

CPR Simon[®] Basic Life Support

S310_S311



Gaumard[®]
Simulators for Health Care Education

CPR Simon[®] 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 13.4.1
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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

- This simulator is constructed of material that approximates skin texture. Therefore, in handling the model, use the same gentle techniques as you would in working with a patient.
- Ball point pens, ink and markers permanently stain the skin.
- Do not wrap this or any other Gaumard product in newspaper.
- Do not use alcohol, acetone, Betadine® or any other antiseptic which contains iodine in this or any Gaumard® simulator. These products could damage or stain the skin of the simulator.
- Replacement parts are available from Gaumard Scientific or 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

- Improper storage may damage the simulator.
- Keep it stored in the box and/or bag provided.
- Do not stack or store heavy materials on top of the carton.
- Storage temperature: 32°- 113° F (0°- 45° C).
- Humidity: 40%-60% (non-condensing).

IV ARM (OPTIONAL)

- Treat the simulator with the same precautions that would be used with a real patient. Only use Gaumard's provided simulated blood. Any other simulated blood containing sugar or any additive may cause blockage and/or interruption of the vascular system.
- The use of needles smaller than 22 gauge will reduce the lifetime of the lower arms' skin and veins.
- After cleaning and drying the arm, lightly dust it with talcum powder. This will keep the training arm supple and easy to use.

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.

CLEANING

- Clean the skin of the simulator after every training session. The skin should be cleaned with a cloth dampened with diluted liquid dish washing soap and dry thoroughly.
- Remove all traces of any lubricant.
- Do not clean with harsh abrasives.
- The simulator is "splash-proof" but not waterproof. Do not submerge or allow water to enter the interior of the simulator.

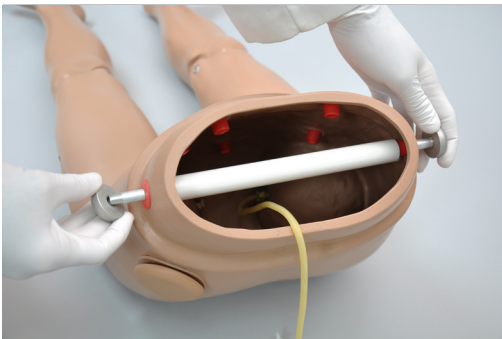
Equipment Set Up

Overview

The simulator is shipped partially assembled. Perform the following steps as part of the first installation procedure.

SIMULATOR ASSEMBLY

1. A rod passing through the midsection of the simulator connects the upper and lower torso. To assemble the internal components of the simulator, unscrew one knob at the end of the rod.

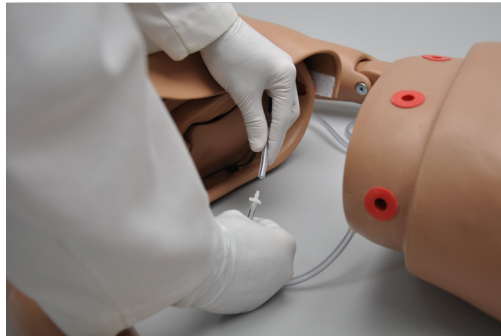


2. Pull from the side of the rod where the second knob is attached.



3. Remove the rod from within the white guide tube and place aside. Ensure the white guide tube remains in place.

4. Locate the pulse line located within the upper and the lower torso and connect both ends together. The connector is a simple press fit attachment.



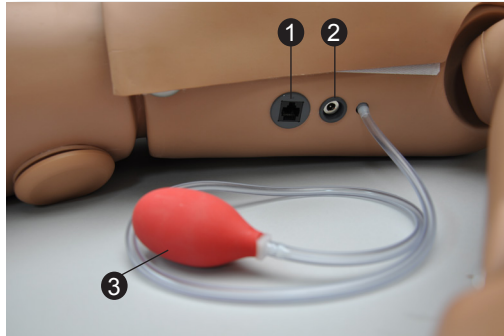
5. Ease the lower torso into the upper torso, aligning the red ports on the side. Slide the waist rod through the ports and replace the waist knob.



To disassemble the simulator for transportation or cleaning, reverse this procedure.

POWER SUPPLY

Connect the power supply to the power input located on the simulator's left side, and then connect the power supply to the wall outlet.



- ① Communication Port
- ② Power Input
- ③ Pulse Bulb

OMNI™ CONTROLLER

Omni™ Controller is included with the S311 simulator and it is optional for the S310 simulator.

Omni controls the simulator's responses with the touch of button. Connect the communication cable to the simulator and to Omni.

A startup screen is shown while Omni is detecting the simulator features.



After the startup screen, Omni will proceed to the main screen automatically.

WARNING

Do not connect the Blood Pressure Arm or Omni to a computer, LAN network or unauthorized diagnostic equipment using the communication cable (Ethernet cable). Doing so will cause serious damage to the equipment.

BLOOD PRESSURE ARM SETUP

(OPTIONAL)

1. Wrap the blood pressure cuff around the arm, midway between the deltoid and elbow.

Ensure the arrow on the cuff points toward the elbow following the direction of blood flow in the artery.

2. Connect the blood pressure cuff extension to the luer connector on the left side of the simulator.

Working with CPR Simon®

Overview

Disclaimer: The section below describes all possible features in the CPR Simon® simulator. Please use the list below to identify which features are standard in your model. The content of this table is subject to change without prior notice. Please contact Gaumard® Scientific for the most current information.

The simulator is an advanced multipurpose simulator equipped with the following features:

- Accommodates assisted ventilation
- Advanced Intravenous Training Arm (Optional)
- Chest compressions and airway ventilations are measured and logged (Optional for the S310 simulator)
- Disposable airways
- Easily accessible chest cavity with ribcage, and lungs for realism and practice of CPR techniques
- Eyes open and close; left pupil is dilated
- Head tilt/chin lift
- Intramuscular (IM) Injection Sites on the deltoids, quadriceps and left gluteus medius
- Jointed elbows, wrists, knees, and ankles
- Left and Right carotid arteries
- Medium skin tone is the standard simulator color; light or dark skin is available at no extra cost
- Natural obstruction blocks air passage when head is tilted forward
- Neck extends into the “sniffing” position
- Realistic chest rise
- Right Femoral Artery and Vein
- Take blood pressure readings on the left arm using a modified cuff (Optional)

Airway

WARNING

Always use disposable airways provided by Gaumard Scientific Company. Products manufactured by other suppliers may have different compliance and/or volume, and are not compatible with the simulator or Omni.

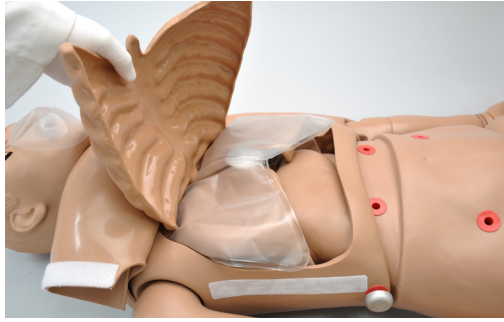
SAFE CPR INDIVIDUAL DISPOSABLE AIRWAYS

INSTRUCTIONS FOR REMOVING AND REPLACING DISPOSABLE AIRWAY

1. Release the Velcro strip and lift the chest skin away from the chest cavity.



2. Remove the ribcage.



3. Remove the disposable airway by grasping and pulling it away from simulator. Each student should have an airway.



4. Thread the introducer through the hole at the end of the disposable airway.



5. With the head tilted back, ease the introducer up through the neck using an upward curving motion.

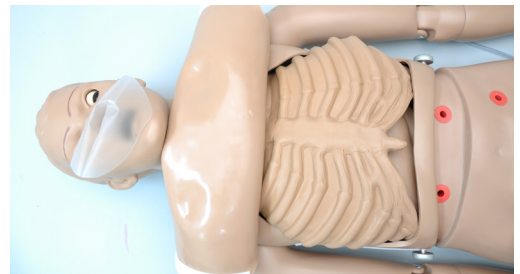


6. Ease the introducer through the mouth, and straighten the disposable airway within the chest cavity.



7. Remove the introducer from the disposable airway.

8. Position the ribs on top of the disposable airway and reattach the skin to the upper torso.



Breathing

PULMONARY VENTILATION

Ventilate using mouth-to-mouth resuscitation or a BVM and obtain realistic, dual chest rise.

Change the airway for each student when practicing mouth-to-mouth resuscitation.

CPR Simon blocks air passage when the head is tilted forward.



Train CPR with Simon and obtain feedback information via the Omni controller on the cadence and depth of chest compressions and airway ventilations.

Circulation

FEMORAL VEIN AND ARTERY

Available on the simulator are the right femoral artery and vein. Train on identifying the location of each vessel.

Do not inject fluids or puncture the femoral vein or artery.

PALPABLE PULSES

The simulator is equipped with bilateral carotid and right femoral pulses. The pulses can be generated manually using the squeeze bulb located on the left side of the simulator.



IV TRAINING ARM (OPTIONAL)

The right arm is a training tool for infusion, blood collection, intravenous injection, intramuscular injection, TB screening and subcutaneous injection exercises.

The arm and hand contain venous grooves, fitted with soft latex tubes to simulate the consistency of veins. Covering the venous structure is a translucent, pliable vinyl skin that is removable and washable.

The training arm features:

- An intramuscular injection site in the deltoid area
- Simulated cephalic, basilic, antecubital, radial and ulnar veins

- Subcutaneous injection areas on the volar side of the forearm and the lateral side of the upper arm
- Two veins in the dorsum of the hand for additional intravenous training techniques

The arm is supplied with:

- Synthetic blood concentrate
- Spare arm skin
- Blood dispensing bag
- Metal stand
- Silicone oil
- Talcum powder

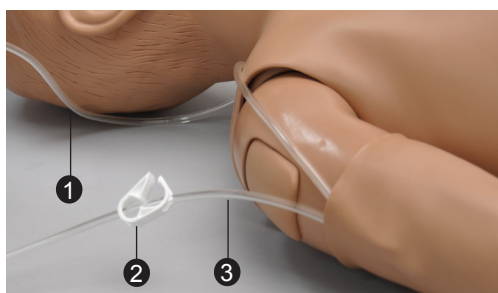
Use the training arm and hand connected to the blood-dispensing bag. Place the dispensing bag onto the provided metal stand or a conventional IV pole.

To simulate a clenched fist or tourniquet, apply pressure to the system using the squeeze bulb connected to the dispensing bag. Release the pressure to simulate collapsed veins. Use the squeeze bulb to change the palpability of the veins.

FILLING THE TRAINING ARM

VASCULATURE USING A SYRINGE

1. Place the end of the drainage tube, located near the right arm, into a container and open the adjustable clamp.



① Filling Tube

② Adjustable Clamp

③ Drainage Tube

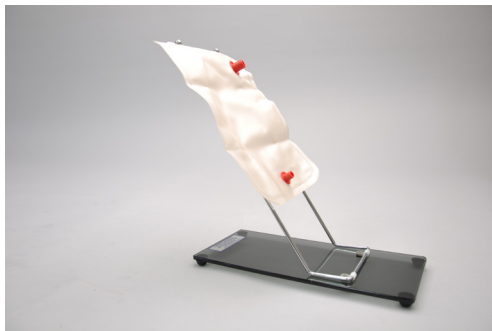
2. Fill the dispensing syringe with fluid.
3. Connect the syringe to the filling tube near the right arm and release the fluid.
4. Allow fluid to flow through the system and into the drainage container.
5. Close the adjustable clamp of the drainage tube.
6. Remove the syringe from the filling tube.

FILLING TRAINING ARM VASCULATURE USING THE BLOOD-DISPENSING BAG

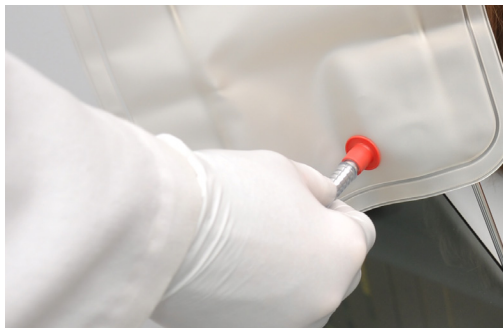
1. Place the simulator and provided IV stand on a flat surface.
2. Lift the hinged metal stand and support it on the acrylic base.



3. Hang the blood-dispensing bag on the stand.

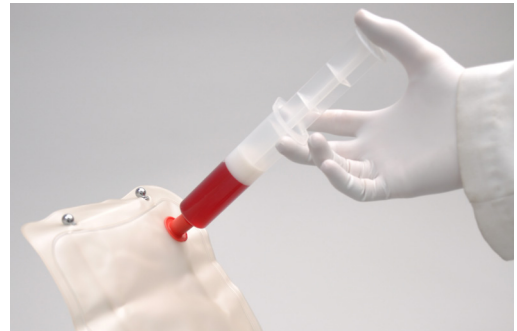


4. Attach the filling tube from the right arm to the bottom port of the blood-dispensing bag.

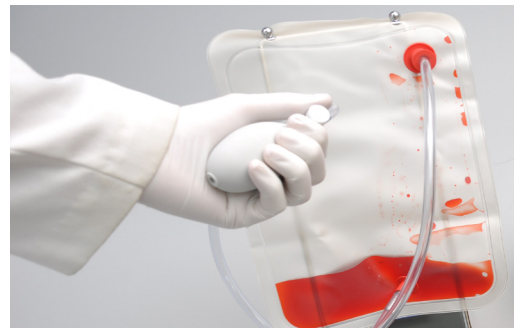


5. Close the adjustable clamp of the draining tube.

6. Add water or artificial blood to the blood-dispensing bag using the provided funnel or large syringe.



7. Place the drainage tube inside a container.
8. Open the adjustable clamp to allow fluid to flow through the system and into the drainage container.
9. Close the adjustable clamp of the drainage tube.
10. Perform intravenous, subcutaneous, and intramuscular procedures.
11. To vary the blood pressure in the vasculature of the arm, attach the tube with squeeze bulb to the upper port of the blood-dispensing bag and depress the squeeze bulb.



12. Once the training session is finished, place the drainage tube in a container and open the adjustable clamp. Drain the fluid by raising the blood-dispensing bag above the simulator. Alternatively, fill the syringe with air and connect it to the upper port of the blood-dispensing bag. Depress the syringe to move the remaining fluid from the system.
13. Flush the system with water if artificial blood was used to fill the veins.

INSTRUCTIONS FOR USE

Use cannulas/needles smaller than 22 gauge to extend the life of the venous structure.

The skin and veins are designed to show even minute leakage when an eccentric puncture is performed. A “perfect” stick will show little or no leakage.

For IV simulations, place the end of the drainage tube into a container, and open the adjustable clamp.

REPLACING THE SKIN OF THE PATIENT TRAINING ARM AND HAND

WARNING

Vein tubing contains latex which may cause allergic reactions. Users allergic or sensitive to latex should avoid contact.

1. Gently roll down the outer skin from the top of the arm. Use silicone or powder to ease the movement.
2. Use a heat gun to evenly warm the new replacement skin until the material is pliable.
3. Apply a small amount of talcum powder or silicone oil to the arm.
4. Insert the fist of the arm into the opening of the new skin and pull up into place.

CLEANING AND REPAIR OF THE PATIENT TRAINING ARM AND HAND

- The skin of the training arm can be cleaned with a mild detergent, or soap and water. After drying the arm, lightly dust it with talcum powder. This will keep the training arm supple and easy to use.

PREPARING THE ARTIFICIAL BLOOD CONCENTRATE

1. Mix all the contents, of supplied bottle with one gallon (3400 cc) of water, to make one gallon of artificial blood concentrate.
2. Shake vigorously until mixture is fully dissolved.

Systemic

TEETH AND TONGUE

The simulator is supplied with normal size teeth and tongue.

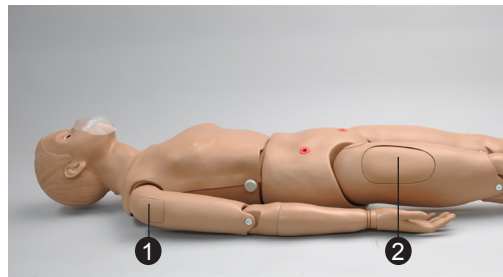
RANGE OF SIMULATED MOVEMENT

- The arms and legs are soft and rotate within the torso body.
- The joints are strong and their movements are lifelike and realistic.
- The simulator bends 30 degrees at the waist.

Hospital Care Capabilities

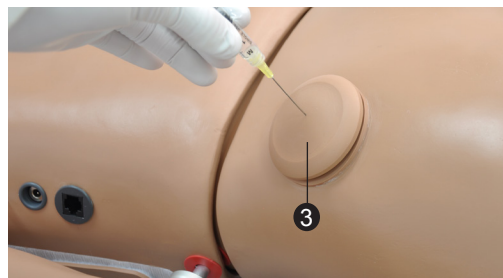
INJECTION SITES

Administer intramuscular and subcutaneous injections on the deltoids, quadriceps, and left upper gluteal region. All injection pads are easily removed and replaced.



① Deltoid IM Pad

② Quadricep IM Pad



③ Upper Gluteal IM Pad

BANDAGING

The fingers and toes of the simulator are separated to permit bandaging exercises. The surface of the simulator is smooth and resistant to water, oil, and liniments.

EYES/OPHTHALMOLOGIC EXERCISES

The head has eyes that open and close, permitting the following exercises:

- Administration of orbital medicines into the conjunctival sac
- Removal of foreign bodies
- Eye irrigation

BP Arm Features

(Optional)

Overview

The Blood Pressure Training System consists of a full-size adult left arm. This is a versatile training tool developed to assist health professionals teach the processes and skills required to perform blood pressure auscultation procedures and techniques.

4. Slowly release the cuff and listen for Korotkoff sounds.
5. Ask the provider to record the systolic pressure, the diastolic pressure, the limits of the auscultatory gap (if any) and the pulse rate.
6. Compare the values recorded by the provider with those originally programmed in Omni.

Features

PALPABLE PULSE

Programmable, palpable radial pulse is present when the cuff pressure is less than the selected systolic blood pressure.

KOROTKOFF SOUNDS

Korotkoff sounds, K1 through K4 (K5 is silence) are audible between systolic and diastolic pressures. The sounds are automatically silenced if the auscultatory gap is enabled, and adjusted depending on the selected heart rate and the rate of cuff deflation.

AUSCULTATION

The simulator operates with a modified blood pressure cuff. Connect the BP cuff extension to the arm's control panel before use. Use a conventional stethoscope to auscultate Korotkoff sounds in the antecubital area.

INSTRUCTIONS FOR USE

1. Follow the instructions listed in the Set Up section to assemble the simulator.
2. Place the bell of the stethoscope on the antecubital region of the arm.
3. Pump up the cuff until the radial pulse is absent.

Omni™ Code Blue® and BP Arm (Optional)

Using Omni™ Code Blue

Omni™ Code Blue® is included with the S311 simulator and it is optional for the S310 simulator.

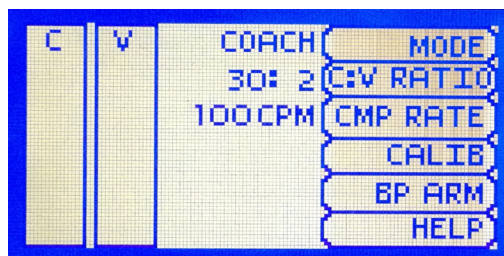
Code Blue® is a CPR training tool incorporated in the Omni controller. It was designed to help teach CPR by monitoring cadence and depth of cardiac compressions and airway ventilations in real time.

WARNING

Only perform mouth to mouth ventilation with the individual disposable airway in place.

MAIN SCREEN

The Omni main screen is divided into three sections which are, listed from left to right, the Feedback Graphics, Current Settings, and Navigation Menus. Pressing each button will display the menu item in detail.



FEEDBACK GRAPHICS

Monitor and evaluate depth and cadence of compressions and ventilations in real time.

CURRENT SETTINGS

The current settings are listed on the middle of the screen. The settings will reflect the information saved during a previous session.

CODE BLUE NAVIGATION MENUS

Edit the simulator settings using the navigation menus. Select a menu item by pressing the soft key buttons located on the right side of the controller. Each menu has additional submenus or toggle selections. Use the submenus to decrease, increase, accept, or cancel values. Use the toggle selection to switch between available options in the menu.

The Code Blue menus are:

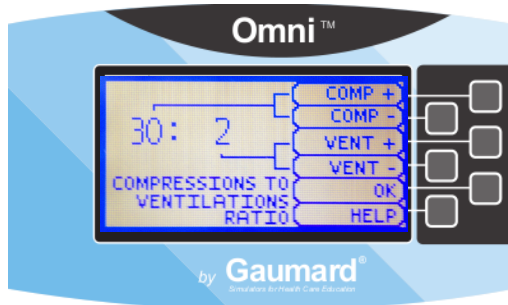
- CPR operational mode: TEST or COACH mode
- C:V Ratio: customize the compression to ventilation ratio to match correct guidelines
- Compression/Ventilation Rate: adjust the number of compressions and ventilations per minute
- Calib: calibrate the pressure sensor in the simulator
- BP Arm: gain access to the Blood Pressure System menus (Optional)
- Help: universal help menu

MODE MENU

Toggle between the COACH and TEST mode. The COACH mode generates audible tones to coach CPR ratio. A high-pitched beep signals the care provider to perform a compression and a low pitched-beep signals a ventilation. Toggle to the TEST mode to perform CPR without the audible cues.

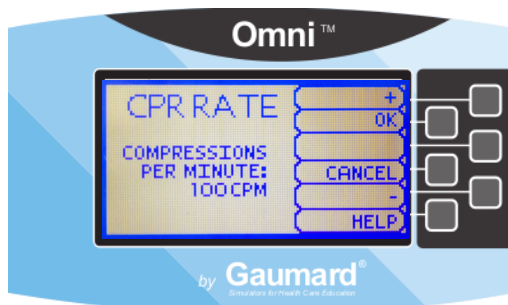
C:V RATIO MENU (COMPRESSION TO VENTILATION RATIO)

Adjust the compression to ventilation ratio using the + and - buttons. Press OK to save the changes and return to previous screen. The default value for the C:V Ratio is 30 compressions to 2 ventilations.



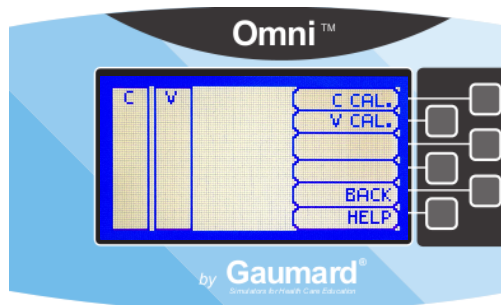
COMPRESSION / VENTILATION RATE MENU

The default value for the compression rate is 100 compressions per minute. Adjust rate using the '+' and '-' buttons. Press OK to save the changes and return to previous screen. The compression rate limit is 50 - 150 CPM. The ventilation rate limit is 2- 60 VPM.



CALIBRATION MENU

Press CALIB. to access additional menu selections.

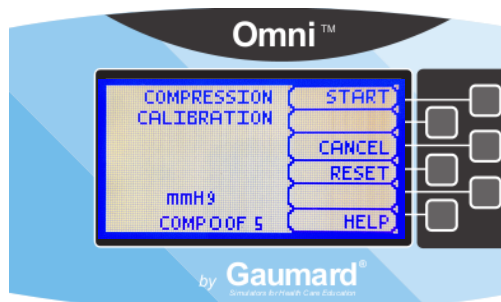


CALIBRATING CHEST COMPRESSIONS

The simulator is pre-calibrated to current CPR guidelines at time of manufacture. If the CPR guidelines change, calibrate the sensors inside the simulator using this option.

Calibrating chest compressions:

1. Select C CAL.
2. Press START to begin the calibration procedure.



3. Omni will ask you to perform several correct chest compressions. The facilitator should follow the text cue on the screen to perform just one compression at a time until finished.
4. When Omni is ready to calibrate it will display COMPRESS.
5. Perform a correct compression.
6. Follow the text cue on the screen to perform the remaining four compressions. When the calibration is complete Omni will display DONE.
7. Press SAVE.

CALIBRATING AIRWAY VENTILATIONS

Set the standard against which ventilation will be evaluated during the exercise.

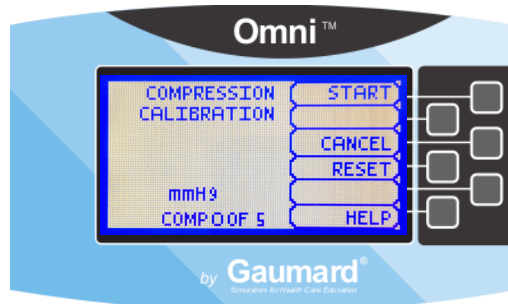
Calibrating airway ventilations:

1. Select V CAL.
2. Press START to begin the calibration procedure.
3. Omni will ask you to perform a number of correct airway ventilations. The facilitator should follow the text cue on the screen to perform just one ventilation at a time, until finished.
4. When Omni is ready to calibrate it will display VENTILATE.
5. Perform a ventilation.
6. Follow the text cue on the screen to perform the remaining four ventilations. When the calibration is complete Omni will display DONE.
7. Press SAVE.

RESETTING OMNI'S PRESSURE SENSOR

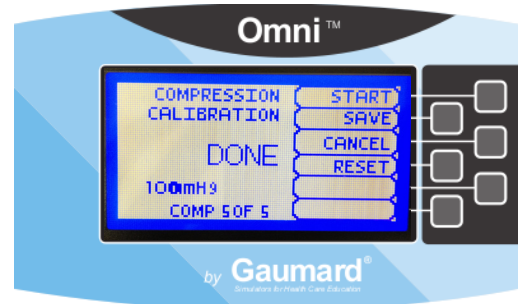
It is recommended that the Omni's pressure sensor is reset at altitudes greater than 1000 ft. to avoid inaccurate compressions and ventilations readings. Perform the sensor reset procedure only as part of the initial calibration process.

1. Select RESET within the compression or ventilation calibration menu.



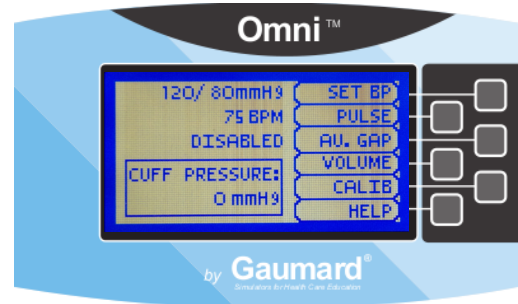
After resetting the sensor, Omni will display DONE.

2. Select SAVE to finish.



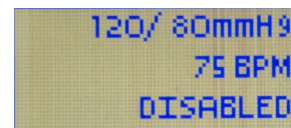
BP ARM (OPTIONAL)

Use the BP Arm menu to gain access to additional current settings, feedback graphics and navigation menus that control all the features of the blood pressure arm.



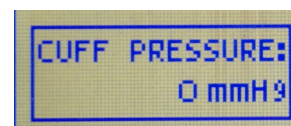
CURRENT SETTINGS

Current settings information is listed in the upper center of the screen.



FEEDBACK GRAPHICS

The feedback graph located in the lower center of the screen displays, in real time, the BP cuff pressure.



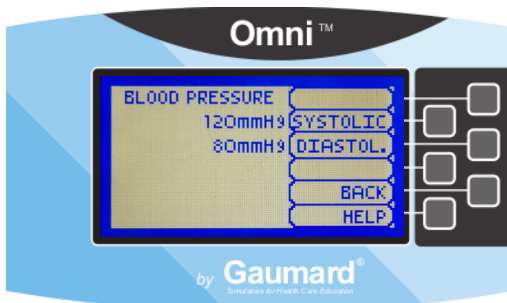
NAVIGATION MENUS

Edit Blood Pressure settings using the navigation menus. Select a menu item by pressing the soft key buttons located on the right side of the controller. Each menu has additional submenus. Use the submenus to decrease, increase, accept, or cancel values.



SET BP MENU

Use this menu to set the blood pressure in the simulator.

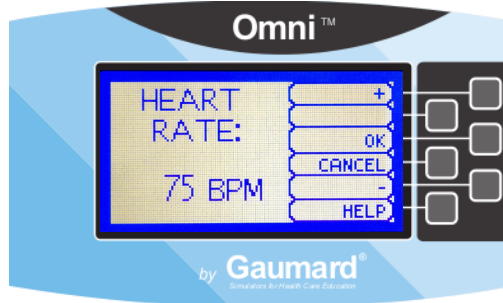


Select systolic or diastolic and adjust the pressure using the + and - buttons. Press **OK** to save the changes and return to previous screen. The default value for the blood pressure is 120/80 mmHg.



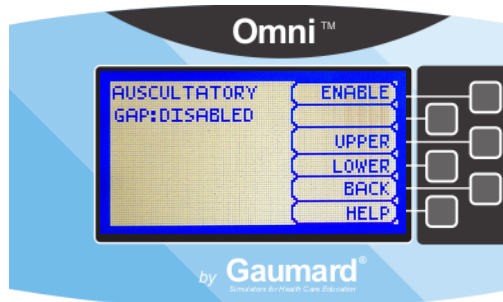
PULSE MENU

Use this menu to set the heart rate. Adjust the beats per minute using the + and - buttons. Press **OK** to save the changes and return to previous screen.

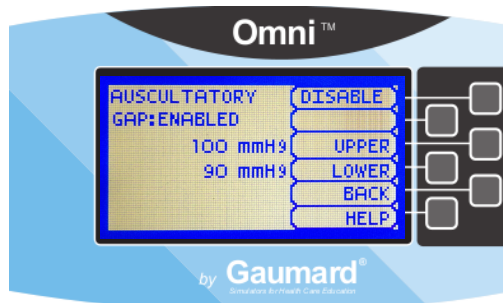


AU. GAP MENU

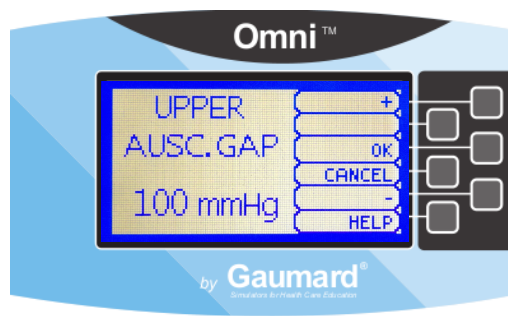
Enable and set an interval of pressure where Korotkoff sounds dissipate. The auscultatory gap is disabled by default.



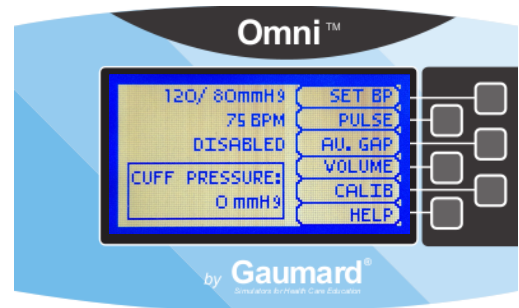
Pressing the **ENABLE** button activates the **UPPER** and **LOWER** menus. Use these menus to set the limits of the auscultatory gap.



Adjust the limits of the auscultatory gap using the + and - buttons. Press **OK** to save the changes and return to previous screen. The default upper and lower limits for the auscultatory gap are 100 mmHg and 90 mmHg, respectively.

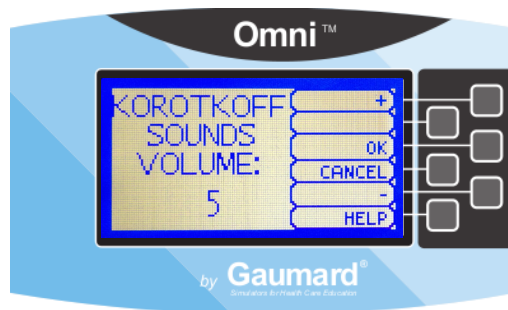


4. Select the **CALIB** menu from the main screen.

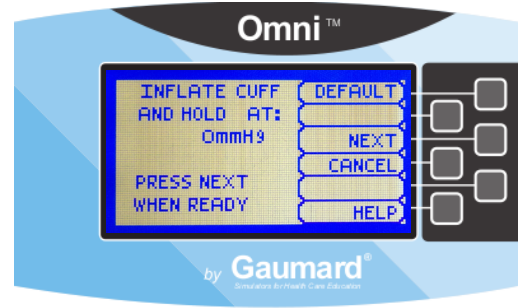


VOLUME MENU

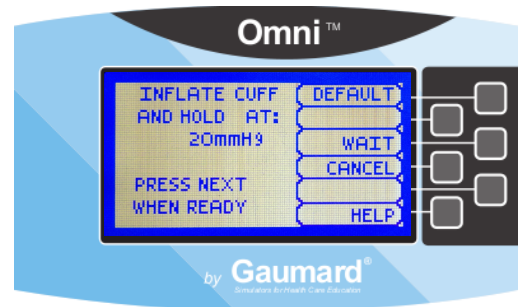
Increase or lower the volume of Korotkoff sounds using the **VOLUME** menu. Press **OK** to save the changes and return to previous screen. The default value for the Korotkoff sounds volume is 5.



5. Press **NEXT** to begin the calibration procedure.
6. You will be prompted to set the BP cuff to a certain pressure. Hold that pressure constant and press the **NEXT** button.



7. Omni will now prompt you to set the BP cuff to 20 mmHg. Hold that pressure constant and press the **NEXT** button.



CALIB MENU

Calibrate the sensors inside the simulator using this option. Set the standard against which auscultation will be evaluated during the exercise. Blood pressure cuff calibration should be performed only when the Korotkoff sounds do not match the systolic and diastolic values set from Omni.

It is not necessary to re-calibrate Omni for each training session. Omni will remember previous calibration settings.

Follow the text cue on the screen and repeat the procedure for each pressure level. The facilitator should follow the text cue on the screen to inflate the cuff just one value at a time, until finished.

CALIBRATION INSTRUCTIONS

1. Assemble the system and turn Omni on.
2. Place the blood pressure cuff on the arm.
3. Connect the cuff's extension to connector on the control panel.

After calibrating the sensor, Omni will return to the main screen and display the reading shown on the sphygmomanometer.

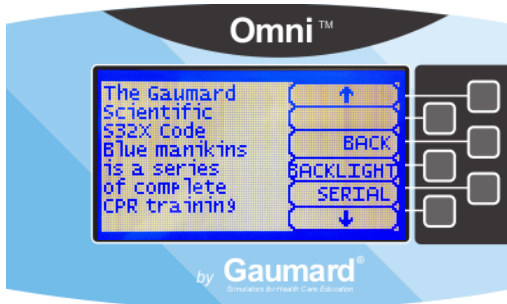
FACTORY SETTING

The DEFAULT option is used to restore sensors back to factory settings, erasing any calibrations performed by users. When restoring the sensors to factory settings, do not practice auscultation. This action will interfere with the reset.

After pressing the **DEFAULT** button, a message on the screen will notify the user about the status of the reset.

HELP

The help window provides access to global settings such as backlight time and Omni/Simulator serial number.



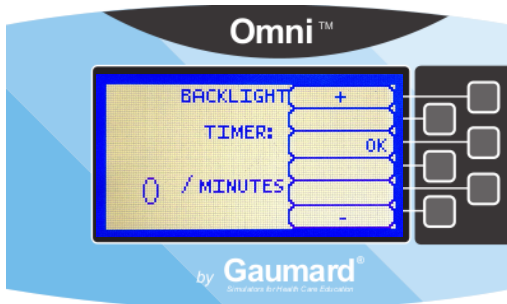
BACK

Return to previous screen.

BACKLIGHT

The default value for Omni's backlight timer is 10 minutes. After 10 minutes the backlight will turn off.

To increase the backlight duration, adjust the backlight timer with the plus or minus sign. Press OK to accept the changes.



SERIAL NUMBER

View Omni and Simulator serial number. Press OK to return to the HELP menu.



CPRLink™

CRPLink is an application that enables monitoring and logging of compressions and ventilations, performed in real time by the user, on a PC.

This software aims to provide additional testing and teaching tools for CPR using an interface to display a waveform graph of the compressions and ventilations.

CPRLINK MINIMUM SYSTEM REQUIREMENTS

- Operating System: Windows XP or Windows 7
- Computer and processor: 1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor
- Memory: 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
- Hard disk: 4 gigabyte (GB) available disk space
- Install media: CD/DVD Drive
- I/O Ports: USB port

SETUP

CPRLINK SOFTWARE INSTALLATION

If installing the CPRLink software for the first time, follow the instructions listed below:

1. Insert the CPRLink installation CD in your PC.
2. Follow the instructions on your screen.

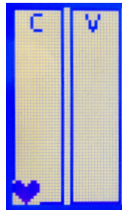
In case the auto run is disabled, open My Computer. In the My Computer window, open the drive that contains the CPRLink CD. Double-click on CPRLink and locate the setup file "RunMeFirst". Double-click on "RunMeFirst" to start the installation.

If installing the application on a Windows 7 computer, run the program as administrator. Right click the CPRLink icon and select Properties. Select the Compatibility tab and check mark the option "Run this program as an administration". Click on Apply and then OK to close the window.

EQUIPMENT SET UP

1. Connect the power supply to the power input on the simulator, and then connect the power supply to the wall outlet.
2. Connect the communication cable to the simulator and to Omni.
3. Connect the USB cable to Omni and to the USB port of your PC.

Omni will display a heart icon on the lower left side of the screen when a connection with the PC has been established.

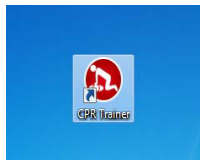


WARNING

Do not start the CPRLink application until Omni is connected to the PC.

STARTING CPRLINK

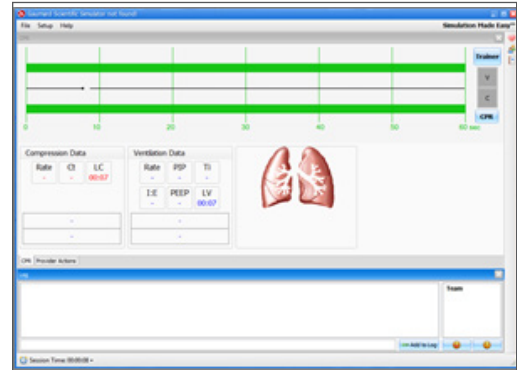
Double click on the CPRLink icon on the desktop of your PC.



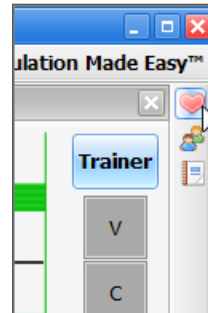
CPR SCREEN

The CPRLink main screen contains the drop down menus used to save and clear session logs, change the application options, and access the program's help.

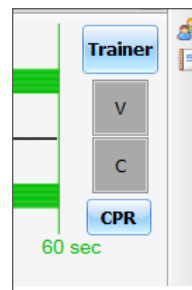
The main screen also contains the controls used to evaluate compressions and ventilations.



Open the CPR evaluator by clicking on the shortcut icon located on the upper right side of the application.



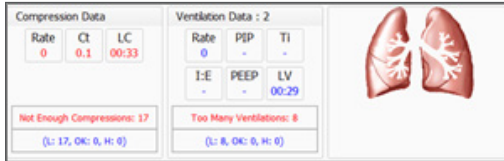
The provider performance indicator boxes are located on the right. The V (ventilation) and C (compression) box fill color changes between the following states:



- Grey: no intervention was detected.
- Yellow: compression was too shallow. Ventilation was too weak.

- Green: compression/ventilation was performed correctly.
- Red: compression was too deep. Ventilation was too strong.

Compression and ventilation data is displayed at the bottom of the window as CPR is performed by the provider.



COMPRESSION DATA

- Rate: rate of compressions in real time.
- Ct (Compression time): average length of each compression in seconds.
- LC (Last Compression): time elapsed since the last compression performed.

VENTILATION DATA

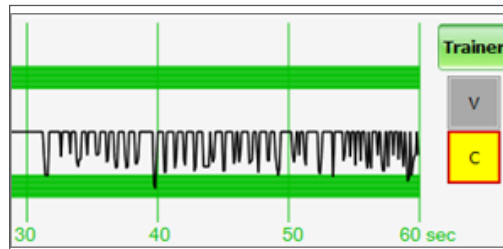
- Rate: ventilation rate in real time.
- PIP: Peak Inspiratory Pressure
- Ti: time inspiration
- I:E: Inspiratory : Expiratory ratio
- PEEP: Positive End Expiratory Pressure
- LV (Last Ventilation): time elapsed since the last ventilation performed

TRAINER

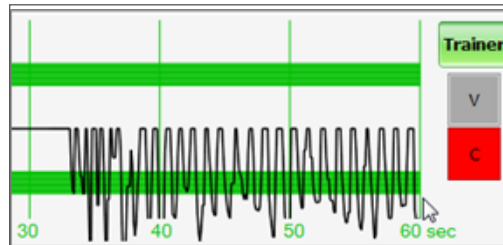
The CPRLink application generates visual and audible cues of the compression to ventilation ratio programmed in the CPR Options menu. When the Trainer button is clicked, the V (ventilations) and C (compressions) box borders blink to indicate the correct reference CPR rate. A high-pitched beep signals the care provider to perform a compression and a low pitched-beep signals a ventilation.

PERFORMANCE EXAMPLES

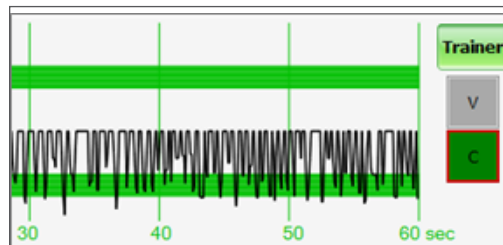
Compressions are too shallow. Most waveform peaks do not reach the green zone. Compression indicator is yellow.



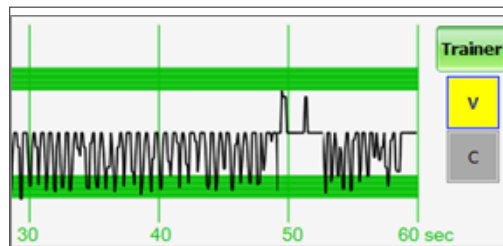
Compressions are too deep. Waveforms peaks mostly exceed the green zone. Compression indicator is red.



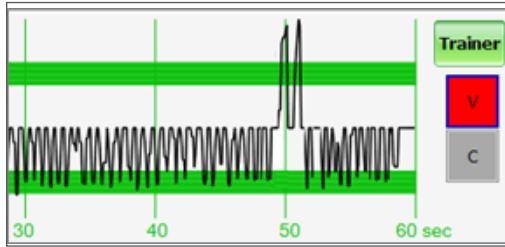
Compressions are performed correctly. Waveform peaks are mostly inside the green zone.



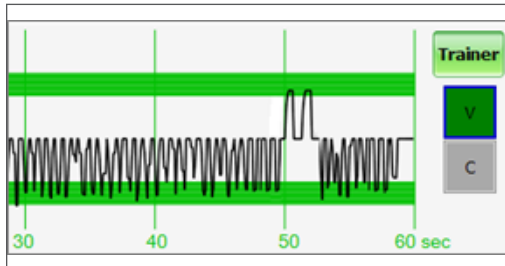
Ventilations are too shallow. Waveform peaks do not reach the green zone.



Ventilations are too strong. Waveform peaks exceed the green zone.

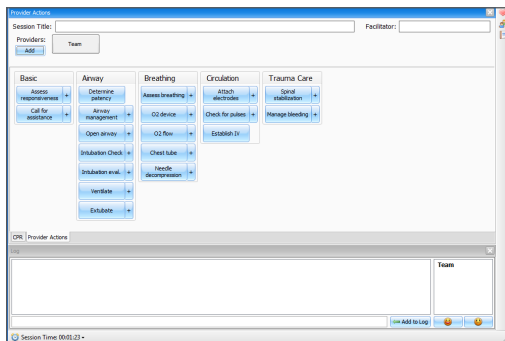


Ventilation was performed correctly. Waveform peak is inside the green zone.

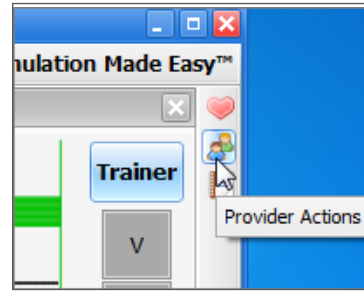


PROVIDER ACTIONS SCREEN

The provider actions screen allows the facilitator to keep track of every event during a session. It automatically creates an entry whenever a detected event occurs. Also, the facilitator can log provider actions with a simple click.



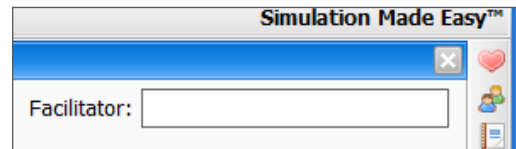
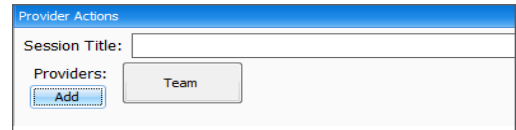
Open the provider actions screen by clicking on the shortcut icon located on the upper right side of the application.



The Provider Actions screen consists of four different areas (from top to bottom): session info, team logging buttons, provider action buttons, and text log.

SESSION INFO

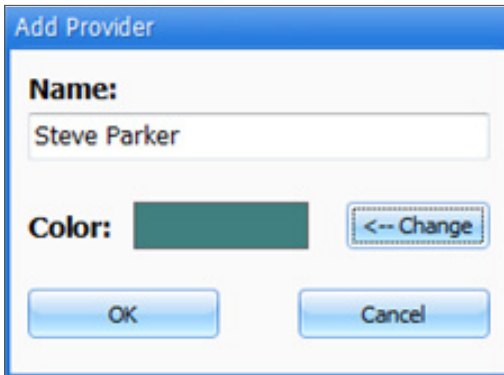
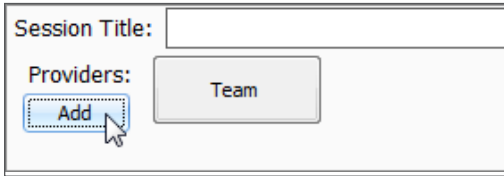
The header section consists of the 'Session Title' and 'Facilitator' fields at the top of the Team Logging section. Type the session title and facilitator name directly into the note field. It serves as assisting with record keeping purposes when a report is saved or printed.



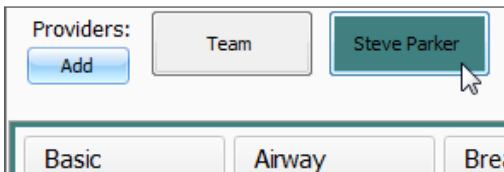
TEAM LOGGING

The Team Logging feature allows the facilitator to designate which member of the team performed a particular action. The Team Logging section is right above the Provider Actions section.

First, the facilitator should add all providers in the team, one by one, by clicking the Add button and filling out the Add Provider dialog box.



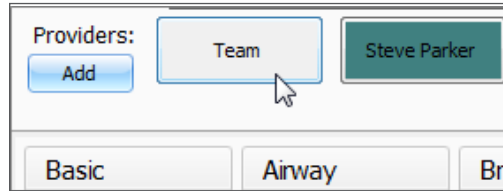
A colored button is inserted on the Team Logging region for the provider just added. There can be up to six different providers, each with a corresponding button. Every time one of the provider buttons is clicked, that person becomes the active provider. To indicate the active provider, the vertical bars on each side of the Log page will match the color chosen for that person.



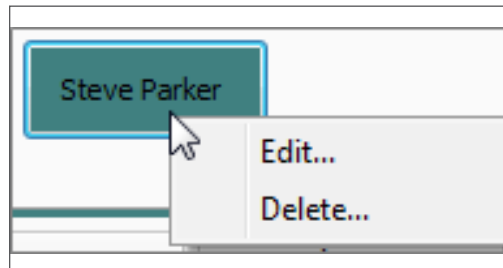
On the Log Page image, for example, the provider "Steve" is the active provider, so the vertical bars are teal colored. While there is an active provider, every time a Provider Action or Evaluation log entry is created it will have the name of the provider as follows:

"00:07:41 [Steve Parker] Action (Ventilate): BVM"

To deselect the active provider and return to general logging, click the Team button and the vertical bars will return to neutral color.

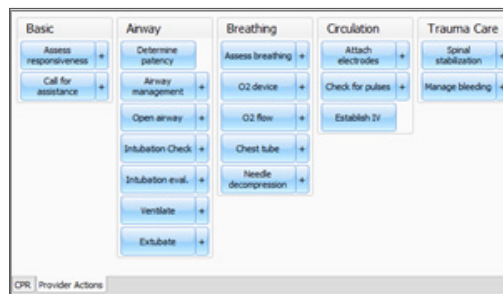


All provider buttons can be edited or deleted by right-clicking them and selecting an option from the menu.

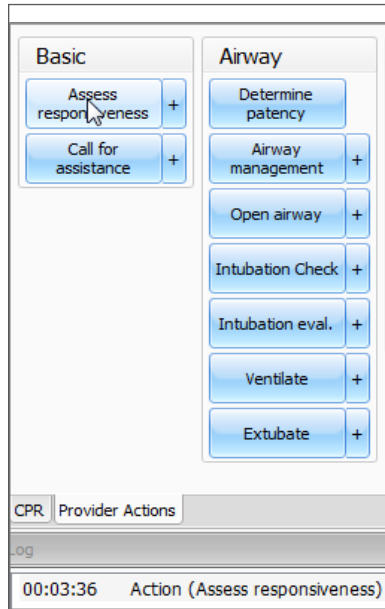


PROVIDER ACTIONS

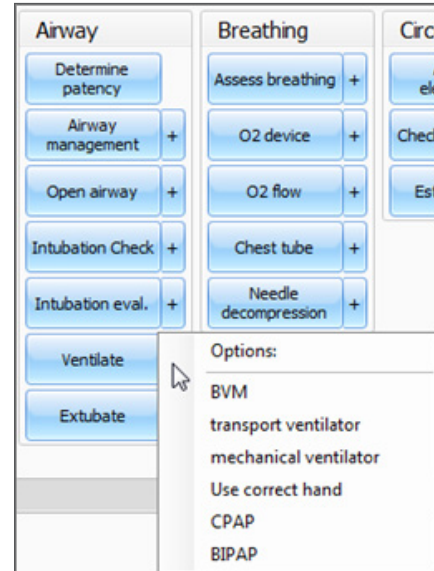
This section refers to the collection of buttons in the middle of the page. It allows the facilitator to accurately keep track of provider actions. The buttons are grouped into 6 groups: Basic, Airway, Breathing, Circulation, and Trauma Care. Anytime the facilitator clicks one of the buttons, a time-stamped log entry is generated with that particular action.



For example, if the 'Assess responsiveness' button is clicked when the session clock reads 00:03:36, the following entry is automatically generated: "00:03:36 Action (Assess Responsiveness)"



On the other hand, if the '+' button next to 'Ventilate' is clicked, a list of additional options appears.

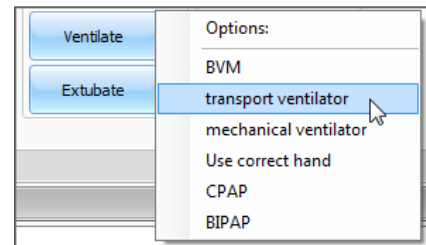
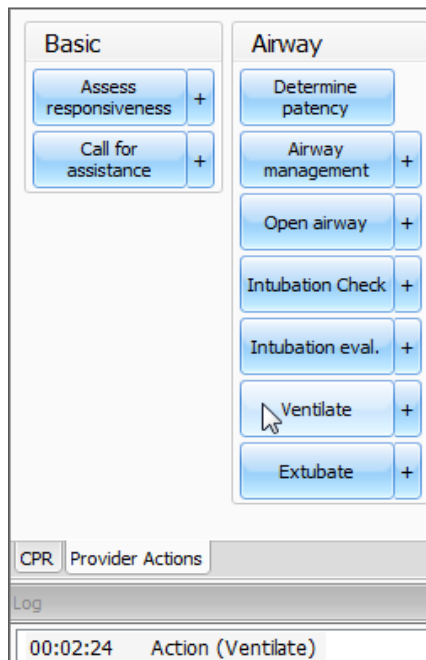


The facilitator can be more specific and choose, for example, 'transport ventilator'...

and the following entry is added:

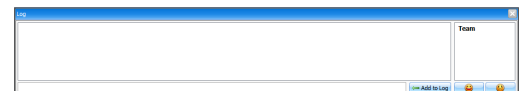
SPECIAL BUTTON

The special button adds additional functionality to the provider actions section. The button '+' allows the facilitator to be more specific on the provider action he/she wishes to log. For example, if the button 'Ventilate' is clicked, the following entry is created: "00:02:24 Action (Ventilate)"

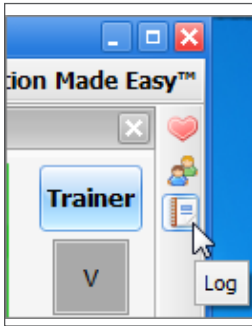


TEXT LOG

This is the large panel at the bottom of the Log Page, containing all the time-stamped text entries. Every event on a session is reflected as an entry in the Text Log.



Open the Text Log by clicking on the shortcut icon located on the upper right side of the application.



The different types of entries are classified as Actions, Detected Events, Evaluations, and Notes.

Text Log is subdivided in four different functions:

ACTIONS

Actions refer to those performed by one of the providers in the session. The facilitator can quickly log actions from the Provider Actions section and make the entry more specific using the Team Logging feature. The following is an example of an Action entry:

"00:07:24 Action (Assess responsiveness)"

DETECTED EVENTS

Each time one of the various sensors in the The simulator detects a provider action, it is automatically logged as a 'Detected' entry. These actions include artificial ventilations and chest compressions. The following example shows an entry after a provider administrates a chest compression:

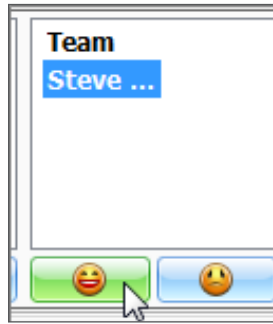
"00:05:36 Detected (chest compression): too weak"

EVALUATIONS

The facilitator adds evaluations by clicking on the 'Satisfactory' or 'Unsatisfactory' buttons next to Text Log.



The facilitator can evaluate individual providers with a single click.



For example, if provider Steve Parker did a correct procedure, the Evaluation entry would be:

"00:36:01 [Steve Parker] Evaluation (Care Provided): Satisfactory"

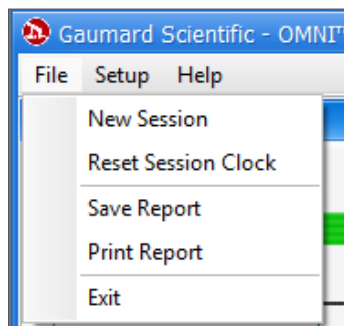
NOTES

Notes can be entered directly in the Text Log. The following is an example of a Note entry:

"00:51:09 [Steve Parker] Note: provider took too long to assess patient."

CPR LINK MENUS

FILE

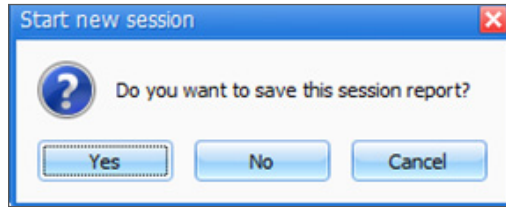


NEW SESSION

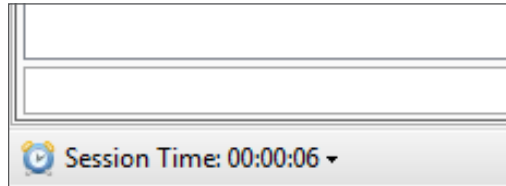
Clicking New Session in the file menu will:

- Start a new simulation session
- Clear out log page

- Restart the session clock



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

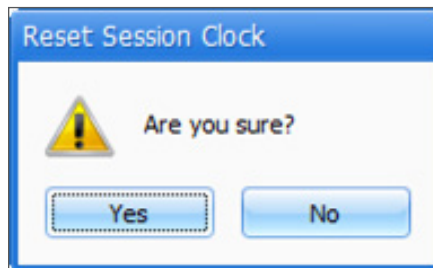


You can also start a new session by clicking on the session clock drop down menu, located at the bottom of the Log box, and selecting New Session.

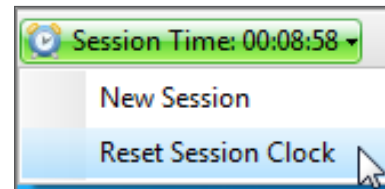


RESET SESSION CLOCK

Clicking on Reset Session Clock resets the clock back to zero.

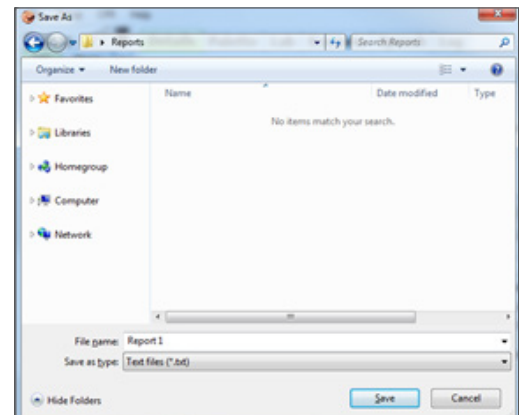


Reset the session Clock by clicking on the session clock drop down menu, located at the bottom of the Log box, and selecting Reset Session Clock.



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".

A sample report is below:

Gaugard® Scientific - Gaugard CPR	
3/13/2012 10:40:27 AM	
Session:	
Facilitator:	
Providers:	[Team]
00:00:04	Detected (chest compression): peak = 44 mmHg , duration = 0.4 seconds.
00:00:04	Detected (chest compression): peak = 39 mmHg , duration = 0.1 seconds.
00:00:04	Detected (chest compression): peak = 48 mmHg , duration = 0.3 seconds.
00:00:05	Detected (chest compression): peak = 52 mmHg , duration = 0.2 seconds.
00:00:05	Detected (chest compression): peak = 39 mmHg , duration = 0.1 seconds.
00:00:06	Detected (chest compression): peak = 53 mmHg , duration = 0.1 seconds.
00:00:06	Detected (chest compression): peak = 10 mmHg , duration = 0.1 seconds.
00:00:08	Detected (chest compression): peak = 48 mmHg , duration = 0.2 seconds.
00:00:08	Detected (chest compression): peak = 43 mmHg , duration = 0.2 seconds.
00:00:09	Detected (chest compression): peak = 25 mmHg , duration = 0.1 seconds.
00:00:10	Detected (chest compression): peak = 22 mmHg , duration = 0.2 seconds.
00:00:11	Detected (chest compression): peak = 21 mmHg , duration = 0.1 seconds.
00:00:11	Detected (chest compression): peak = 54 mmHg , duration = 0.3 seconds.
00:00:12	Detected (chest compression): peak = 68 mmHg , duration = 0.6 seconds.
00:00:12	Detected (chest compression): peak = 58 mmHg , duration = 0.3 seconds.
00:00:14	Detected (chest compression): peak = 24 mmHg , duration = 0.1 seconds.
00:00:15	Detected (chest compression): peak = 42 mmHg , duration = 0.3 seconds.
00:00:16	Detected (chest compression): peak = 25 mmHg , duration = 0.2 seconds.
00:00:16	Detected (chest compression): peak = 46 mmHg , duration = 0.2 seconds.
00:00:16	Detected (chest compression): peak = 49 mmHg , duration = 0.1 seconds.

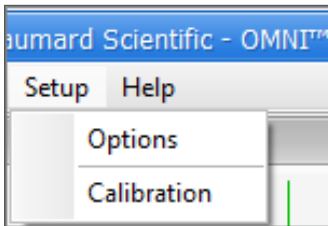
PRINT REPORT

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.

EXIT

You can exit the application at any time by going to File, Exit or by clicking on the red “x” button at the top right corner of the CPRLink.

SET UP



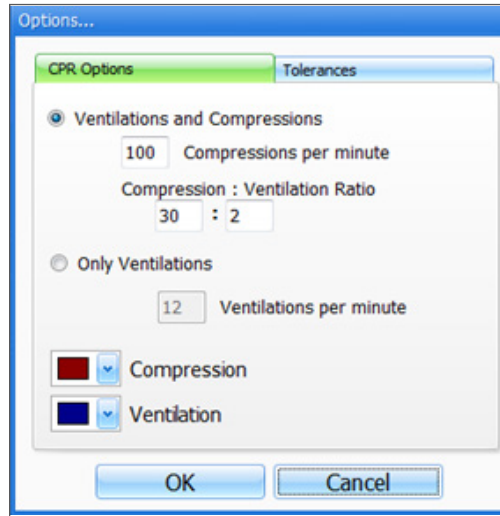
OPTIONS

The Options window contains the parameters accessible to the user for configuration.

CPR OPTIONS

- Select the number of desired compressions per minute.
- Specify the compression/ventilation ratio
- Select number of ventilations per minute (if the 'Only Ventilations' option is selected).

CPRLink will retain the options, tolerances and calibration data last entered.

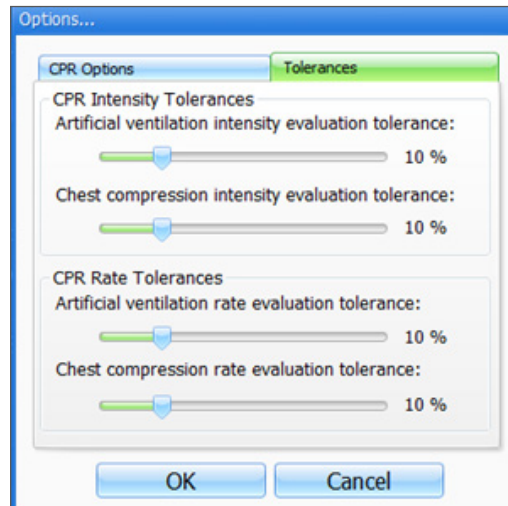


TOLERANCES

Select the tolerance and intensity of both chest compressions and ventilations. These parameters change the percentage deviation permitted while evaluating a compression or ventilation.

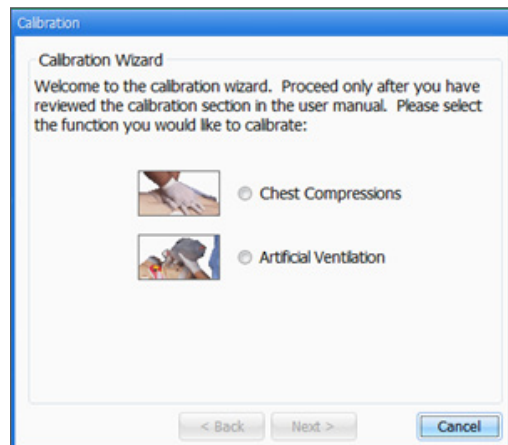
Intensity Tolerances: if the user has calibrated the software, these tolerances represent permissible deviation from the compressions or ventilations entered during the calibration procedure, otherwise the program uses default sensor values.

Rate Tolerances: the rate tolerance parameter sets the permissible deviation from the selected compression set. For example, if the user sets the Compression Rate at 100 compressions / minute and the Compression Rate Tolerance at 10 %, any compression frequency between 90 and 110 compressions per minute will be considered correct.



CALIBRATION

This tool allows you to easily calibrate the sensors inside the simulator. First choose which function you would like to calibrate: chest compressions or artificial ventilations.

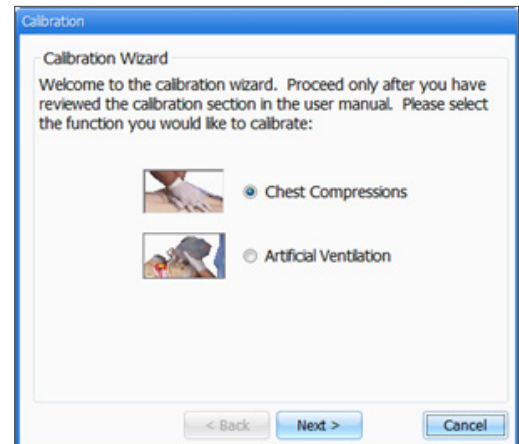


The procedures for each specific calibration are described in the sections below.

CHEST COMPRESSIONS/ARTIFICIAL VENTILATIONS

This tool allows you to calibrate the chest compressions and the artificial ventilations to your specific criteria. That is, you will be telling the system what a correct chest compression is and/or what a correct artificial ventilation is. Providers will be evaluated by the system based on this criteria.

The chest compressions and ventilations are calibrated in the same way. After making a selection, this dialog box is displayed:



Click next to proceed with the calibration.

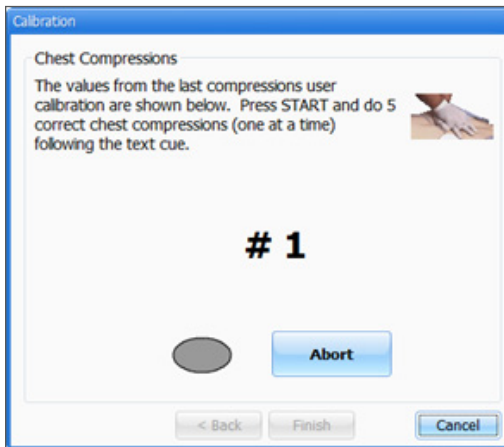
The application will now ask you to perform a number of “correct” chest compressions or artificial ventilations, depending on which was selected.



The facilitator should follow the text cue on the screen to perform just ONE compression or ventilation at a time, until prompted for successive compressions/ventilations.

For example, if calibrating chest compressions:

The wizard prompts you with a "#1".

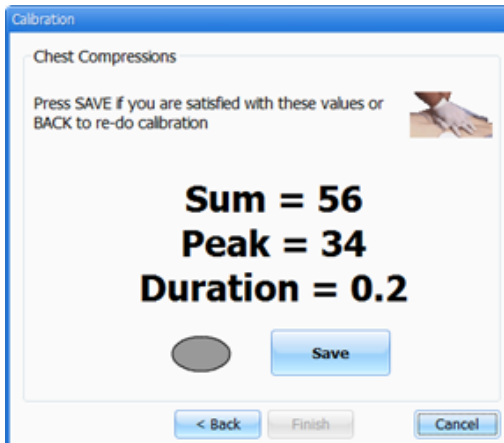


1. Perform one correct chest compression. A green filled oval indicates that the chest compression was successfully recorded.

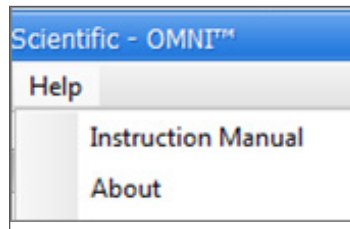
The wizard prompts you with "#2".

2. Perform a second correct chest compression. A green filled oval indicates that the chest compression was successfully recorded.
3. Continue the process.

At the end of the calibrating session, the wizard shows the average peak, depth, and duration values for the procedure.



HELP



INSTRUCTIONAL MANUAL

Open the instructional manual.

ABOUT

Click to view the version of the software.



Appendix

Troubleshooting

GENERAL TROUBLESHOOTING GUIDE

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

Symptom	Possible Cause	Solution
Omni is not turning on	Power supply not connected to simulator	Connect the power supply cable to the simulator and the other end to a power source
	Communication cable not connected to Omni or the simulator	Connect the communication cable to the simulator and to Omni.
I lost communication with the simulator	Corrupted connection	Reboot Omni by unplugging the communication cable and reconnecting after a few seconds
Communication never gets established or is lost	Data cable is not connected	Ensure the Ethernet cable is plugged into Omni and the simulator
		Verify the power cable is connected to the simulator
Omni is not detecting any compression or ventilations	System is not calibrated	Calibrate compressions and ventilations using Omni
Omni detects compressions but no ventilations	Module in the simulator is disconnected	Contact technical support to troubleshoot problem
Omni takes too long to boot up	A system restore is required	<ol style="list-style-type: none">1. Unplug the communication cable from Omni.2. Press and hold down the two outer keys, located on the right side of the controller, while reconnecting the communication cable.3. Once a "Please Wait" message appears on the screen, release the two outer keys. <p>Wait for the main screen to load and continue with simulations.</p>

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 properly 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)

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2. Be next to the simulator if troubleshooting is needed.

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

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