

Gaumard CPR Trainer

For Code Blue® III and CPR Link™ Simulators

User's Guide



Gaumard®
Simulators for Healthcare Education
www.gaumard.com

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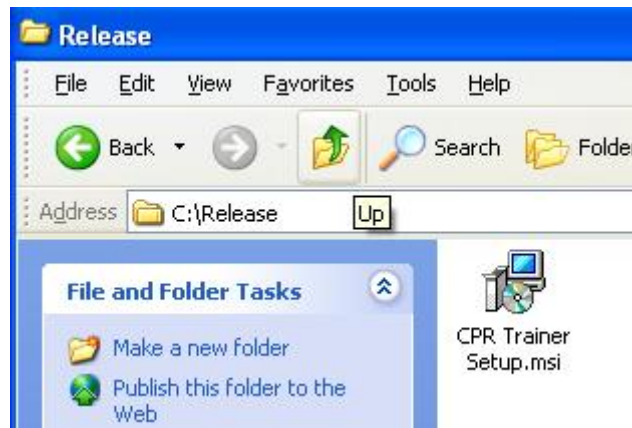
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Introduction

The Gaumard CPR Trainer has features relevant to a number of Gaumard manikins including HAL®, Code Blue III ® and CPR Link®. This software aims to provide a teaching and testing tool for CPR and life support instructors.

Installation

If the CPR Trainer is not already installed, or bundled with other Gaumard software such as HAL or Code Blue III, it may be manually installed by double clicking the installation file on the enclosed media.



NOTE: The CPR Trainer system may be already installed as a module of other Gaumard software such as HALUI, Code Blue III or NOELLE. If this is the case, there is no need to install the software manually.

Using CPR Trainer

Starting the program

The CPR Trainer program may be started by double-clicking the icon on the desktop



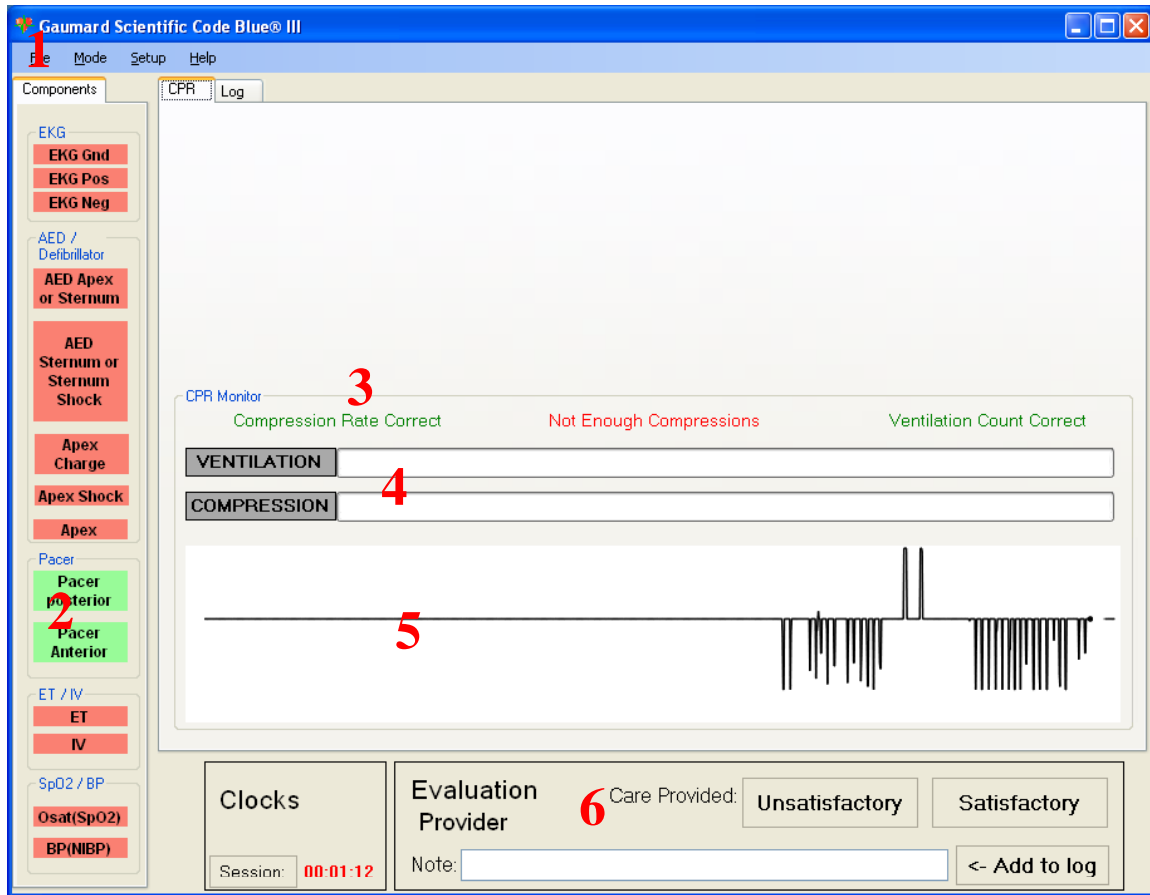
or single-clicking the shortcut in the Start → Program Files → Gaumard Scientific folder



The main CPR Trainer window

The initial window of CPR Trainer contains the drop down menus used to save and clear session logs, enable Training or Evaluation modes, change the software options, and access the program's help.

This window also contains the controls used to evaluate compressions and ventilations, both quantitatively and qualitatively and, if applicable, Virtual Instrument ® status.



1. Main Menu: File, Mode, Setup, Help
2. Virtual Instrument component status panel (Code Blue® III systems only)
3. Compression / Ventilation rate evaluation labels
4. Compression / Ventilation intensity meters
5. Compression / Ventilation trace history
6. Evaluation panel

1. The Main Menu provides access to the following features:

File:

New Session: Starts a new simulation session by resetting the clock and clearing the simulation log

Reset Session Clock: Restarts the session clock

Save Report: Saves the session clock into a text or XML file

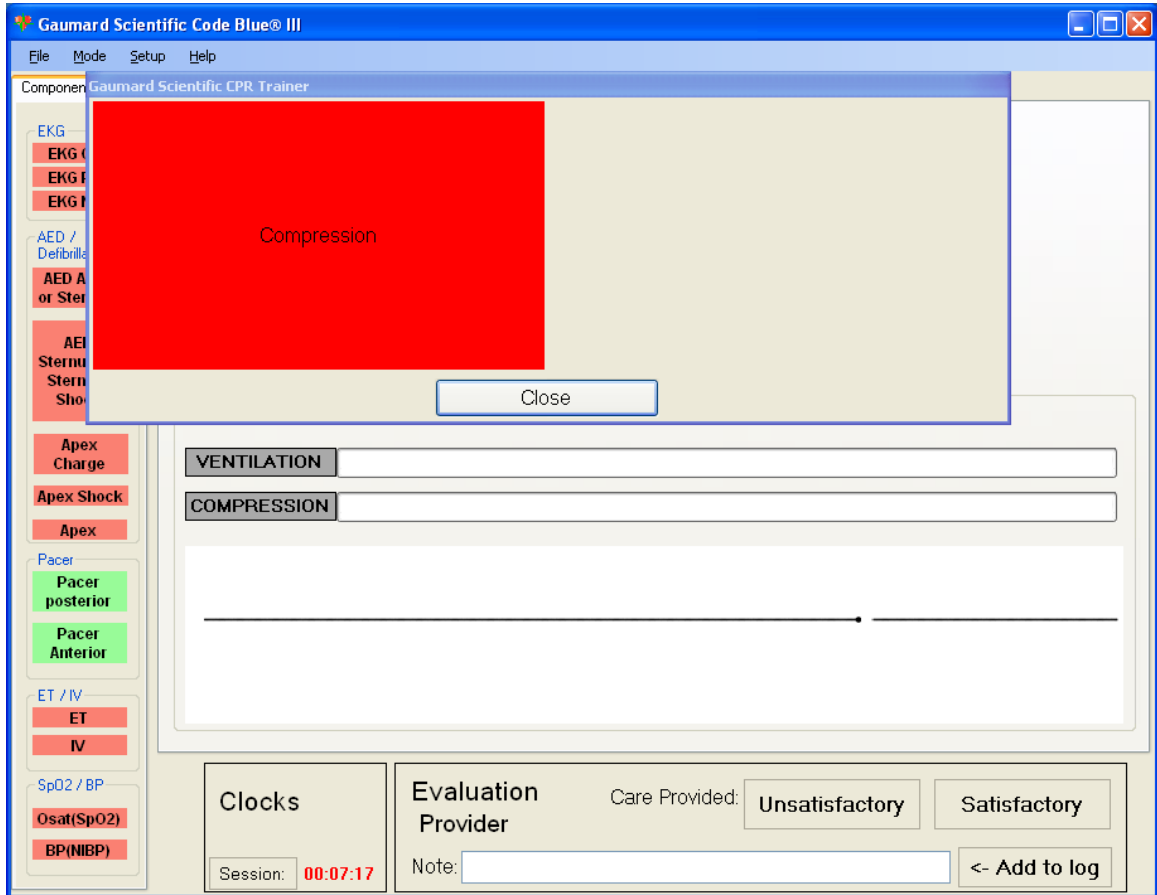
Print Report: Displays the Windows standard print dialog

Exit: Closes the CPR Trainer

Mode:

Evaluation Mode: Passively evaluates user input (ventilations and compressions) according to the preferences set in the Calibration and Options sections.

Training Mode: Displays visual and auditory cues for compressions and ventilations according to the preferences set in the Calibration and Options sections. The Evaluation features are still available during Training Mode.

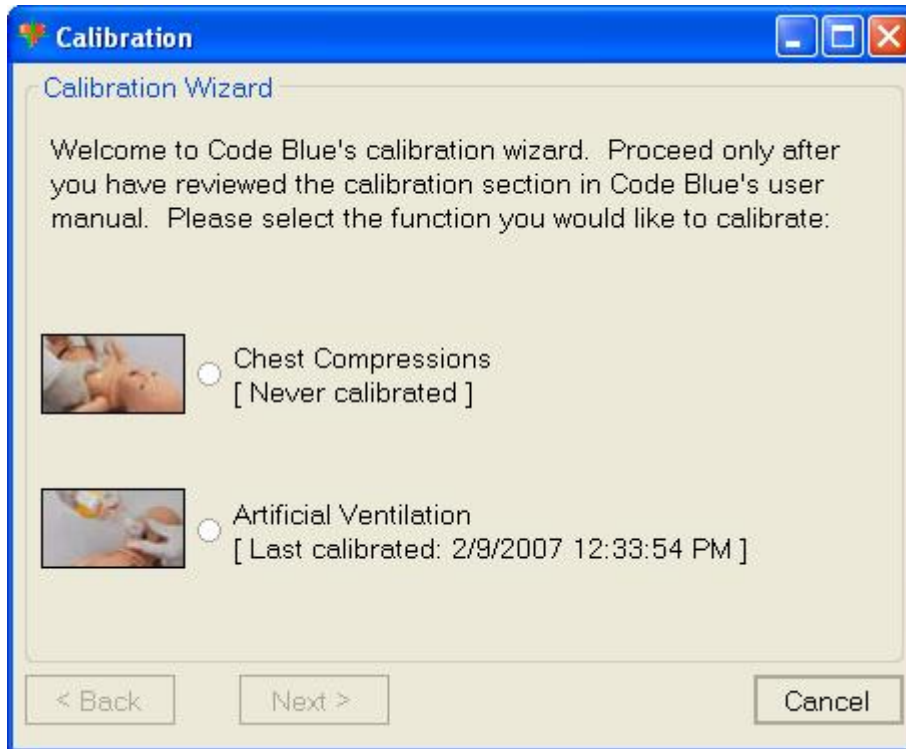


Setup:

Calibration:

The Calibration Wizard allows the user to easily calibrate the sensors inside the manikin. It can be accessed from the Setup pull-down menu in the Gaumard CPR Trainer. As shown in the picture, first choose what function you would like to calibrate among chest compressions and artificial ventilations. The procedures for each function are described in the following sections.

Calibrating provides qualitative criteria against which to evaluate the detected compression or ventilation events. Without this criteria the log entries created will display the quantitative measure of the event: peak (mmHg), integral (mmHg*seconds), and duration (seconds).



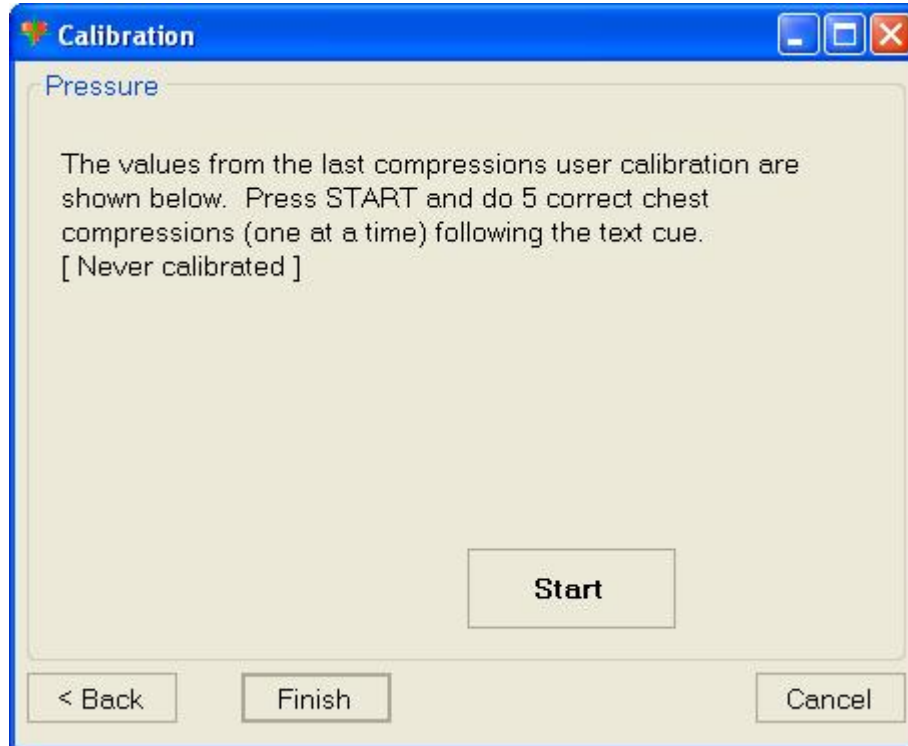
Chest Compressions / Artificial Ventilations

The user will be calibrating the functions to your specific criteria, in other words, you will be telling the system what a correct chest compression or artificial ventilation is. Providers will be evaluated by the system based on this criterion. Please refer to the User Calibration section below for detailed instructions.

User calibration

User calibration trains the CPR Trainer software to evaluate providers based on the facilitator's criteria. In this mode, the software will ask the facilitator to perform a number of 'correct' procedures (chest compressions or artificial ventilations). The facilitator should follow the text cue on the screen and perform just ONE procedure at a time, until prompted for the next one.

For example, if calibrating chest compressions:



- The wizard prompts the facilitator with a '#1'.
 - The facilitator performs one correct chest compression.
 - A green filled oval indicates that the chest compression was successfully recorded.
 - The wizard prompts the facilitator with a '#2'.
 - The facilitator performs one correct chest compression.
 - A green filled oval indicates that the chest compression was successfully recorded.
- ...and so on.



At the end of the calibrating session, the wizard shows the average peak, depth, and duration values for the procedure. If the facilitator feels he/she performed the procedures correctly, then click the 'Save' button. Otherwise, press the 'Back' button and repeat the procedure.

Setup:

Options:

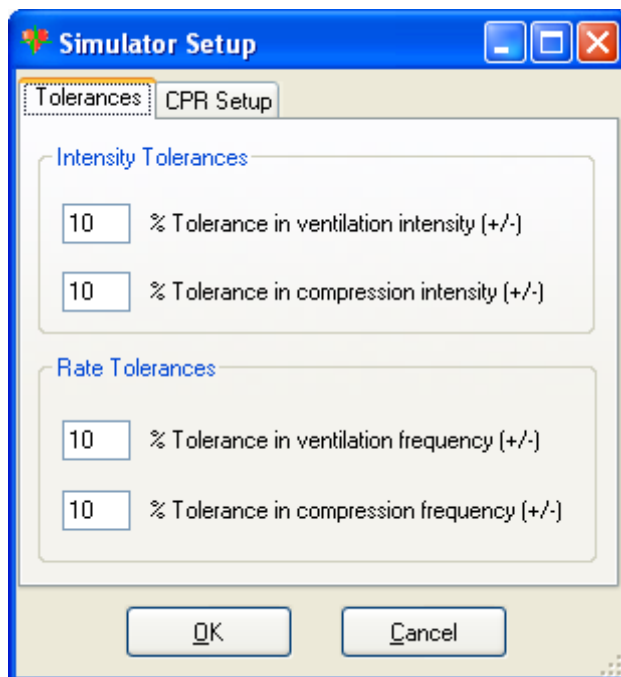
The CPR Options window contains the parameters accessible to the user for configuration. These parameters include tolerances for compression and ventilation magnitude and rate, along with the appropriate values for compressions per minute, compression to ventilation ratio, and ventilations per minute.

The CPR Trainer will retain the options, tolerances and calibration data last entered.

Intensity Tolerances

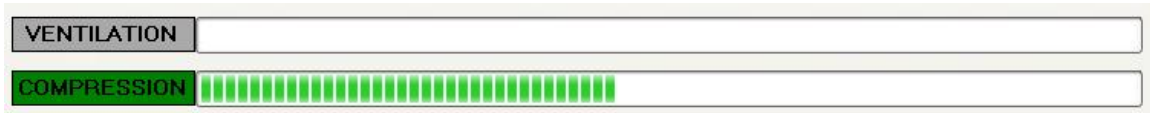
These parameters change the percentage deviation permitted while evaluating a compression or ventilation.

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.



Intensity tolerances are used both in the log and in the progress bars

illustrated below



Rate Tolerances

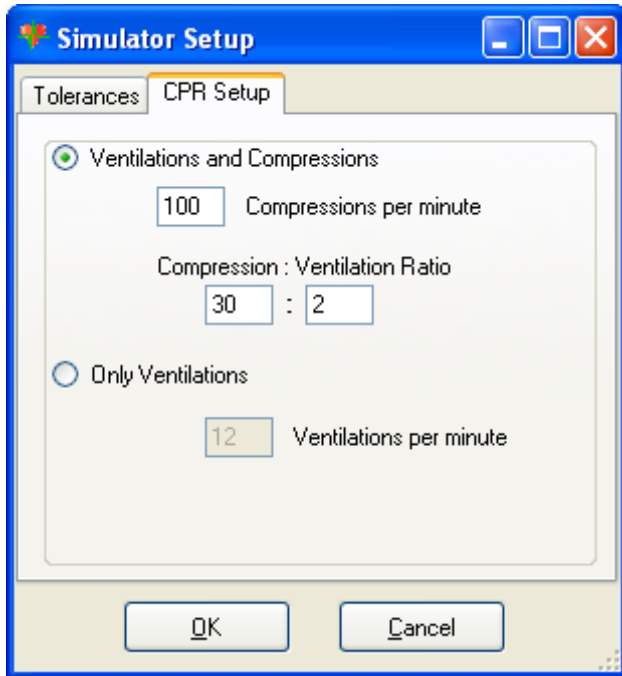
The rate tolerance parameter sets the permissible deviation from the selected compression set. For example, if the user sets the Compression Rate at 100 compressions / minute and the Compression Rate Tolerance at 10 %, any compression frequency between 90 and 110 compressions per minute will be considered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

Rate tolerances are used both in the log and in the labels illustrated below



CPR Setup

This tab contains parameters dictating the compression and ventilation frequencies, as well as the compression to ventilation ratio, as well as a selection on the type of resuscitation used (compressions and ventilations vs. only ventilations).



1. Check Sensor Values :

The manikins are factory calibrated at 73 degrees Fahrenheit, and 1 atmosphere pressure; however, because destination sites vary in elevation and temperature, the sensor values can be zeroed manually. The Check Sensor Values option re-zeroes the compression and ventilation sensor values in case of significant changes in ambient pressure or temperature.

2. Virtual Instruments® Component Panel

Certain manikins, such as the Code Blue® III series have Virtual Instruments that enable the simulated use of EKGs, AEDs, defibrillators, pacers, O2 saturation meters and BP cuffs, as well as ET tube and IV sensors. If the CPR Trainer is connected to a manikin with this option, the current status of the instruments will be displayed in the Components tab of the main window.

3. Compression / Ventilation rate evaluation labels

These labels will display the evaluation of compression rate (or ventilation rate if "only ventilations" is selected in the CPR Options), compression count and ventilation count. The labels will be displayed in green when the relevant rate or count is correct, and in red when these values are out of range.



Too Many Ventilations

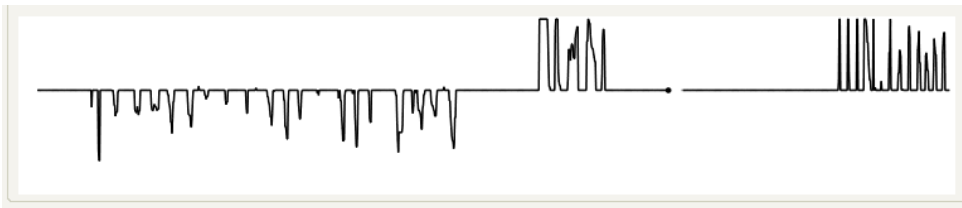
4. Compression / Ventilation intensity meters

These meters evaluate the intensity of detected compressions and ventilations. The labels on each slider bar will change color from yellow (too weak); to green (correct); to red (too strong) to indicate the intensity of the detected event.

When the user has entered a calibration for compressions and ventilations, the range on the slider bars will adapt to reflect the new values, if there is no calibration present, the values will default to peaks of 45 mmHg for maximum ventilation and 225 mmHg for peak compression intensity.

5. Compression / Ventilation trace history

This plot displays a history of the detected compressions and ventilations. Compressions move the trace downward, while ventilations move the trace upward.



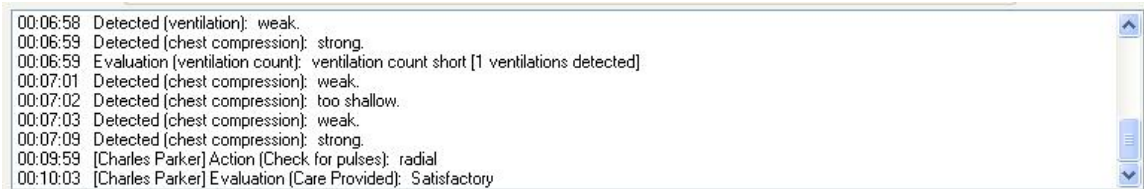
6. Evaluation Panel

The Evaluation panel, always visible at the bottom of the Gaumard CPR Trainer window, allows the facilitator to insert standard evaluations or arbitrary notes into the log.

Evaluation of Charles Parker	Care Provided:	UNSATISFACTORY	SATISFACTORY
Note:	<input type="text"/>		<input type="button" value="← Add to Log"/>

Standard evaluations are given context by their position in the log relative to detected and observed provider actions. The following example illustrates

this idea.



Note above that the provider "Charles Parker" checked the patient's radial pulse and was then evaluated on that action.

The evaluation panel is part of the team-logging system, described previously. When a particular provider is selected, log entries generated via the Evaluation panel will be preceded by the provider's name. For more information on Team Logging, see the previous section of this guide on Logging.

Simulation Log

The Log page allows the facilitator to keep track of every event during a session. It automatically creates an entry whenever a detected event occurs as well as every time there is a change on the patient condition. Also, the facilitator can log provider actions with a simple click.

The Log page is subdivided in four different functions: the header, team logging, provider actions, and the text log.

The text log consists of the white area on the lower part 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. The different types of entries are classified as Actions, Applied Changes, Detected Events, Evaluations, Speech, and Notes.

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

Every time one of the various sensors in the manikin detects a provider action, it is automatically logged as a 'Detected' entry. These actions include intubation, BP cuff placement, artificial ventilations, chest compressions, and

electrical therapy. The following example shows an entry after a provider administrates a chest compression:

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

Note: the logged evaluations provide a quantitative measure if qualitative criteria for compressions and ventilations have not been entered in the calibration.

Evaluations

The facilitator adds evaluations by clicking on the 'Satisfactory' or 'Unsatisfactory' buttons on the Evaluation page. Team Logging allows the facilitator to evaluate individual providers with a single click. For example, if provider Charles Parker did a correct procedure, the Evaluation entry would be:

"00:07:43 [Charles Parker] Evaluation (Care Provided): SATISFACTORY"

"00:05:42 Evaluation (ventilation count): ventilation count short [1 ventilations detected]"

Notes

Notes can be entered directly from the Evaluation panel or by right-clicking on the text log and adding a note. The following is an example of a Note entry:

"00:10:10 Note: provider took too long to assess patient."


Provider Actions

The Provider Actions 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, Trauma Care, Airway, Breathing, Circulation, and Medication. 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 00:07:24, the following entry is automatically generated:

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

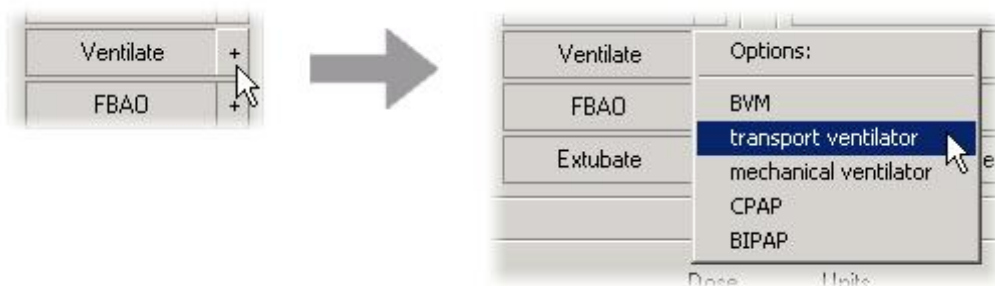
Special Buttons

There are special buttons that add additional functionality to the provider actions section.

 The first special button, ' + ', lets the facilitator be a little more specific on the provider action he/she wants to log. For example, if the button 'Ventilate' is clicked, the following entry is created:

"00:01:28 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"

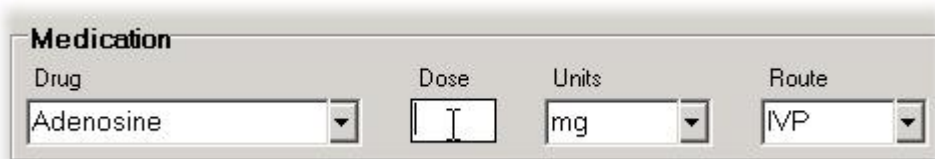
Medications

The Medications section allows for easy and fast logging of drugs administration, including dose and route. The software comes preloaded with a set of commonly used drugs. Each of these drugs has a default dose unit and a default route for administration (which can be overwritten by just typing over). For example, for Adenosine the default dose unit is "mg" and the default route is "IVP" (intravenous push). In order to enter, for example, that a provider administered 6 mg of adenosine via IVP, the facilitator just has to enter the text "ad" and the software automatically searches the drug list and displays the best match (if any).



The facilitator will quickly learn the short-hand (1, 2 or 3 letters) needed to enter any of the drugs on the list. For example: "is" brings Isoproterenol, "li" brings Lidocaine, and so on.

After a drug has been selected, just clicking on the 'dose' text input automatically fills the dose units and route with the default values for that particular drug.



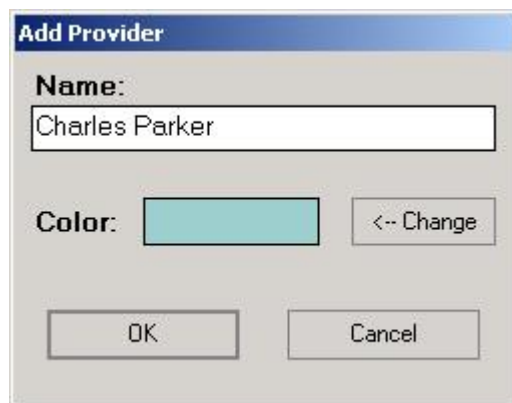
The screenshot shows a window titled "Medication" with four fields: "Drug" (a dropdown menu with "Adenosine" selected), "Dose" (a text input field with a cursor), "Units" (a dropdown menu with "mg" selected), and "Route" (a dropdown menu with "IVP" selected).

The facilitator then enters the dose and clicks on the 'Administered' button and a log entry is created (let's say the dose entered was '6'):

"00:05:43 Action (Medication Administered): Adenosine, 6 mg, IVP"

Team Logging

The Team Logging feature allows the facilitator to easily log the actions of a specific provider in a team. The Team Logging section is right above the <jump=provider actions>Provider Actions</jump> section. First, the facilitator should add all providers in the team by clicking on the 'Add' button and filling the 'Add Provider' window.



The screenshot shows a dialog box titled "Add Provider". It has a "Name:" label followed by a text input field containing "Charles Parker". Below that is a "Color:" label followed by a teal-colored color selection box and a "<- Change" button. At the bottom are "OK" and "Cancel" buttons.

Up to six providers or teams may be added.

Header

The Header section consists of the 'Session Title' and 'Facilitator' fields at the top of the Log page. It serves record keeping purposes when a report is saved or printed.