the custom parameter.




The scalar entry is now a blank field.



Click on the empty scalar menu and select “Other” from the list of available scalar parameters. Select the name of the custom parameter.

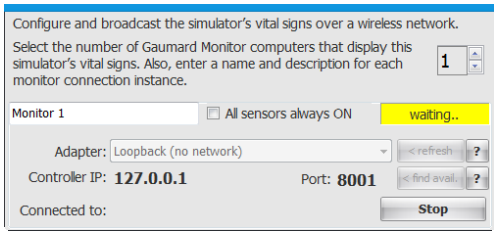



The figure below shows two new values: Glucose level and hematocrit levels. Return to the custom

parameter menu on the GIGA software to update the values when necessary.


## CONFIGURATION

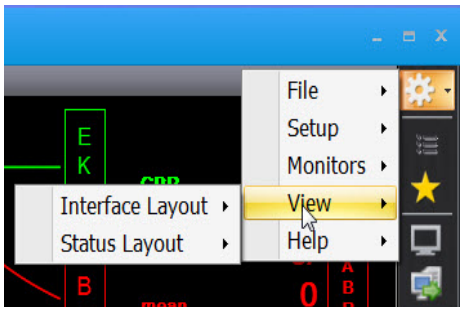
On the GIGA menu bar, click Monitors>Configuration to open the "Virtual Monitor Setup" window. Use the setup window to verify the connection between the GIGA software and the Gaumard Monitors vital signs software, re-configure the communication ports, and view the controller IP address. To troubleshoot connectivity issues between the two computers, please refer to the Appendix section.




## VIEW

Modify GIGA's modular interface design to accommodate specific simulations or exercises.

For example, a facilitator may prefer to just view certain detail windows, panels and tabs related to scenarios building in order to program scenarios efficiently. Outlined below are the options for customizing the GIGA layout.

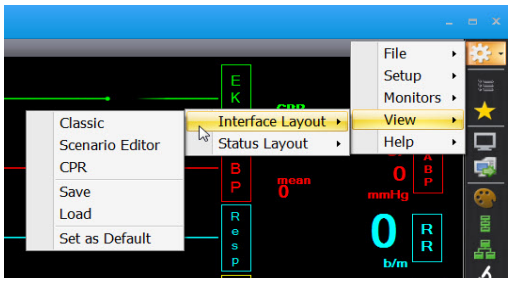



## INTERFACE LAYOUT

The interface layout refers to the size, position and type of panels and tabs in the GIGA environment.

## DEFAULT INTERFACE LAYOUT OPTIONS

Change quickly between built-in interface layouts using the View>Interface Layout.




## CLASSIC

Select the Classic option to revert the layout to the original state built in to GIGA.

## SCENARIO EDITOR

The Scenario Editor includes panels and tabs necessary when building new scenarios.

## CPR

The CPR layout allows the facilitator to monitor vital signs and the CPR trainer as the student performs exercises.

## SAVE

Select "Save" to store the custom layout. Enter a description and click OK.

## LOAD

Select Load to access and load any of the layouts previously saved.

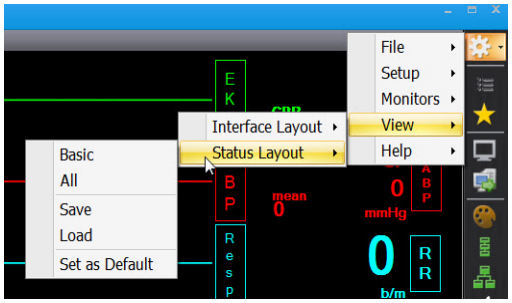
## SET AS DEFAULT

Use the "Set as default" option to automatically load the current interface layout upon startup.

## STATUS LAYOUT

The second layout option is used to modify and store the status/details panel elements. This

refers to the model view, detail window positions and parameters.




## BASIC

Select the Basic option to view common detail window controls.

## ALL

To view all the detail windows and parameters available, select ALL. If viewing all the controls, it is recommended to expand the size of the status/ details panel so the details windows can fit.

## SAVE

Select Save to store the custom status layout. Enter a description and click OK.

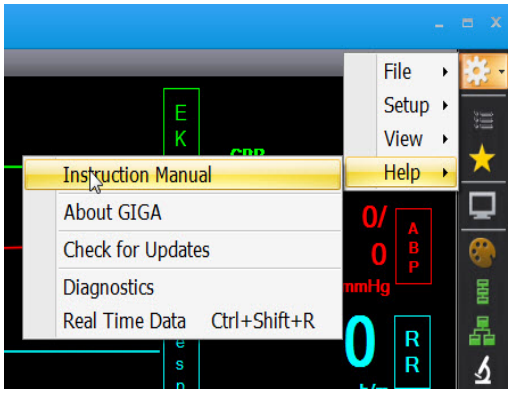
## LOAD

Select Load to access any of the status layouts previously saved.

## SET AS DEFAULT

Use the "Set as default" option to automatically load the current status layout upon startup..

## HELP




## INSTRUCTION MANUAL

Click the Instruction Manual option to open a digital copy of the latest "User Guide" information.

## ABOUT GIGA

Click "About GIGA" to view the software version.


## CHECK FOR UPDATES

Redistributable GIGA installer files are available for download at http://www.gaumard.com/ software-updates/.

To update the GIGA software using a flash drive:

1. Download the update file to a flash drive using a computer with internet access
2. Copy the setup file to the simulator's control computer
3. Run the GIGA update file to update the software

**Do not change the wireless network settings. Doing so will disconnect the virtual monitor computer and the Gaumard Monitors vital signs software.**

To update the GIGA software using an Ethernet connection:

1. Connect an Ethernet cable to the laptop PC.
2. Click "Check for Updates".
3. Click "Install" to begin the update. The download progress bar begins to auto-fill as the setup file is downloaded

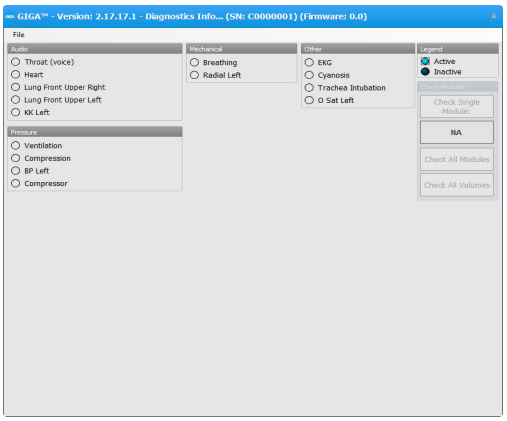
After the download is complete, the update setup wizard is launched automatically.

4. Click “Next”, and follow the wizard to complete the software download.

## DIAGNOSTICS

The diagnostics menu is used to test the status of electronic and mechanical components in the simulator.

Click “Check all Modules” to run a full systems check. Active modules report blue. Modules that are inactive or not installed report black.



# Code Blue® III Adult Features

# Airway

## NASAL AND ORAL INTUBATION

The Code Blue III Adult's airway can be intubated orally using endotracheal tubes and nasally using a nasogastric tube or nasopharyngeal tube. The simulator also allows providers to use a LMA. In addition, anatomical landmarks on the simulator permit the completion of the Sellick's maneuver.

| Procedure | Recommended Device Size |
|---|---|
| Intubation (Blade size) | Miller 4 or MAC 3.5 |
| LMA | Size 4 or 5 |
| Nasal Intubation | 8 mm outer diameter max |
| Oral Intubation | ETT 7 or 7.5 |

Intubation and ventilation of the esophagus leads to visible gastric distension.

**WARNING**

**The nasogastric intubation feature is used for placement and removal techniques. Fluids can be inserted through nasogastric tubes.**

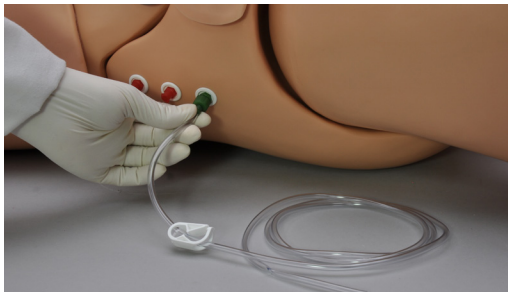
**Ensure that the drainage tube (green port) is in place when large amounts of fluids are introduced**

**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 mineral oil directly into the mouth and airway.**

## DRAINAGE TUBE

To connect the drainage tube, locate the green port situated on the right side of the simulator. Color match the draining tube to port.



## 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.

## AIRWAY SOUNDS

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

# Breathing

## BILATERAL CHEST RISE

Bilateral chest rise and fall is automatic. Use the software controls to adjust the breathing rate and the inspiratory percentage.

## BREATHING PATTERNS

Control the respiratory rate, pattern, and inspiration percentage using the software controls. The breathing patterns are synchronized with the lung sounds and chest rise.

## LUNG SOUNDS

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

## VENTILATION

Practice BVM techniques using an adult sized mask having a thick seal.

Ventilate via endotracheal tube with manual or mechanical ventilation.

Bilateral lung expansion is perceived with realistic chest rise.

Ventilations are measured and logged.

## 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 cm or inches.

Proper chest compressions during CPR result in palpable carotid and femoral pulses.

# Cardiac

## HEART SOUNDS

Code Blue III Adult is equipped with realistic heart sounds (normal, distant, systolic murmur, S3 and S4) which are tied to a user defined heart rate and selectable rhythms

## ECG MONITORING

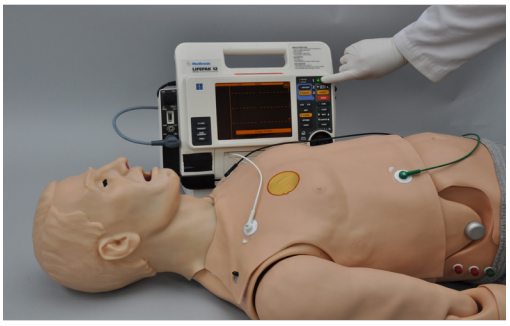
One of Code Blue III Adult most exciting features is the accommodation of real monitoring. In most cases, no special instruction is necessary to use such devices. The Adult's conductive skin sites allow the attachment of real ECG electrodes.

This feature permits the user to track cardiac rhythms with their own equipment just like with a human patient.

## INSTRUCTIONS FOR USE

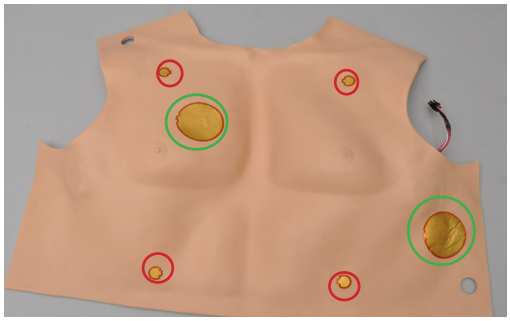
1. Turn on the simulator. Refer to the Equipment Set-Up section.
2. Connect the ECG lead wires on the Adult's ECG sites.

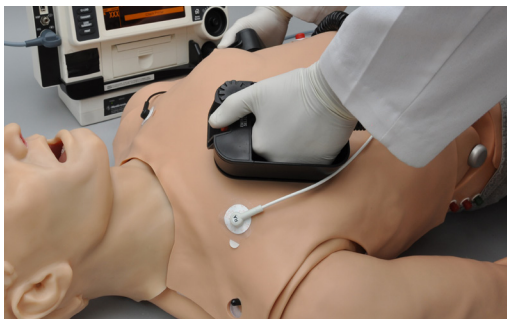
3. Turn on the ECG monitor.



## ELECTRICAL THERAPY

Defibrillation is only allowed on the large sternum and apex sites, circled GREEN below. NEVER deliver a shock to ECG electrode targets on the shoulders or waist, marked RED below. Doing so will not create a fire hazard, nor is there risk of shock to the provider, but internal damage in Code Blue III Adult may result. This situation is considered improper use and is NOT covered by the Code Blue III warranty.

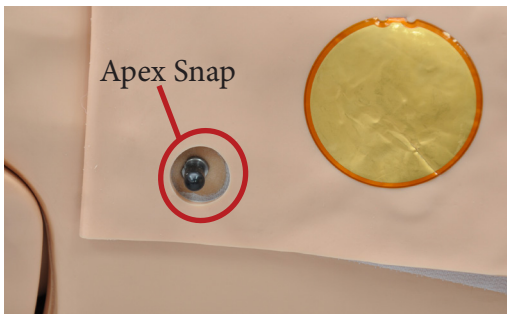


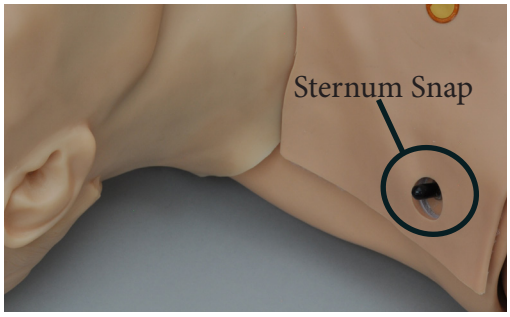


There are inherent dangers in the use of some medical devices. For simulations that incorporate electrical therapy of any kind, always know your equipment, and follow the device manufacturers' safety guidelines.

## SNAP CONNECTORS

The chest skin snap connectors and "Snap Adapter Cable" allow providers to deliver electrical therapy at the sternum and apex sites without the use and frequent replacement of pads or patches.






| Feature | Maximum |
|---|---|
| Defibrillation | 360 Jules |

The snap sites provide the same electrical therapy functionality as the gold patches. This includes a detectable heart rhythm, cardioversion, pacing, and the detection of electrical therapy by the Gaumard software.

The snap connections are only functional when the internal “Defibrillation snap harness” is installed between the ECG module connector and the chest skin connector.

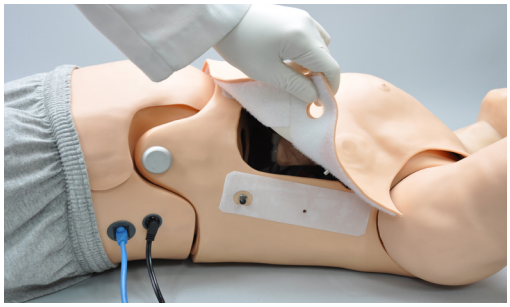
When the “Defibrillation snap harness” is connected, the chest skin sternum and apex gold patches are disabled.

**The sternum and apex gold patches on Code Blue III Adult’s chest skin are connected as a standard.**

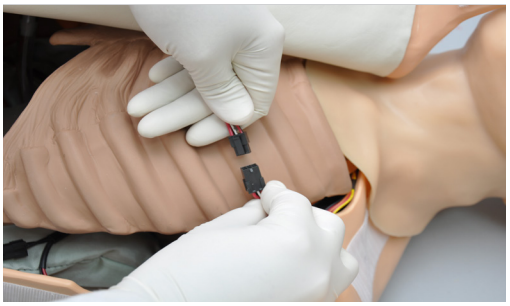
To install the defibrillation snaps and enable snap sites follow the instructions:

To install the defibrillation snaps and enable snap sites follow the instructions:

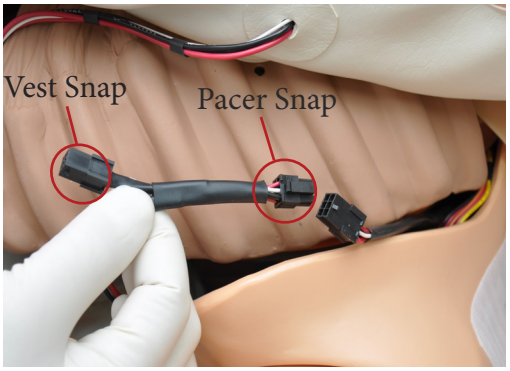
1. While the simulator is off, carefully unfasten the chest skin on the left side.



2. Press down on the black clip and disconnect the chest skin (vest) from the ECG module (pacer).

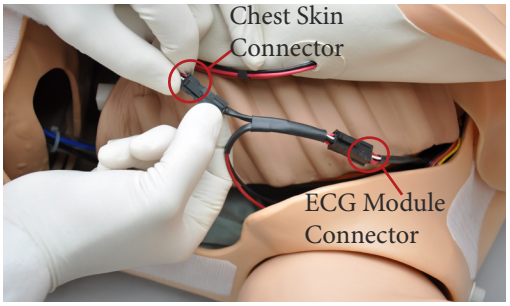


3. Connect the defibrillator snap harness to the chest skin and ECG module connectors

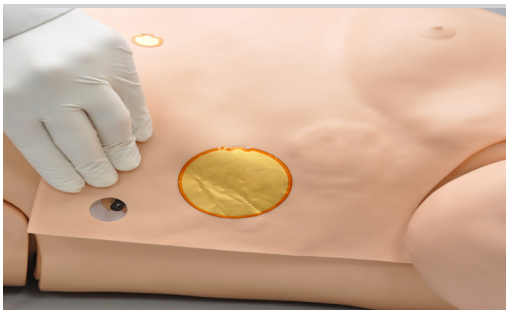



Notice that the defibrillator snap harness has two end-connectors labeled as “Pacer Snap” and “Vest Snap”.

The pacer snap connects the ECG module connector, and the vest snap connects to the chest skin connector.



4. Tuck the cables back into the cavity.
5. Insert the skin's placement pin into the guiding hole located on the Velcro®.



To re-enable the gold patches, disconnect the defibrillation snaps and re-connect the chest skin.

## USING THE SNAP CONNECTORS (OPTIONAL)

The "Snap Adapter Cable" connects to a real defibrillator and carries electrical therapy energy to the snap sites. The snaps are color coded to identify the apex and sternum placement.

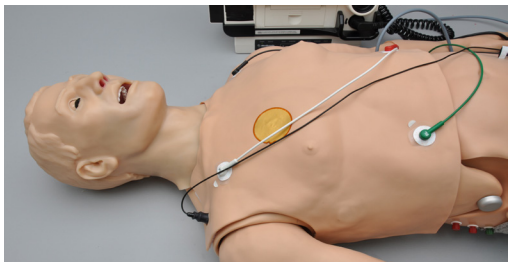
Gaumard manufactures a variety of modified snap adapter cables compatible with most electrical therapy devices. For more information about snap cables for a particular defibrillator, please contact Gaumard.

| Snap Cable Adapter | Location |
|---|---|
| Red Connector | Apex Snap |
| Black Connector | Sternum Snap |

To use the Snap Cable Adapter:

1. Remove the snap connector covers at the apex and sternum sites.

2. Connect the "Snap Adapter Cable" to the defibrillator.
3. Connect the red snap connector to the apex connector.
4. Connect the black snap connector to the sternum connector



**WARNING**

**The snap adapter cables carry real energy. Handle the snap adapter cables with the same care and precautions used with real pads and patches and follow the same directions included with the defibrillator's "directions for use" documentation.**

**Do not apply electrical therapy or deliver a shock while holding the snap connectors or while the snap connectors are disconnected from the simulator.**

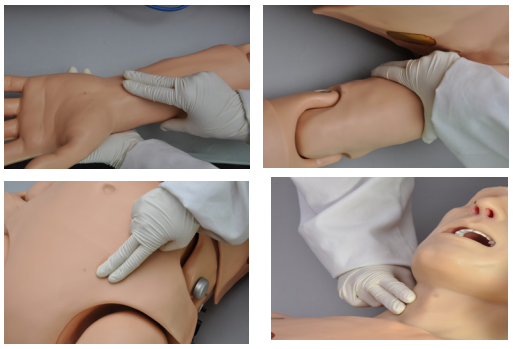
**Only deliver electrical therapy when the simulator is fully assembled, dry, and undamaged.**

**Do not use damaged snap adapter cables, connectors, or medical equipment.**

# Circulation

## PALPABLE PULSES

The Code Blue III Adult is equipped with multiple automatic pulse sites that operate continuously. Pulses are located left (brachial and radial) and bilateral carotid and femoral pulses.



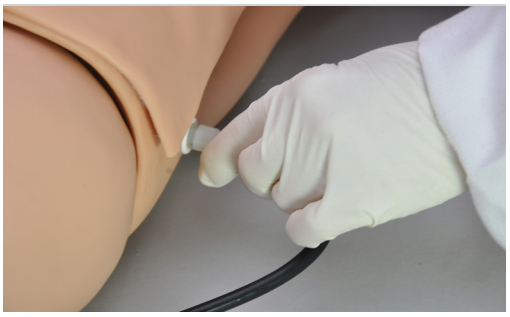
Pulses are synchronized with the ECG and dependent on blood pressure

## PROGRAMMABLE BLOOD PRESSURE

Programmable blood pressure can be read on the left arm using a modified sphygmomanometer. In addition, users can auscultate the Korotkoff sounds programmed by the software.

### CONNECTING THE MODIFIED CUFF

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



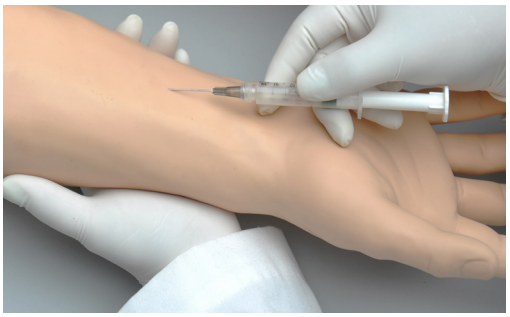
2. Connect the Luer-Lock fitting on the end of the modified BP cuff extra branch to the Luer-Lock port on Adult's left shoulder. Some facilitators prefer to make this connection before commencing a simulation session.

**INFORMATION**

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

## INTRAVENOUS EXTREMITIES

The Code Blue III Adult 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.**

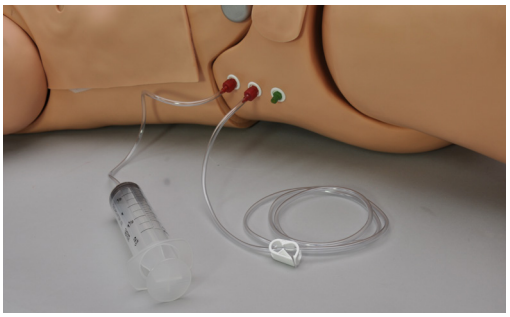
**Use only Gaumard's provided simulated blood. Any other simulated blood brand containing sugar or any additive may cause blockage and/or interruption of the vasculature system.**

## FILLING THE VASCULATURE

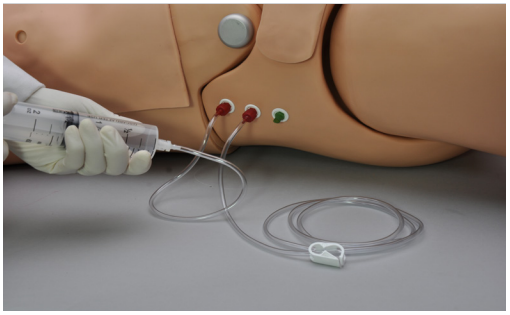
1. First, locate the fill syringe with tubing and the drain tube with pinch-clamp (included in your simulator packaging). Fill the syringe with the desired fluid - water or simulated blood.

The red ports, located on the right side of the simulator, are used for filling and draining the IV system.

2. Connect the fill syringe to one port and the drain tube to the other port as shown.



3. Leave the drain tube clamp opened and depress the syringe until all air has been purged from the IV system and fluid runs from the drain.



To simulate a patient with no accessible peripheral IV sites, connect only the syringe. Pull the plunger to create suction, which will collapse the veins. Disconnect the syringe tube from the port on the torso while maintaining suction. The port will seal, and the veins will remain collapsed.

For simulation of high volume infusions, it is necessary to leave the drain tube attached to the simulator. Place the distal end of the tube in a suitable outlet or container.

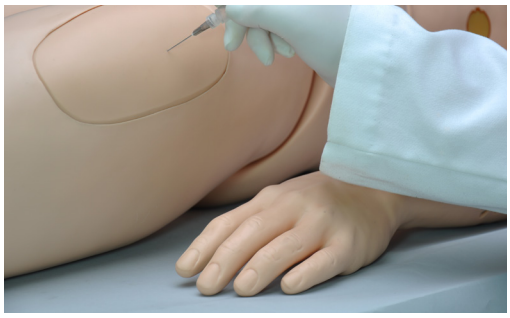
# Systemic

## INTRAMUSCULAR INJECTION SITES

IM sites on both deltoids and quadriceps for placement exercises.

**WARNING**

**Do not inject fluids into the intramuscular sites.**



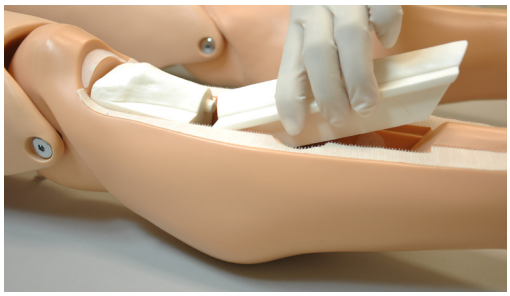
## INTRAOSSEOUS ACCESS

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 Adult.

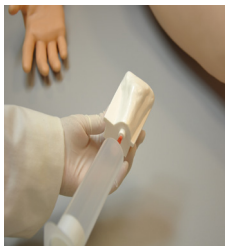
The following procedure describes how to use the I/O access feature:

1. Remove tibia cover from the right leg to access the two part tibia.

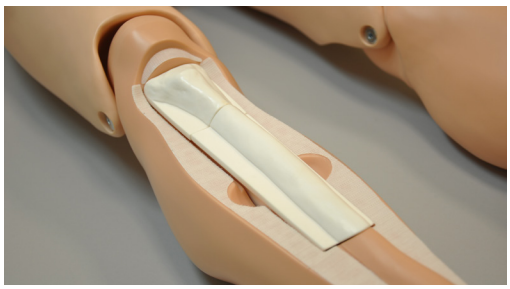
2. Gently remove both halves of bone, starting with the lower half



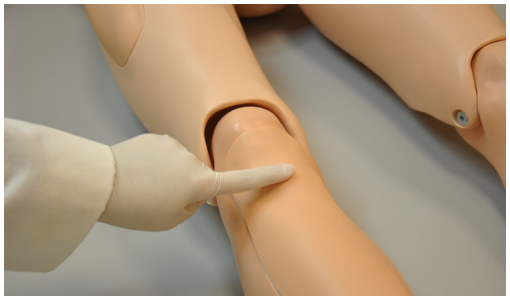
3. Fill the upper and lower half of tibia with fluid.



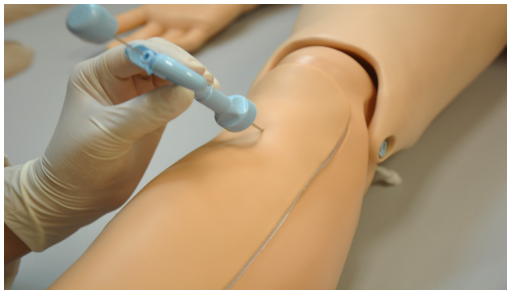
4. Replace tibia bone in the leg.



5. Re-attach the tibia cover.
6. Palpate the tibial tuberosity.



7. Insert the bone aspiration needle below the 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 reservoirs after every simulation.**

# Cephalic

## CENTRAL CYANOSIS

Activate central cyanosis and adjust the intensity using the GIGA application.

# Other

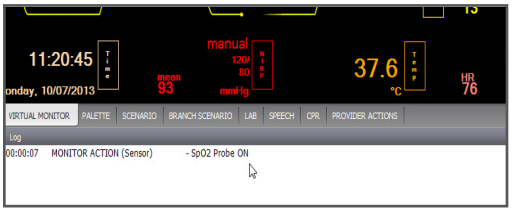
## O2SAT MONITOR PLACEMENT DETECTION

The Code Blue III Adult can detect the placement of an $O_2$Sat monitor on the left index finger. Once the $O_2$Sat monitor is detected, the Virtual Vital Signs software will display the $O_2$Sat value programmed by facilitator on the Gaumard User Interface. Please note that a reading will not be available on the $O_2$Sat monitor itself.

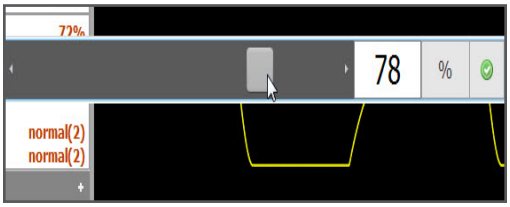
## INSTRUCTIONS FOR USE

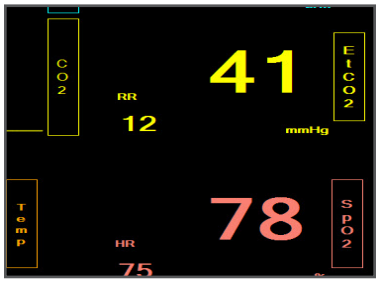
1. Start the Code Blue III Adult and wait until a connection is established.
2. Turn on the oximeter monitor.
3. Place the finger probe on the left index of the simulator.

The log will report when the $O_2$Sat sensor is placed on the simulator.




4. Set the $O_2$sat value from the GIGA control panel and the vital signs monitor will display the chosen value.



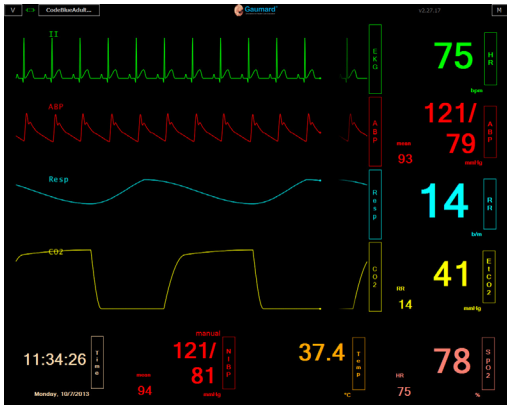




## SPEECH

Code Blue III Adult has over 80 pre-recorded expressions. The collection of speech and other sounds was chosen to cover a wide range of simulated emergencies. Use the GIGA software to activate speech.

## VIRTUAL VITAL SIGNS MONITOR (OPTIONAL)

The Gaumard Virtual Vital 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 GIGA, please refer to the Appendix.

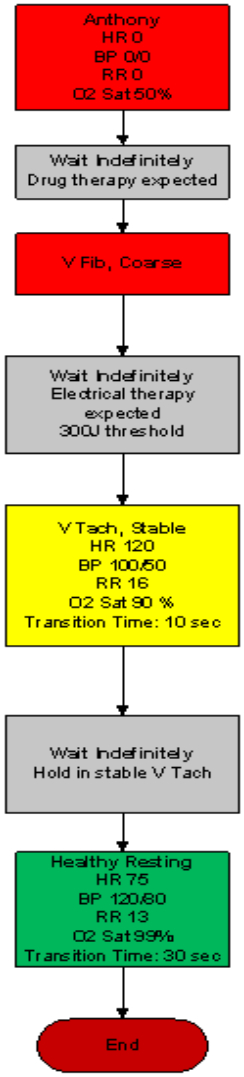


# Appendix

# Factory Preset Scenarios Flowcharts

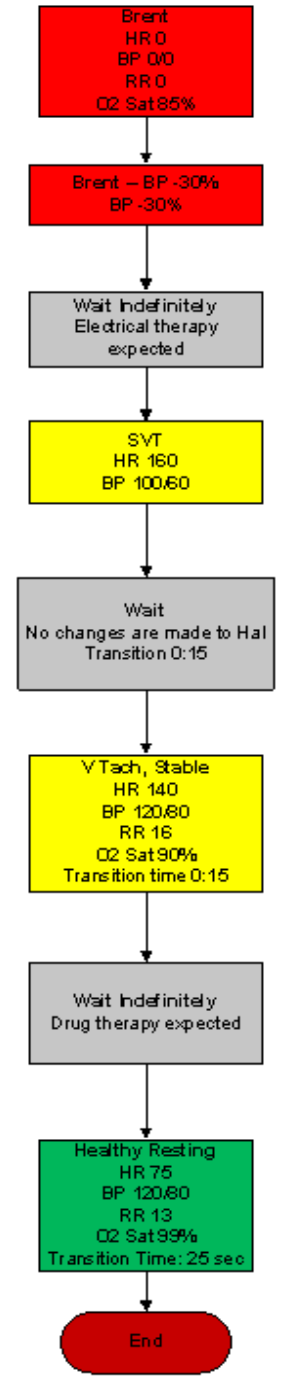
## Anthony

77-yr old man is found pulseless and apneic.



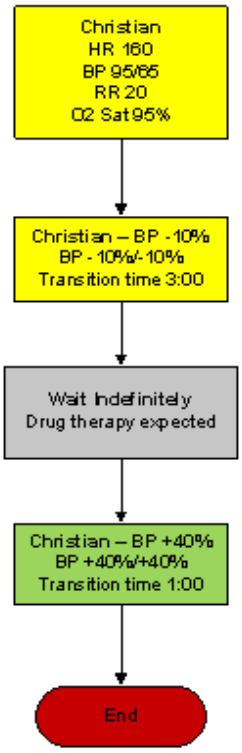
# Brent

55-year old male complains of substernal chest pain radiating to the jaw. Patient is diaphoretic, trembling, and has a waxing and waning mental status.



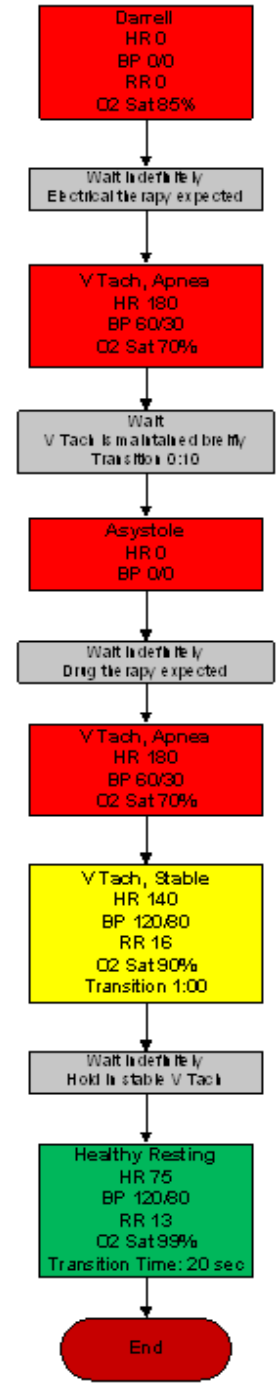
# Christian

18-yr old college freshman calls EMS after taking a caffeine preparation prior to exams. He is short of breath and says that his heart is "beating fast and funny."



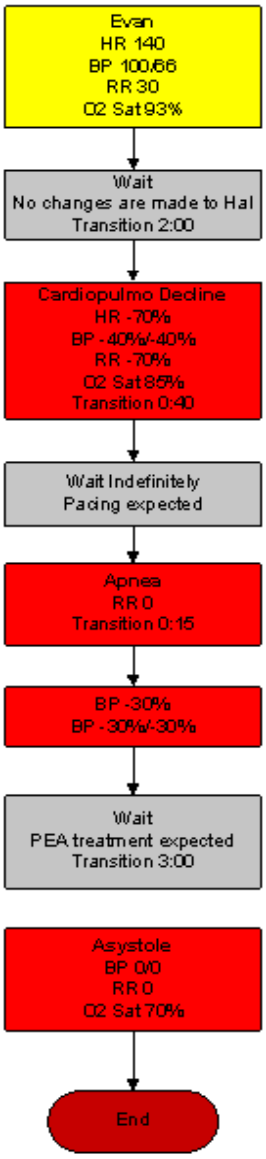
# Darrell

65 year-old complains of dizziness and shortness of breath. He has a history of emphysema and does not know how much "breathing medicine" he has taken. During the interview, his eyes roll back and he slumps in his seat, unresponsive. (No peripheral IV sites are available.)



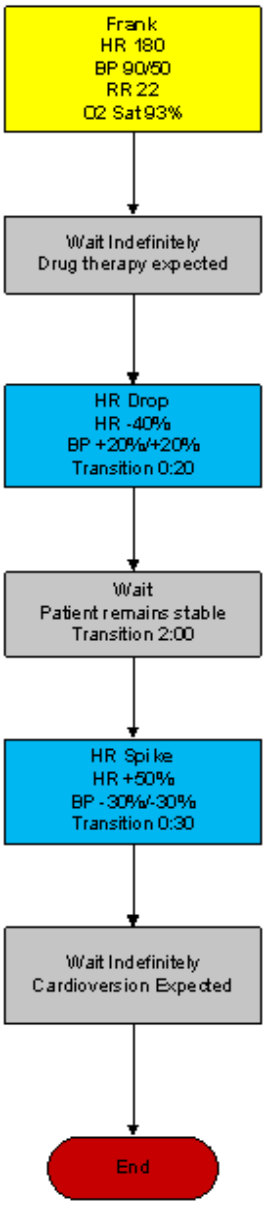
# Evan

72 year-old is found tachycardic and tachypneic. He is disoriented and barely responsive. Patient's wife says that he has both heart and lung trouble and that they have been unable to afford his medicine in the past month. (After "apnea" item, facilitator should set scenario auto-response to pacing to "none" to simulate loss of capture.)



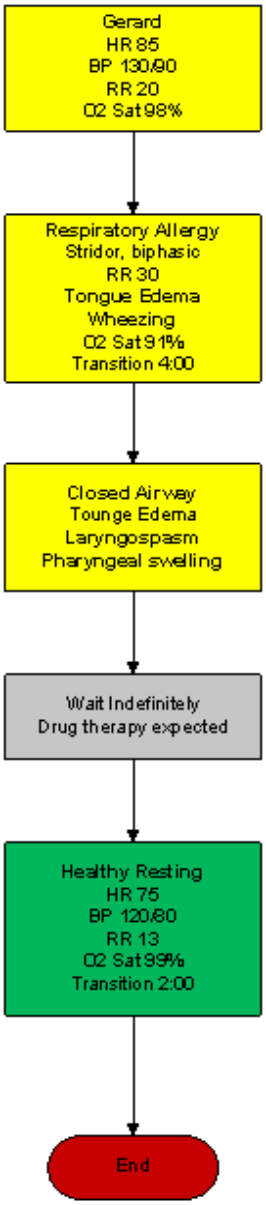
# Frank

50 year-old found at home complains of weakness and fatigue. He is conscious and alert but slightly short of breath. An empty bottle of digoxin sits on his bedside table. (He will claim not to have taken any in several days. Pharmacological rate control will only be effective briefly.)



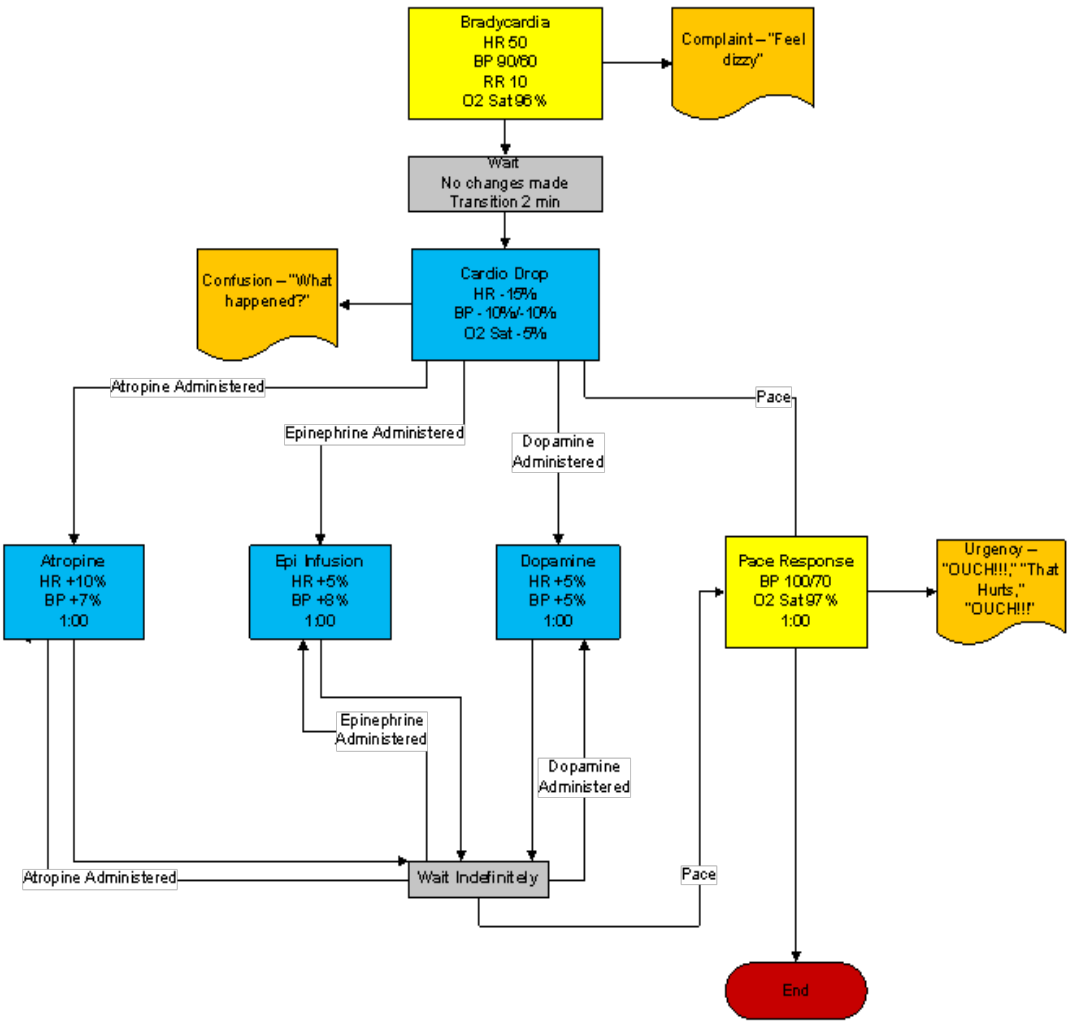
# Gerald

35 year-old man calls for help at local restaurant after onset of alarming respiratory symptoms. (Patient experiencing allergic reaction to food, asthma attack, or exposure to inhaled toxin.)



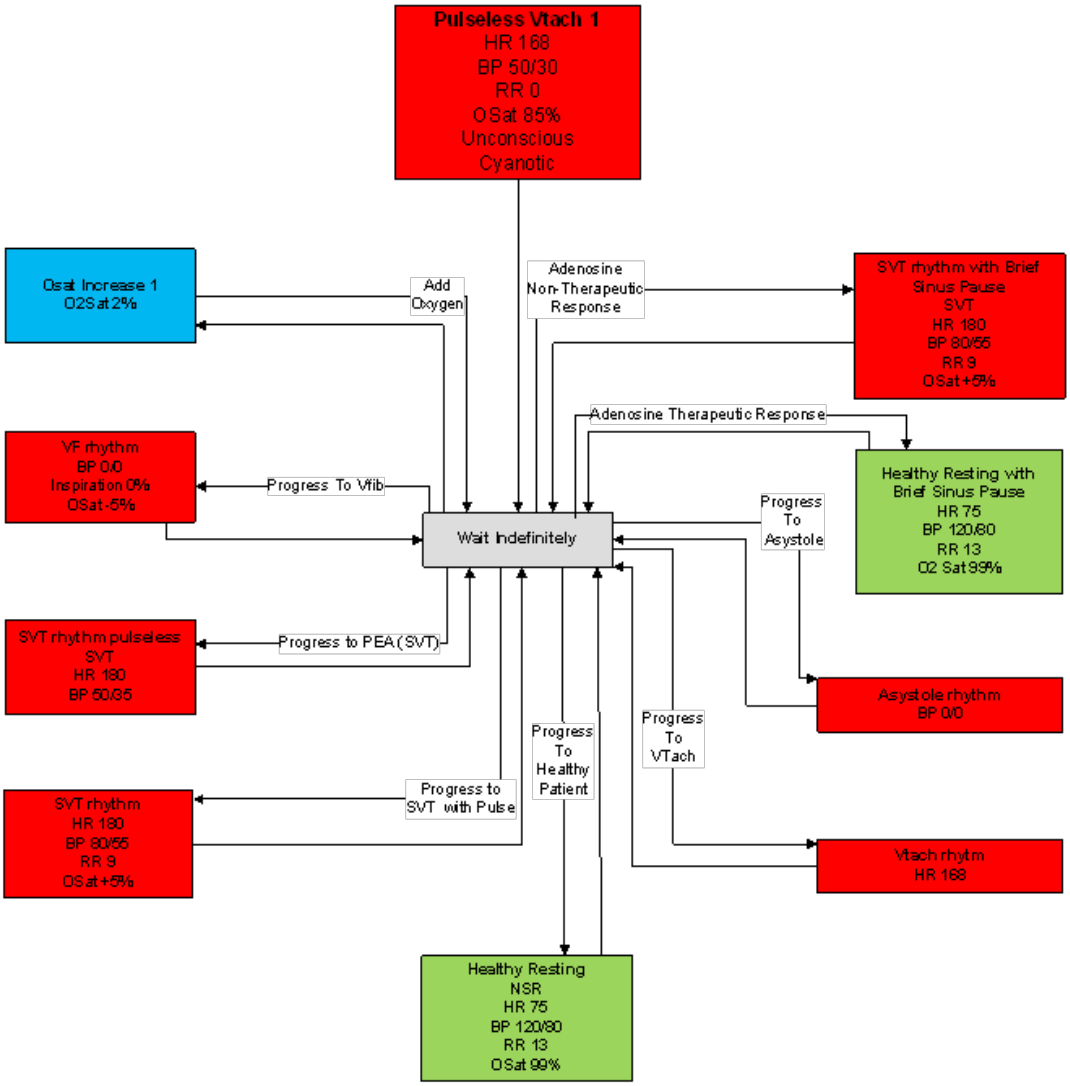
# Bradycardia

An in-hospital patient is diagnosed with Bradycardia and requires immediate attention.
Note: for this scenario to function as intended the instructor should enable automatic pacing capture in the 'Setup -> Auto-Responses' menu.



# Pulseless Arrest

A young male was found unconscious.



# 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 Adult, and all other settings will remain constant. So, by starting with a complete state, Code Blue III Adult 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 Adult 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.

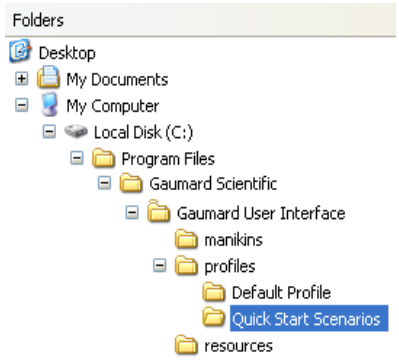
Some teaching practices are best done with the auto-response settings in Prompt mode. Responses must be triggered by a vigilant facilitator. Though it is slower and requires more attention, the benefit of Prompt over other modes is that the simulation can be allowed to go in any direction, and it will 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 GIGA 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 GIGA 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 |
|---|---|---|
| "Communication module not found" message is displayed when GIGA is started | Communication module not connected | Connect the Communication module to laptop's USB port. |
| | Communication module not identified by the computer | Close the software and try disconnecting the Communication 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 "Communication 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 |
| Artificial ventilations are not properly detected or not detected at all | Is the communication icon empty? | See solution above in section making reference to "Communication 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.<br><br>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. |

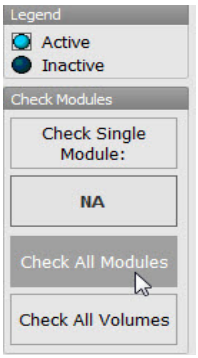
# Diagnostics

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".

You can also check individual modules 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.

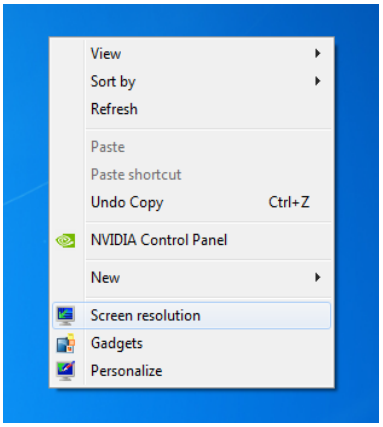
# Connecting to the Gaumard Monitors

To connect the virtual monitor to the GIGA, you must have the laptop joined to the additional monitor, and you must properly the extended monitor. The section below describes in detail how to do both of these things.

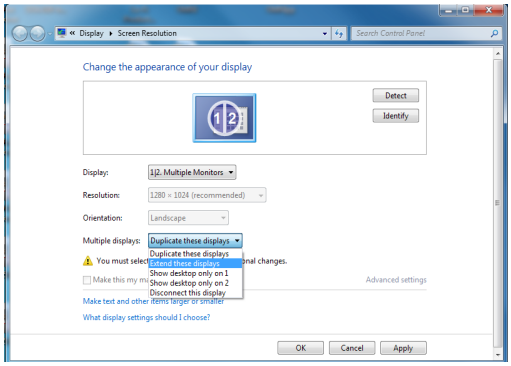
## ENABLING DUAL DISPLAY

The Code Blue III Adult 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.

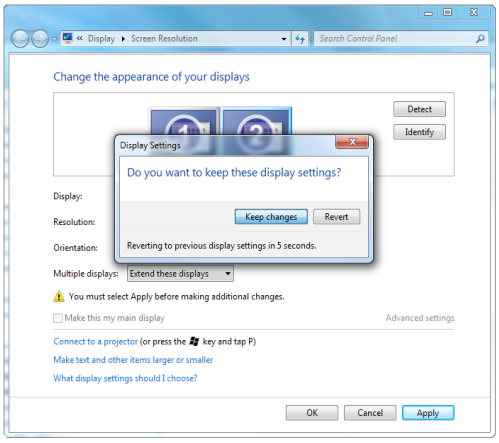
1. Right-click the desktop, then click "Screen resolution".



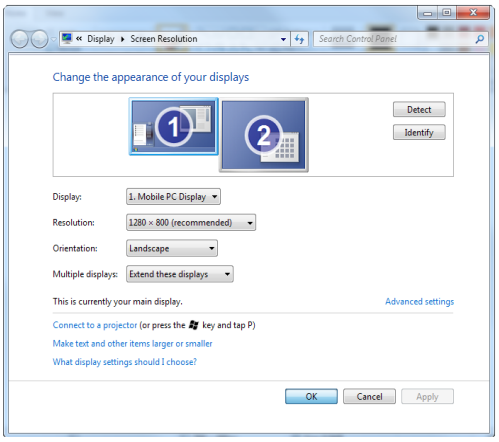

2. From the "Display Properties" window, navigate to the Multiple displays drop-down menu.




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.



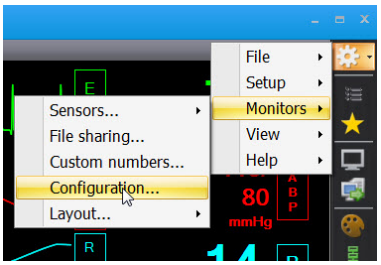

The screens diagram will show that both screens are enabled.



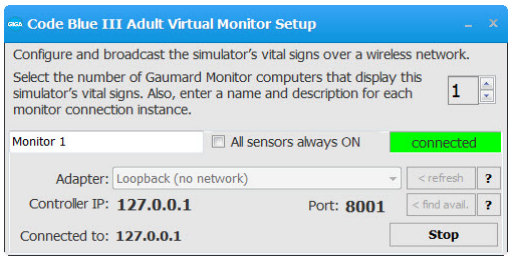

5. Click “OK” to save changes.

## CREATE AN EXTENDED MONITOR CONNECTION

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

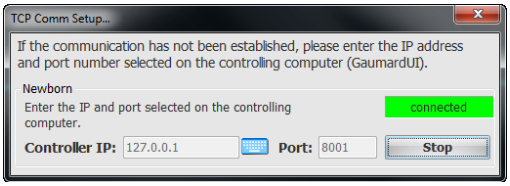



6. On this window, select the “Adapter” you will be using (Loopback (no network)).




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

7. 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:

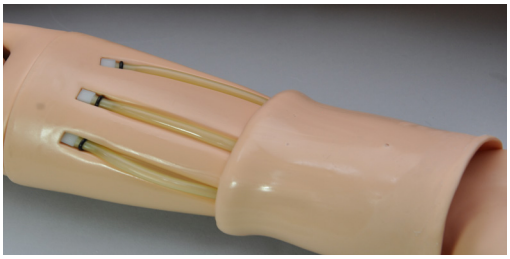
### GATHER THE FOLLOWING ITEMS:

- Replacement vein set
- Mineral oil
- Heat gun or blow dryer
- Hemostat

### REPLACING THE IV VEINS

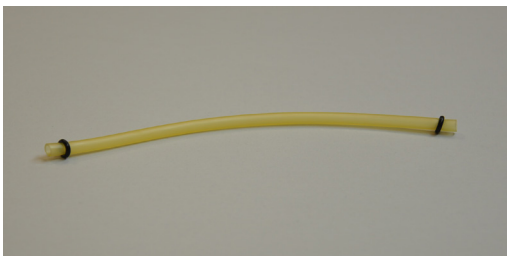
1. Attach the drainage tube to the red port located on the right side of the simulator, and purge the system.
2. Gently heat the arm skin

3. Pull back the skin from the lower right arm and remove it completely.

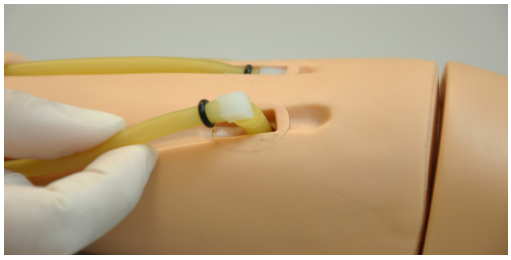


4. To replace the anterior veins of the arm, gently pull out the veins from each white connector as shown below.

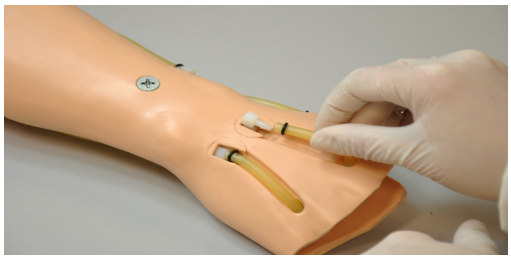
5. Remove both black rings on the tubes and place them on the replacement veins



6. Insert the replacement veins to each white connector, and secure the veins with the black rings.



7. To replace the dorsal vein of the hand, gently pull out the vein from the white connectors.



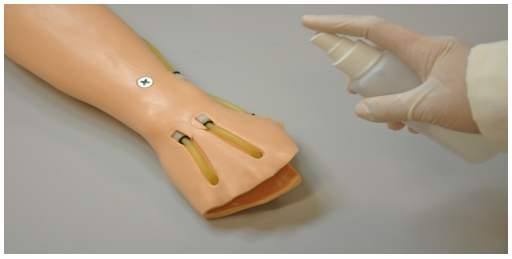
8. Once removed, attach one end of the replacement vein to one of white connectors as shown below.

9. Feed this vein through the hole. You may use a hemostat to help you pull out the vein

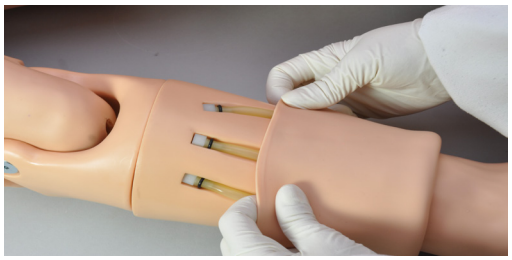
10. Attach the other end of vein to the second white connector, and secure both ends of the vein with the black rings.

11. Heat the skin.

12. Apply small amounts of mineral oil on the lower arm to aid the skin placement.



13. Place the skin over the hand and pull the skin all the way up.



# Warranty

## EXCLUSIVE ONE-YEAR LIMITED WARRANTY

Gaumard warrants that if the accompanying Gaumard product proves to be defective in material or workmanship within one year from the date on which the product is shipped from Gaumard to the customer, Gaumard will, at Gaumard's option, repair or replace the Gaumard product.

This limited warranty covers all defects in material and workmanship in the Gaumard product, except:

Damage resulting from accident, misuse, abuse, neglect, or unintended use of the Gaumard product;

Damage resulting from failure to properly maintain the Gaumard product in accordance with Gaumard product instructions, including failure to property clean the Gaumard product; and

Damage resulting from a repair or attempted repair of the Gaumard product by anyone other than Gaumard or a Gaumard representative.

**This one-year limited warranty is the sole and exclusive warranty provided by Gaumard for the accompanying Gaumard product, and Gaumard hereby explicitly disclaims the implied warranties of merchantability, satisfactory quality, and fitness for a particular purpose.** Except for the limited obligations specifically set forth in this one-year limited warranty, Gaumard will not be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory regardless of whether Gaumard has been advised of the possibilities of such damages. Some jurisdictions do not allow disclaimers of implied warranties or the exclusion or limitation of consequential damages, so the above disclaimers and exclusions may not apply and the first purchaser may have other legal rights.

**This limited warranty applies only to the first purchaser of the product and is not transferable.** Any subsequent purchasers or users of the product acquire the product "as is" and this limited warranty does not apply.

**This limited warranty applies only to the products manufactured and produced by Gaumard.** This limited warranty does not apply to any products provided along with the Gaumard product that are manufactured by third parties. For example, third-party products such as computers (desktop, laptop, tablet, or handheld) and monitors (standard or touch-screen) are not covered by this limited warranty. Gaumard does not provide any warranty, express or implied, with respect to any third-party products. Defects in third-party products are covered exclusively by the warranty, if any, provided by the third-party.

Any waiver or amendment of this warranty must be in writing and signed by an officer of Gaumard.

In the event of a perceived defect in material or workmanship of the Gaumard product, the first purchaser must:

Contact Gaumard and request authorization to return the Gaumard product. Do NOT return the Gaumard product to Gaumard without prior authorization.

Upon receiving authorization from Gaumard, send the Gaumard product along with copies of (1) the original bill of sale or receipt and (2) this limited warranty document to Gaumard at 14700 SW 136 Street, Miami, FL, 33196-5691 USA.

If the necessary repairs to the Gaumard product are covered by this limited warranty, then the first purchaser will pay only the incidental expenses associated with the repair, including any shipping, handling, and related costs for sending the product to Gaumard and for sending the product back to the first purchaser. However, if the repairs are not covered by this limited warranty, then the first purchaser will be liable for all repair costs in addition to costs of shipping and handling.

Extended Warranty In addition to the standard one year of coverage, the following support plans are available: Two-Year Extension (covers second and third years)

Call for pricing (USA only)

Gaumard®

Simulators for Health Care Education

# Contact Us


**E-mail Technical Support:** 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

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

Worldwide: 01 (305) 971-3790

**Fax:** (305) 667-6085

**Post:** Gaumard Scientific

14700 SW 136 Street

Miami, FL 33196-5691

USA

**Office hours:** Monday-Friday, 8:30am - 4:30pm EST (GMT-5, -4 Summer Time)


**General Information**

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