

Super Chloe™ Patient Care Simulator

S222.100



Gaumard®
Simulators for Health Care Education

Super Chloe™ 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.

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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

- 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 larger 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.
- Do not use povidone iodine on the simulator.
- The simulator is "splash-proof" but not waterproof. Do not submerge or allow water to enter the interior of the simulator.

Stoma Guidelines, Warnings, and Maintenance

USER GUIDELINES

- Always handle the stomas with clean hands.

WARNINGS

- Do not palpate using fingernails.
- Do not clean with alcohol or aggressive solvents.
- Do not pack any sharp objects with the stomas.
- Do not press the stomas against soiled surfaces, ink, or newsprint. The stoma material is absorbent.

MAINTENANCE

- Prevent items from resting or pressing against the stomas as indentations will form on the pressure points. The stomas may return to the normal shape after the pressure is relieved.
- Place talcum powder on the stoma surface to reduce tackiness. This can be reapplied as needed.
- Clean the stomas using a mild solution of soap and water.
- Apply talcum powder to return the surface to a skin-like feel and appearance.

Equipment Set Up

Overview

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

SIMULATOR ASSEMBLY

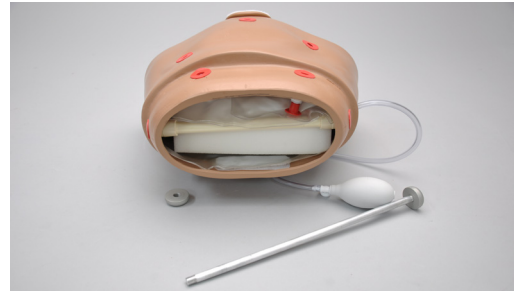
1. Within the lower half of the simulator, a rod passing through the midsection connects the upper and lower torso. To assemble the internal components of the simulator, unscrew one knob at the end of the rod.



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

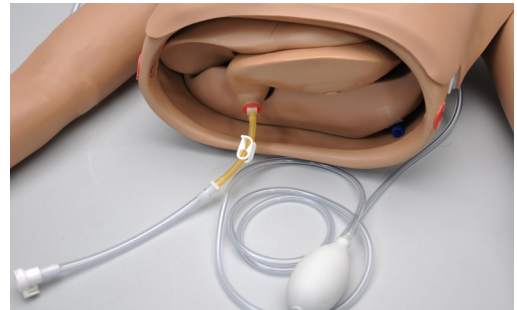


3. Remove the rod from within the white guide tube and place aside.

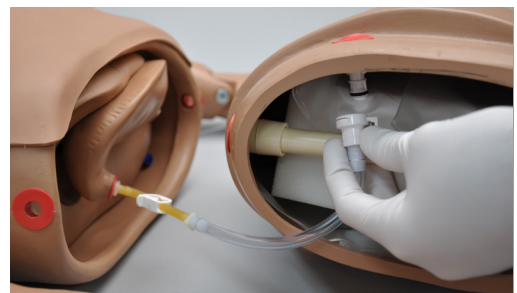


Ensure the white guide tube remains in place.

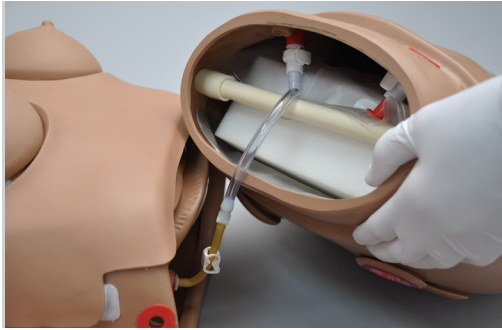
4. Locate the stomach reservoir positioned in the upper torso.



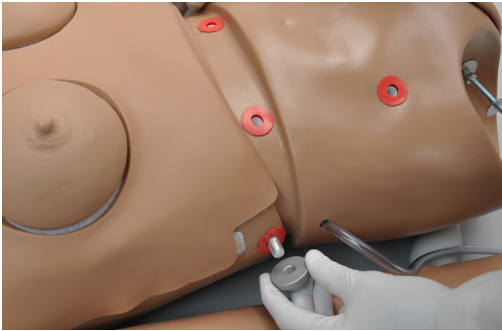
5. Connect the tube from the stomach reservoir to the white port in the lower torso.



6. Ease the lower torso into the upper torso, being careful not to disengage the stomach reservoir.



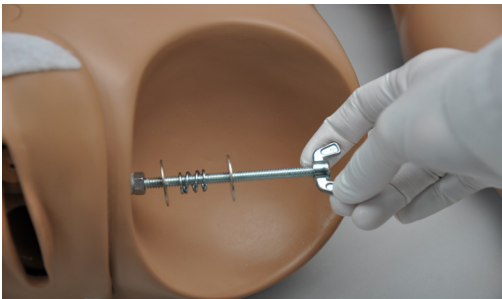
7. Line up the holes and slide the waist rod through the white guide tube. Replace the waist knob and fasten firmly.



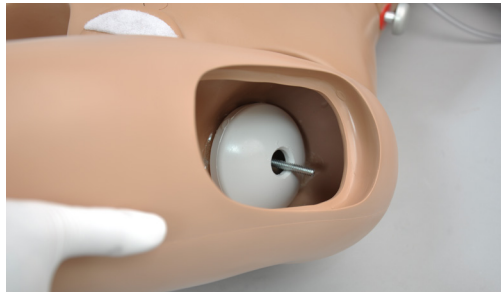
To disassemble the simulator for transportation or cleaning, reverse this procedure.

LEG ASSEMBLY

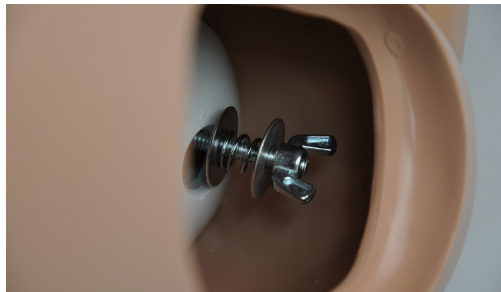
1. Place the simulator on a flat surface.
2. Remove the wing nuts, washers and springs from the bolts on the hips.



3. Remove the IM pad from each leg and slide the bolt through the orifice in the leg.



4. Reach through the IM site and assemble the fasteners onto the hip bolt in this order: washer, spring, second washer, and wing nut.



5. Tighten the wing nut until the spring is compressed slightly.

OMNI™ CONTROLLER

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 automatically proceed to the main screen.

WARNING

Do not connect the simulator 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.

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.



BLOOD PRESSURE ARM SETUP

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 shoulder of the simulator.



Working with Super Chloe™

Overview

Disclaimer: The section below describes all possible features in the Super Chloe™ simulator. The content of this information is subject to change without prior notice. Please contact Gaumard® Scientific for the most current information.

Super Chloe™ is an advanced multipurpose simulator equipped with the following features:

- Accommodates assisted ventilation
- Articulated neck and jaw
- Chest compressions and airway ventilations are measured and logged
- Colostomy, ileostomy and suprapubic stomas
- Decubitus ulcers
- Enema administration
- Injection site in deltoids, quadriceps and buttocks
- IV training on the right arm
- Male and female genitalia to perform urinary catheterization
- Medium skin tone is the standard simulator color; light or dark skin is available at no extra cost
- Multiple heart sounds
- Multiple lung sounds
- NG, OG, and otic exercises
- Radial pulse
- Realistic eyes and hair; left pupil is dilated
- Removable dentures
- Soft vinyl breasts for palpation and examination
- Stomas for transverse colostomy, ileostomy, and suprapubic exercises
- Take blood pressure readings on the left arm using a modified cuff
- Ulcerated foot
- Vaginal douching and pap smear exercises

Airway

NASAL AND ORAL INTUBATION

The simulator's airway can be intubated through the left nasal opening, the trachea, and the mouth using LMA or endotracheal tubes.

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



WARNING

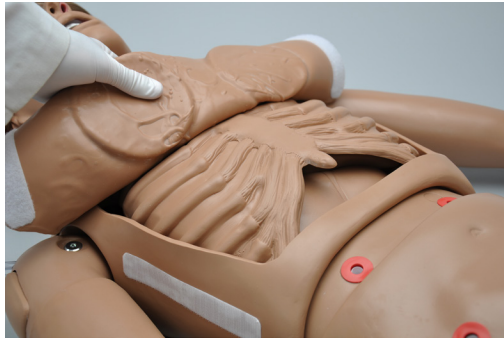
Always lubricate the tubing prior to perform any nasal, oral or tracheal intubation.

TRACHEOSTOMY CARE

The simulator is supplied with a tracheostomy opening. Pierce the replaceable trachea and insert a tracheostomy tube with an attached positive pressure device to observe chest rise. Reseal the trachea with the tape provided after each exercise.

SURGICAL TRACHEA REPAIR

1. Lift the chest skin of the simulator to reveal the chest cavity.



2. Locate the trachea.



3. Remove the tape enclosing the trachea.



4. Use the provided tape to replace the pierced tape and re-seal the trachea.



5. Lay the chest skin over the torso and reattach with Velcro.

Breathing

PULMONARY VENTILATION

Ventilate using a BVM and obtain realistic, dual chest rise. Use a fitted mask to limit air leakage and to provide a visible chest rise.

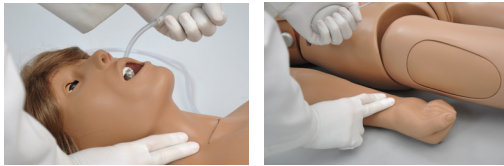


Circulation

PULSES

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

Left radial pulses are present on the simulator and generated automatically when Omni is connected to the simulator. Edit the pulse rate from Omni to apply immediate settings.



IV ARM

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 adult 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.

INSTRUCTIONS FOR USE

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

1. Place the arm on a flat surface.
2. Lift the hinged metal stand that supports the blood-dispensing bag.



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.



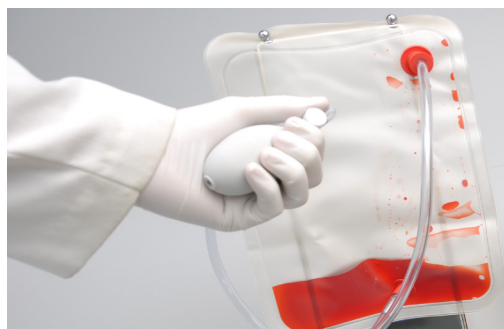
5. Close the adjustable clamp of the draining tube located near the right shoulder.
6. Add water or artificial blood to the blood-dispensing bag using the provided funnel or large syringe.



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.

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 new skin onto the arm at the fist 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.
- If blockage persists, flush the veins with water and use the squeeze bulb connected to the dispensing bag to add pressure to the system.

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

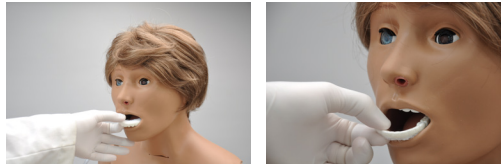
TEETH AND TONGUE

The simulator is supplied with normal size teeth and tongue. The upper and lower dentures are removable.

TEETH ASSEMBLY/DISASSEMBLY INSTRUCTIONS

The dentures are attached with Velcro and no force is required for their removal..

1. To remove the teeth, gently insert one finger into the upper or lower jaw and tap lightly. Dentures will immediately snap out.



2. To reinsert, gently hold lower or upper lip and replace dentures.

WARNING

Care must be taken not to damage teeth while placing an endotracheal tube using a conventional laryngoscope.

EARS, NOSE AND THROAT

WARNING

Always use lubricant prior to the introduction of a Levin tube or any other invasive device.

- Left ear: the interior of the ear contains a simulated ear canal with a capacity of 10 ml, to practice syringing exercises.
- Nasal/oral openings: both are connected to the stomach reservoir/tank. Use a #10 Levin tube to demonstrate tube feeding and gastric suction.
- A gastric reservoir (capacity: 850 ml) is provided, with an opening for gastrostomy.
- The nostrils can be pinched for CPR simulations.

RANGE OF SIMULATED MOVEMENT

The joints are strong and their movements are lifelike and realistic. The simulator bends at the neck, elbows, wrist, waist, knees and ankles and the jaw articulates.

MALE AND FEMALE ORGANS

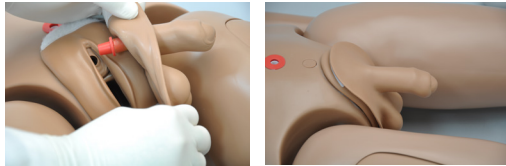
The simulator includes a fitted female genitalia and a male genitalia attachment. The attachment is a reproduction of a male external genitalia with scrotum.

ASSEMBLY INSTRUCTIONS

1. To attach the male genitalia, remove the red adaptor and set it aside.

Do not throw the red adaptor away, as it is necessary to perform female catheterization exercises.

2. Slide the tube attached to the male genitalia, into the opening of the urethra on the simulator and fasten the Velcro.



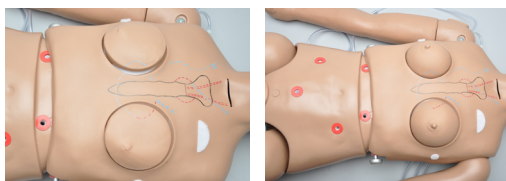
INJECTION SITES

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



BREAST PALPATION AND EXAMINATION

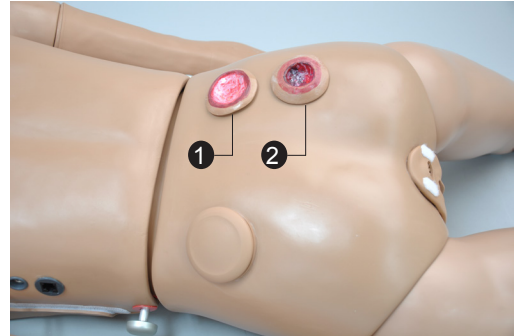
The simulator is provided with two sets of interchangeable male and female breast inserts. The left female breast contains a simulated tumor. The right female breast is normal.



The simulator is provided with interchangeable breast inserts. Refer to the Breast Examination section for additional information.

DECUBITUS ULCERS

The simulator is supplied with two anatomically accurate ulcers. The first decubitus ulcer illustrates the initial stage of ulceration. The second decubitus ulcer illustrates the suppuration or pus/deeply infected stage.



- 1 Initial stage of ulceration
- 2 Suppuration or pus/deeply infected stage.

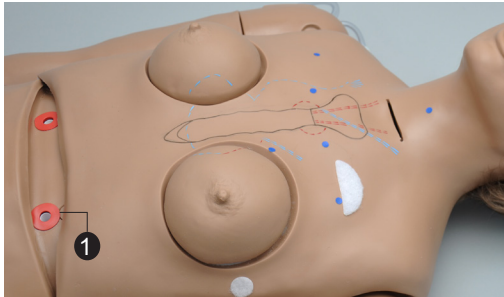
ULCERATED FOOT

Diagnose and treat ulcers on the left foot of the simulator.



STOMACH AND LIVER

The upper torso contains a realistic stomach and liver. A gastrostomy left port, located near the waist, connects directly to the stomach tank.

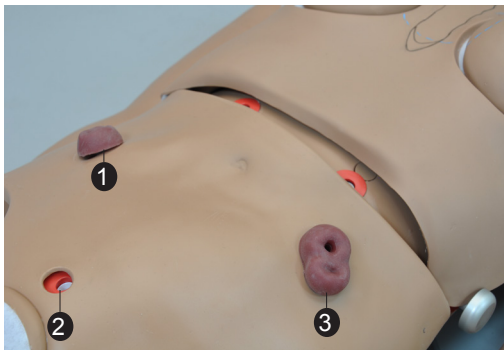


1 Gastrostomy port

TRANSVERSE COLOSTOMY, ILEOSTOMY, AND SUPRAPUBIC CYSTOSTOMY

The simulator has anatomically sculptured stomas of a transverse colostomy, ileostomy, and suprapubic cystostomy.

Practice skin preparation, stoma hygiene, treat conditions around the site, and apply disposable or permanent ostomy bags to the openings.



- 1 Ileostomy
- 2 Suprapubic cystostomy
- 3 Transverse colostomy

INTERNAL RESERVOIRS MAXIMUM CAPACITY

Tank	Capacity
Stomach	750 ml
Bladder (Suprapubic Stoma)	1800 ml
Rectum (Colostomy)	1800 ml
Ileostomy	650 ml
Ear Canal	10 ml

Hospital Care Capabilities

WARNING

Always use a lubricant when introducing an invasive device.

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

HYGIENIC CARE

The head of the simulator is supplied with a wig, permitting instruction in combing, shampooing, and head draping.

ENEMA ADMINISTRATION

The legs articulate to permit enema exercises with the simulator on its back. The enema should be introduced with an anal nozzle of small diameter.

A non-return valve is built into the anal canal to prevent fluid spilling during instillation. The enema reservoir capacity is approximately 800 ml.

URINARY CATHETERIZATION

Super Chloe has a simulated bladder and female genitalia to practice catheterization procedures.

Use the suprapubic opening to fill the bladder and an 18 Fr catheter to withdraw fluids. Combined, the urethral passage and the bladder have a 2000 ml fluid capacity.

FILLING THE BLADDER

To fill the bladder, insert a funnel or a catheter with a large syringe at the suprapubic opening, and instill 500 ml of water.



EMPTYING THE RESERVOIR SYSTEM

To remove fluid from the bladder reservoir, sit the simulator over a bedpan with the catheter in place; alternatively, remove the waist rod separating the upper torso from the lower torso, and press out the fluid from the bladder reservoir.

SIMULATING BLADDER CONTRACTION

Catheterization exercises may be carried with the aid of an auxiliary tank on a stand.

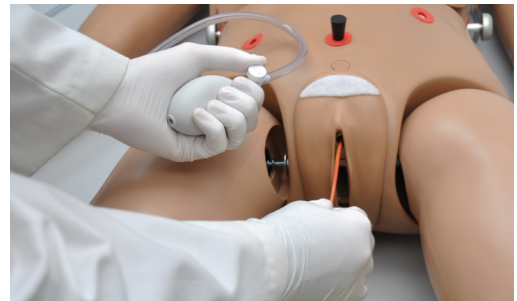
1. Fill the auxiliary tank with fluid and place on provided stand.
2. Remove stoma from suprapubic opening, if connected.
3. Connect the auxiliary tank to the suprapubic opening using the red connector.

The gravity feed of the fluid simulates the contraction of the bladder and adds realism to the procedure.

INCREASING URINARY FLOW

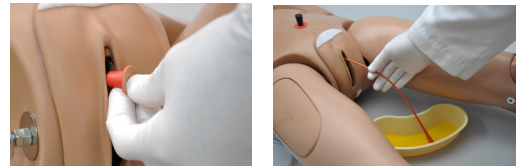
Use the squeeze bulb located on the right side of the lower torso to inflate an internal cushion lifting the bladder anteriorly. This will increase bladder pressure and consequently intensify the urinary flow.

Remove the ostomy from the suprapubic stoma and attach the rubber plug to seal the bladder reservoir.



FEMALE CATHETERIZATION

- Catheterize the simulator lying on its back.
- Perform female catheterization exercises with the urethra plug connected.



- When practicing urinary catheterization, separate the labia minora to examine the urethral opening. The realistic simulation of the vulva area also permits instruction in asepsis and disinfection.
- Use an 18 Fr catheter, as smaller catheters may cause leakage.
- Lubricate the distal end of the catheter before insertion.

MALE CATHETERIZATION

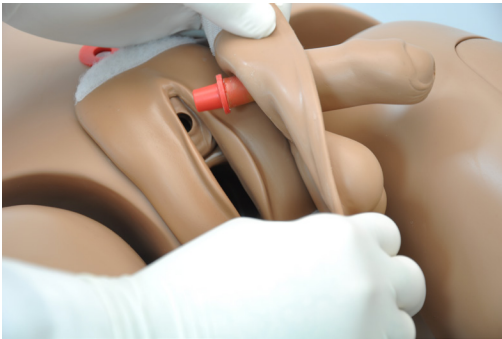
- Catheterize the simulator in the upright or recumbent position.
- The realistic simulation of the male genitalia also permits instruction in asepsis and disinfection.
- Use an 18 Fr catheter, smaller catheters may cause leakage.
- Lubricate the distal end of the catheter before insertion.

ASSEMBLY INSTRUCTIONS

1. Remove the red adaptor from the urethra.

Do not throw the red adaptor away since it is necessary to perform female catheterization exercises.

2. Gently slide the tube from the male organ into the opening of the urethra and attach the Velcro.



Breast Examination

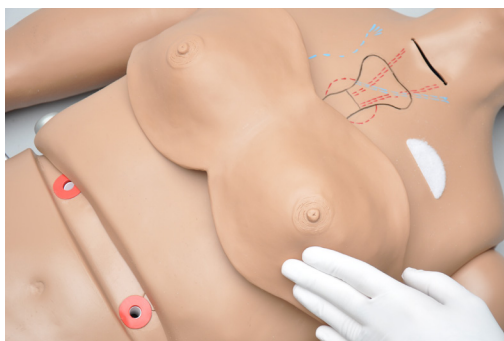
Gaumard's Breast Examination feature combines state-of-art materials to create a realistic look, feel and texture in addition to lifelike softness and durability. The breasts, nipples and areola have realistic features. The cysts and masses located in the breasts have distinct textures useful in recognizing normal and abnormal conditions found in breasts.

The Breast Examination feature consists a soft vinyl brassiere with seven interchangeable breast inserts.

Instructions for Use

Breast examination should be done with the simulator in a semi-upright position.

1. Place the desired breast (s) in place and attach the soft vinyl brassiere onto the torso.



2. Feel the left breast with the right fingers and the right breast with the left fingers.

3. Move the fingers in a circular movement around the breast. Move from the periphery toward the center until you reach the nipple. Raise the nipple gently. It should lift up without resistance.

Interchangeable Breasts

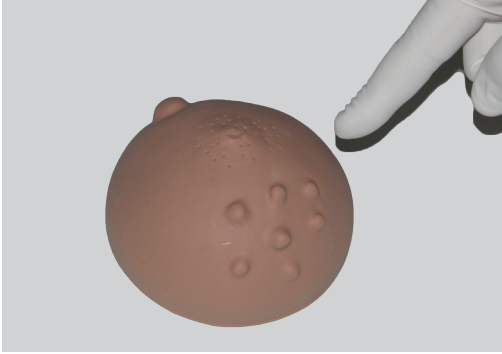
BREAST #1

Demonstrate and practice the movement of the mammary gland on the surface of the pectoralis major muscle, which lies directly under the breast.

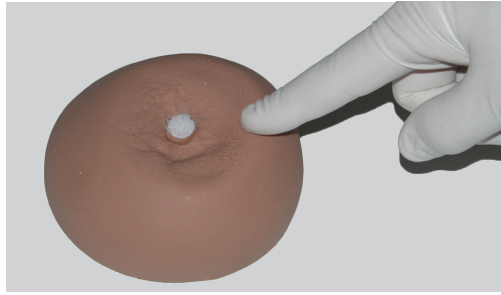


BREAST #2

Seven discreet nodes on one side, a somewhat larger node on the other side, and a very discreet puckered area around the nipple. This breast represents various stages of fibrocystic disease which is due to an endocrine imbalance and may be found in many normal women. The larger node may be felt either as a hard node or as a cystic mass or swelling.

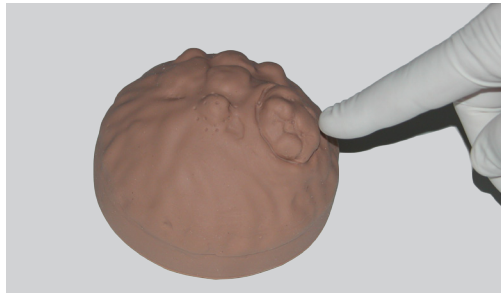


Attach the Velcro on the nipple to the Velcro on the inside of the skin.



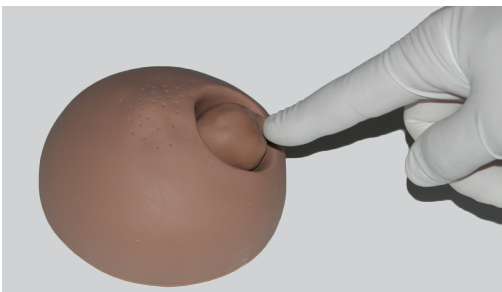
BREAST #5

The breast below shows a comparatively rare but easily palpable tumor: a giant sarcoma (or giant mammary myxoma) of which the wildly growing masses (the largest one shown in ulcerated form) can be easily felt and seen.



BREAST #3

There is a solitary tumor in the breast below. It is well circumscribed and has a stalk. The tumor can be moved, and is not adherent to breast tissue. It is benign and usually occurs in younger women.



BREAST #6

This form of breast cancer (scirrhous carcinoma) is one of the more commonly encountered malignant tumors of the breast. When palpating, note the infiltrating nature of the growth. It has no well-defined borders and cannot be moved within the breast.



BREAST #4

This breast shows a retracted nipple and on careful palpation, a mass may be felt immediately under the nipple. This breast represents a carcinoma in one of the milk ducts and also shows the so-called "orange skin" effect on the entire nipple area.

BREAST #7

This replica of the lymphatic drainage of the left breast outlines the various pathways along which breast tumors metastasize. The auxiliary pathway, subclavian pathway, and internal mammary pathway are shown and are easily palpable. Initially, the instructor may find it worthwhile to examine and palpate the various pathological breasts without the brassiere strap in place.

The strap should be pulled over the torso, taking care that it is properly centered, so that it does not “pull” excessively toward either the left side or the right side.



Heart and Lung Sounds

Overview

The Heart and Lung Sounds teaching system is a tool used for auscultation training. The system is composed of a Virtual Stethoscope™ and RFID sensors located beneath the skin of the simulator.

Incorporated in the Virtual Stethoscope is a control box with:

- Power switch
- Battery life status
- Sounds menu

The torso of the simulator has numerous removable identification dots located where each of the heart and lung sounds are normally heard. These colored dots can be removed at any time to palpate and find the auscultation sites on the front and the back of the simulator. The torso of the simulator also features ribs and lungs, useful for palpating each site. Each auscultation location relates to the physiology of the torso.



The speakers provide external feedback of the auscultation sounds. If the speakers are disconnected, only the student will hear the heart and lung sounds through the ear pieces on the virtual stethoscope.

Instructions for Use

1. Locate the ON/OFF switch on the front of the control box and turn it on.
2. Palpate the simulator and place the bell of the virtual stethoscope at the 5th Intercostal Space on the left side of the simulator along the midclavicular line. This is the APEX point where sounds from the mitral valve and the left side of the heart are best heard. By placing the “bell” over the ID disk embedded within the fifth intercostal space you will hear one of the five possible sounds APEX heart sounds.

The back of the control box contains a label and a five position slide switch. Each of the five positions is color coded: red, orange, green, blue and black.



Setup

1. The Virtual Stethoscope is powered by a conventional 9V battery. Open the battery cover on the back of the control box and install the battery. Close the cover.
2. Locate the small stereo jack on the control box and attach the speakers provided. Plug the speakers into a conventional 120V/60 Hz wall outlet and turn the speakers on.

3. Place the switch in the red position and hear the sounds highlighted in red at the nine locations on the front and the four locations on the back of the simulator. Change the switch to the green position and hear a different sound menu at the locations on the front and back of the simulator. Alternatively, you may want to choose one position and move the slide switch through each of the five sounds available.

Menus

Location	Heart Sound	Comment
Base Right	Base Sound	Patient has a normal heart with mild anemia. The heart is hyperdynamic and has elevated cardiac output. S2 is accentuated at the base.
	Fixed Split S2	Patient has an atrial septal defect which increases flow through the right heart, prolongs RV systole and also produces a mid-systolic murmur (MSM) because of increased flow through the RV outflow tract.
Base Left	Physiological Split S2	The splitting of S2 is easily heard during inspiration and the second sound is single during expiration. The second component of the split sound (P2) is accentuated.
	Split S2	S2 is variably split during mid-inspiration, as three beats are repeated.
Left Side Sternal Border	Paradoxical Split S2	The splitting of S2 is heard during expiration, but the sound becomes single during inspiration.(The background noise is increased during inspiration.)
	Opening Snap	Patient has mitral stenosis, responsible for an early crisp diastolic sound heard at the base 0.08 seconds after S2. S1 is usually loud at the base, which reflects mitral stenosis.
	Friction Rub	Patient has uremic pericarditis, which leads to rubbing of roughened visceral and parietal pericardial surfaces against one another. The 3 component rub exists during deep inspiration.
Apex	Apex Sound	Patient has a normal heart with mild anemia. The heart is hyperdynamic and has elevated cardiac output.
	Mid-Systolic Click	Patient has mitral prolapse, which produces a mid-systolic click heard during inspiration.
	S3 Sound	Patient has a readily heard third heart sound. S3 occurs later in diastole than the opening snap.
	Intermittent S4	Patient has left ventricular hypertrophy, and has a fourth sound (S4) which is not heard on every cycle. The sound is presystolic, about 0.1 second before S1.
	Starr-Edwards Valve	This ball-in-cage mitral prosthesis has a mechanical closing sound (S1) and one or more diastolic sounds caused by the ball bouncing within the cage.
Trachea	Tracheal Sounds	Expiration sounds are louder, have a higher pitch, and are of longer duration than during inspiration. The silent period or pause following expiration is longer than the one between expiration and inspiration.
	Stridor Sounds	Patient has marked respiratory distress, and a narrow aperture between the vocal cords that produces a high pitched tone during both inspiration and expiration. During the end of expiration, there is an abrupt drop in pitch.
Upper Anterior (Two Sites)	Bronchial Sounds	Breath sounds are similar to tracheal sounds in that the expiratory phase is louder and lasts longer than the inspiratory phase. The major distinguishing characteristic is the high pitched, harsh quality of the expiratory phase.
	Wheezing Sounds	These musical wheezing sounds are often heard in asthma patients. During inspiration, the wheeze is slightly higher in pitch than during expiration. Wheezing in asthmatics is often present in either one or both phases of respiration.

Location	Heart Sound	Comment
Lower Anterior (Two Sites)	Bronchial Sounds	Breath sounds are similar to tracheal sounds in that the expiratory phase is louder and lasts longer than the inspiratory phase. The major distinguishing characteristic is the high pitched, harsh quality of the expiratory phase.
Posterior (Four Sites)	Wheezing Sounds	These musical wheezing sounds are often heard in asthma patients. During inspiration, the wheeze is slightly higher in pitch than during expiration. Wheezing in asthmatics is often present in either one or both phases of respiration.
	Pleural Friction	This sound originates from the friction of inflamed pleural surfaces moving against one another. The sound is repetitive as long as the breathing pattern and position remain constant. Similar to but lower in pitch than crackles.
Posterior (Four Sites)	Medium-Fine Crackles	These noises begin about mid-inspiration and progressively increase in intensity up to the end of expiration. Coarse crackles are also audible in the early expiratory phase of some of the breaths.
	Ronchi, Crackles	Coarse crackles are present during both inspiration and expiration. There are also some very low pitched repetitive sounds that are ronchi. High pitched squeaks are also audible against a background of bronchial breath sounds.
	Coarse Crackles	Coarse crackles begin at the onset of inspiration and diminish in intensity and prevalence toward the end of inspiration. Expiration is not audible.
	Pulmonary Edema	Coarse and medium crackles appear toward the end of inspiration and continue into expiration. The respiratory rate is rapid and expiratory phase is "bronchial" in character. These features exist during respiratory distress and congestion.

BP Arm Features

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.

Features

3. Pump up the cuff until the radial pulse is absent.
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.

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.

Depending on the selected heart rate and the rate of cuff deflation, the Korotkoff sounds will adjust automatically.

The sounds are silenced automatically if the auscultatory gap is enabled.

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.

Omni™ Code Blue® and BP Arm

Using Omni™ Code Blue

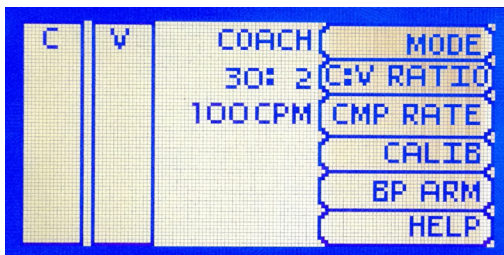
Code Blue® is a CPR training tool incorporated in the Omni controller. It was designed to help teach CPR by monitoring cadence and depth of cardiac compressions and airway ventilations in real time.

WARNING

Do not perform mouth to mouth ventilation since the airway may be difficult to clean.

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:

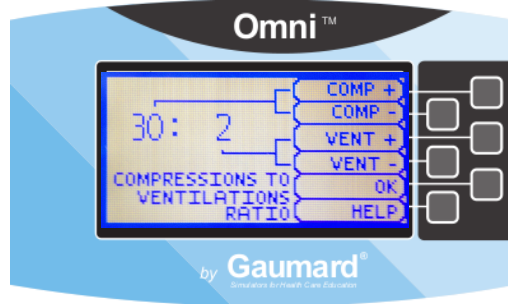
- CPR operational mode: TEST or COACH mode
- C:V Ratio: customize the compression to ventilation ratio to match correct guidelines
- Compression/Ventilation Rate: adjust the number of compressions and ventilations per minute
- Calib: calibrate the pressure sensor in the simulator
- BP Arm: gain access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

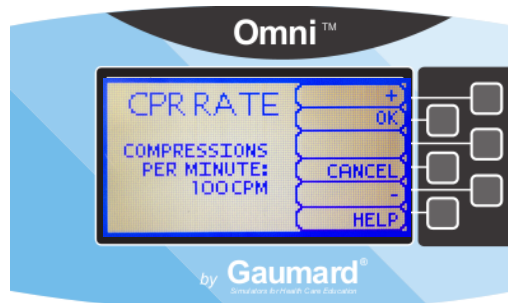
C:V RATIO MENU (COMPRESSION TO VENTILATION RATIO)

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.



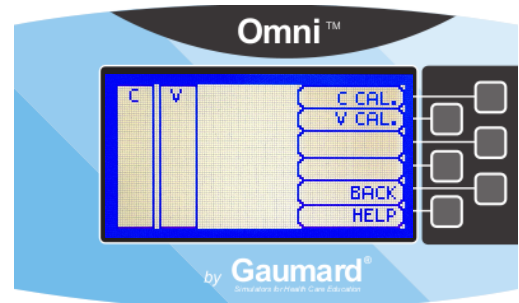
COMPRESSION / VENTILATION RATE MENU

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.

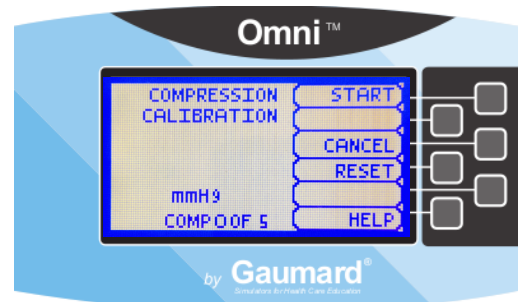


CALIBRATING CHEST COMPRESSIONS

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.

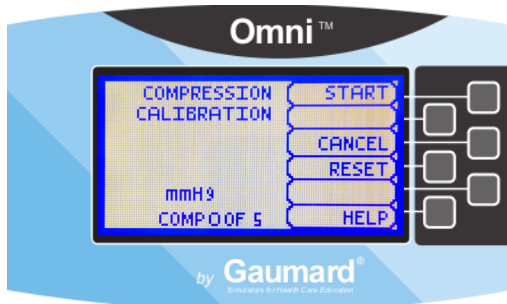
Calibrating airway ventilations:

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.



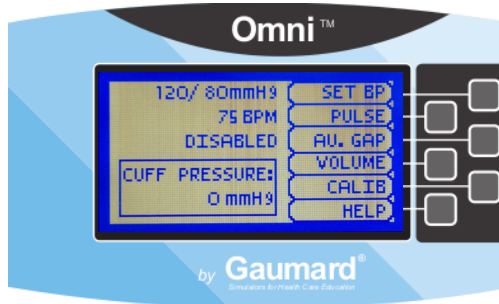
After resetting the sensor, Omni will display DONE.

2. Select SAVE to finish.



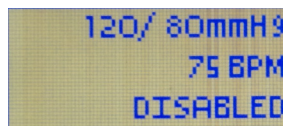
BP ARM

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.



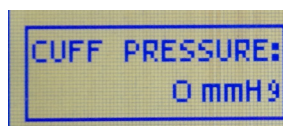
CURRENT SETTINGS

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 MENU

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.

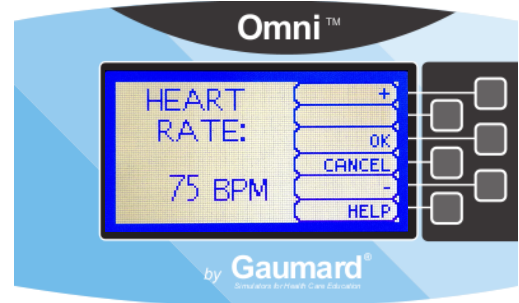


Select systolic or diastolic and adjust the pressure using the + and - buttons. Press **OK** to save the changes and return to previous screen. The default value for the blood pressure is 120/80 mmHg.



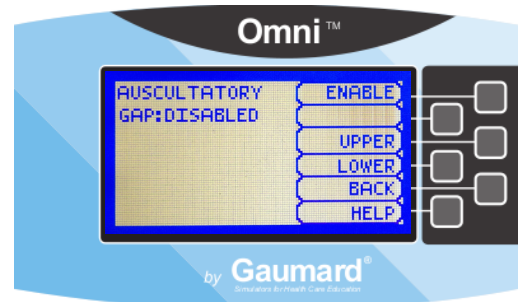
PULSE MENU

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.

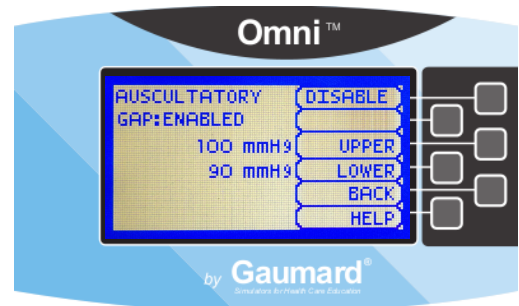


AU. GAP MENU

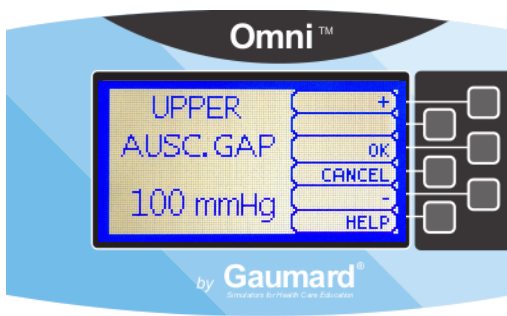
Enable and set an interval of pressure where Korotkoff sounds dissipate. The auscultatory gap is disabled by default.



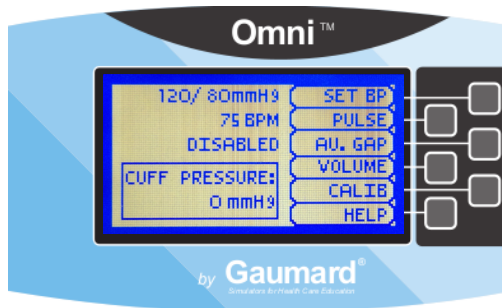
Pressing the **ENABLE** button activates the **UPPER** and **LOWER** menus. Use these menus to set the limits of the auscultatory gap.



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.

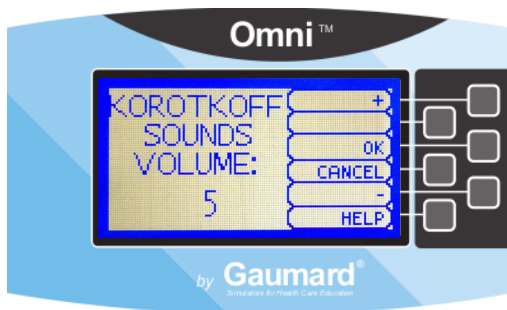


4. Select the **CALIB** menu from the main screen.

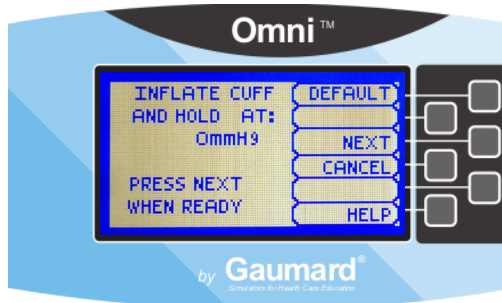


VOLUME MENU

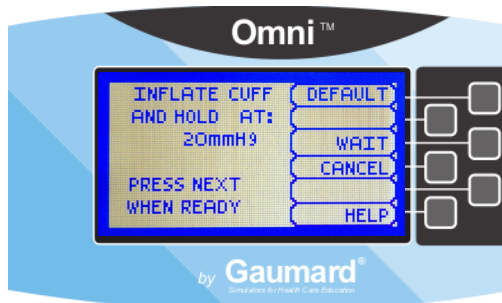
Increase or lower the volume of Korotkoff sounds using the **VOLUME** menu. Press **OK** to save the changes and return to previous screen. The default value for the Korotkoff sounds volume is 5.



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.



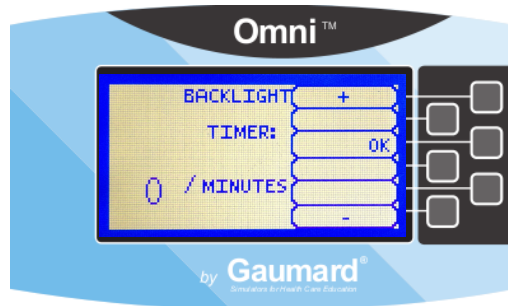
BACK

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™

CPRLink 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.

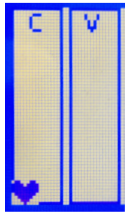
In case the auto run is disabled, open My Computer. In the My Computer window, open the drive that contains the CPRLink CD. Double-click on CPRLink and locate the setup file "RunMeFirst". Double-click on "RunMeFirst" to start the installation.

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.

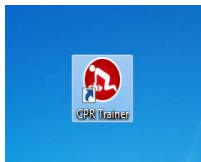


WARNING

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

STARTING CPRLINK

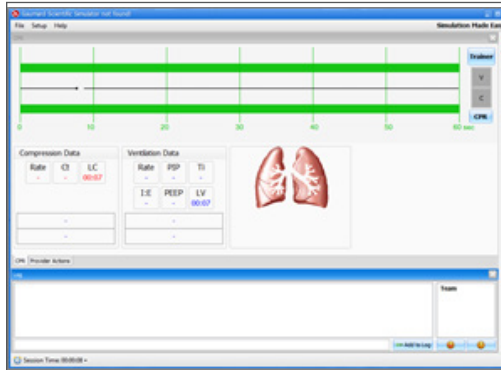
Double click on the CPRLink icon on the desktop of your PC.



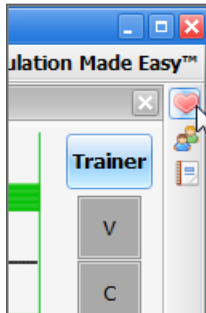
CPR SCREEN

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.

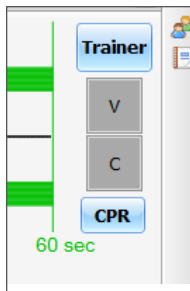
The main screen also contains the controls used to evaluate compressions and ventilations.



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

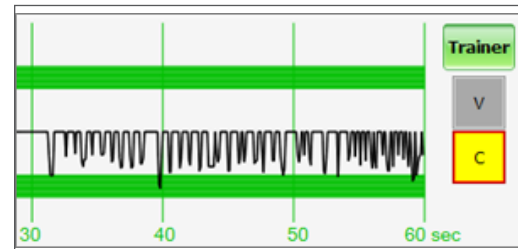
- Rate: ventilation rate in real time.
- PIP: Peak Inspiratory Pressure
- Ti: time inspiration
- I:E: Inspiratory : Expiratory ratio
- PEEP: Positive End Expiratory Pressure
- LV (Last Ventilation): time elapsed since the last ventilation performed

TRAINER

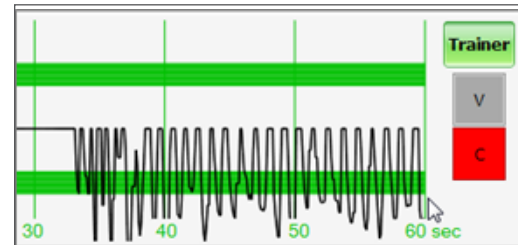
The CPRLink application generates visual and audible cues of the compression to ventilation ratio programmed in the CPR Options menu. When the Trainer button is clicked, the V (ventilations) and C (compressions) box borders blink to indicate the correct reference CPR rate. A high-pitched beep signals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

PERFORMANCE EXAMPLES

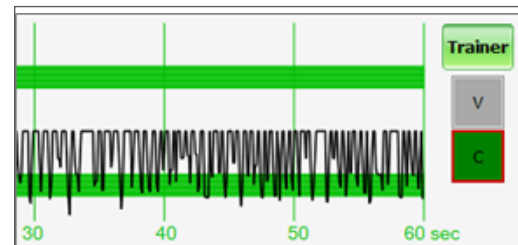
Compressions are too shallow. Most waveform peaks do not reach the green zone. Compression indicator is yellow.



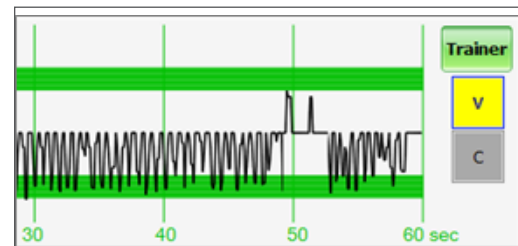
Compressions are too deep. Waveforms peaks mostly exceed the green zone. Compression indicator is red.



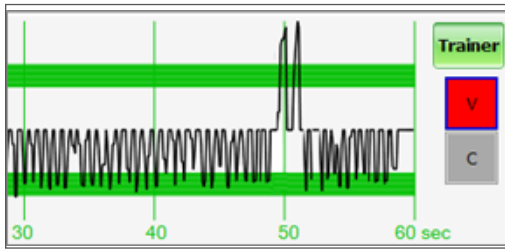
Compressions are performed correctly. Waveform peaks are mostly inside the green zone.



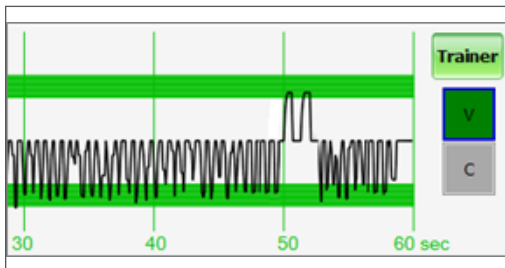
Ventilations are too shallow. Waveform peaks do not reach the green zone.



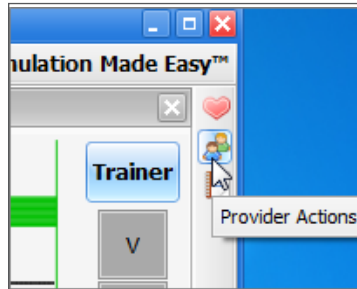
Ventilations are too strong. Waveform peaks exceed the green zone.



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



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



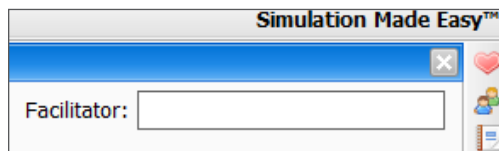
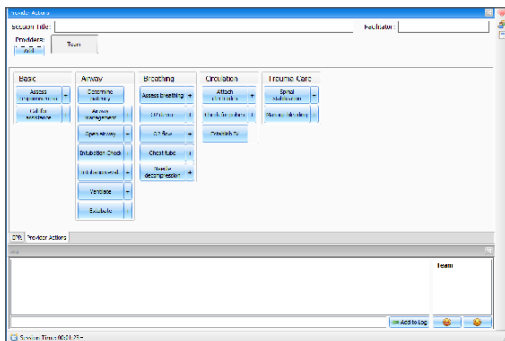
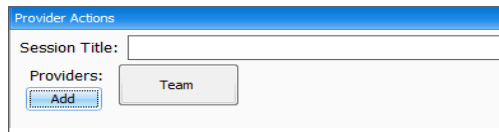
The Provider Actions screen consists of four different areas (from top to bottom): session info, team logging buttons, provider action buttons, and text log.

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.

PROVIDER ACTIONS SCREEN

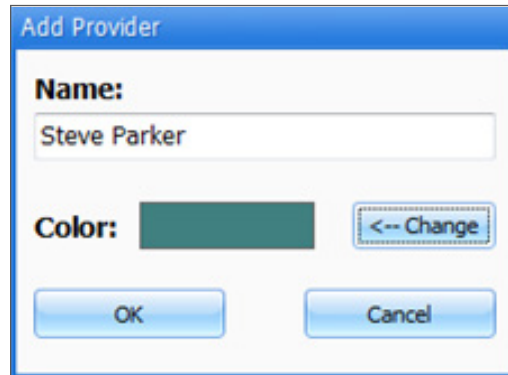
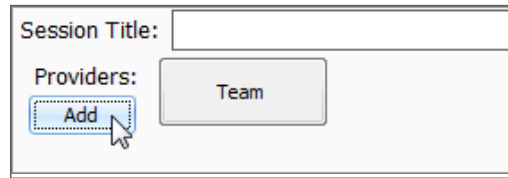
The provider actions screen allows the facilitator to keep track of every event during a session. It automatically creates an entry whenever a detected event occurs. Also, the facilitator can log provider actions with a simple click.



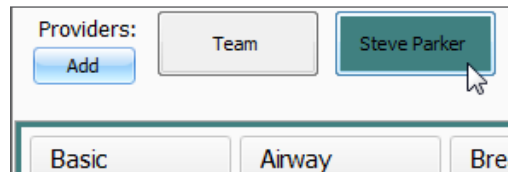
TEAM LOGGING

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.



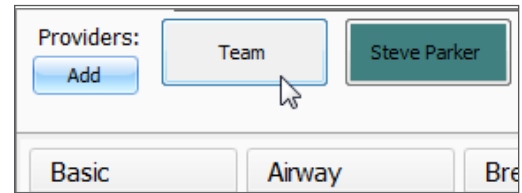
A colored button is inserted on the Team Logging region for the provider just added. There can be up to six different providers, each with a corresponding button. Every time one of the provider buttons is clicked, that person becomes the active provider. To indicate the active provider, the vertical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



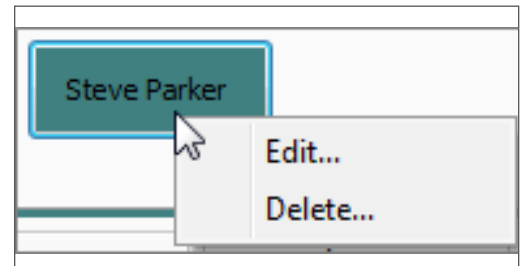
On the Log Page image, for example, the provider “Steve” is the active provider, so the vertical bars are teal colored. While there is an active provider, every time a Provider Action or Evaluation log entry is created it will have the name of the provider as follows:

“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.

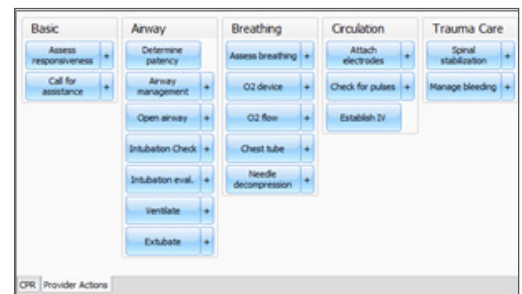


All provider buttons can be edited or deleted by right-clicking them and selecting an option from the menu.

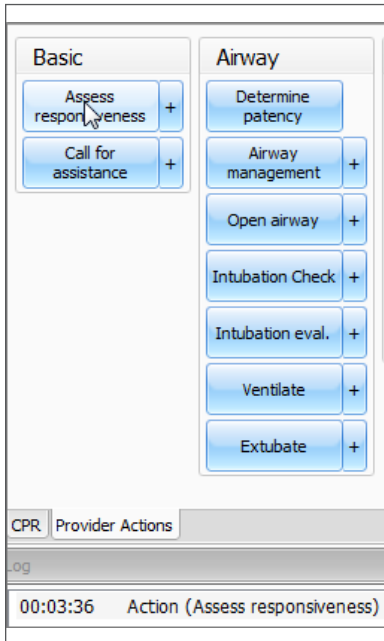


PROVIDER ACTIONS

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)"

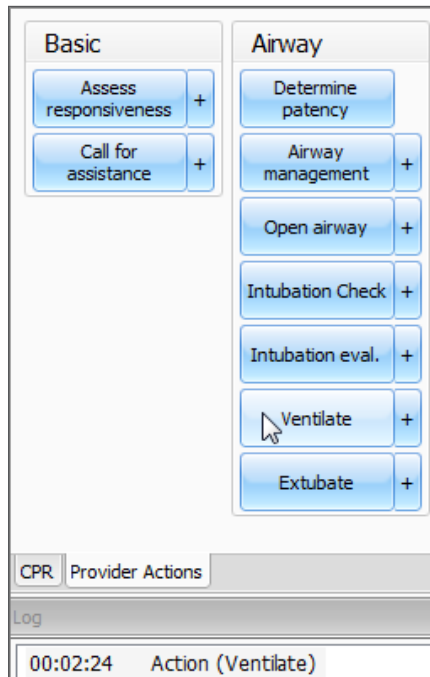


SPECIAL BUTTON

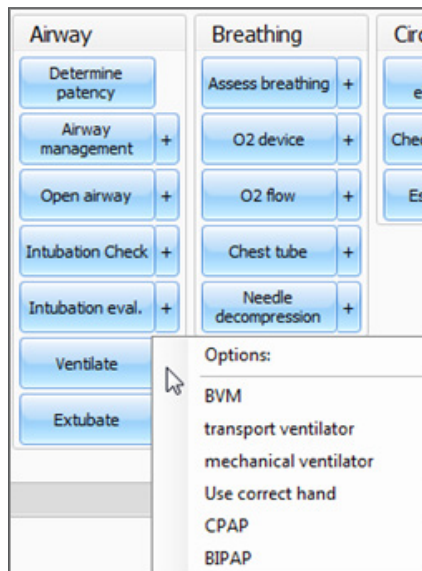
The special button adds additional functionality to the provider actions section.

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)"

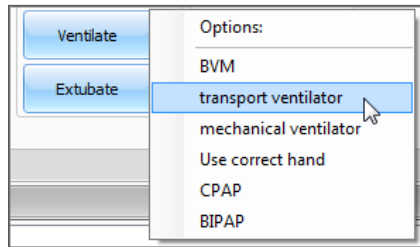


On the other hand, if the '+' button next to 'Ventilate' is clicked, a list of additional options appears.



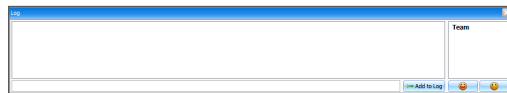
The facilitator can be more specific and choose, for example, 'transport ventilator'... and the following entry is added:

"00:01:28 Action (Ventilate): transport ventilator"

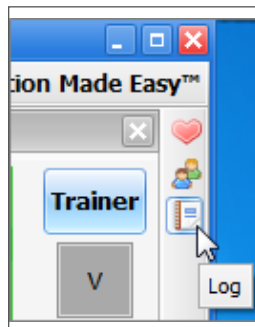


TEXT LOG

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 administers a chest compression:

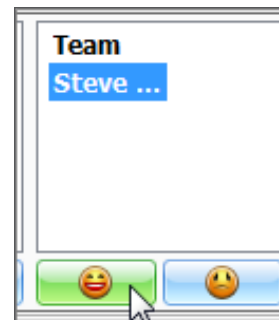
"00:05:36 Detected (chest compression): too weak"

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"

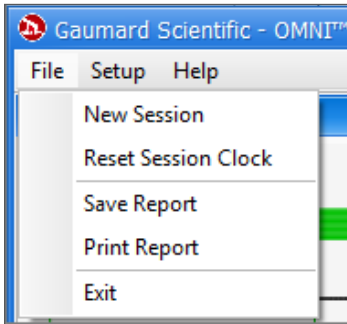
NOTES

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

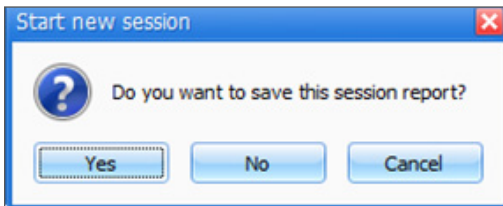
FILE



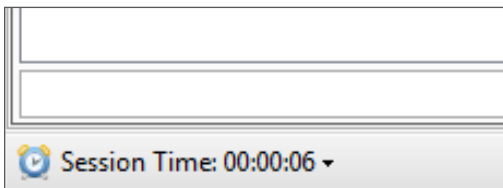
NEW SESSION

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.

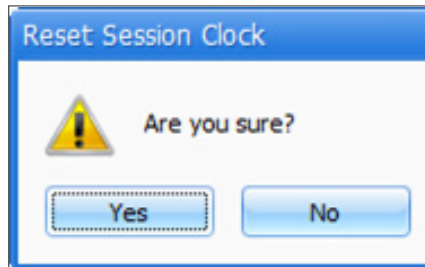


You can also start a new session by clicking on the session clock drop down menu, located at the bottom of the Log box, and selecting New Session.

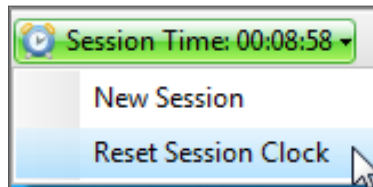


RESET SESSION CLOCK

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

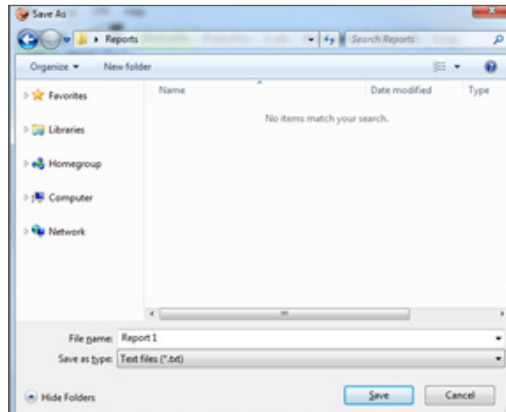


Reset the session Clock by clicking on the session clock drop down menu, located at the bottom of the Log box, and selecting Reset Session Clock.



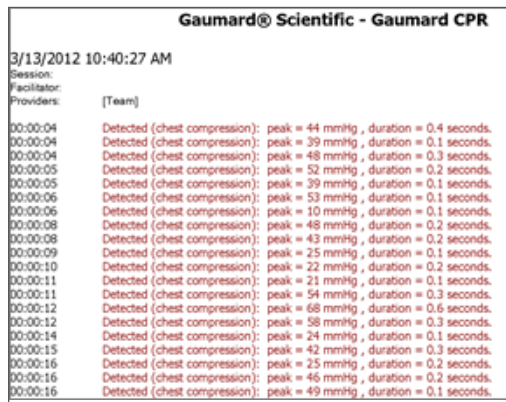
SAVE REPORT

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:



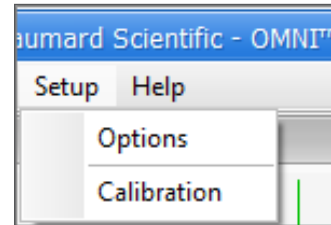
PRINT REPORT

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



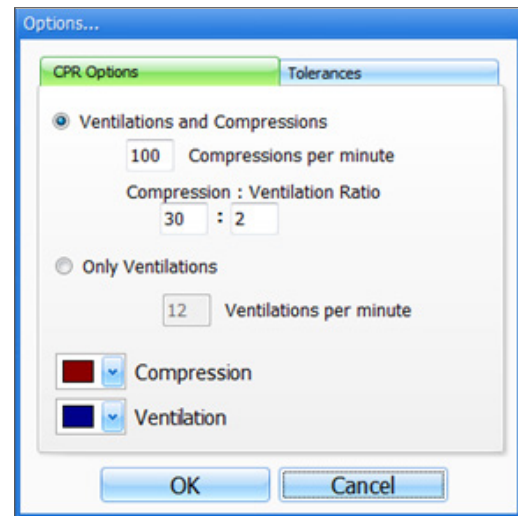
OPTIONS

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.

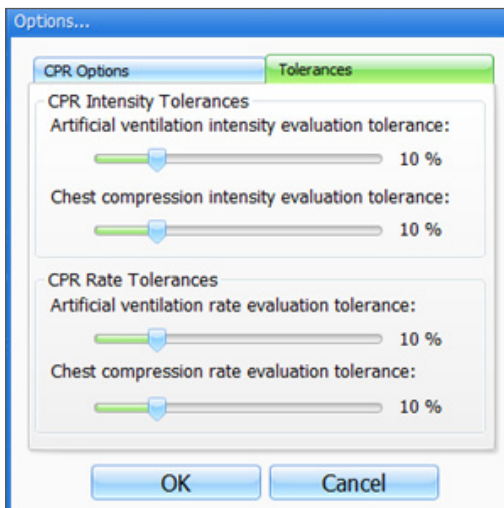


TOLERANCES

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.

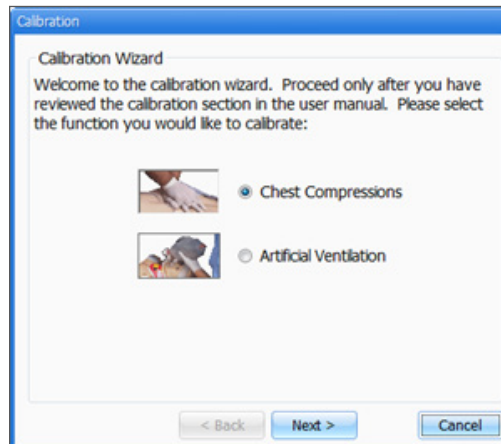
Rate Tolerances: the rate tolerance parameter sets the permissible deviation from the selected compression set. For example, if the user sets the Compression Rate at 100 compressions / minute and the Compression Rate Tolerance at 10 %, any compression frequency between 90 and 110 compressions per minute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



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:

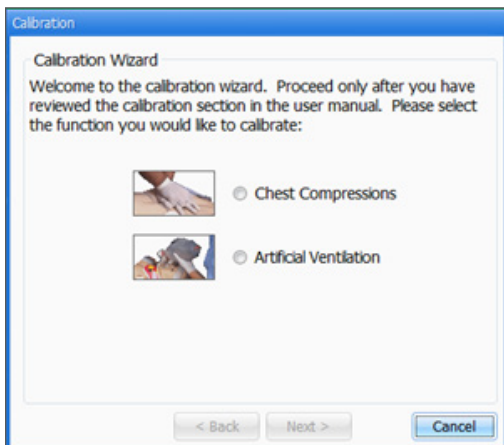


Click next to proceed with the calibration.

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

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.

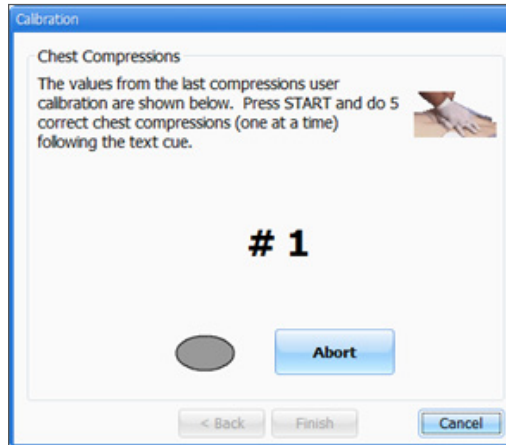


The facilitator should follow the text cue on the screen to perform just ONE compression or ventilation at a time, until prompted for successive compressions/ventilations.

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

For example, if calibrating chest compressions:

The wizard prompts you with a "#1".

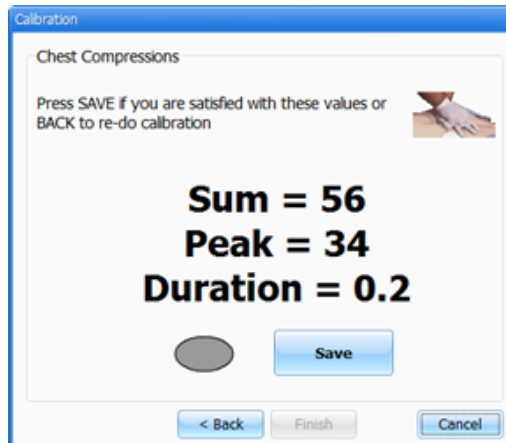


1. Perform one correct chest compression. A green filled oval indicates that the chest compression was successfully recorded.

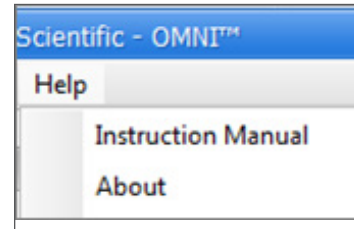
The wizard prompts you with "#2".

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)

Call for pricing (USA only)



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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

Worldwide: 01 (305) 971-3790

Fax: (305) 667-6085

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14700 SW 136 Street

Miami, FL 33196-5691

USA

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