Caesar™

User Guide

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Table of Contents

Product Specifications

All hardware and software needed for the operation of the CAE Caesar™ are supplied. If you wish to extend the Instructor Workstation to other computers, contact CAE Healthcare.

Mannequin

Size

193 cm (76 inches)

Weight

68 kg (approximately 150 lbs)

Ambient Temperature Range

Operating: 2°C to 43°C (36°F to 109°F)

Power

Battery

Inspired Energy: NH2054
Type: Lithium ion battery
Nominal voltage: 14.4V
Capacity: NH2054HD24 - 4.8Ah, NH2054HD29 - 5.8AH, NH2054HD31 - 6.2Ah, NH2054HD34 - 6.8Ah
Max discharge current: 8A
UN/DOT Transportation Certified

External Power Supply

Input: 100 - 240V ~ 50/60Hz, 2.3A

Battery charger (optional)

Inspired energy: CH5050
Type: Dual bay simultaneous quick charger
AC power cord options: CH5050A: 110V N. American 3-pin connector; CH5050E: 220V European 2-pin connector with ground recess; CH5050U: 240V UK 3-pin connector

Communications

Wireless: WiFi 802.11 b/g
Wired: 10/100/1000 Ethernet

Wound Appliances

Supplier: CAE Healthcare

Tablet PC

Hardware - Tablet PC	
Supplier	Motion Computing
Model	J3500 rugged Tablet PC
Dimension	12.7" x 9.09" x 0.90" (323mm x 231mm x 23mm)
Display	12.1" AFFS +LED backlight digitizer wide screen (WXGA, 1280x800) display with dual touch
Weight	3.6 lbs with one battery; 4.0 lbs with two batteries
Batteries	Lithium ion-battery with 30WHr capacity (maximum 60Whr)
Processor	Intel Core i3 vPro Processor
System Memory	Two DIMM slots; upgradable to 4GB max total memory (2GB x 2)
System Storage	1.8" Hard Disk Drive with 160GB capacity and 64GB SSD
Operating Temperature	AC Power +5˚C to +45˚C (+41˚F to +113˚F)
	Battery Power +5˚C to +40˚C (+41˚F to +104˚F)
Storage Temperature	-20˚C to +60˚C (-4˚F to 140˚F)
Operating Humidity	8% to 90% without condensation
Storage Humidity	5% to 95% without condensation
AC Adapter	100-240V ~1.5A, 50-60 Hz

Software - Tablet PC	
Operating System	Windows 7 Professional (32-bit)
Other Programs	Adobe Acrobat Reader

Tablet PC - Battery Charger (Optional)	
Supplier	Motion Computing
Model	J-series battery charger

Müse® Software System Requirements

Before getting started with your new simulator and Müse software, if you are not using the provided computer, please be sure to utilize a computer with wireless capability. When operating the Müse software, a computer with Macintosh® or Microsoft Windows® operating systems may be used. Currently, Instructor Workstations and Wireless Remotes configured for simulators running ONLY HPS6 software CANNOT be used due to compatibility and warranty issues.

To run the Müse software, the computer used must meet the following minimum requirements:

Macintosh® Operating System

- Mac OS 10.5.8 (minimum)
- Safari® 5.x.x or Firefox® 10 ESR (minimum)
- Flash Media Player® 10.1.x.x (minimum)
- Adobe Acrobat Reader 9.x (or higher)

Windows® Operating System

- Windows 7 or Windows 8
- Firefox 10 ESR, Internet Explorer® 8 or Safari 5.x.x (minimum)
- Adobe Flash Media Player® 10.1.x.x (minimum)
- Adobe Acrobat Reader 9.x (or higher)

Hardware (Windows and Macintosh)

- Intel Core Duo, 2.0 GHz (minimum)
- 2 GB DDR3 RAM
- 8 GB Hard Drive space available
- 1024x768 screen resolution (minimum)
- USB 2.0
- Wireless 802.11b/g/n ethernet card
- 100BASE-T Ethernet Adapter

Cautions/Warnings

Please read and understand these cautions and warnings before you begin using the Caesar system.

USE OF THIS EQUIPMENT IN AN UNSPECIFIED MANNER MAY IMPAIR DESIGNED PROTECTION.

Your safety is in your hands. Be sure to follow the instructions on the proper setup, breakdown and use of the Caesar system.

SHOCK HAZARD

Electrical Safety

- This product must be connected to an electrical outlet that is properly grounded. Precautions should be taken so that grounding or polarization is not defeated.

- Do not place defibrillator paddles on or adjacent to the ECG patient electrodes. Contact between defibrillator paddles and the electrodes may cause injury to the user and damage to the equipment.DO NOT use defibrillation pads, paddles, automated external defibrillator or any defibrillation or pacing device on the Caesar mannequin. Using an electrical defibrillation device of any kind may cause injury to the user and damage to the equipment.

- Always use the supplied power cords. Do not substitute.

- Always use the supplied power adapter to run the simulator from AC.

- Operate the system from a power source with the following rating:

    100 - 240V ~ 50/60Hz

- Do not allow fluids to flow on or into electronic parts.

- Do not attempt to disassemble the simulator or service any of the electrical components.

General Use Warnings

Electrical System

- Operate the system from a power source with the following rating:

  100 - 200V ~ 50/60Hz

Bleeding System

- DO NOT modify the tank or any assembly component.

- ALWAYS protect eyes, skin and clothing against accidental exposure.

- NEVER exceed 35 strokes while pressurizing the tank.

- ALWAYS read and follow instructions for creating trauma fluids (e.g. blood). NEVER fill the tank with more than 6 liters (1.6 gallons) of fluid.

- After use, ALWAYS release pressure and clean the tank. DO NOT store liquids in the tank.

- ALWAYS release tank pressure before servicing. NEVER transport or ship in a pressurized and/or full state or leave a pressurized tank unattended.

- Be sure to keep the bleeding system free of sand and debris.

Mannequin

- Do not perform or attempt chest compressions on the mannequin. Performing CPR can cause damage to the mannequin.

- Do not disassemble factory-assembled parts of the mannequin.

- Do not clean the mannequin with chemical solvents. Use water and a light soap solution only.

- Protect the mouth and nose from water infiltration.

- Make sure that mannequin is set up on a stable, sturdy work surface to avoid collapsing and causing injury to users.

- Caesar should be operated in ambient temperatures below 104° F (40° C).

- Do not introduce foreign substances into the airway - with the exception of small amounts of approved lubricant. Only perform invasive procedures supported by the system as described in the applicable sections of the User Guide.

- Do not leave the mannequin unattended in a seated position. The mannequin requires support for balance in the seated position and may cause injuries if it drops or falls on a person.

Latex Warning

CAE Healthcare simulators incorporate latex into their design. When performing certain maintenance procedures, the latex can become exposed. Users with latex sensitivity should take necessary precautions when handling the simulator while performing those procedures.

Battery

General Warnings

Caesar uses lithium-ion (Li-ion) batteries. Li-ion batteries have special requirements during handling to avoid hazardous situations.

- The Polymer Li-ion Battery pack should be stored indoors and be kept far from fire and high temperatures.
- Do not store batteries with hairpins, coins, screws or other electrically conductive objects.
- Do not heat the battery.
- Do not throw the battery into a fire.
- Do not use or leave the battery close to heat or flame.
- Do not use the battery inside of a car where temperature may exceed 80°C (176°F). Also do not charge/discharge the battery in such conditions.
- Do not strike the battery with force.
- Do not step on, throw or drop the battery to cause strong shock.
- Do not disassemble or modify the battery.
- Do not solder a battery directly.
- Do not use a battery that has been damaged or deformed.
- Avoid shorting the battery.
- Do not immerse the battery in water.
- Do not disassemble or deform the battery.l
- Do not expose to or dispose of the battery in fire.
- Avoid excessive physical shock or vibration.
- Keep out of reach of children.
- Only charge the battery in an approved charger.
- Never used a modified or damaged charger.
- Store the battery in a cool, dry, well-ventilated area.
- Never use a battery that has suffered abuse.
- Refer to the data sheet for operating instructions.
- Refer to the cell manufacturer's product safety data sheets for details about the Li-ion cells (available at www.inspiredenergy.com).

Additional Warnings

- Stop charging the battery if the battery has not completed charging within the specified time.
- When leakage or foul odor is detected, do not use and keep away from heat or flame.
- Immediately wash thoroughly with fresh water if liquid leaks onto your skin or clothes.
- If liquid leaking from the battery gets into your eyes, do not rub your eyes. Immediately wash eyes completely with clean water and seek medical attention.
- If the amount of time the battery is able to power the equipment diminishes significantly, the battery life is at an end. Replace the battery with a new battery of the exact same make and model.
- When the battery is thrown away, apply vinyl tape to the positive (+) and negative (-) terminals to avoid short circuits.
- When not using battery for an extended period, remove it from the equipment and store it in a place with low humidity and temperature.
- In all instances, keep the battery away from objects or materials with static electric charges.
- The battery can be charged within the following temperature range: 0˚C (32˚F) to 45˚ (113˚F)
- Each battery contains less than 8 g of Lithium
- Each battery stores less than 100 Wh

Introduction

Welcome to the CAE Caesar™ Trauma Patient Simulator user guide. This guide provides complete instructions on how to use and maintain your Caesar simulator.

The CAE Caesar™ Trauma Patient Simulator has been designed to provide instructors and learners with advanced tools for classroom training as well as realistic, point-of-injury training.

The Caesar simulator is a responsive, physiologically typical male with authentic range of limb mobility and realistic skin texture, providing a genuine experience for learners. The autonomous simulator reacts to medical treatments with appropriate physiological responses and wirelessly communicates with the Instructor Workstation, creating an authentic experience for the learner and keeping the instructor informed as the scenario progresses.

Caesar Trauma Patient Simulator

The Instructor Workstation provides the instructor with scenario development tools and programmable patient physiology to create an immersive, realistic training environment.

Caesar provides all the components necessary for thorough, point-of-injury medic training. Scenarios can be designed with just one injury or multiple injuries.

The following medical interventions are supported:

- Cricothyrotomy
- Bilateral pneumothorax and needle chest decompression
- Hemorrhage/bleeding control
- Tourniquet application
- Sternal Intraosseous Infusion
- Peripheral IV access
- Airway interventions, including nasopharyngeal, oropharyngeal, orotracheal invasive airway management and bag valve mask

The Caesar simulator is ruggedized for use in a variety of training settings. Caesar is designed to give learners the opportunity to perform, practice and properly execute challenging medical treatment techniques.

Caesar can be used for the following training practices:

- Water based decontamination operations

    WARNING: Do not allow fluids to flow on or into electronic parts. Additionally, be sure to protect the mannequin's mouth and nose from water infiltration.

- Tactical patient movements
- High-angle rescue operations and extrication

Equipment Overview

Caesar is designed to be used in the most rugged environments and learning scenarios. Caesar's standard features provide the learner with a realistic simulation experience.

Standard Equipment
Full-Body Wireless Simulator
External Power Supply
Instructor Workstation
Inventory Kit
Needle Decompression Cartridges
IV Tubing
Neck Tape and Band for Cricothyrotomy
Healthy Left Leg
Amputated Right Leg

NOTE: Depending on purchase agreement, the mannequin may be shipped with two healthy legs. Be sure to check the inventory against your CAE Healthcare packing invoice to verify that all components have been received.

Optional Equipment
Wound Appliance Kit
Healthy Right Leg
Blast Wound Left Leg
Shrapnel Wound Left Arm
Shrapnel Wound Right Arm
Consumable Cartridges for Needle Decompression
Consumable Neck Tape for Cricothyrotomy
External Battery Charger
Additional Tablet Battery
AC Power Inverters, 12v and 24v

NOTE: Additional wound and skin applications may be available. Contact CAE Healthcare Customer Service with any questions or if optional equipment is needed.

Standard Equipment

Caesar comes with standard equipment that allows learners and instructors the ability to create several realistic emergency and trauma situations. The following equipment is provided with your Caesar simulator.

Full-Body Wireless Simulator

All medical assessments and emergency interventions are played out on the Caesar mannequin, which represents a human trauma patient. At 193 cm (76 inches) in height and weighing 68 kg (approximately 150 lbs), Caesar is fully operational in the supine, lateral, prone and seated positions. The Caesar simulator features autonomous response to medical interventions and ruggedized parts to withstand point-of-injury training exercises in various terrains, temperatures and humidity levels. The mannequin ships with a healthy left leg and an amputated right leg (depending on purchase agreement, the mannequin may be shipped with two healthy legs). Additional interchangeable legs can be purchased separately.

External Power Supply

An external power supply is provided for using the simulator in an environment with AC power supply. The simulator batteries are rechargeable using the external power supply or an external battery charger (available separately for purchase). The batteries typically require up to four hours to fully charge and can be used in the simulator for up to six hours.

NOTE: Caesar can be operated while the batteries are charging.

Instructor Workstation

The Instructor Workstation is a tablet PC featuring a Windows 7 operating system. Using a wireless connection, the Instructor Workstation communicates with the simulator through the Müse software.

Instructors and trainers control the simulation session from the Workstation by using Simulated Clinical Experiences™ (SCEs) that meet their learning objectives.

Instructor Workstation with Carrying Case

Inventory Kit

Caesar comes with a number of accessories and replacement components.

Items in the inventory kit include:

- Trauma fill tank
- Pneumothorax cartridges (4 cartridges - 2 left and 2 right)
- 3M™ neck tape (1 roll)
- Cricothyrotomy neck band (4)
- IV replacement tubing (one 3-foot roll)
- Tablet carrying case
- Allen wrench (3/16")
- IO sternal
- Setup map

Needle Decompression Cartridges

The Caesar mannequin contains both a left and right needle decompression cartridge. The cartridges, located in the second intercostal space of the torso, allow air to hiss through the needle when needle decompression is performed. Cartridges can be used approximately 75 times before a replacement cartridge is necessary. Caesar comes with four cartridges (two replacements for each side of the chest).

Needle Decompression Cartridge

IV Tubing

IV tubing is located in each arm and comes already installed in the Caesar mannequin. The tubing can be used several times before replacement is necessary.

IV Tubing

WARNING: CAE Healthcare simulators incorporate latex into their design. When performing certain maintenance procedures, the latex can become exposed. Users with latex sensitivity should take necessary precautions when handling the simulator while performing those procedures.

Neck Band and Tape for Cricothyrotomy

The mannequin comes equipped with one cricothyrotomy neck band already in place around the simulator's neck. A roll of cricothyrotomy tape and four replacement neck bands come with the mannequin.

Healthy Left Leg

The mannequin is shipped with one healthy left leg (depending on purchase agreement, the mannequin may be shipped with two healthy legs). A healthy right leg can be purchased separately.

Amputated Right Leg

The mannequin is shipped with one amputated right leg (depending on purchase agreement, the mannequin may be shipped with two healthy legs). An additional amputated leg can be purchased separately.

Optional Equipment

Wound Appliance Kit

A kit containing four wound appliances is available enhance the realism of the scenarios. Some of the wound appliances connect to the blood ports on the simulator and can be programmed to bleed using the Müse software.

The following wound appliances are included in the kit:

- Abdominal multiple gunshot wound
- Right hand gunshot wound
- Wrist injury assembly
- Trauma face

Healthy Right Leg

The mannequin ships with one amputated right leg (depending on purchase agreement, the mannequin may be shipped with two healthy legs). A healthy right leg can be purchased separately to enhance the realism of specific trauma scenarios.

Healthy Right Leg

Blast Wound Left Leg

The mannequin comes standard with one healthy left leg (depending on purchase agreement, the mannequin may be shipped with two healthy legs). An injured left leg can be purchased separately to enhance the realism of specific trauma scenarios.

Blast Wound Left Leg

Consumable Cartridges for Needle Decompression

Additional cartridges for needle decompression may be purchased as needed. CAE Healthcare recommends that users change needle decompression cartridges after 75 uses.

Consumable Neck Tape for Cricothyrotomy

Cricothyrotomy neck tape should be replace after each cricothyrotomy to prevent leakage during ventilation and one roll is shipped with the simulator as part of the inventory kit. Additional tape is available for purchase.

External Battery Charger

An external battery charger is available for purchase to charge batteries without using the simulator AC adapter.

Additional Tablet Battery

The tablet ships with a battery; however, additional batteries are available for purchase.

AC Power Inverters

12v Inverter

The 12 volt power inverter is available for purchase. The inverter uses a separate cigarette lighter plug cable (provided) and battery clamp cables (provided) to convert 12 Volts DC to 300 Watts of AC power at 120 Volts, 60 Hz.

24v Inverter

A 24 volt AC power inverter is available for purchase. The inverter converts power supplied from a 24 volt DC power source to AC power. This 300-watt inverter has two 110 volt AC outlets and comes with the NATO Slave Input Adapter.

NOTE: Additional wound and skin applications may be available. Contact CAE Healthcare Customer Service with any questions or if optional equipment is needed.

Before Beginning Setup

Proper operation of the Caesar simulator requires correct configuration. Before setting up the system, keep in mind these basic guidelines:

- Read and understand the Cautions and Warnings located in the beginning of this User Guide

- Follow the sequence of the steps carefully

- Complete all steps in order

- Do not power on any components until instructed in the text

- Keep all original shipping materials, including boxes. Warranty and repair items must be returned and shipped in their original packaging

- When unpacking Caesar for the first time, careful use of box cutters protects both the packaging and the product.

Setup

This section provides instructions and guidelines for assembling the Caesar simulator and configuring the Instructor Workstation. Follow these procedures to prepare for your Caesar simulation experience.

Setting Up the Caesar Simulator	
1	Place Caesar in the Work Area
2	Attach the Legs (if applicable)
3	Apply the Neck Tape and Band
4	Insert the Batteries
5	Prepare the Bleeding System
6	Prime the IV/IO System
7	Power On Caesar
8	Power On the Instructor Workstation
9	Connect to the Wireless Network
10	Connect the Wound Appliance (Optional)

NOTE: Replacement procedures are located in the *Care and Maintenance* section of this user guide.

Step 1: Place Caesar in the Work Area

Select a work area that is appropriate for the simulated training experience and allows easy access to the simulator.
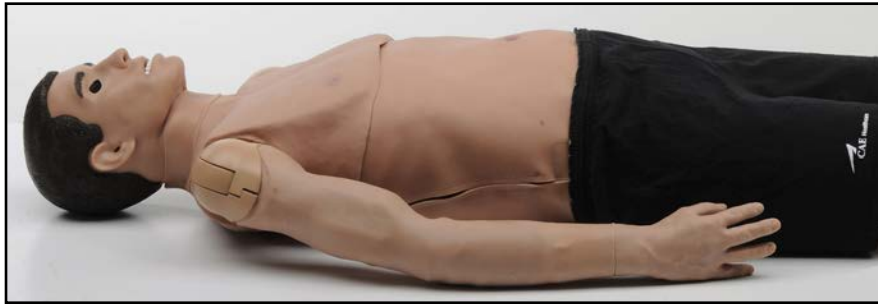
The Caesar Simulator

Caesar and the Instructor Workstation both have the ability to operate wirelessly on battery power.

Before placing the simulator on a surface, be certain the surface can easily support 150 pounds.

Step 2: Attach the Legs (if applicable)

The simulator arrives with the legs detached from the torso. Prior to powering on the simulator, attach the legs to the torso.

To attach the legs:

  a. Place the top of the leg next to the simulator's hip.

  b. Align the electrical cable from the leg with the electrical cable on the simulator's hip and push the cables together to connect.

The Cable Connection

c. Connect the tube in the leg to the tube on the simulator's hip.

The Tube Connection

The Connected Tube and Cable

d. Gently push the connected tube and cable into the hip opening.

e. Push the leg slightly towards the simulator's midline.

The Leg and the Hip Opening

f. Lift the leg to a vertical position.

The Leg Lifted

g. Insert the screw into the hole located on the back side of the simulator's pelvis using a 3/16" allen wrench and turn the wrench clockwise until the screw is secured.
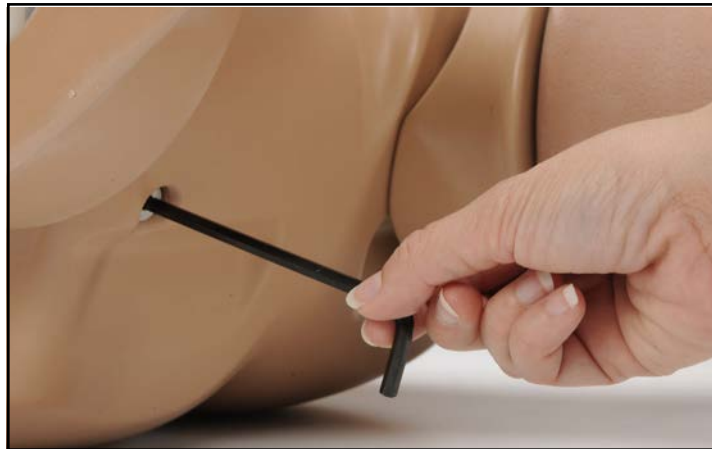
The Screw

h. Return the leg to a horizontal position.

i. Repeat steps a through h for second leg.

Step 3: Apply the Neck Tape and Band

The neck tape covers the cricothyroid opening to create a seal. The neck band covers the open cricothyroid space on the front of the simulator's neck.

To apply the neck tape:

a. Cut a 2.25-inch (6 cm) piece of cricothyrotomy tape from the roll provided in the inventory kit.

b. Lightly stretch the newly revealed adhesive side of the tape over the cricothyroid space and press down over the sides of the cricoid feature.

To apply the neck band:

a. Lift the simulator into a seated position.

WARNING: Do not leave the mannequin unattended in a seated position. The mannequin requires support for balance in the seated position and may cause injuries if it drops or falls on a person.

Simulator in Seated Position

b. Wrap the neck band around the simulator's neck with the hook-and-loop fastener positioned at the back of the neck.

Wrapping the Band Around the Neck

c. Press the hook-and-loop fastener together to secure the neck band in place.

d. Lay the simulator down on its back.

Step 4: Insert the Batteries

To insert the batteries:

a. Lift the torso skin slightly and remove the battery compartment cover located on the top of the simulator's pelvis.

The Battery Compartment Cover
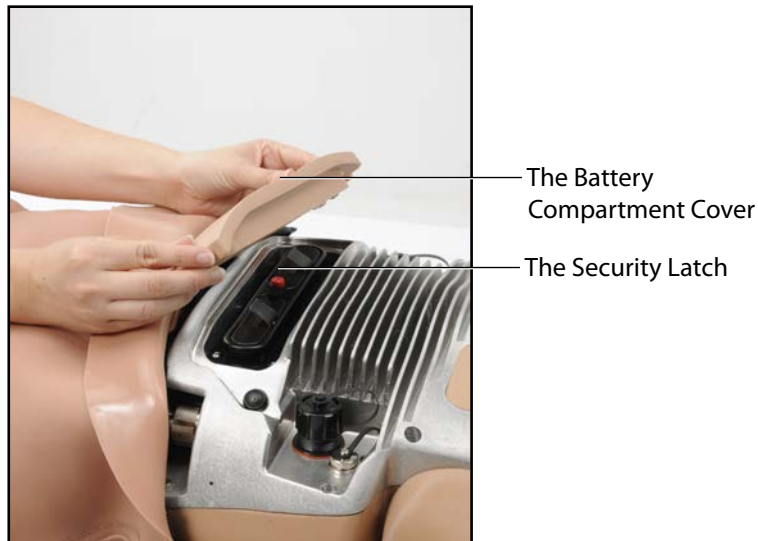
The Security Latch

Removing the Battery Compartment Cover

b. Turn the security latch to the vertical position.

c. Slide a new, charged battery into the compartment (verify the charge level on the LED display on the top of the battery). Insert the second battery.

Insert the Battery

NOTE: Ensure that the battery tab is accessible and not tucked into the battery compartment.

d. Turn the security latch to the horizontal position.

The Security Latch

e. Reseal the battery compartment cover by placing the cover over the battery compartment and pressing downward into the simulator's pelvis.

Step 5: Prepare the On-Board Bleeding System

Before preparing the on-board bleeding system, be sure that the Caesar simulator is powered off.

- Use the trauma fill tank provided in the inventory kit to fill the on-board bleeding system.

- Use ONLY distilled water or distilled water containing food coloring or approved CAE Healthcare simulated blood product to prevent blockages in the bleeding system.

- Use a mixture of no more than 30 mL (1 oz) red food coloring 3.8 liters (1 gallon) of distilled water to create simulated blood.

NOTE: The higher the ratio of food coloring, the greater the possibility of staining.

Cautions and Warnings

Carefully follow all instruction for using the trauma fill tank and note the following cautions and warnings:

- ALWAYS read and follow instructions for creating trauma fluids (e.g., blood).
- ALWAYS protect eyes, skin and clothing against accidental exposure.
- After use, ALWAYS release pressure and clean the tank.
- ALWAYS release tank pressure before servicing.
- DO NOT modify the tank or any assembly component.
- DO NOT store liquids in the tank.
- NEVER transport or ship in a pressurized and/or full state.
- NEVER leave a pressurized tank unattended.
- NEVER fill the tank with more than 6 liters (1.6 gallons) of fluid.
- NEVER exceed 35 strokes while pressurizing the tank.

To fill the on-board blood reservoir:

    a. Connect the clear trauma fill tank hose to the overflow bottle lid fitting.

    b. Clip the overflow bottle to the trauma fill tank using the attached carabiner mechanism.

    c. Pour the desired amount of distilled water into the trauma fill tank, being careful NOT to exceed 6 liters (1.6 gallons) of fluid.

       Three (3) liters of simulated blood mixture provides enough fluid to fill the blood reservoir twice. The amount of blood used in a training session varies with the patient, the injuries simulated and the learner's experience.

    d. With the simulator lying on its back, unzip the right side torso skin zipper approximately three (3) inches (7.62 cm) to reveal the fluid fill tubes.

    e. Locate the FILL and DRAIN tube connectors on the right side of the simulator's abdomen.

    f. Connect the DRAIN overfill bottle tube to the simulator's yellow vent tube.

    g. Connect the FILL trauma fill tank tube to the simulator's blue fill tube.

    h. Ensure the yellow relief valve on the trauma fill tank is closed.

    i. Unlock the trauma fill tank pump handle by turning counter-clockwise (Be careful not to loosen the pump from the tank).

    j. Pump the handle of the trauma fill tank 12 times. The filling process begins automatically.

    k. When the overflow bottle begins to fill, the reservoir is full.

       NOTE: The maximum quantity that the blood reservoir can hold is 1.4 liters.

    l. Disconnect the FILL tube from the simulator.

    m. Disconnect the DRAIN tube from the simulator.

    n. Lock the pump handle back into the pump assembly by turning clockwise.

    o. Immediately release pressure from the tank by turning and holding the yellow pressure relief knob clockwise until all air pressure is released.

       If pressure will not release using the relief knob, place a rag over the top of the tank and pump handle. While firmly pushing down on the pump handle, slowly turn the handle counter-clockwise.

NOTE: When filling the blood reservoir for the first time or after it has been flushed out or emptied, run a scenario to circulate the simulated blood mixture throughout the simulator's tubing network to prime the system.

For instructions on how to clean the bleeding system, see *Breakdown on page 149.*

Step 6: Prime the IV/IO System

To prime the IV system:

a. Lift the torso skin to reveal the IV/IO ports on the right side of the simulator.

The IV/IO Port

The IV/IO Port

b. Remove the cap on the PRIME port.

c. Connect the larger DRAIN port to the tubing of an empty IV bag.

d. Push 60 mL of distilled water into the PRIME port using a Luer lock syringe to prime the IV for flash.

IMPORTANT: DO NOT push more than 60 mL of distilled water into the PRIME port.

e. Replace the cap on the PRIME port.

Step 7: Power On the Caesar Simulator

To start power on Caesar simulator:

    a. Ensure that the batteries in the simulator are charged or connect the simulator to an external power source.

    b. Press the power button located on the right side of the simulator. The power indicator light will illuminate.

Pressing the Power Button

    c. Once the simulator is fully started, the simulator displays closed eyelids.

Powering On Caesar

The onboard computer is now ready for wireless connection.

Step 8: Power On the Instructor Workstation

To power on the Instructor Workstation:

    a. Press the power button located on the side of the tablet computer.

Pressing the Tablet Power Button

    b. Enter the Username *METI User*.

Step 9: Connect to the Wireless Network

Once Caesar and the Instructor Workstation are both powered on, they automatically establish a wireless connection and the Müse software will launch when the Internet Explorer browser is opened.

If the auto-connect does not occur, perform the following steps:

    a. Tap the **Wireless Network** icon on the task bar.

    b. Select the Caesar wireless network, i.e., caesarXXXX (XXXX is the serial number for the unit). The network password is *metiadmin* and the password is case-sensitive.

    c. Click the **Connect** button.

       The wireless connection is established. The Müse software can be launched using the Internet Explorer.

Check for accurate time zone and daylight savings time settings.

Step 10: Connect the Wound Appliance (Optional)

To connect an appliance:

    a. Select the appropriate appliance for the selected scenario.

    b. Connect the appliance to the appropriate port location for the desired injury.

Connecting a Wound Appliance to the Forearm Bleed Port

NOTE: Bleed port tubes are located on the forearms, the torso and the neck of the simulator.

    c. Wrap the appliance around the simulator's body part and secure the bands and/or fasteners located on the wound.

Wrapping a Forearm Wound Appliance

USING MÜSE

The Müse software is a browser-based application that can communicate directly with the simulator.

With the software, users can run SCEs, create scenarios and SCEs, import and export educational content and perform administrative functions.

NOTE: For optimal Müse performance, no other software programs should be open while Müse is running.

IMPORTANT: Only one Müse application window or tab and one TouchPro window or tab can be used per Instructor Workstation at a time.

IMPORTANT: Do NOT use any of the browser's navigational tools (i.e., back and forward buttons) while operating Müse.

Starting the Application

Once the simulator is powered on and the Instructor Workstation is connected to the simulator network, the Müse software can be launched.

To launch the software:

1. Using the Laptop or Tablet Instructor Workstation, launch the web browser (e.g., Firefox, Internet Explorer)

   The Müse Start Screen appears.
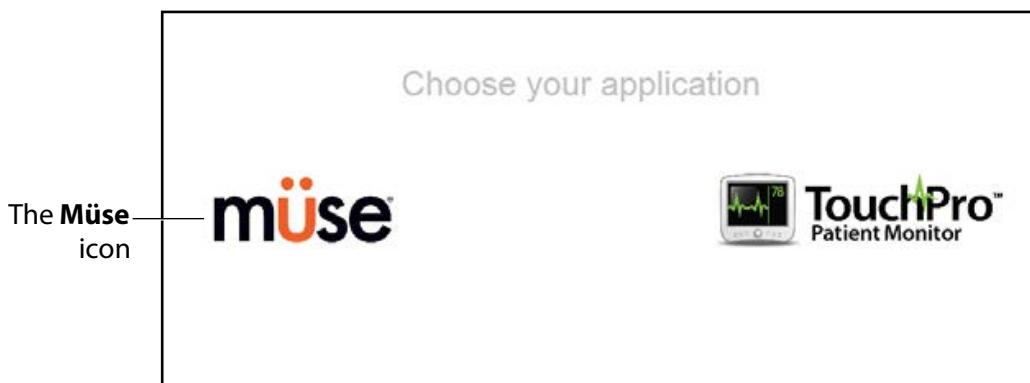
The Müse Start Screen

NOTE: If auto-connect does not occur, the Müse Start screen will not appear when the Internet Explorer browser launches.

2. Select **Müse**.

The Login screen appears.

The
Language
icon

The **Info** icon

The Müse Login Screen

The icons in the bottom left corner of the screen provide access to additional information about the software:

Clicking the **Info** icon to access the Info menu. From the Info menu, users can select from the following options:

- ○ Select **About** to access information about the Müse software version, the type of simulator and the serial number.

- ○ Select **User Guide** to download the user guide (English version). To access the User Guide in other languages, please visit www.caehealthcare.com and click the **Support** link.

- ○ Select **Support** for CAE Healthcare Support contact information.

Click the globe-shaped **Language** icon in the bottom left corner to change the language of the Müse software.

3. On the Login screen, enter the **Username** and **Password** in the appropriate fields to access Müse.

The system default **Username** is *admin* and the default **Password** is *admin*.

The Müse Login Fields

Müse opens to the Home page.

Navigating the Home Page

From the Home page, users can run, create, edit, search for and print SCEs.

The Home page can be accessed by clicking the **Home** button in the upper right corner of the Müse software or, on any screen without a **Home** button, by clicking the **Return** button in the upper left or right corner of the screen.
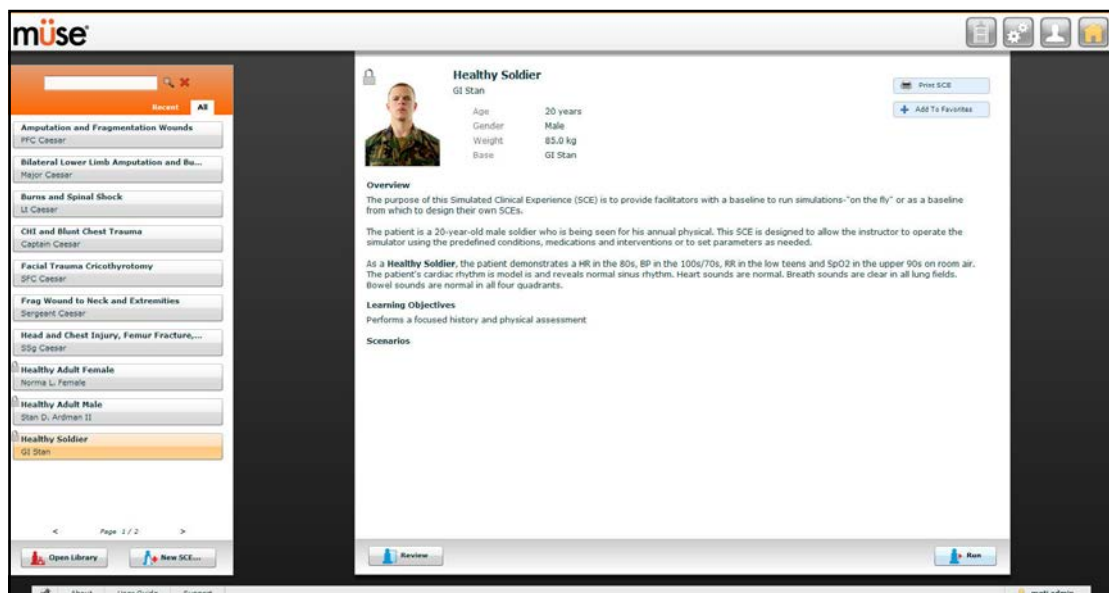
The Home Page

The SCE Selection Panel

SCEs are process tools that enable the facilitator to execute a learning strategy using simulation. Preconfigured CAE Healthcare SCEs provide an extensive overview and outline of the learning exercise and require minimal additional faculty development time for use. Each SCE is comprised of a patient and up to four scenarios.

Available SCEs appear in the SCE Selection panel on the Home page.

The SCE Selection Panel
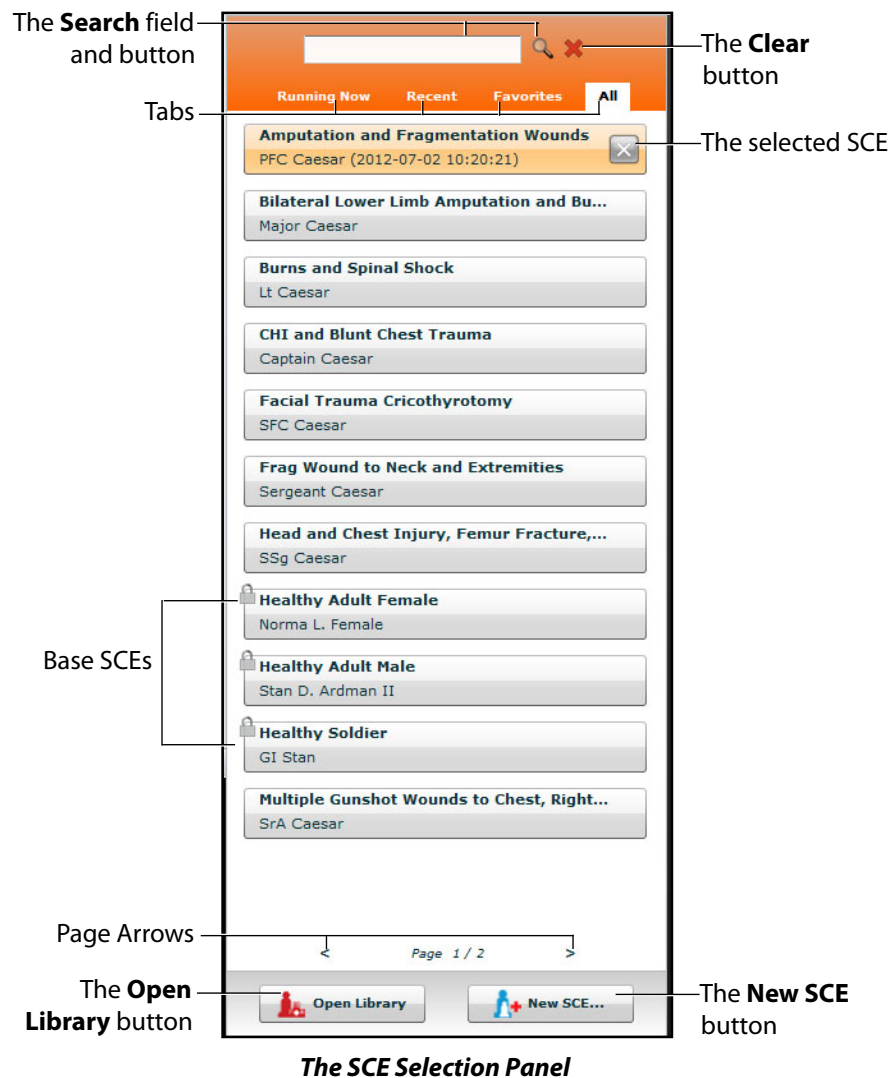
The SCE Selection panel has four tabs that access SCEs: Running Now, Recent, Favorites and All.

- **Running Now** tab: Lists the SCEs that are currently running and is only available when at least one SCE is running.

- **Recent** tab: Lists all the recently run or edited SCEs.

- **Favorites** tab: Lists all SCEs that have been selected as favorites and is only displayed after favorites have been selected. To add a favorite SCE to your profile, click the **Add to Favorites** button at the top of any SCE on the Home page. Managing favorites is achieved in the Account Profile portion of the software.

- **All** tab: Lists all SCEs, including user-created SCEs and all SCEs from available learning modules.

The **Lock** icon indicates a locked SCE. Locked SCEs are installed by CAE Healthcare and cannot be deleted.

The Lock icon
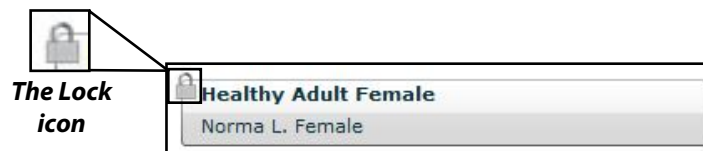
A Locked SCE

To search for an installed SCE, enter part of the name of an SCE in the **Search** field and click the **Search** button.

Click the page arrows to view additional pages of installed SCEs.

Click any SCE to select it. Once an SCE is selected, it appears in the SCE Summary panel.

To run an SCE, click **Run** in the SCE Summary panel to execute the SCE.

To open the SCE Library, click the **Open Library** button.

To create a new SCE, click the **New SCE** button.

The SCE Library

The SCE Library lists all SCEs available on your workstation. Access SCEs from your library by clicking the **Open Library** button at the bottom of the SCE Selection panel. The SCE Library appears.

The SCE Library
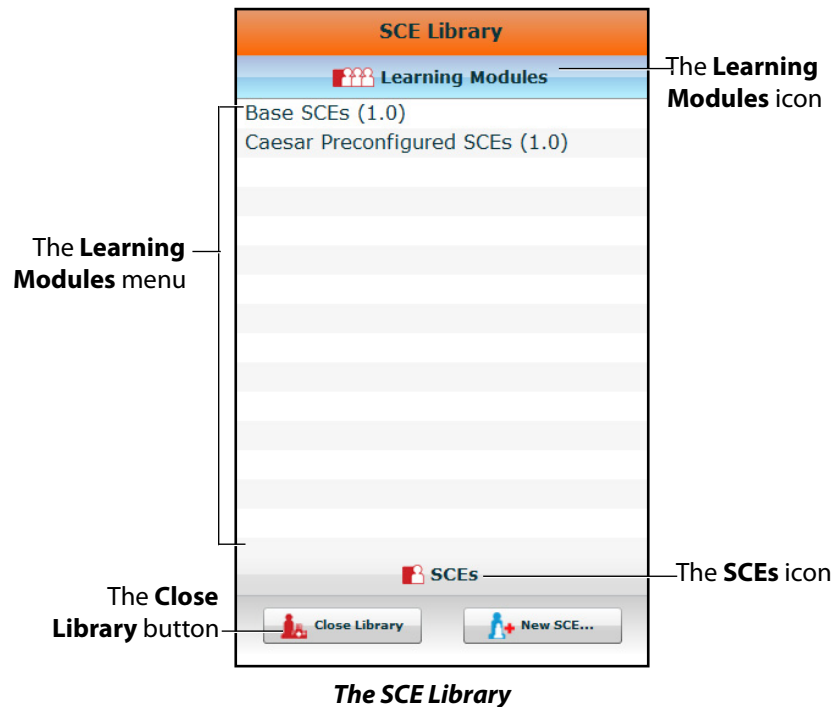
The Learning Modules menu is open by default. The Learning Modules menu lists Base SCEs, Preconfigured SCEs and all installed learning applications. Click the desired learning application name to access its SCEs, or click Base SCEs or Preconfigured SCEs. The selected SCEs appear.

Clicking the **SCEs** icon reveals the SCEs menu, which lists all user-created SCEs.

Clicking the **Learning Modules** icon again reveals the Learning Modules menu.

To open an SCE, click the name of the SCE.

Click **Close Library** to exit the SCE Library.

Base SCEs

Base SCEs are fundamental SCEs with no scenarios and no progression of events. Each base SCE is designed to provide facilitators with a baseline to run simulations "on the fly" or as a physiological baseline from which to design their own SCEs.

To access a base SCE from the SCE Library, choose **Learning Modules**, then click **Base SCEs**. The base SCEs are displayed and available for selection.

There are three base SCEs included with Caesar with Müse:

Healthy Adult Male

Healthy Adult Female

Healthy Soldier

Preconfigured SCEs

Preconfigured SCEs are training tools with scenarios and multiple states. They are intended to be used for learner education and training.

To access a preconfigured SCE from the SCE Library, choose **Learning Modules**, then click the name of the SCE category. The SCEs in the chosen category are displayed and available for selection.

Caesar with Müse includes the following preconfigured SCEs :

Amputation and Fragmentation Wounds

Bilateral Lower Limb Amputation and Burns

Burns and Spinal Shock

CHI and Blunt Chest Trauma

Facial Trauma Cricothyrotomy

Frag Wound to Neck and Extremities

Head and Chest Injury Femur Fracture Amputation

Multiple Gunshot Wounds to Chest Right Arm and Leg

Partial and Complete Amputation TBI ABD Injury

Polytrauma Improvised Explosive Device

The SCE Summary Panel

The SCE Summary Panel provides information about the selected SCE.

The SCE Summary Panel
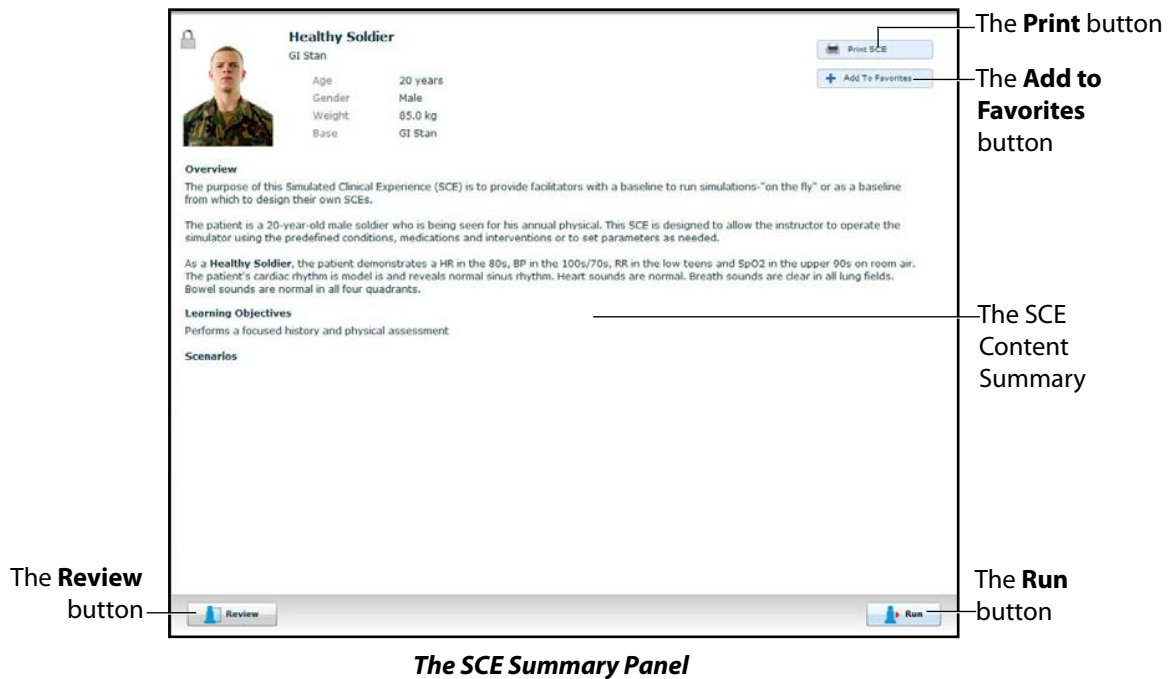
The **Print SCE** button can be used to generate a printable PDF of the selected SCE.

The **Add to Favorites** button adds the SCE to your Favorites list.

Clicking the **Review** button accesses the SCE Editor, which can be used to review and edit SCEs.

Select the **Run** button to run the SCE.

Printing SCEs

To print an SCE:

1. From the Home page, select the SCE to print.

   The SCE summary panel appears.
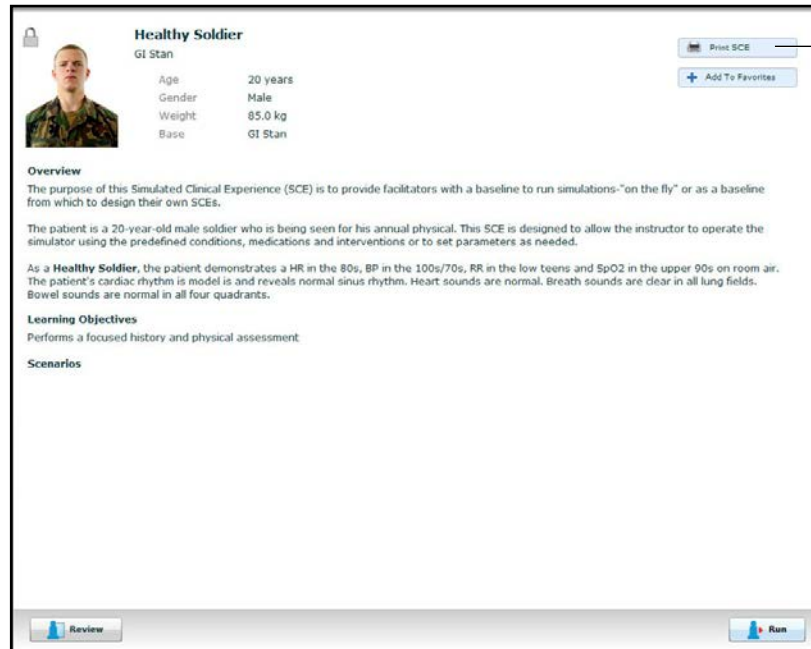
The **Print SCE** button

The SCE Summary Panel

2. From the SCE summary panel, click the **Print SCE** button.

   A PDF of the selected SCE appears in a new browser window.

3. Save the PDF to an external storage device to print from another computer,

   OR

   To print from the Instructor Workstation, consult your network administrator for assistance connecting to a printer.

4. When finished saving or printing the PDF, close the browser window containing the PDF to return to Müse.

Running an SCE

To run an SCE, from the Home screen, select an SCE and click the **Run** button. The Run screen can also be accessed from the Scenario Designer or SCE Editor by clicking the **Run** button near the top of the screen.

The Run Button

The Run screen appears.
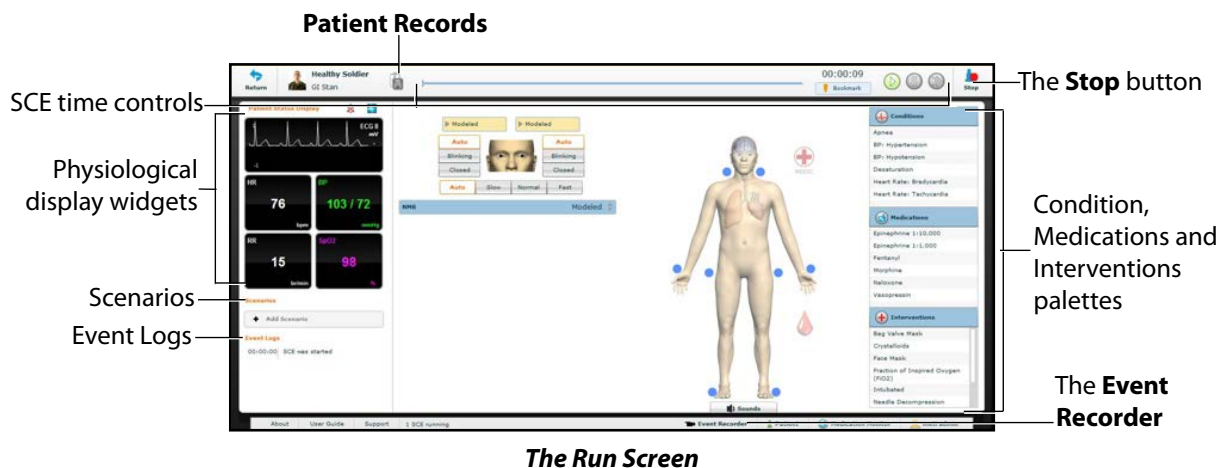
The Run Screen

From the Run screen, users can manage the SCE, perform interventions, view physiological status and events, save events as states, save the Patient and associate records with the Patient.

Using the Patient Status Display

On the Run screen, there are widgets that display the patient's physiological status. The **Patient Status Display** widgets can be changed to reflect the user's needs.

There are six available display spaces for the widgets. Waveform widgets utilize two display spaces.

The **Mute All** button

The **Setup** button

Widgets

The Patient Status Display Widgets

Use the **Mute All** button to mute all Patient Status Display alarms.

To adjust the widget layout, click the **Setup** button.

The Widget Setup menu opens, displaying available widget types: Waveform, Numeric and Volume.
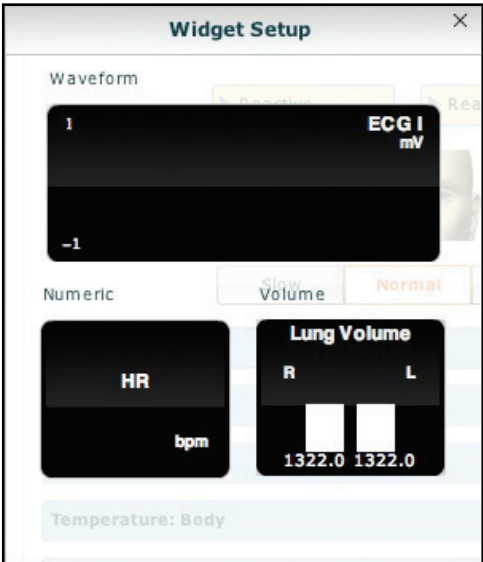
The Widget Setup Menu

Adjust the Patient Status Display layout by dragging a widget type from the Widget Setup Menu and dropping it over the Patient Status Display. The new widget type replaces the old.

To change the information displayed in a **Patient Status Display** widget, click the widget to be changed. A list appears, showing all the parameters available for the selected widget type.

The **Set Color** button

The **Set Alarm** button
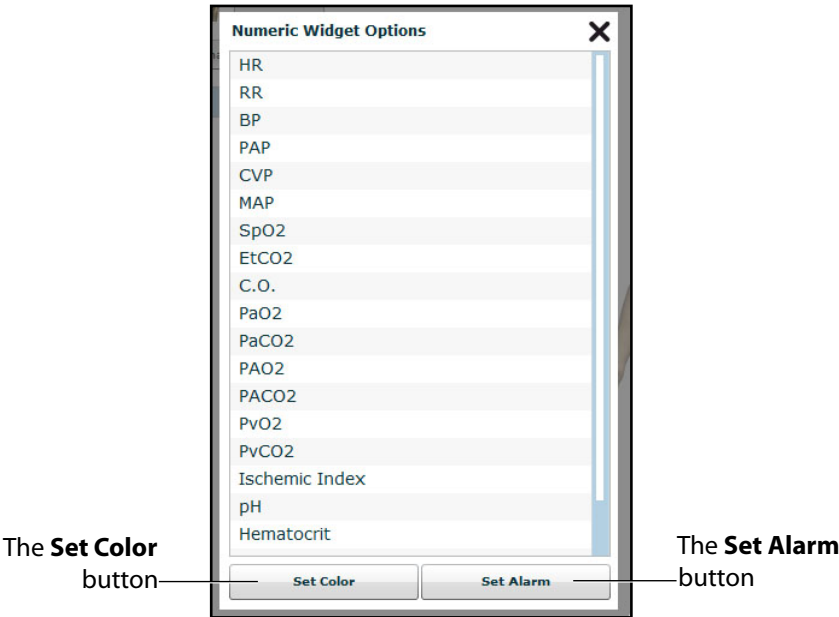
The Numeric Widget Options Panel

Choose the desired option from the list and the widget changes to reflect the new selection.

From the numeric widget menu, the **Set Color** button can be used to change the display color of the widget and the **Set Alarm** button can be used to change the alarm settings for the selected widget.

The Event Logs

During an SCE, all software operations sensed by the simulator or entered manually (e.g., virtual defibrillation, setting a physiological parameter value) are recorded by an event entry that appears on the screen. The event entry notes what occurred and the time it happened.

Event Logs	
00:00:06	Scenario 'Multiple Gunshot Wounds to Chest, Right Arm and Leg Caesar' started
00:00:00	Fluid Loss Blood was set to 18000 mL/hr

The Event Logs

Event Logs can also be exported. For more information, see *History on page 92*.

Displaying Patient Records

Patient records can be uploaded to Müse and displayed in the TouchPro software while an SCE is running.

To display an uploaded patient record:

1. From the Müse Run screen, click the **Patient Records** button.

The Patient Records Button

The Patient Records list appears, displaying all available patient records.

Patient records —

The **Start Displaying**
button —
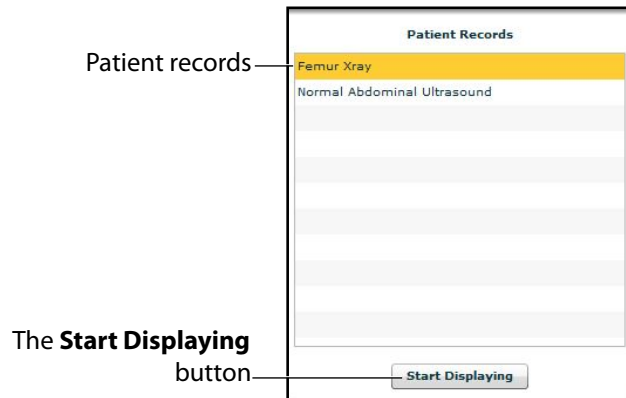
The Patient Records List

2. Select a patient record from the list.

3. Click **Start Displaying**.

   The patient record is shown in a new TouchPro web browser window.

   IMPORTANT: Ensure pop-up blocking is turned OFF in the web browser of the Instructor Workstation and any TouchPro workstations. Consult the web browser's help menu for assistance.

   NOTE: The web browser window containing the patient record may be minimized initially. If the window is not readily visible, click the web browser icon on the Dock (Macintosh Instructor Workstation) or Taskbar (Windows Instructor Workstation) to locate the new window.

   The **Patient Records** button turns red, indicating that a patient record is being displayed.

The Patient Records Button

The **Start Displaying** button at the bottom of the Patient Records list changes to a red **Stop Displaying** button.

Patient records

The **Stop Displaying** button
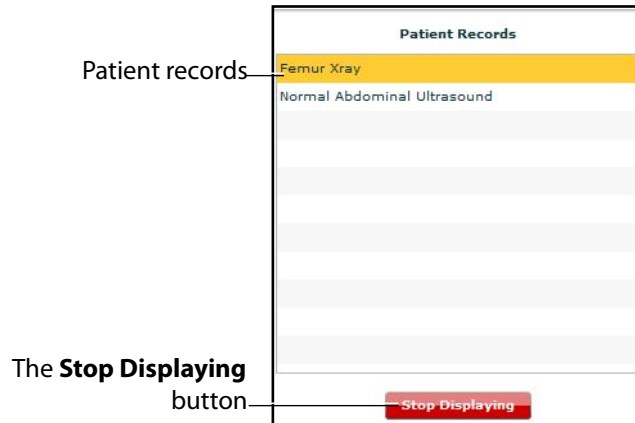
The Patient Records List

To stop displaying a patient record, click **Stop Displaying** at the bottom of the Patient Records list.

To close the Patient Records list, click the **Patient Records** button. The list closes. If a patient record is being displayed, the **Patient Records** button remains red until the list is re-opened and **Stop Displaying** is chosen.

NOTE: Only one patient record can be displayed at a time.For information about uploading patient records to Müse for selection from the Run screen, see *Patient Records on page 99*.

Adding a Scenario to a Running SCE

SCEs incorporate scenarios that contain pre-programmed physiology and events. Scenarios can be added to SCEs to enhance patient physiology.

To add a scenario to an SCE that is running:

1. Click the **Add Scenario** button on the Run screen

The Add Scenario Button

The Choose Scenario dialog box appears.

The **Add** button
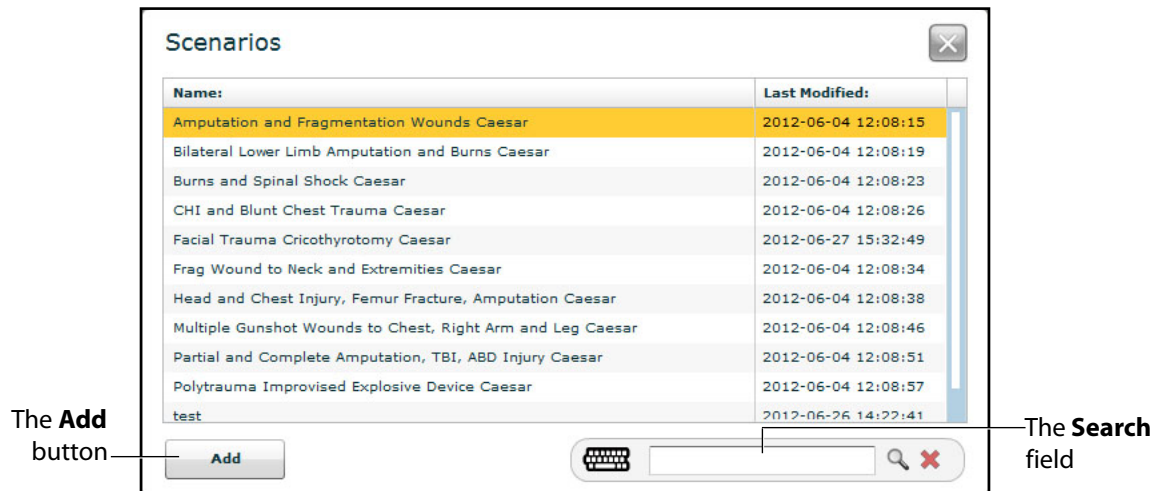
The **Search** field

The Choose Scenario Dialog Box

2. Select a scenario from the Choose Scenario Dialog Box.

   The **Search** field can be used to search for a scenario to select.

3. Click **Add**.

   The scenario is added to the SCE and appears under the **Scenarios** heading on the Run screen.
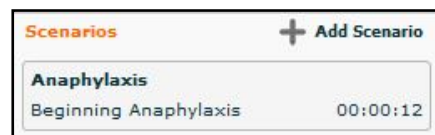
An Added Scenario

Changing Physiology

The patient physiology can be adjusted while an SCE is running in two ways: by using one of the physiological views on the Run screen to modify parameters or by using the Conditions, Interventions and Medications palettes.

Using the Physiological Views

From the Run screen, users can select from five different views representative of various body systems and features:

Neurological

      Respiratory

      Cardiovascular

      Fluids

      Sounds

To access each view, click the appropriate organ, icon or button.

- For Neurological, click the brain.
- For Respiratory, click the lung .
- For Cardiovascular, click the heart.
- For Fluids, Click the **Fluids** icon.
- For Sounds, click the **Sounds** button.
- To turn Medic is Near on or off, click the **Medic** icon.

From each view, various parameters can be viewed and adjusted.
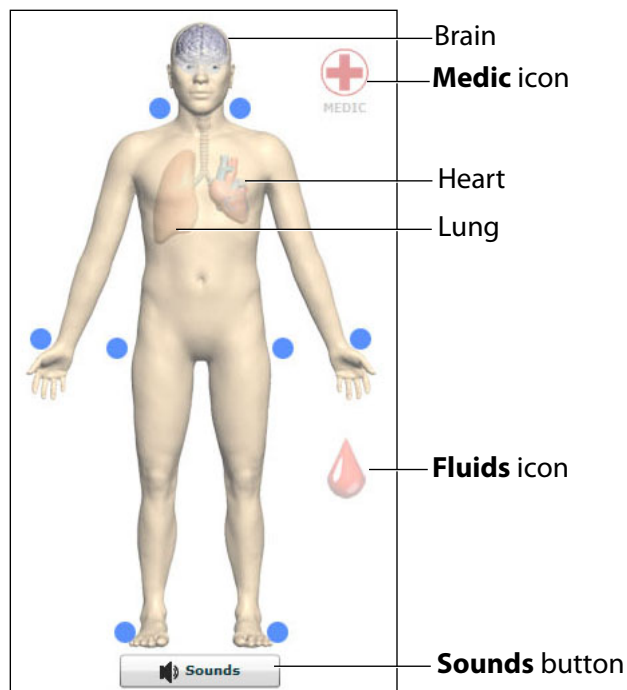
The Physiological Views

To change a patient's physiology using the physiological views:

1. Click the appropriate organ, icon or button from the homunculus to select the desired physiological view.

The associated parameters
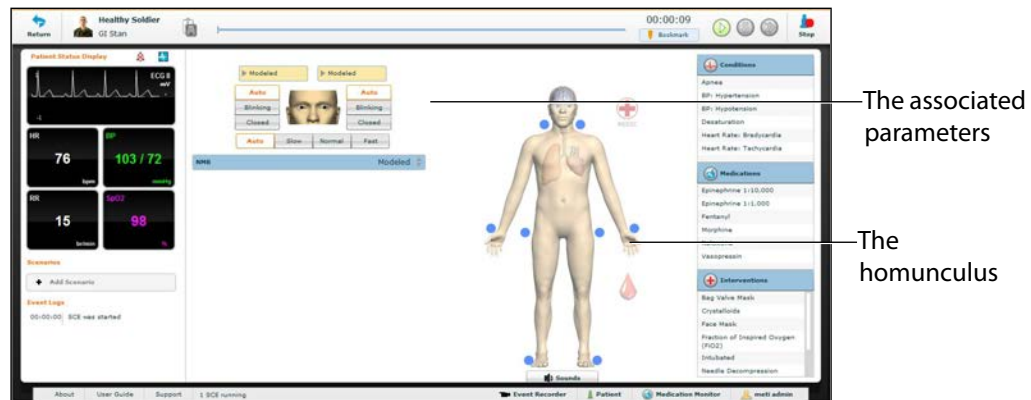
The homunculus

The Run Screen

The associated parameters appear to the left of the homunculus.

2. Locate the desired parameter.

3. Select the parameter and set the new value.

Parameters have varying controls, such as sliders, switches and menus. In the image below, the Heart Rate parameter is shown. Within the Heart Rate parameter, there are switches that toggle between **Modeled** and **Override** and **Seconds** and **Minutes**, a slider that sets the beats per minute and an available field where the beats per minute value can be keyed in.

The **Override/ Modeled** switch

The value setting slider
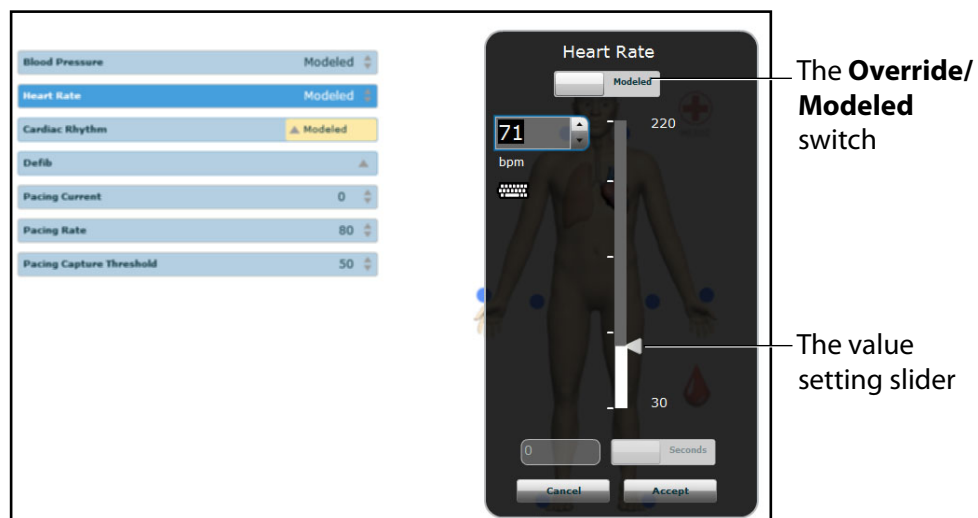
The Heart Rate Parameter

Once the parameter has been set, it is reflected in the patient's physiology.

Types of Parameters

There are two types of parameters: numeric and discrete.

Once a parameter is selected and set, the patient's physiology changes according to the model for that parameter.

Numeric Parameters

Numeric parameters set either a measured value (e.g., 20 mL), a multiplied value called a factor (e.g., Heart Rate Factor 2.0 is two times the baseline Heart Rate) or a coefficient that affects a physiological value in a non-linear way (e.g., FHR Variability Coefficient).

Numeric parameters are changed by clicking in the relevant field and entering a new value in place of the existing one or using a slider to move through the range of parameter values until the desired numeric value is established.

Once a measured value is set, that value overrides the physiologically modeled parameter value. To return to a physiologically modeled value, switch the slider in the parameter dialog from **Override** to **Modeled**.

Discrete Parameters

Discrete parameters enable users to select one of two or more options.

Discrete parameters are changed by choosing the appropriate option using a drop-down menu or toggle switch.

In the image below, the **Needle Decompression** parameter is shown. The **Needle Decompression** parameter is set using a discrete parameter switch that toggles between **Off** and **On**.

The toggle switch

The Needle Decompression Parameter

Once the parameter has been set, it is reflected in the patient's physiology.

Some parameters, such as **Direct Light Response**, have two toggle switches, one for the left side of the mannequin and one for the right.

The left toggle switch

The right toggle switch

The Direct Light Response Parameter

When the **Apply to Both Eyes** parameter is set to **On**, any change made to the left or right side is also automatically applied to the other side.

The Apply to Both Eyes Parameter

NOTE: Not all changes to parameters affect the patient's physiology, but all are logged.

Using the Conditions, Medications and Interventions Palettes

The Conditions, Medications and Interventions palettes on the Run screen enable the application of conditions, medications and interventions during simulation. Once applied, conditions are reflected in the patient's physiology and logged. All medications and interventions are also logged, and most affect the patient's physiology.

Using the Conditions Palette

Conditions are preprogrammed pathophysiological states that use one or more physiological parameters and are designed to enable you to create physiological changes on the fly.

There are two ways to apply conditions using the Conditions palette: using a Quick Link or using the complete Conditions menu. Quick Links are preconfigured conditions that are made accessible in the Conditions palette for quick application. Quick Links can also be created for the **Medications** and **Interventions** palettes.

To set parameters using the Quick Links in the **Conditions** palette, click one of the Quick Links. The condition is applied and affects the patient's physiology.

The **Conditions** button
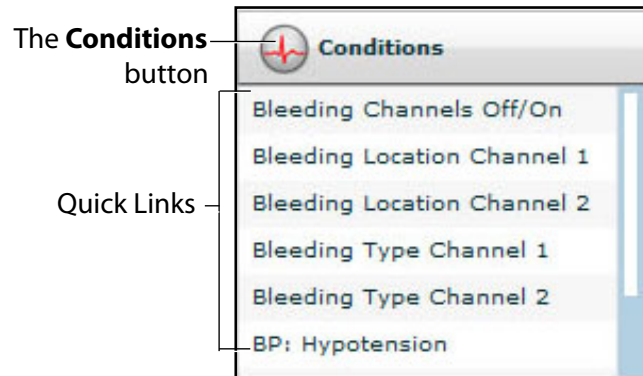
Quick Links

*The Conditions Palette*

**NOTE**: Quick Links can only be added while creating or editing an SCE.

Or, to apply a condition that is not set up as a Quick Link in the **Conditions** palette:

1. Click the **Conditions** button.

   The Conditions menu appears. Conditions are organized by system, or all available conditions are listed under **ALL CONDITIONS**.
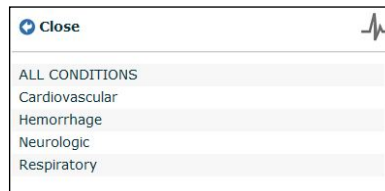
The Conditions Menu

2. Navigate the menus to find the desired condition.

   Once the desired condition has been located, click the condition's name from the list.

   The condition is applied and affects the patient's physiology.

Using the Medications Palette

There are two ways to administer medications using the **Medications** palette: using a Quick Link or using the **Medications** menu. Quick Links are preconfigured medications that are made accessible in the **Medications** palette for quick application. Quick Links can also be created for the **Conditions** and **Interventions** palettes.

To set parameters using the Quick Links in the **Medications** palette, click a Quick Link. The medication is applied and appears in the patient's physiology.

NOTE: Not all medications affect the patient's physiology, but all are logged.

The **Medications** button — — Quick Links
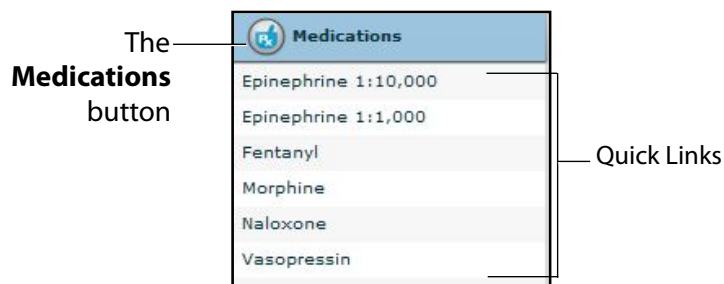
The Medications Palette

NOTE: Quick Links can only be added while creating or editing an SCE.

Or, to apply a medication that is not set up as a Quick Link in the **Medications** palette:

1. Click the **Medications** button. Medications are organized by type, and all available medications are listed under **ALL MEDICATIONS**.

2. Navigate through the menus to locate the desired medication.

3. Once the medication has been located, click the medication's name from the list.
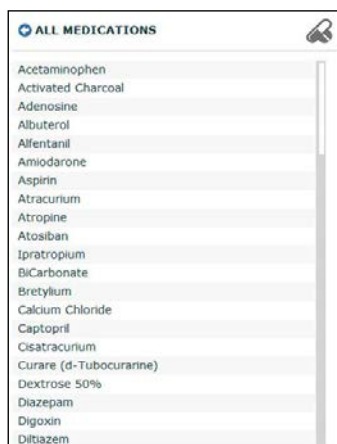
The All Medications Menu

The Medication Dose menu appears, displaying the pre-defined dose and custom dose routes for the chosen medication.
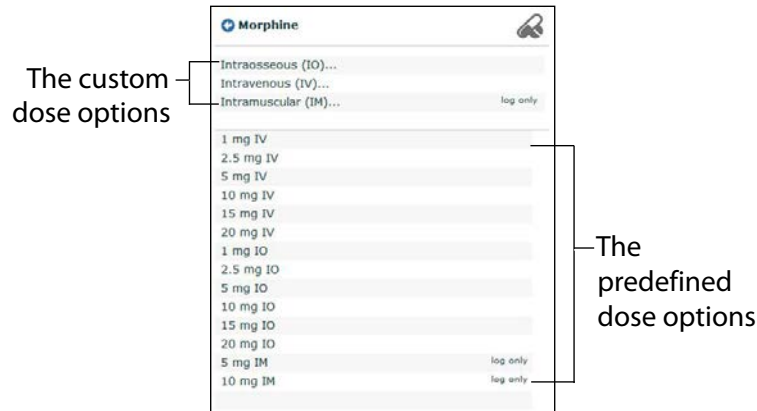
The Medication Dose Menu

4. Select a dose option. This can be done one of two ways:

   a. Choose a pre-defined dose.
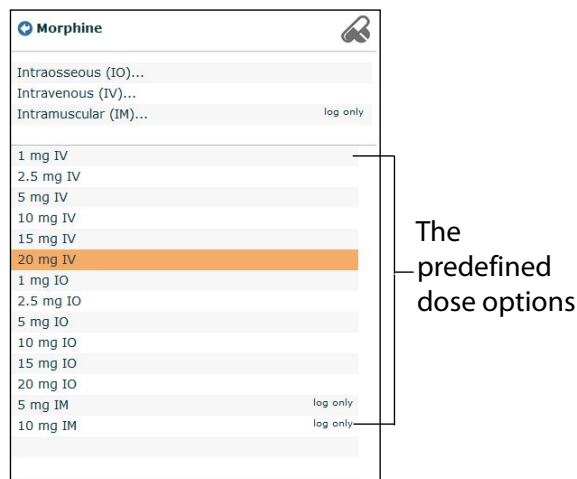
The Medication Dose Menu

The dose is applied and appears in the patient's physiology. The medication selected also appears in the Medication Monitor.

OR,

b. Choose a route of administration to administer a custom dose.
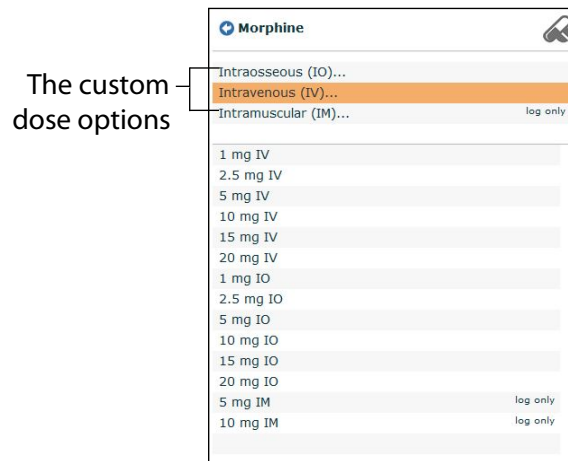
The custom dose options

The Medication Dose Menu

The Custom Dose Administration menu appears.
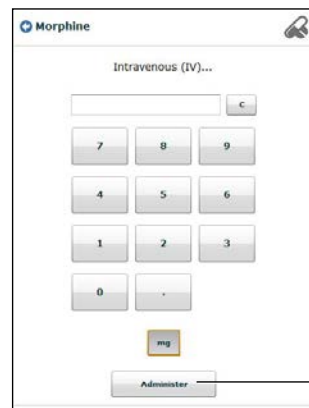
The **Administer** button

The Custom Dose Administration Menu

5. Enter the desired dose and click the **Administer** button.

The dose is applied and appears in the patient's physiology. The medication selected also appears in the Medication Monitor.

NOTE: Not all medications affect the patient's physiology, but all are logged.

Using the Interventions Palette

There are two ways to perform and/or administer interventions using the Interventions palette: using a Quick Link or using the complete **Interventions** menu. Quick Links are preconfigured interventions that are made accessible in the **Interventions** palette for quick application. Quick Links can also be created for the **Conditions** and **Medications** palettes.

To apply an intervention using the Quick Links in the **Intervention** palette, click an Intervention Quick Link.

NOTE: Not all interventions affect the patient's physiology, but all are logged.
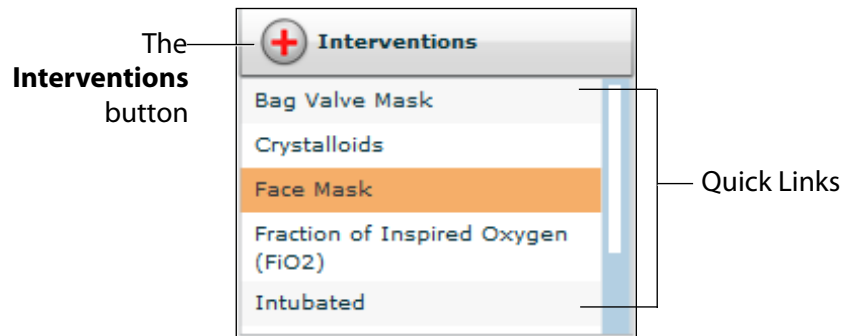
The Interventions Palette

Once an Intervention is selected, a menu appears with available options for the selected Intervention. Click the desired option to select it. The intervention is applied and appears in the patient's physiology.
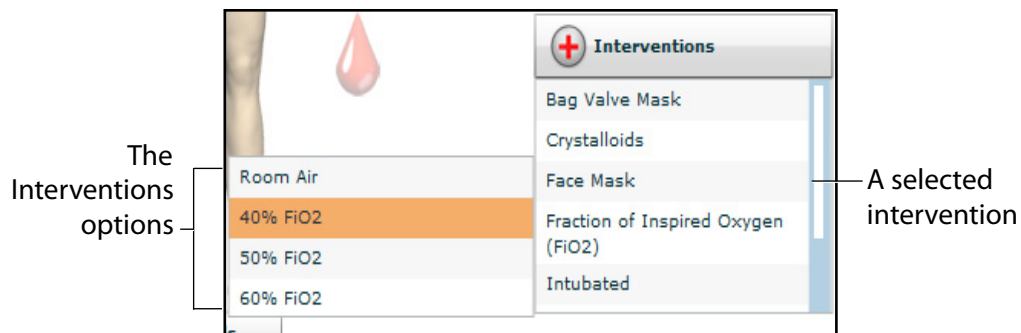
The Selected Intervention Options

NOTE: Quick Links can only be added while creating or editing the SCE.

Or, to apply an intervention that is not set up as a Quick Link in the **Interventions** palette:

1. Click the **Interventions** button.

The Interventions menu appears.
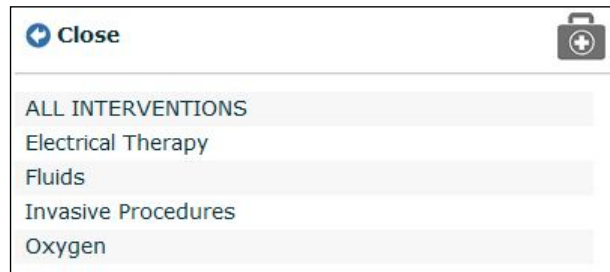
The Interventions Menu

Interventions are organized by type, or all available interventions are listed under **ALL INTERVENTIONS**.

2. Navigate through the menus to find the desired intervention.

3. Once the desired intervention has been located, click the intervention's name from the list.

   The Intervention Options menu appears, showing the available options for the selected intervention.
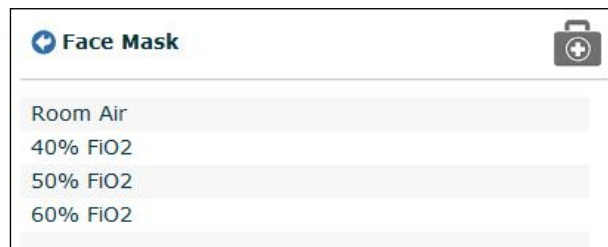
The Intervention Options Menu

4. Click the desired option.

   The intervention is applied and appears in the patient's physiology.

Transitioning Scenario States from the Run Screen

To move between scenario states from the Run screen:

1. Click the desired scenario.

A Scenario

The Scenario Management pop-up menu appears, and all available states are listed.
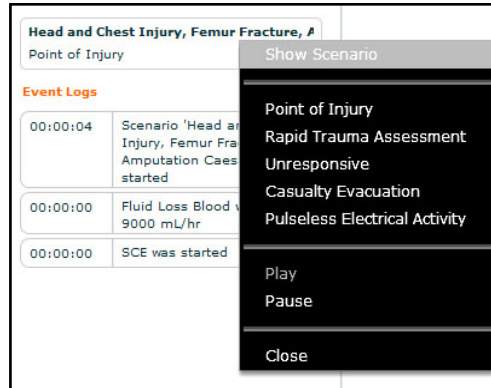
The Scenario Management Pop-Up Menu

2. Select the desired state. The scenario proceeds to the selected state.

   The scenario can also be paused or continued by selecting the **Pause** and **Play** options from the Scenario Management Pop-Up menu.

Transitioning Scenario States from the Scenario Screen

To move between scenario states from the Scenario Screen:

1. From the Run screen, click the desired loaded scenario. The Scenario Management pop-up menu appears.
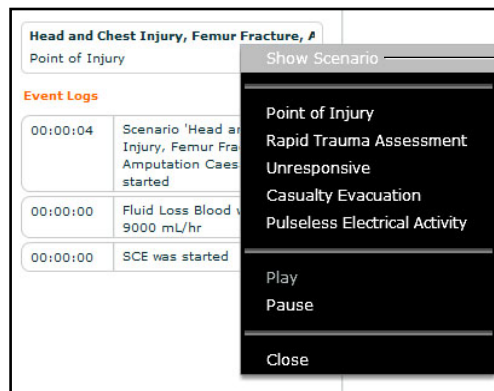
The **Show Scenario** option

The Scenario Management Pop-Up Menu

2. From the menu, select **Show Scenario**.

The Scenario screen appears, displaying the scenario.

The **Jump to State** button

The **Close Window** Button

Selected state
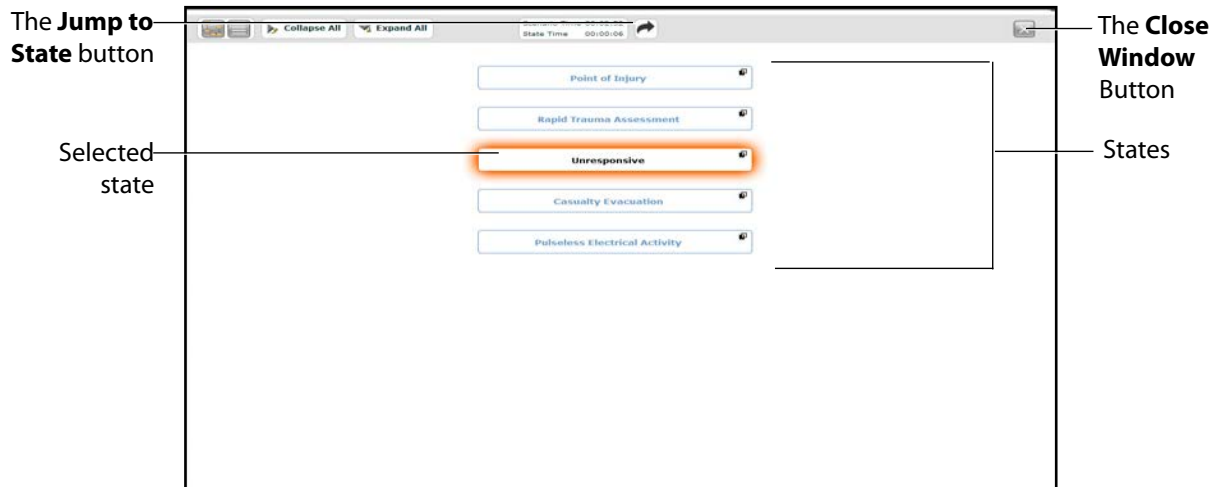
States

The Scenario Screen

At the top of this screen, the Scenario Time and State Time are visible. Additionally, users can pause and continue playing the scenario by clicking the Scenario **Pause** and **Play** button on the top of the screen.

3. Click the **Jump to State** button.

The Jump to State menu appears, displaying the available states.
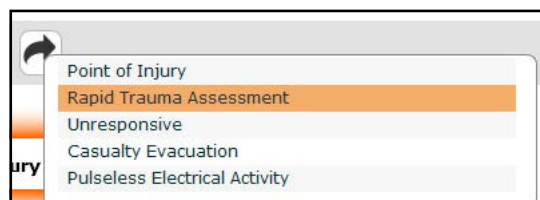
The Jump to State Menu

4. Select the desired state.

The scenario transitions to the selected state and the state is highlighted on the Scenario screen.

NOTE: Double-click on the states to expand to the full view.

5. Click the **Close Window** button to return to the Run screen.

SCE Time Controls

The SCE time controls are located at the top of the Run screen.

The **Fast-Forward** button
The **Pause/Play** button
The **Timeline** bar
The **Bookmark** button
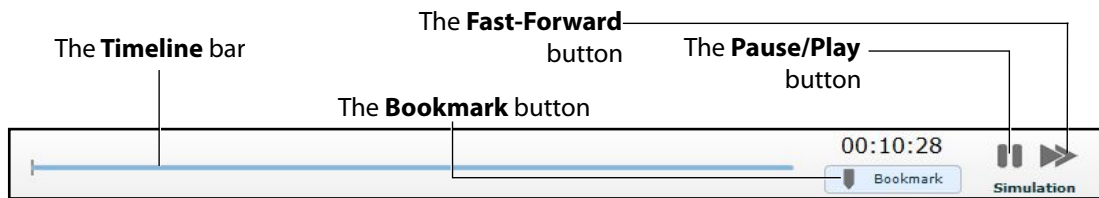
The SCE Time Controls

The **Timeline** bar shows the amount of time that has elapsed and bookmarks that have been created.

The **Bookmark** button creates a bookmark at the current point in the SCE. The bookmark can be used later to reset the patient's physiology to what it was when the bookmark was created.

Clicking the **Fast-Forward** button once accelerates the SCE time at a 4:1 ratio. Clicking the **Fast-Forward** button a second time accelerates the SCE time at an 8:1 ratio.

The **Pause/Play** button pauses the SCE time or starts the SCE if it has been paused. The **Pause/Play** button also returns the SCE time to normal speed after **Fast-Forward** has been selected.Using Bookmarks

To create a bookmark, click the **Bookmark** button. A bookmark appears on the **Timeline** bar.

A bookmark
The **Timeline** bar
The **Bookmark** button
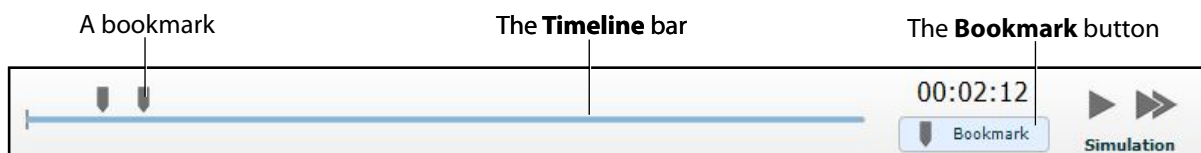
The SCE Time Controls

To return to a bookmarked time in the SCE:

1. Click the bookmark on the timeline.

   The Return to Bookmark message appears.

The **Return** button
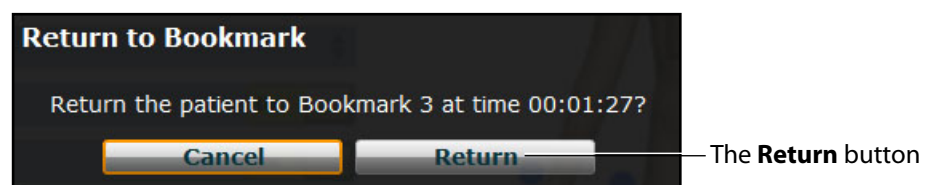
The Return to Bookmark Message

2. Click **Return**.

   The patient's physiology returns to the selected point in the timeline.

   NOTE: The SCE time continues moving forward and does not reset to the bookmarked time.

Using the Event Recorder to Save States

The Event Recorder can be used to save conditions, interventions and parameter changes as states.
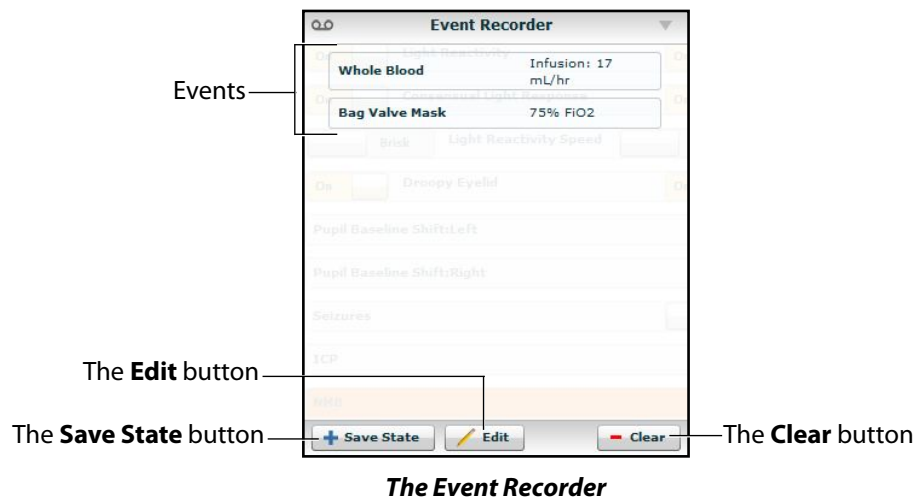
To save a state using the Event Recorder:

1. Apply the desired conditions, interventions and parameters.

2. Click the **Event Recorder** button at the bottom of the Müse screen.
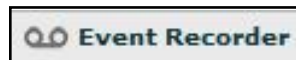
The Event Recorder Button

   The Event Recorder appears, displaying all events that have occurred since the start of the SCE.

The Event Recorder

WARNING: The **Clear** button deletes all recorded events. This action cannot be undone.

---

3. Review the list of events.

   If you wish to remove any events from the state to be saved:

   a. Click **Edit**.

A **Delete** button appears next to each recorded event.
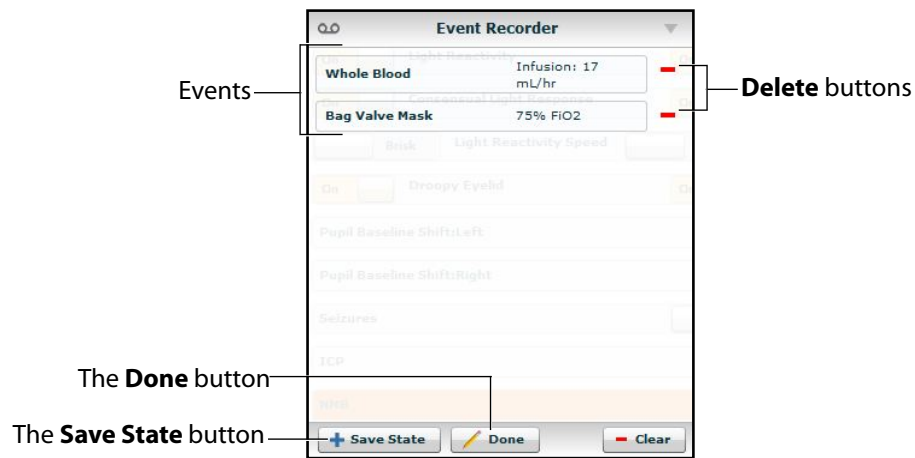
The Event Recorder

b. Click the **Delete** button next to each event to be removed.
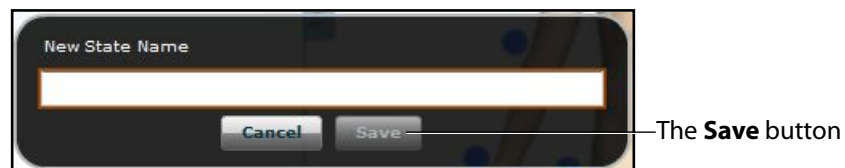
The events are removed from the Event Recorder.

c. Click **Done**.

The **Delete** buttons are hidden.

4. Click **Save State**.

The New State Name window appears.

The New State Name Window

5. Enter a state name.

6. Click **Save**.

The state is saved to the State Library and can be accessed via the Scenario Designer.

For more information about the State Library, see *Saving States to the State Library on page 88*.

Creating a New Patient

When an additional patient with specific physiological characteristics is needed for repeated use, a new patient can be created from the Run screen.

To create a new Patient:

1. From the Home page, run an SCE that has a Patient with the same gender as the Patient to be created.

2. From the Run screen, apply the desired conditions and set the necessary parameters.

3. Once complete, click the **Patient** button at the bottom of the Run screen.

The Patient Button
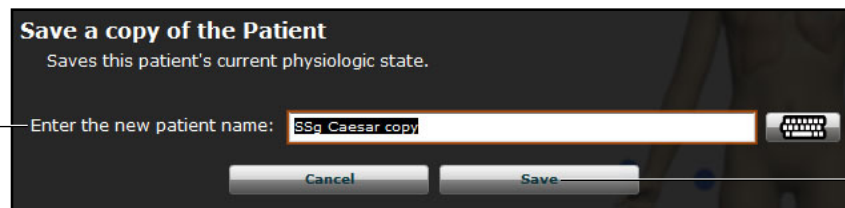
The Patient pop-up menu appears.

The **Save** button
The Patient Pop-Up Menu

4. Click **Save**.

The Save a copy of the Patient dialog box appears.

The **Enter the new patient name** field

The **Save** button

The Save a Copy of the Patient Dialog Box

5. Enter a name for the new Patient in the **Enter the new patient name** field.

6.

7. Click **Save**.

The new Patient is saved and available for selection from the Base Patients Library when creating a new SCE.

NOTE: If the newly created base patient is used in a new SCE (SCE patient), any changes made to the newly created base patient at a later date will not affect that SCE patient.
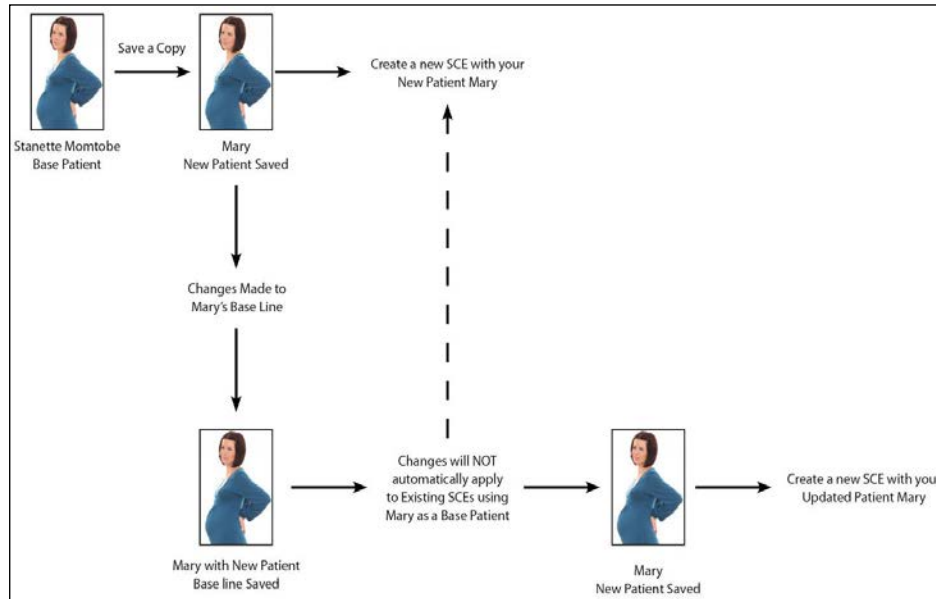
The New Patient Diagram

Resetting a Patient

Resetting a Patient brings the Patient back to its original physiological state before any scenarios were applied or modifications were made. Any running scenarios are paused. However, the SCE time is unaffected. Additionally, the reset appears in the Event Logs.

NOTE: If baseline physiology settings have been selected, they are removed when the Patient is reset.

To reset a Patient:

1. While running an SCE, click **Patient** at the bottom of the Run screen.

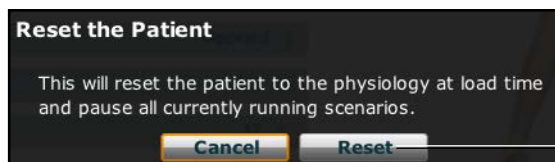*The Patient Button*

The Patient pop-up menu appears.

The **Reset** button

The Patient Pop-Up Menu

2. Click **Reset**.

   The Reset the Patient dialog box appears, stating that the patient's physiology will be reset to its state at load time and all running scenarios will be paused.

 ——The **Reset** button

The Reset the Patient Dialog Box

3. Click **Reset**.

   The patient returns to its original physiological state as at the start of the SCE. The patient reset is indicated with a red marker on the SCE timeline bar.

4. To resume any paused scenarios, click the loaded scenario on the left side of the screen.

   The Scenario Management pop-up menu appears.

5. From the Scenario Management pop-up menu, select **Play**.

   The scenario is resumed.

The Medication Monitor

The Medication Monitor tracks the infusion of medication administered for medications that affect patient physiology. To activate the Medication Monitor, from the Run screen, click the **Medication Monitor** button in the bottom, right portion of the screen.

The Medication Monitor Button

The Medication Monitor appears as a movable box on the Run screen.

Medication name

The **Close** button

The **Reset** button

Normalized effector site concentration
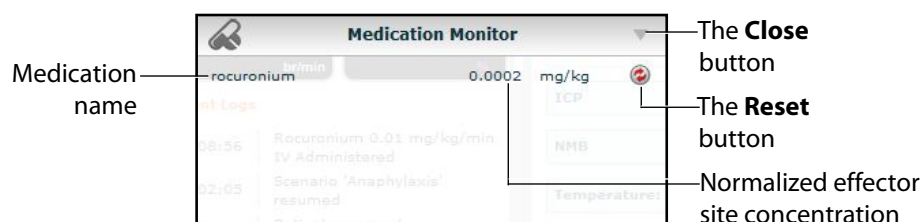
The Medication Monitor

The normalized effector site concentration is shown next to each medication listing.

The **Reset** button is used to clear a medication from the physiological model and the Medication Monitor.

To close the Medication Monitor, press the **Close** button in the upper right corner of the medication Monitor window.

Resetting a Medication

To reset a medication from the Medication Monitor, click the **Reset** button on the Medication Monitor.

The Reset Medication dialog box appears, asking you to confirm that you wish to reset the medication.

The **Reset** button
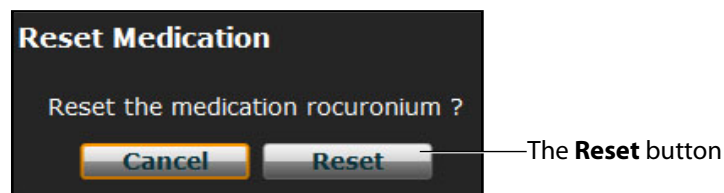
The Reset Medication Dialog Box

The medication is cleared from the model and from the Medication Monitor.

With continuous infusions, the amount infused goes back to zero, but the infusion continues. To stop the infusion, you must select the medication from the medication library and set the infusion rate to zero.
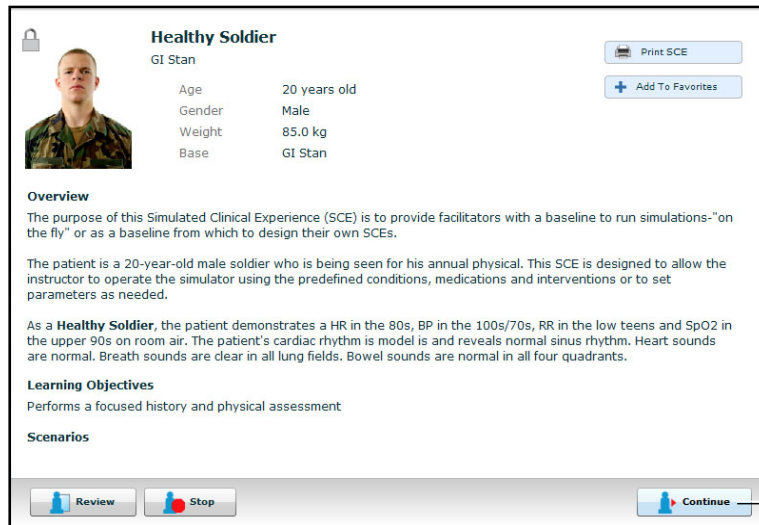
Returning to the Home Page

To exit the SCE and return to the Home page, click the **Return** button in the upper-left of the run screen.

The Return Button

The SCE continues running and the Home page appears.

To return to the SCE from the Home page, click the **Continue** button in the SCE summary panel of the running SCE.
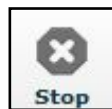

The **Continue** button

The SCE Summary Panel

Stopping the SCE

Running SCEs can be stopped from the Run screen or the Home page.
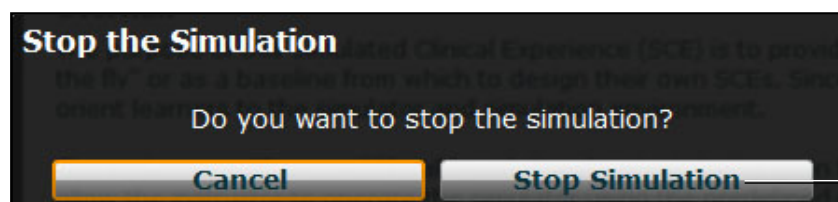
To stop an SCE from the Run screen:

1. Click **Stop** in the upper right corner of the screen.

The Stop Button

The Stop the Simulation dialog box appears.

The **Stop Simulation** button

The Stop The Simulation Dialog Box

2. Click **Stop Simulation**.

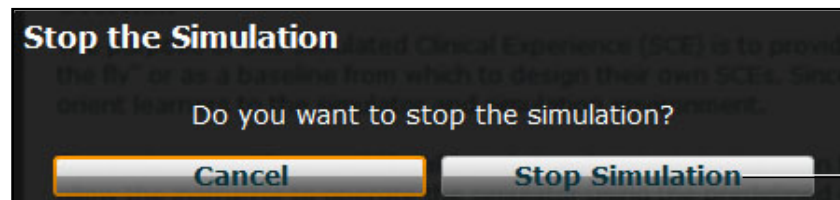   The SCE stops running and the Müse Home page is shown.

To stop an SCE from the Home page:

1. Click the **Stop** button in the bottom left corner of the SCE Summary Panel.

The Stop Button

The Stop the Simulation dialog box appears.

The **Stop Simulation** button

The Stop The Simulation Dialog Box

2. Click **Stop Simulation**.

   The SCE stops running.

IMPORTANT: Always stop all running SCEs before logging out of Müse.

Developing SCEs

Creating and editing SCEs are similar processes. Once an SCE is created, the steps for modifying the SCE are the same as those for editing a previously-created SCE. The processes of creating and editing SCEs each begin with a unique button on the Home screen.

Use the **New SCE** button to create a new SCE.

The New SCE Button

The minimal requirements for creating a new SCE include selecting a Patient, naming the SCE and saving the SCE. Once the new SCE is created, you can continue with the SCE development or edit it later.

Use the **Review** button to edit an existing SCE.

The Review Button

Creating a New SCE

Creating an SCE requires naming the SCE and selecting a Base Patient.

To create a new SCE:

1. From the Home screen, click **New SCE**.

The New SCE Button

    The Patients Palette appears.

The **Create** button

The Patients Palette

2. Click on a patient to select that patient from the palette and click **Create**.

The SCE Editor appears, showing the Enter a name for the SCE dialog box.

The **Save** button

The **SCE Name** field

The SCE Editor

3. Enter the name for the SCE.

   NOTE: The name of the SCE may NOT exceed 80 characters. Additionally, SCE file names CANNOT contain any special characters, such as / \ : * ? < > % | "
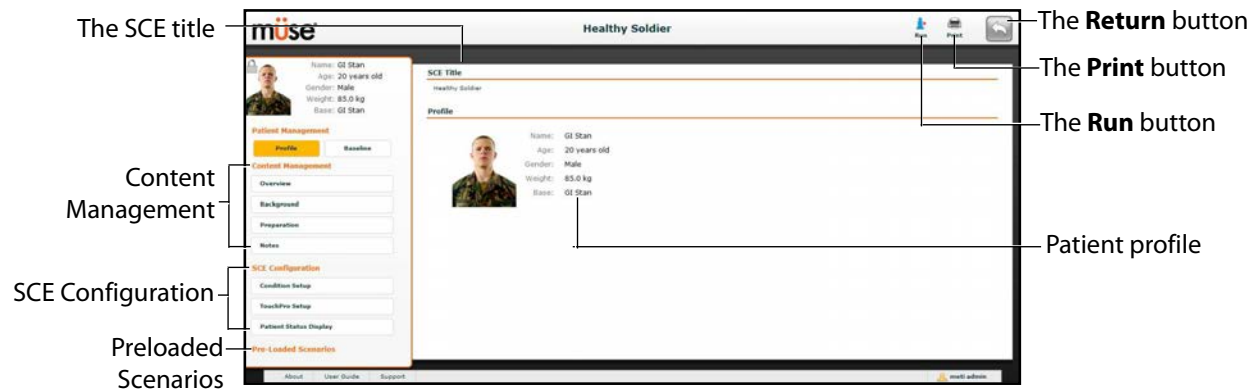
4. Click **Save**.

   Once the SCE is saved, it is stored and can be edited and reviewed at any time, including creating a Patient Profile and content, determining settings and programming scenarios.

The SCE Editor

The SCE Editor can be used to review preconfigured SCEs and to create or edit custom SCEs.

To access the SCE Editor, click the **Review** button in the SCE Summary Panel or create a new SCE.

The SCE title

The **Return** button

The **Print** button

The **Run** button

Content Management

Patient profile

SCE Configuration

Preloaded Scenarios

The SCE Editor

The buttons in the upper right corner of the SCE Editor provide options for running the SCE, generating a printable PDF, or returning to the Home page.

The **Content Management**, **SCE Configuration** and **Preloaded Scenarios** links in the left panel are used to review the SCE content and configuration and to view scenarios applied to the SCE.

The **Content Management**, **SCE Configuration,** and **Preloaded Scenarios** links in the left-side panel and the TCG Data are used to review the SCE content and configuration, view CTG data, and view scenarios applied to the SCE.

Editing a Patient's Profile
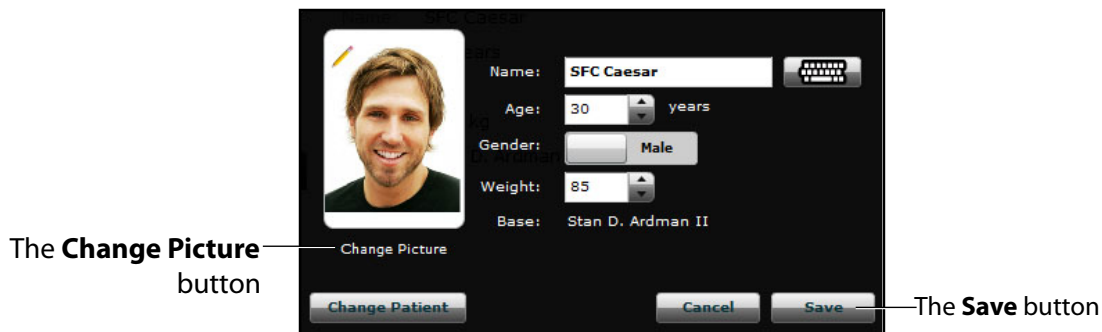
To edit the Patient Profile:

1. From the SCE Editor, in the **Profile** section, click **Edit**.
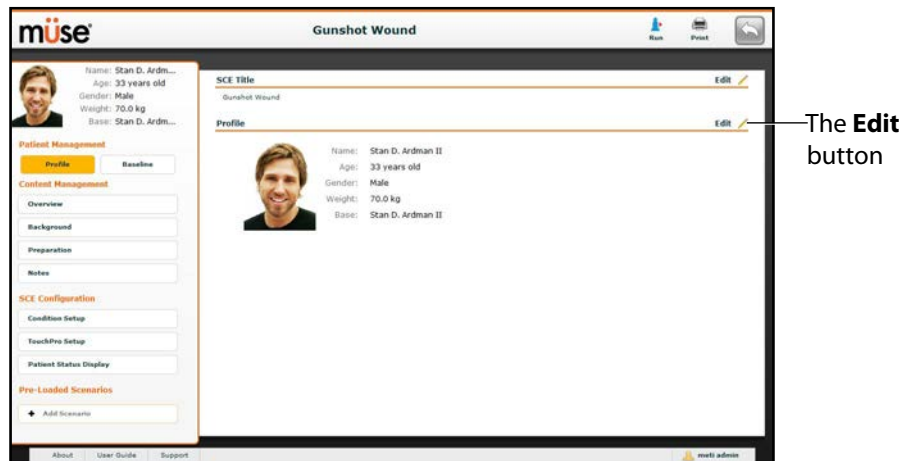
The SCE Editor Screen

The Profile Editor appears.

The Profile Editor

2. Set the Patient's name, age, gender and weight by filling in the appropriate fields.

3. Click the **Change Picture** button to change the patient's picture (optional).
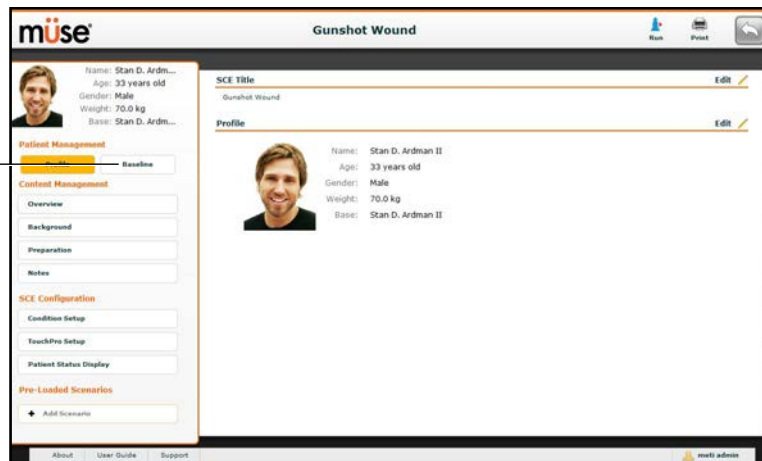
4. Click **Save**.

    IMPORTANT: No part of the patient's profile can contain any special characters, such as / \ : * ? < > % | "

Setting a Patient's Baseline

The patient baseline is the patient's initial physiology at the beginning of an SCE. To set the Patient's Baseline:
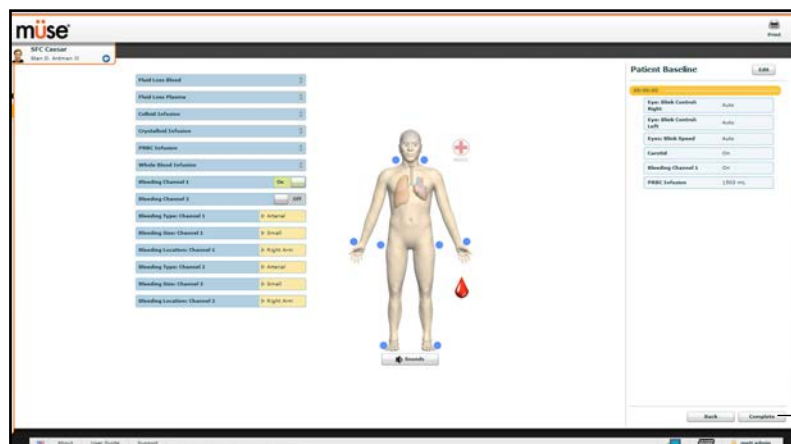
1. From the SCE Editor, click **Baseline**.

The **Baseline** button

The SCE Editor Screen

The Patient Baseline screen appears.

The **Complete** button

The Patient Baseline Screen

2. Set the Patient's baseline physiology by modifying the desired parameters.

3. Click **Complete**.

   When the SCE begins, the Patient physiology reflects the selected baseline settings.

Content Management

SCE Content is entered from the SCE Editor using the **Overview**, **Background**, **Preparation** and **Notes** buttons under the **Content Management** heading.

The Content Management Buttons

Each button accesses a screen that allows users to enter information for the chosen section (Overview, Background, Preparation or Notes). Click the **Edit** button of each section on the SCE Editor to access a rich-text editor that enables data entry.

IMPORTANT: Text can be copied and pasted into the fields from TextEdit or Notepad only.
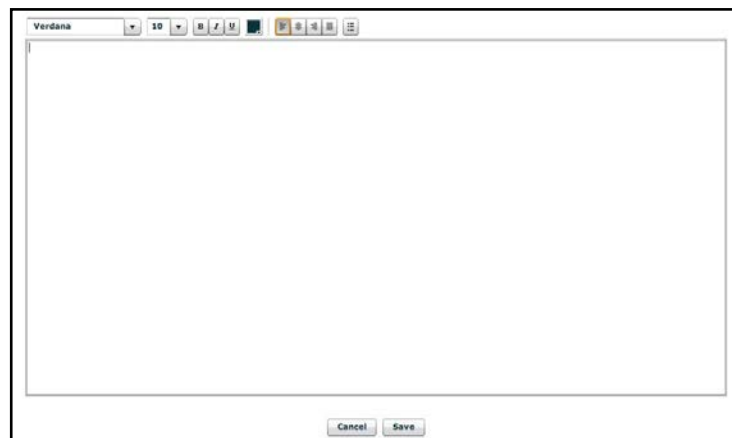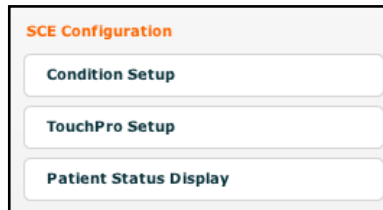

The Rich-Text Editor

Click **Save** when all data for the field has been entered.

SCE Configuration

Setting up the Conditions, the TouchPro software and the Patient Status Display is achieved by clicking the buttons under the **SCE Configuration** heading in the SCE Editor.
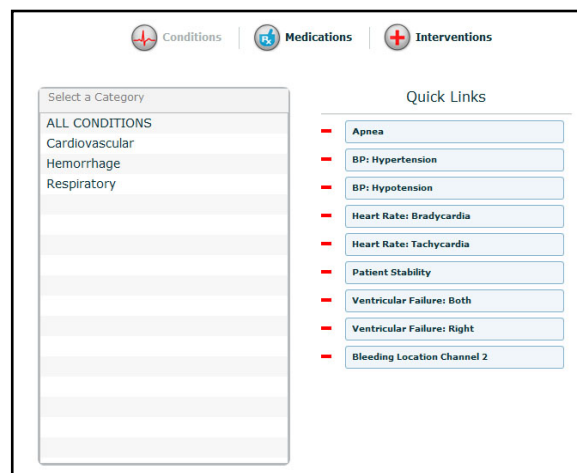

The SCE Configuration Buttons

Condition Setup Screen and Creating Quick Links

Click **Condition Setup** to access the Condition Setup screen. From the Condition Setup screen, conditions, medications and interventions can be preconfigured for the SCE creating Quick Links.

On the Condition Setup screen, **Conditions**, **Medications** and **Interventions** buttons are available. To navigate through available conditions and interventions, click the **Conditions, Medications** and **Interventions** buttons.

The Condition Setup Screen

To create a Quick Link, drag and drop the desired choice from the Conditions, Medications or Interventions palette to the list of Quick Links.

Click the minus sign to remove a Quick Link from the SCE.

Modifying the TouchPro Setup

Use the **TouchPro Setup** link to access the TouchPro Setup panel.

From the TouchPro Setup panel, TouchPro layouts can be enabled or disabled for the selected SCE.

When a layout is enabled, it is available to be used in the TouchPro software with the selected SCE. When a layout is disabled, it is unavailable to be used in the TouchPro software with this SCE.

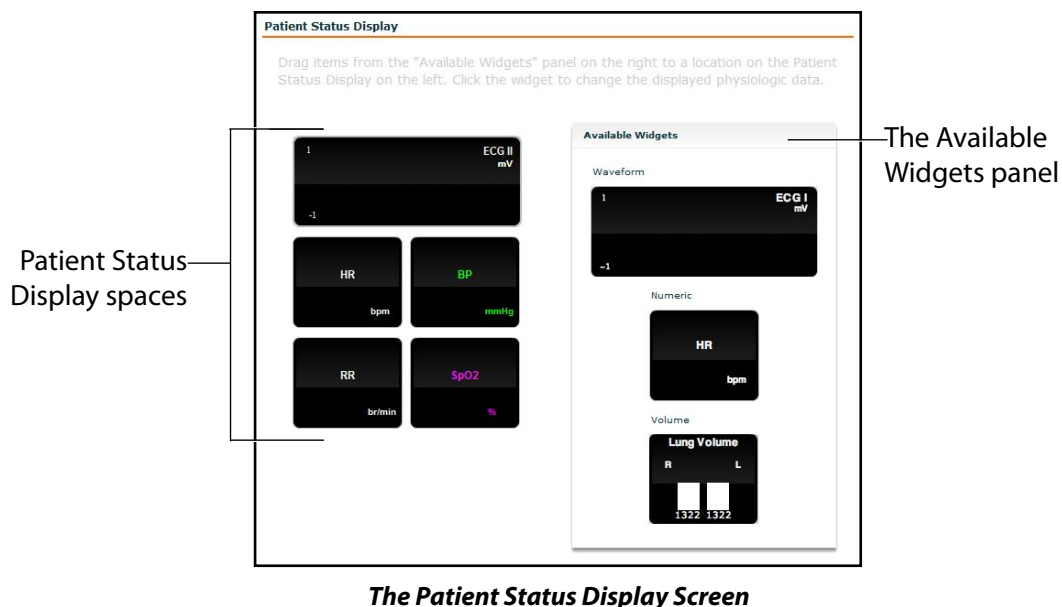Click the **On/Off** switch next to a layout to enable or disable it.
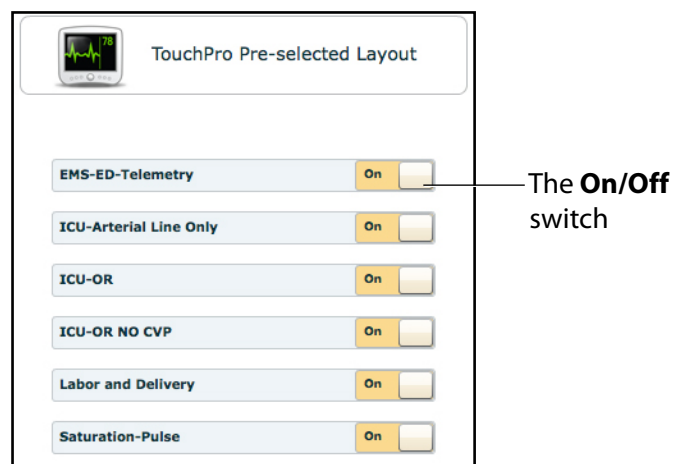
The TouchPro Setup Panel

Patient Status Display

To configure the Patient Status Display displayed on the Run screen, click **Patient Status Display** under the SCE Configuration heading on the SCE Editor.

The Patient Status Display screen appears.

The Patient Status Display Screen

To modify the Patient Status Display, drag and drop the desired waveform, numeric or volume widgets from the Available Widgets panel to an available Patient Status Display space.

NOTE: Waveforms occupy two spaces.

Once the desired widget is placed, click the widget to change the physiologic parameter displayed.

Adding a Scenario from the SCE Editor

SCEs incorporate scenarios that contain preprogrammed physiology. Scenarios can be added to SCEs to enhance patient physiology. When a scenario is added to an SCE from the SCE Editor, the scenario becomes associated with the SCE and begins automatically when the SCE is run.

Click the **Add Scenario** button on the Run screen to add a scenario to an SCE that is running.
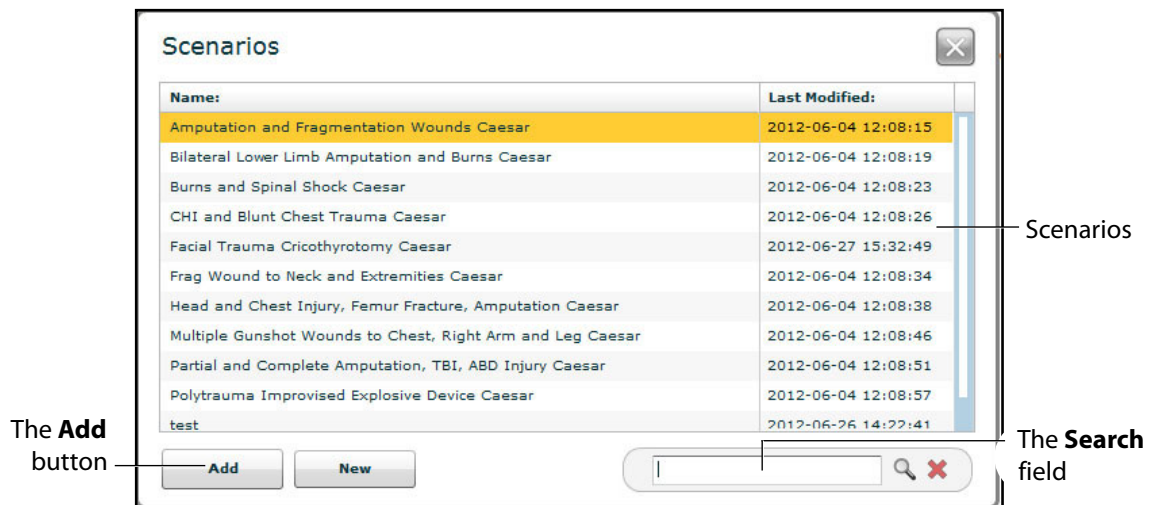
To add a scenario to an SCE from the SCE Editor:

1. Click the **Add Scenario** button under the Preloaded Scenarios heading.

The Add Scenario Button

The Choose Scenario dialog box appears.

The Choose Scenario Dialog Box

2. Select a saved scenario from the Choose Scenario Dialog Box.

   The **Search** field can be used to search for a scenario to select.

3. Click **Add**.

   The scenario is added to the SCE and is listed on the SCE Editor beneath the Pre-Loaded Scenarios heading.

For information about editing scenarios, see *Editing a Scenario on page 73*.

Developing Scenarios

The Scenario Designer allows users to create and edit scenarios.

To access the Scenario Designer, create a new scenario or choose an existing scenario to edit.
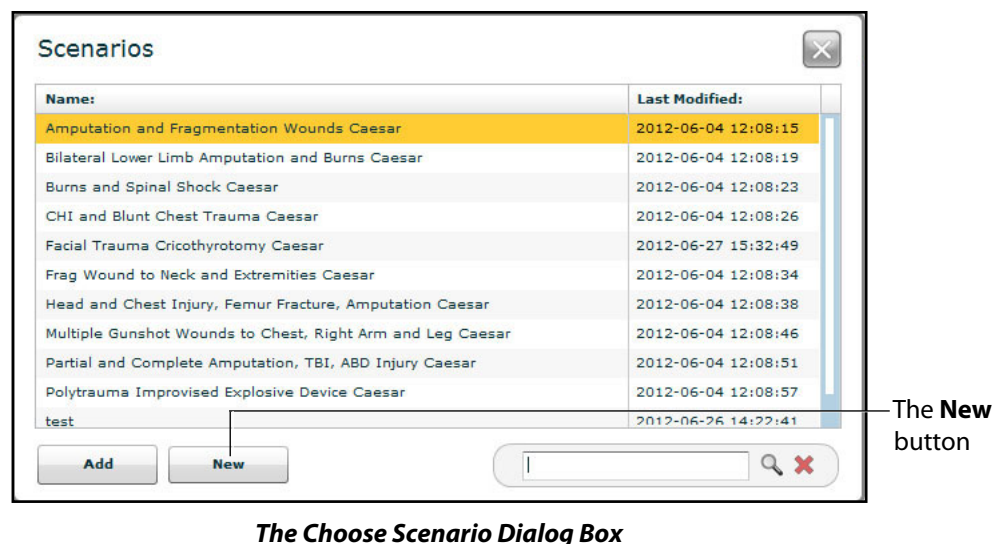
Creating a New Scenario

To create a new scenario:

1. From the SCE Editor, under the Pre-Loaded Scenarios heading, click the **Add Scenario** button.

The **Add Scenario** button

The Pre-Loaded Scenarios Heading

The Choose Scenario dialog box appears.

The **New** button
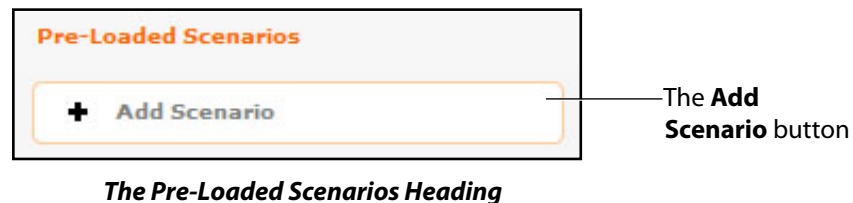
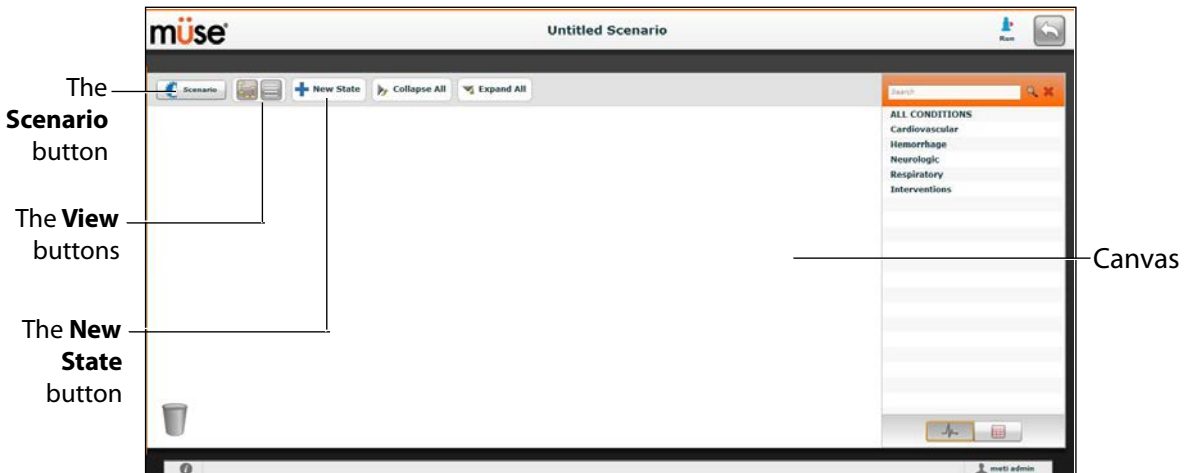*The Choose Scenario Dialog Box*

2. Click **New**.

    The Scenario Designer appears, displaying the new, untitled scenario.

From the Scenario Designer, scenario states can be added, modified, and deleted.

The Scenario Designer

The **Scenario** button is used to manage states and save the scenario.

The **View** buttons toggle between Scenario Designer views.

The **New State** button is used to add new states.

Once created, states are displayed on the Scenario Designer canvas.

Editing a Scenario

To edit a scenario:

1. From the SCE Editor, under the Pre-Loaded Scenarios heading, click the **Add Scenario** button.
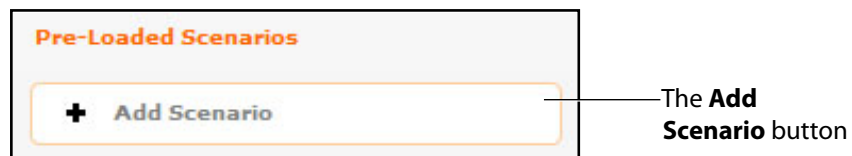
The Pre-Loaded Scenarios Heading

The Choose Scenario dialog box appears.
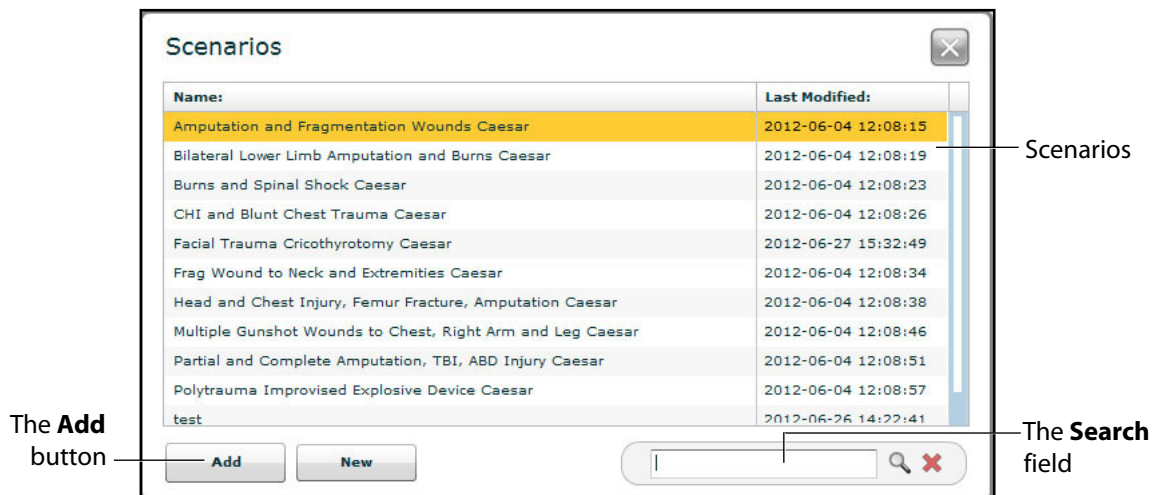
The Choose Scenario Dialog Box

2. Select a saved scenario from the Choose Scenario Dialog Box.

   The **Search** field can be used to search for a scenario to select.

3. Click **Add**.

   The scenario is added to the SCE and is listed on the SCE Editor beneath the Pre-Loaded Scenarios heading.

4. Click the scenario's name under the Pre-Loaded Scenarios heading.

   The Scenario Designer appears, displaying the selected scenario.

The Scenario Designer

The Scenario Designer

The Scenario Designer is accessed by creating or editing a scenario from the SCE Editor

From the Scenario Designer, scenario states can be added, modified and deleted.
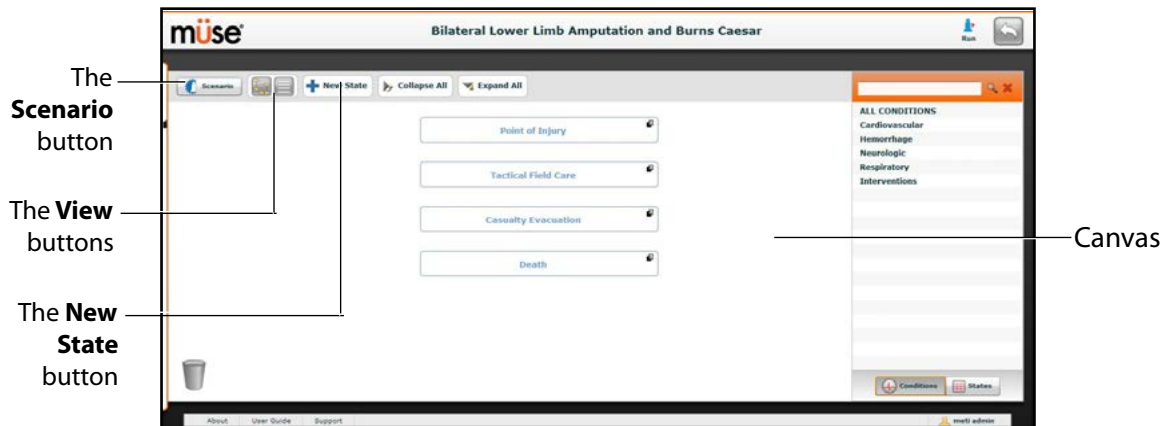
The **Scenario** button
The **View** buttons
The **New State** button
Canvas

The Scenario Designer

The **Scenario** button is used to manage states and save the scenario.

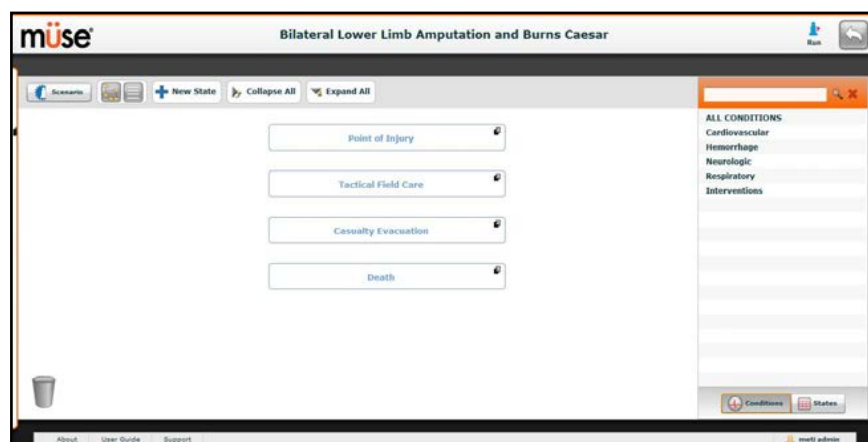The **View** buttons toggle between Scenario Designer views.

The **New State** button is used to add new states.

Once created, states are displayed on the Scenario Designer canvas.

Scenario Designer Views

The Scenario Designer has two views: the Graphical view and the Line Item view. The Graphical view allows users to map out scenario states. The Line Item view places the states and transitions into a linear format.

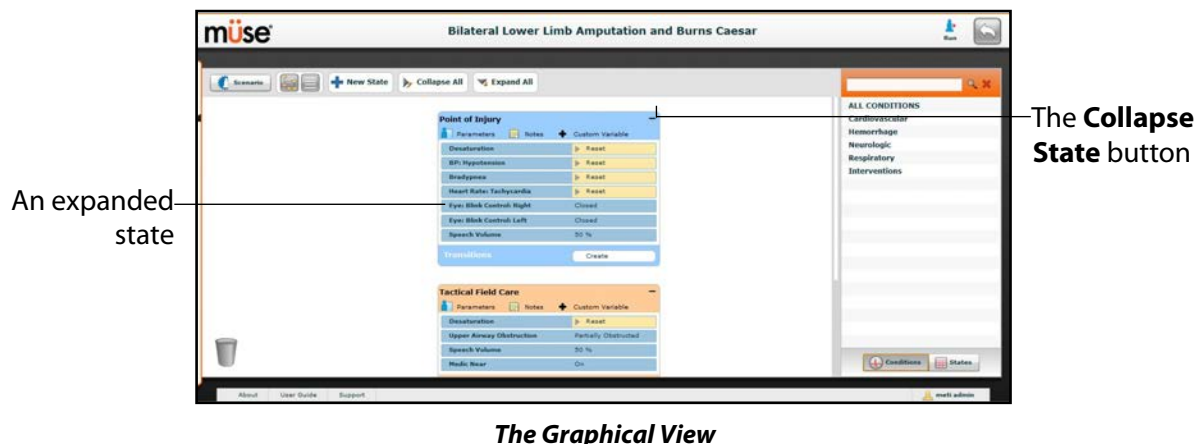The **Graphical View** button ——

The **Line Item View** button

The Scenario Designer View Buttons

Click the **Graphical view** button to utilize the Graphical View.

An expanded state

The **Collapse State** button

The Graphical View

From the Graphical View, double-click on any state to expand it and view all its components. Click the **Collapse State** button to collapse an expanded state.

Click the **Line Item view** button to utilize the Line Item view.

The **Expand/ Collapse** arrow

An expanded state
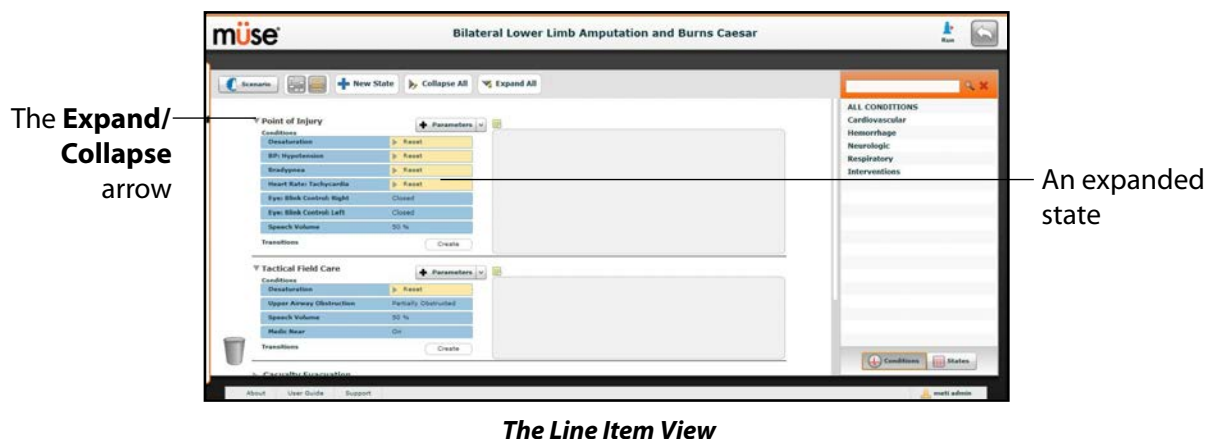
The Line Item View

From the Line Item View, click the **Expand/Contract** arrow to the left of any state to expand it and view all its components. Click the arrow again to collapse the state.

Adding Scenario States

When beginning to create a new scenario, the canvas is blank. Scenario states can be created by dragging and dropping conditions from their respective menus on the right side of the Scenario Designer to the canvas.

Drag and drop a condition onto the canvas to create a state
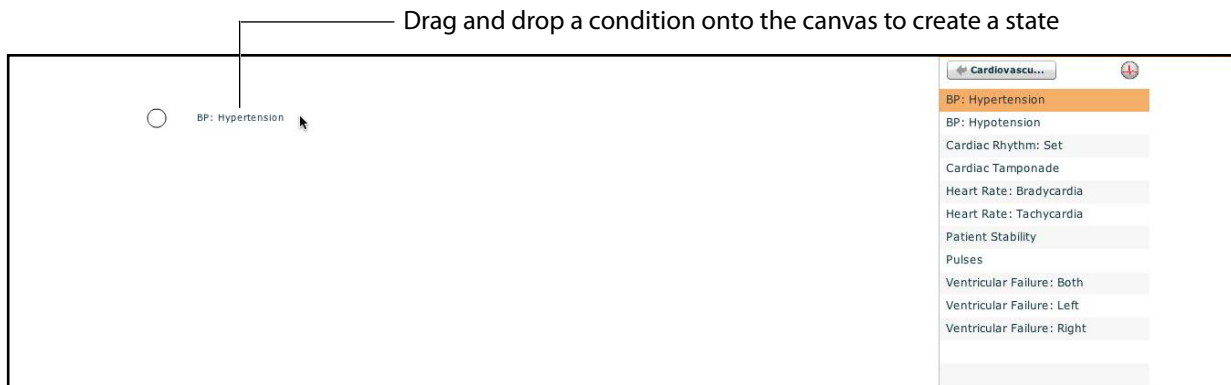
The Scenario Designer Canvas

Or, a new, empty state can be added using the **New State** button.

To add a new state using the **New State** button:

1. Click the **New State** button on the upper left side of the Scenario Designer.

The New State Button

A new state appears.

A New State

2. From the Graphical View, double-click the new state, or from the Line Item View, click the **Expand/Collapse** arrow to the left of the state to expand it.

The state expands and additional options appear.
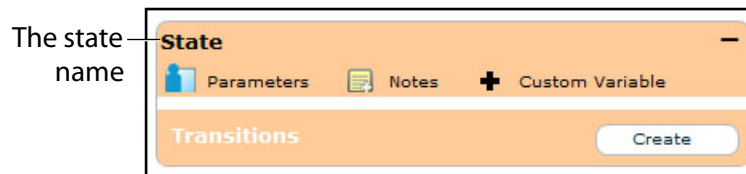
The state
name

The Expanded State

3. Double-click the state name. (By default, new states are named "State.")

   The Rename state window appears and contains a field for entering a new state name.

The **State
Name** field

The **Save**
button
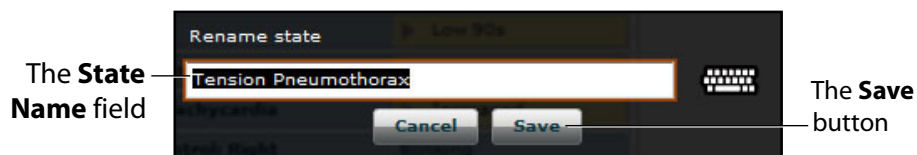
The Rename State Window

4. Enter a new state name.

   NOTE: When naming a Scenario State, the state name may NOT exceed 127 characters Additionally, scenario file and state names CANNOT contain any special characters, such as (/ \ : * ? < > % | ")

5. Click **Save**.

   The state is renamed.

Modifying Scenario States

Once a scenario state has been placed on the canvas, it can be modified. Additional parameters, transitions and notes can be added. Each state can contain multiple parameters and transitions. Double-click the state name to rename it.

The **Collapse State** button
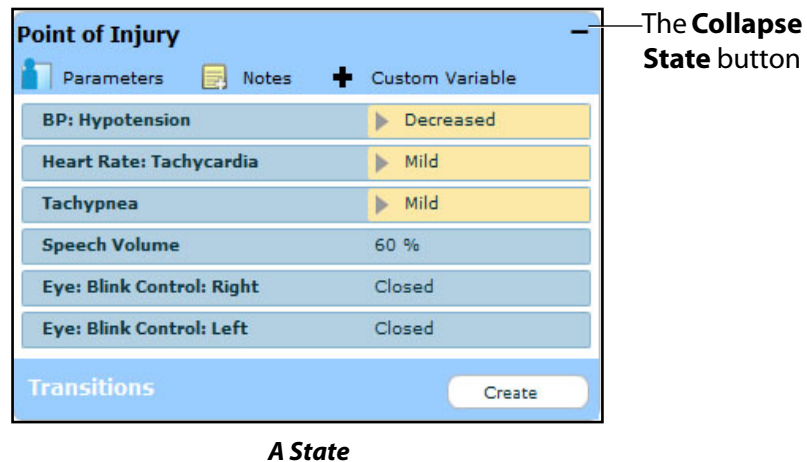
A State

Click the **Collapse State** button to minimize the state.

Double-click the collapsed state to expand it.

Adding Conditions, Interventions and Parameters

Conditions can be added to states by dragging and dropping them from the **Conditions** menu to the desired state.

Adding a condition or intervention to a state

The **Conditions** menu
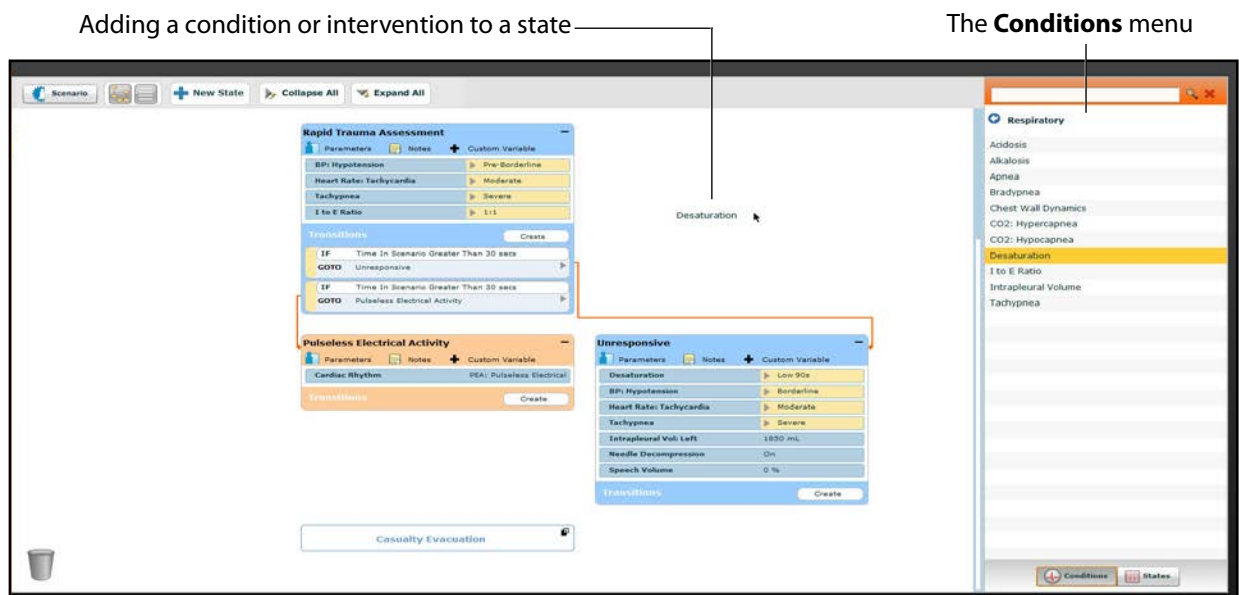
The Scenario Designer

To add parameters to a state, click the **Parameters** button within the state.

The **Parameters** button
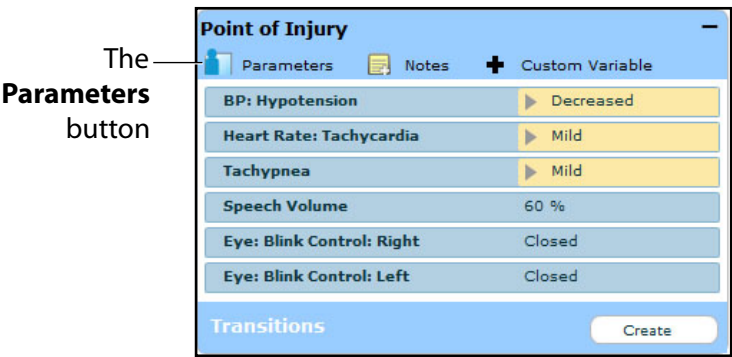
A State

The State Parameters screen appears.

The State Parameters panel

The **Complete** button
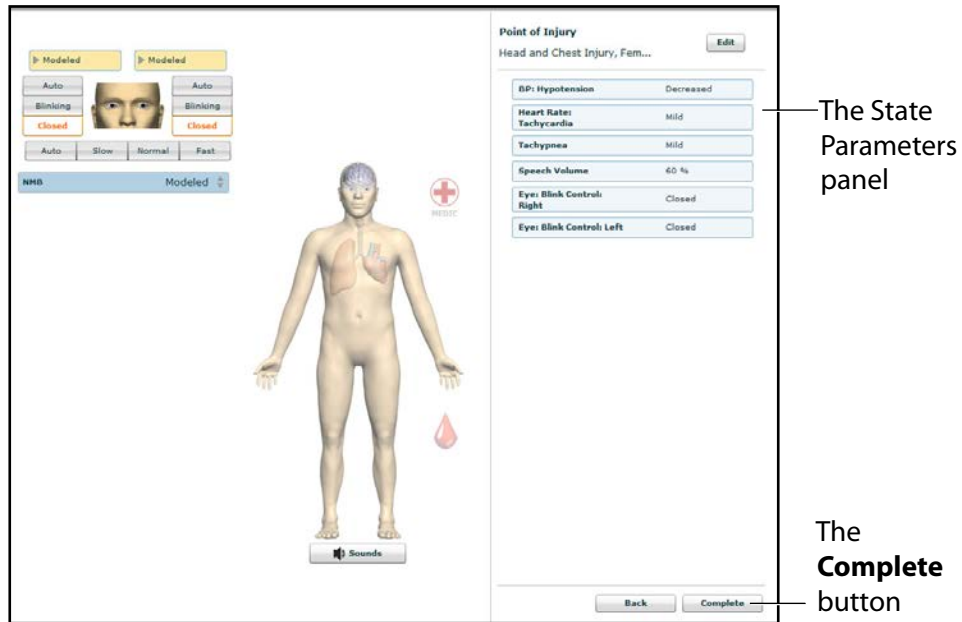
The State Parameters Screen

Click the various organs to change the views, and then select the desired parameter. Once a parameter has been selected, it appears in the State Parameters panel on the right side of the screen.

Add as many parameters as needed. Added parameters appear consecutively within the state. Drag and drop to reorder as needed. Click **Complete** to save and exit the State Parameters screen, or click **Back** to exit without saving.

NOTE: If the physiology of any of the parameters conflicts, the Müse software reflects the physiology of the last parameter entered.

Adding Transitions

To add a transition, the scenario must have both an original state and a state that results from the transition.

To add a transition:

1. Click the **Create** button in the original state.

The **Create** button
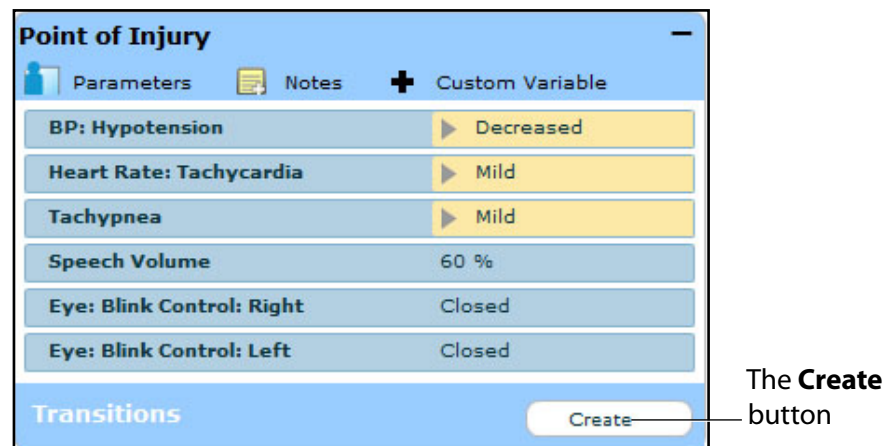
A State

The Transitions Menu appears, listing all available transition variable types.
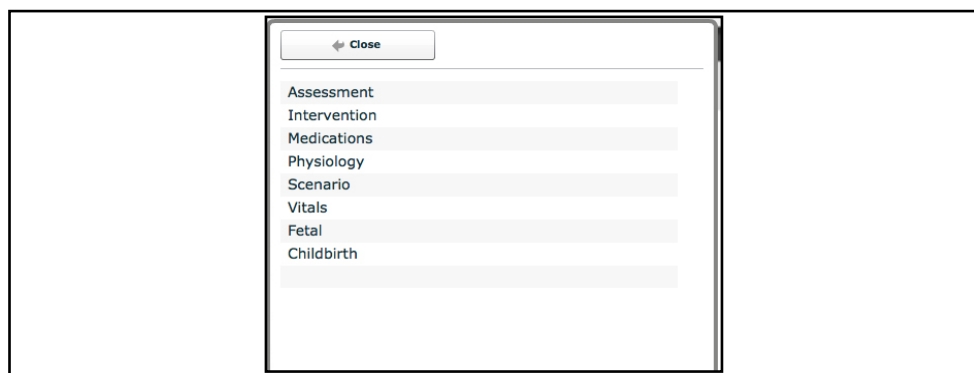
The Transitions Menu

2. Select the desired variable type. For example, if a transition based on the administration of medication is desired, select **Medications** and then select the desired medication from the list.

Once a medication is selected, The Medication Transition menu appears, asking for the comparison type and transition value.

Transition value — Comparison type

The **Accept** button

The Medication Transition Menu

Follow the same steps to make selections from similar menus for the **Assessment**, **Intervention**, **Physiology**, **Scenario, Vitals,** and **Fetal and Childbirth** variable types.

3. Once the variable values (e.g., comparison type and transition value) have been selected, click **Accept**.

   The selected transition variable is listed beneath the original state on the Scenario Designer.

4. From the Scenario Designer, click the **GOTO** arrow beneath the new transition variable.
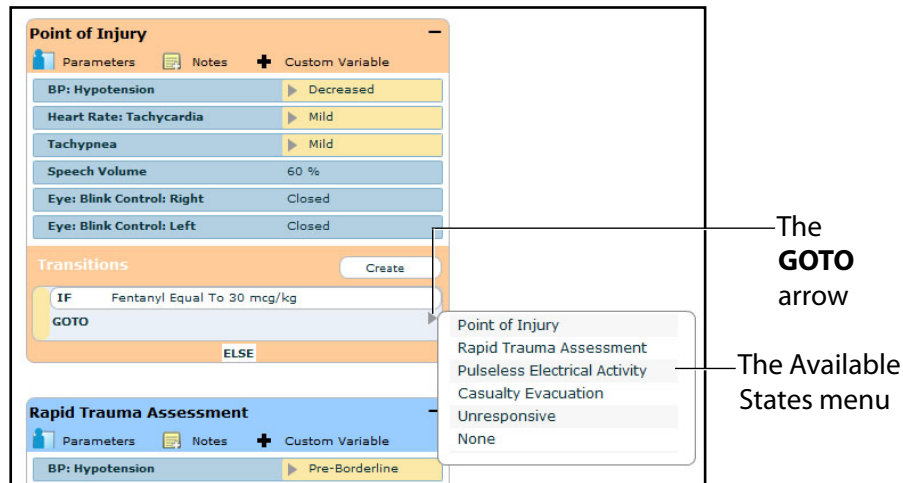
The Scenario Designer

The Available States menu appears, listing all the available states.

5. Select a state from the menu.

An orange connector line appears, indicating that the states are now linked by a transition.
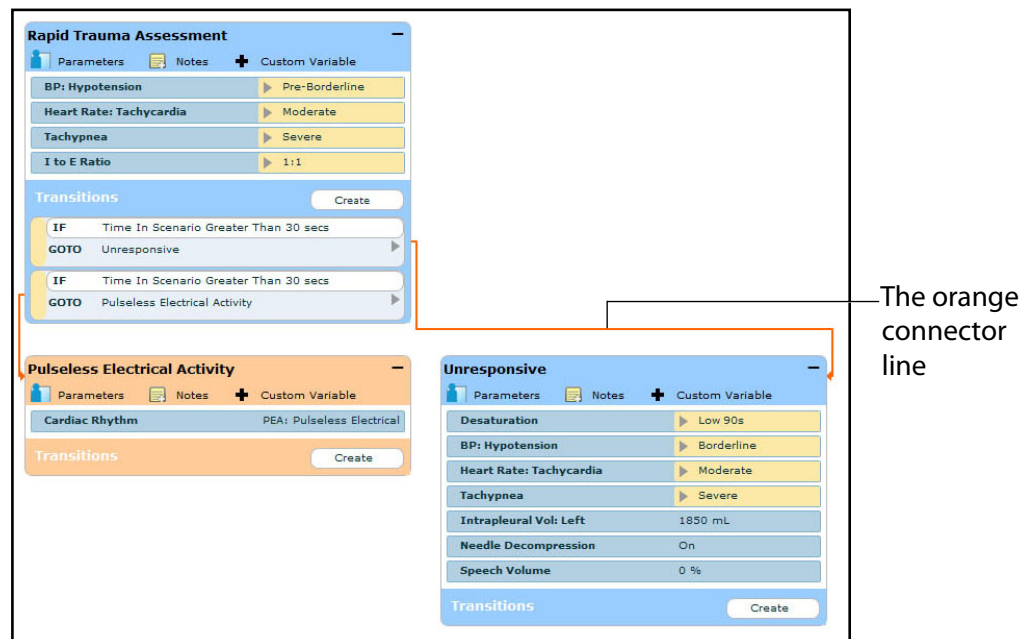
The Scenario Designer

ELSE Transitions

An ELSE transition is used to transition to a state automatically when none of the other programmed transitions occur.

Before specifying an ELSE transition from a state, the state must first contain at least one other transition.

To add an ELSE transition, click **ELSE** in the original state. The ELSE menu appears, listing all the available states.

The Scenario Designer
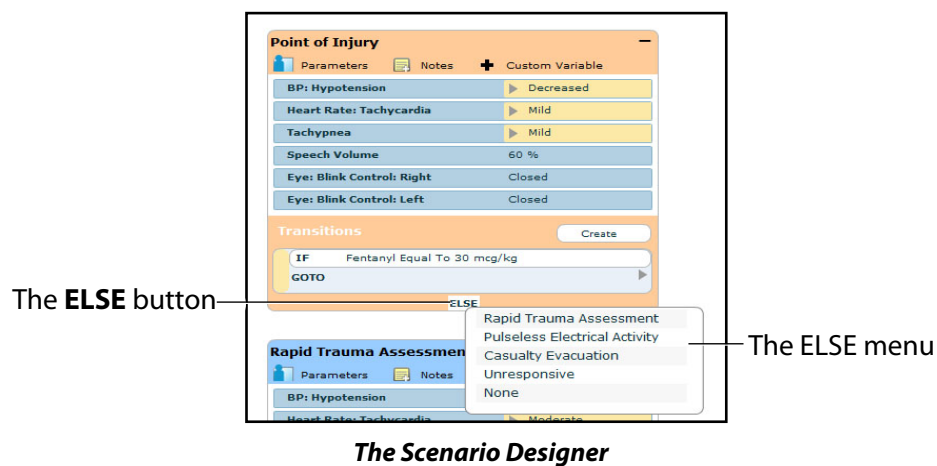
Select the desired state. A black connector line appears, indicating that the states are now linked by an ELSE transition.

The Scenario Designer
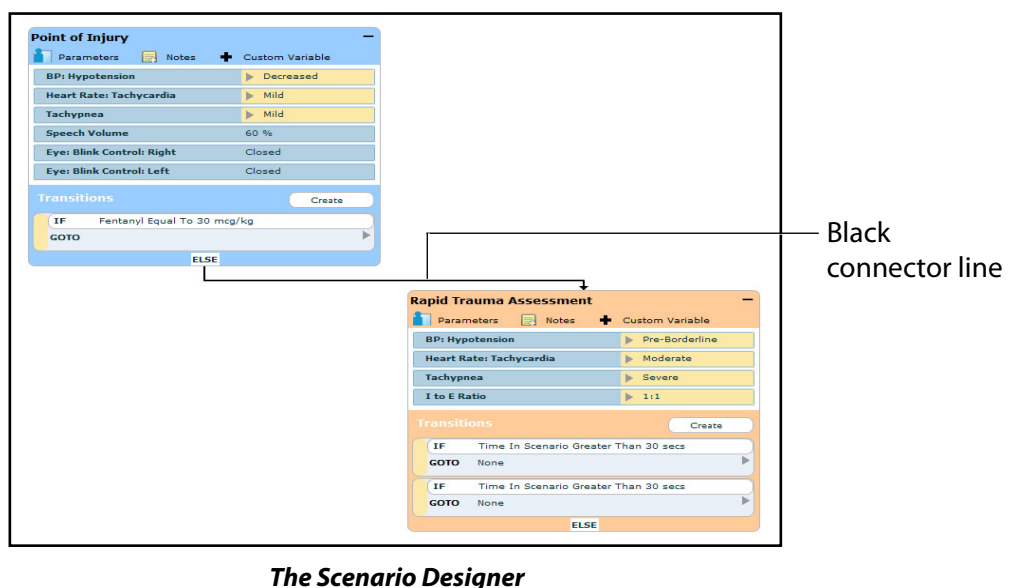
Deleting Scenario States

To delete a state, drag and drop the state into the Trash.

A dragged state
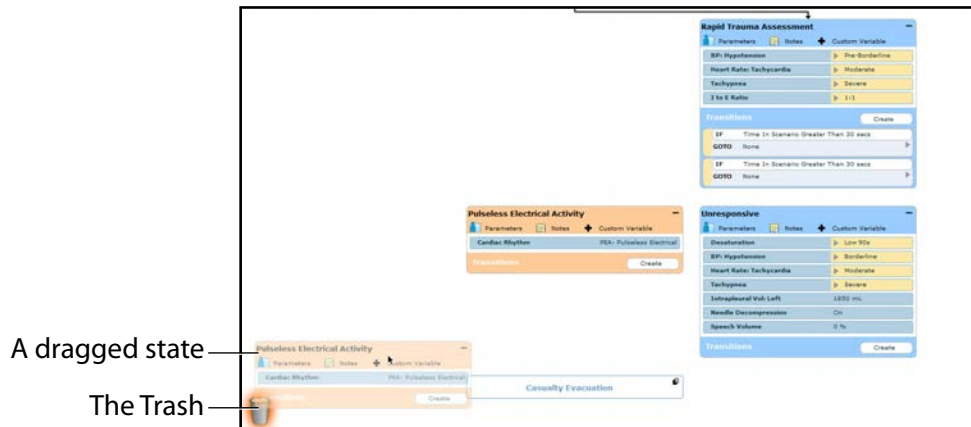
The Trash

The Scenario Designer

States can be dragged and dropped to the Trash from the Graphical view or the Line Item view.

Deleted states remain in the Trash until you log out of the software or the Trash is cleared.

Deleting Parameters and Transitions

To delete a parameter or transition, from an active state, drag and drop the desired parameter or transition into the Trash.

To drag a parameter, click anywhere within the parameter. To drag a transition, click the yellow selection bar to the left of the transition.
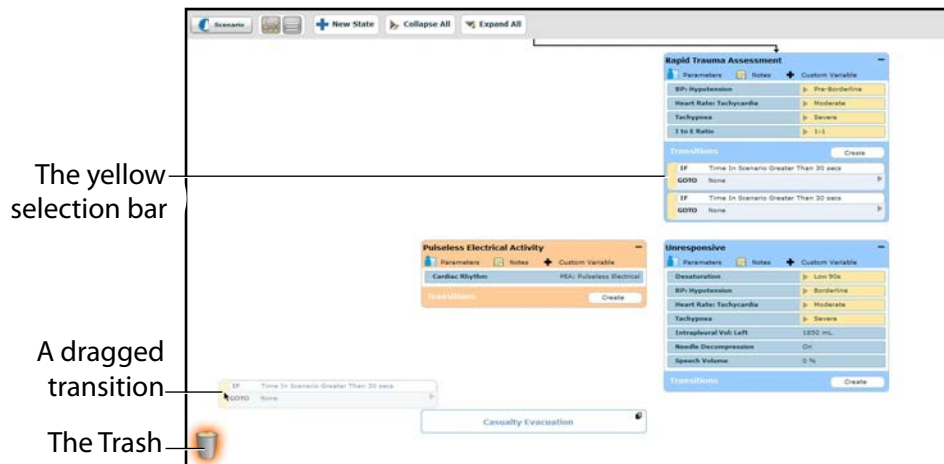
The Scenario Designer

Parameters and transitions can be dragged and dropped to the Trash from the Graphical view or the Line Item view.

Deleted parameters and transitions remain in the Trash until you log out of the software or the Trash is emptied.

Saving the Scenario

At any time during scenario creation or modification, the scenario can be saved.

To save a scenario:

1. Click the **Scenario** button in the upper left of the Scenario Designer.

   The Scenario drop-down menu appears.
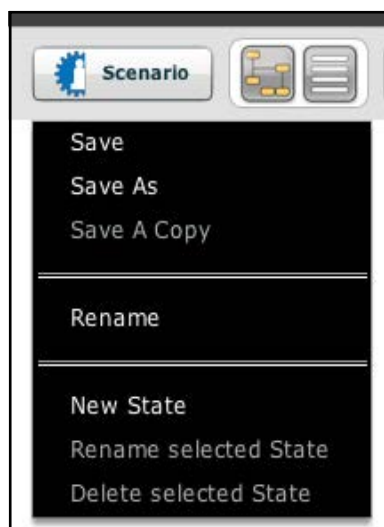
The Scenario Drop-Down Menu

2. To save the most recent version of a modified scenario, click **Save**,

OR

To save a modified scenario as a new scenario, leaving the original scenario intact:

   a. Click **Save As**.

   When **Save As** is clicked, the Save Scenario dialog box appears.

The **Enter Scenario name** field

The **Save** button

The Save Scenario Dialog Box

   b. Enter the name for the scenario in the **Enter scenario name** field.

   c. Click **Save**.

NOTE: When naming a scenario, the scenario name CANNOT exceed 128 characters. Additionally, scenario file names CANNOT contain any special characters, such as / \ : * ? < > % | "

Saving States to the State Library

Users can save states to the State Library for later use.

To access the State Library, click the **States** button in the bottom right corner of the Scenario Designer.

The **States** button
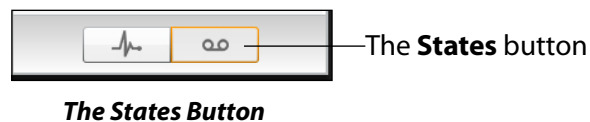
The States Button

To save a state, drag and drop the state into the **States** button.

The Scenario Designer

A dragged state
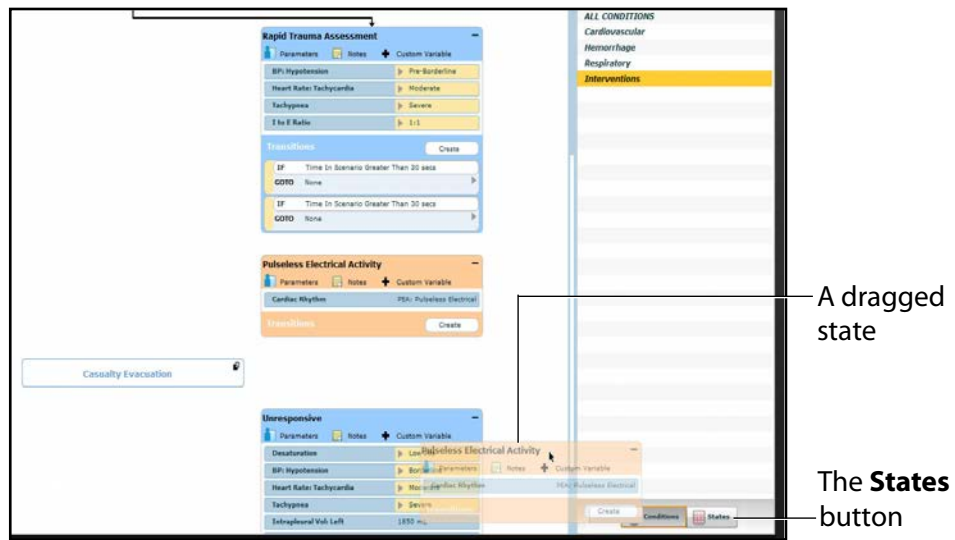
The **States** button

The state is stored in the library.

The State Library appears, listing all saved states.
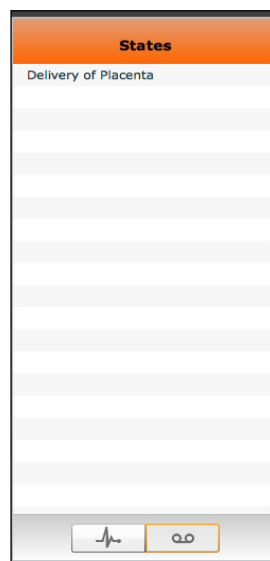
The State Library

To exit the State Library, click **Conditions**.

The **Conditions** button

The Conditions Button

Emptying the Trash

To empty the Trash, click the **Trash** icon in the lower left corner of the Scenario Designer.

The **Trash** icon
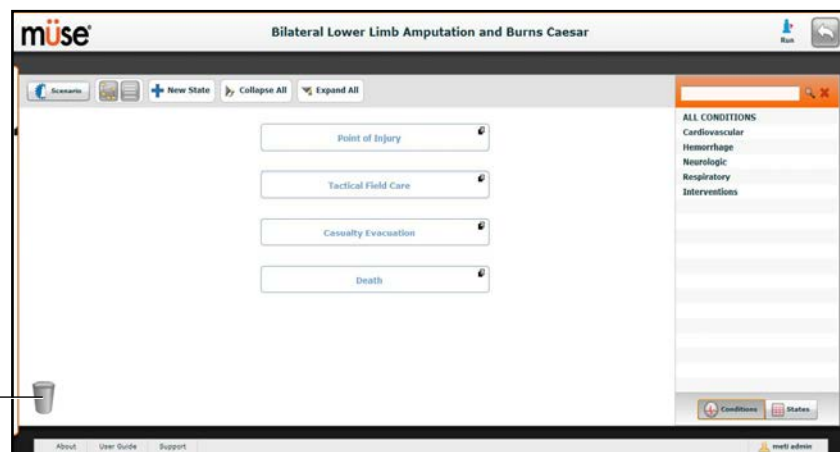
The Scenario Designer

The Trash List appears.

The **Empty Trash** button
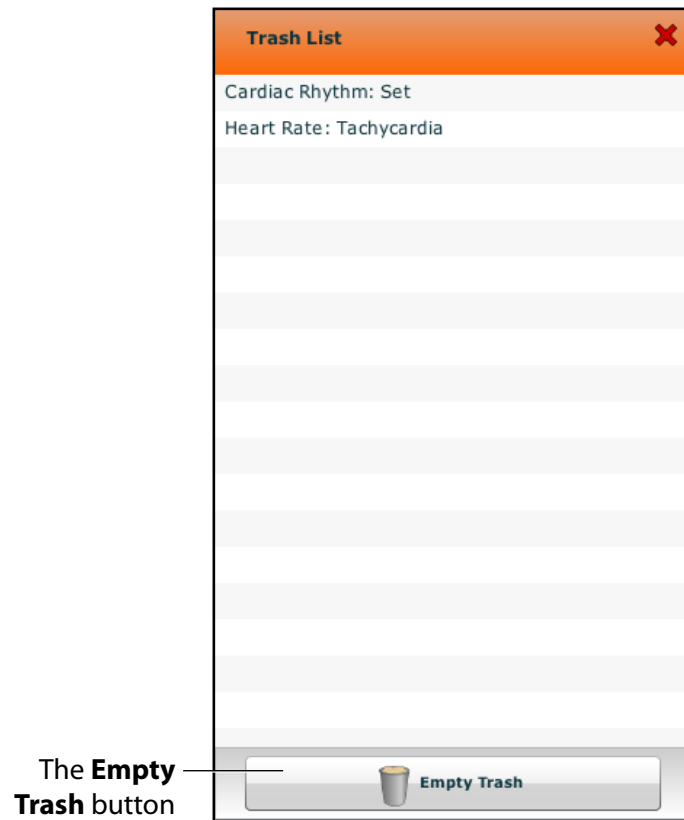
The Trash List

Click **Empty Trash** to empty the Trash. If you do not wish to delete the items listed, they can be dragged back into the scenario, at which time they are removed from the Trash.

Logging out of the software automatically empties the Trash.

IMPORTANT: Items emptied from the Trash cannot be retrieved.

Administrative Tools

The Müse software has administrative tools that allow users to manage logs, stored content, users and system settings. The administrative tools are accessed via the Administrative Tools buttons, located on the Home page.

The **History** button
The **System Administration** button

The **Account Profile** button

The Administrative Tools Buttons

Click the **History** button to view and manage simulation session logs.

Click the **System Administration** button to manage stored content, user accounts, groups and system settings.

Click the **Account Profile** button to manage and determine preferences for the active account.

History

From the History screen, users can view and export simulation session logs. Each simulation session is listed with the Start Time, the title of the SCE and the Patient's name. In addition, the SCE Events, Physiological Data, CTG data, Traction data, and CPR data are available for review and export.

Start Time	SCE	Patient	Simulation Events	Physiological Data	Clear All Logs
2012-06-27 16:06:01	Facial Trauma Cricothyrotomy	SFC Caesar	Simulation Events	Physiological Data	Clear
2012-06-27 13:53:11	Polytrauma Improvised Explosive Device	Sarah Caesar	Simulation Events	Physiological Data	Clear

The History Screen

By clicking the **Simulation Events** link of a Simulation Session, users can view the entire log of the simulation and all the events that occurred during the SCE.

When the **Physiological Data** link of a Simulation Session is clicked, users can view all the physiological data that occurred during the SCE.

On the Simulation Events and Physiological Data screens, there is an **Export** button that, when clicked, exports the data to a CSV file that can be stored on an external device.

System Administration

From the System Administration screen, users can control and access Content Management, User Accounts, Groups, and System Settings.

To access the System Administration screen, click the **System Administration** button from the Home page.

The System Administration Button

The System Administration screen is displayed.
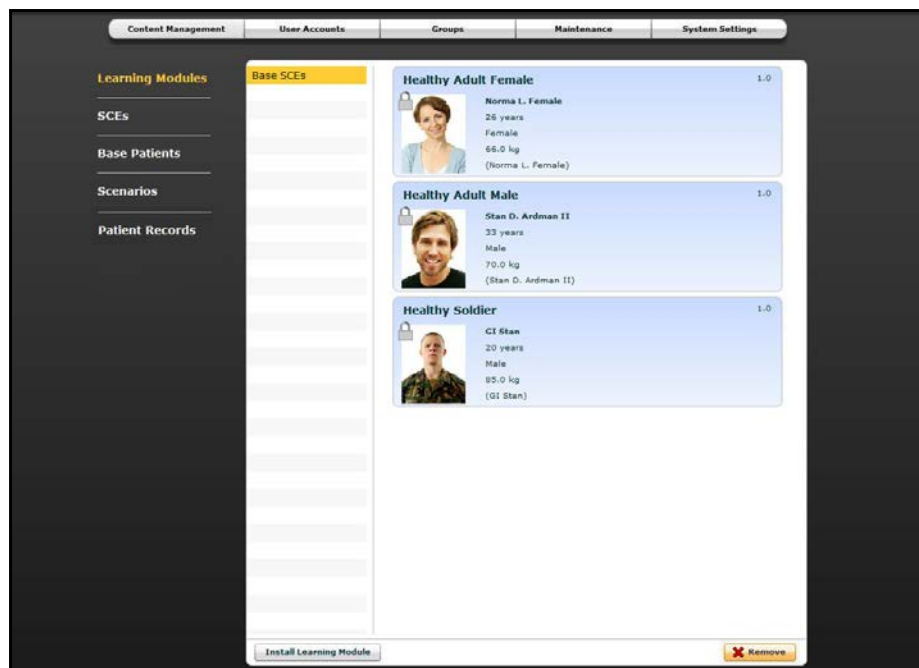
The System Administration Screen

Content Management

To access the Content Management options, from the System Administration screen, click **Content Management**.

From the Content Management options, users can manage learning applications, SCEs, Base Patients, Scenarios, Conditions, Patient Records, and Vocalization List.

The Content
Management options

The **Content
Management**
button
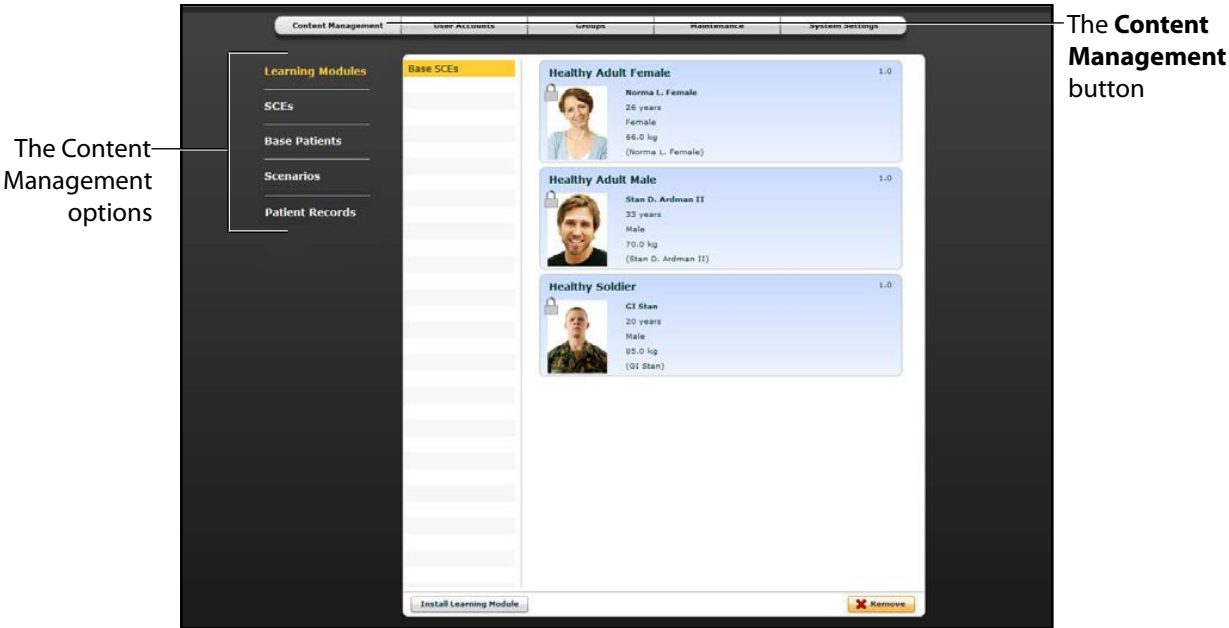
The System Administration Screen

Learning Modules

From the Learning Modules panel, learning applications can be installed or deleted.

When the Content Management button is selected, the Learning Modules panel appears by default. If another panel has been selected, return to the Learning Modules panel by clicking the **Learning Modules** link.

The Learning Modules Panel

To install a learning application:

1. Click **Install Learning Module**.

   The Select file to upload dialog box appears.

2. Locate the correct learning application file on the external storage device or the hard drive location where the SCE file is saved. The file extension is *mlm*.

3. Select the file and click **Select** or **Open**.

4. Refresh the screen by clicking the **Home** button in the Müse software and then return to the Learning Modules panel.

   The learning application appears on the Learning Modules panel and is available for use.

To delete a learning application from Müse:

1. Select a learning application from the Learning Applications panel.

2. Click the **Remove** button.

The Remove Learning Module warning appears.
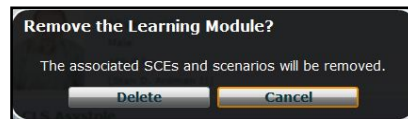
The Remove Learning Module Warning

3. Click **Delete**.

The learning application and all its SCEs are deleted.

NOTE: Preconfigured learning applications cannot be deleted. If a user attempts to delete them, a failure message appears.

SCEs

From the Content Management options, click **SCEs** to access the SCEs panel.

The SCEs panel appears.

The **SCEs** link ——

The **Import SCEs** button ——
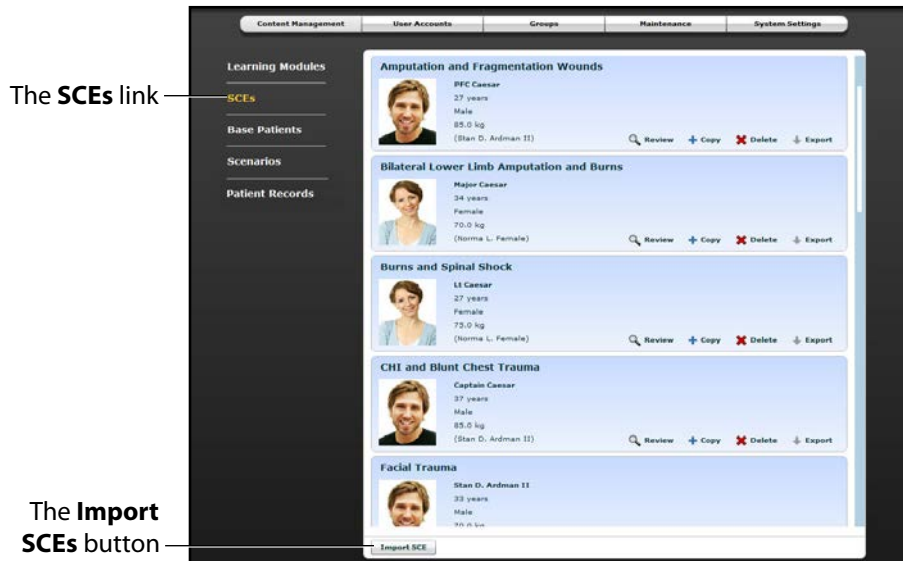
The SCEs Panel

All user-created SCEs are listed in the SCEs panel.

On the SCEs panel, users can review, copy, delete, import and export the SCEs they have created.

NOTE: SCEs purchased from CAE Healthcare CANNOT be exported.

Click **Import SCE** to import an SCE from an external device or the hard drive location where the SCE file is saved. Click **Export** to export an SCE to an external device. The SCE file extension is *sce*.

Base Patients

From the Content Management options, click **Base Patients** to access the Base Patients panel.

The Base Patients panel appears.

The **Base Patients** link

The **Import Patient** button
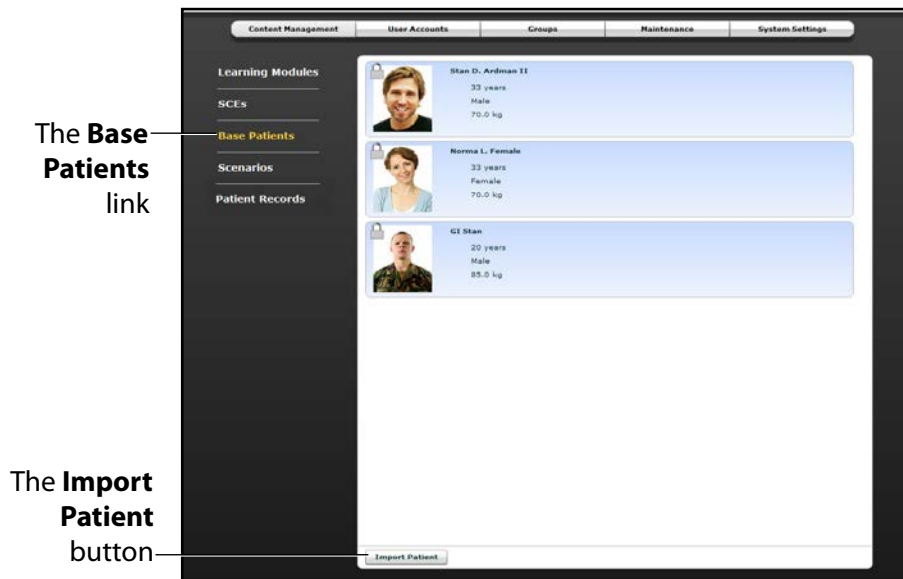
The Base Patients Panel

All Patients are listed in the Base Patients panel.

From the Base Patients panel, users can rename, review, delete and export Patients they have created by clicking the respective buttons next to each Patient.

Click **Import Patient** to import a Patient file from an external device or the hard drive location where the SCE file is saved.

Use the **Rename** button next to a patient to give the patient a different name or the **Delete** button to delete the patient.

The **Export** button next to each patient can be used to export the Patient file to an external device. The Patient file extension is **pat**.

NOTE: Preconfigured CAE Healthcare Base Patients have a lock symbol i the upper-left corner of the picture and CANNOT be renamed, deleted, or exported.

Scenarios

From the Content Management options, click **Scenarios** to access the Scenarios panel.

The Scenarios panel appears.

The **Scenarios** link

The **Import Scenario** button

The **Create New Scenario** button
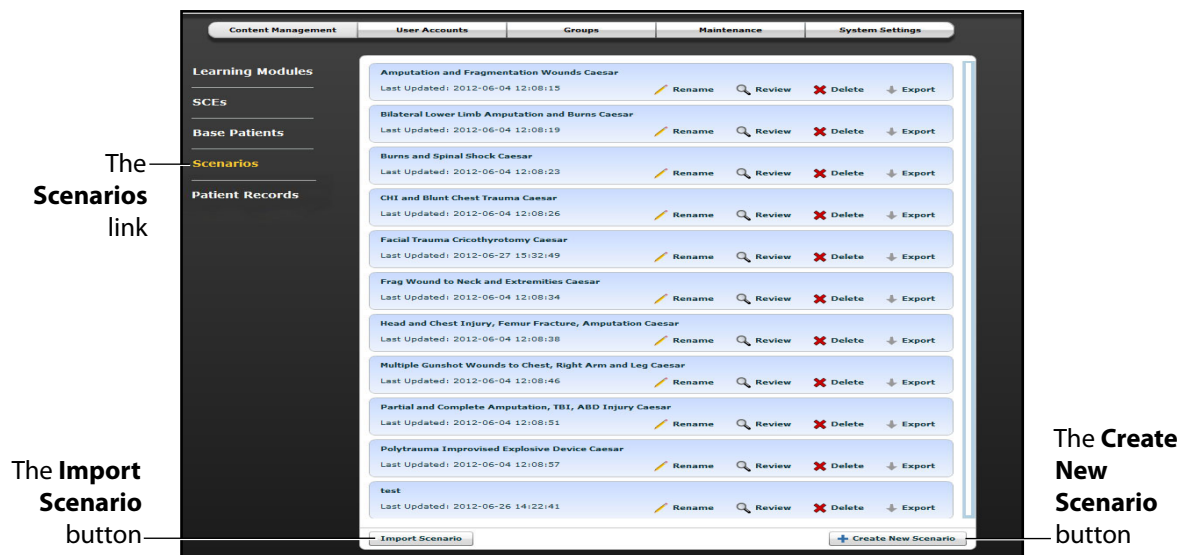
The Scenarios Panel

All Scenarios are listed in the Scenarios panel.

From the Scenarios panel, users can rename, review, delete, import and export Scenarios they have created by clicking the respective buttons within each scenario. Locked Scenarios can only be reviewed.

Users can also create new scenarios from the Scenarios screen by clicking the **Create New Scenario** button.

Click **Import** to import a scenario file from an external device or the hard drive location where the SCE file is saved. Click **Export** to export a scenario file to an external device. The scenario file extension is *mss*.

NOTE: Locked CAE Healthcare scenarios CANNOT be exported.

Patient Records

Patient records can be uploaded to Müse for display in the TouchPro software. Once uploaded, a patient record is available for use with any SCE.

Patient Records are managed from the Patient Records panel on the **Content Management** tab of the System Administration screen.
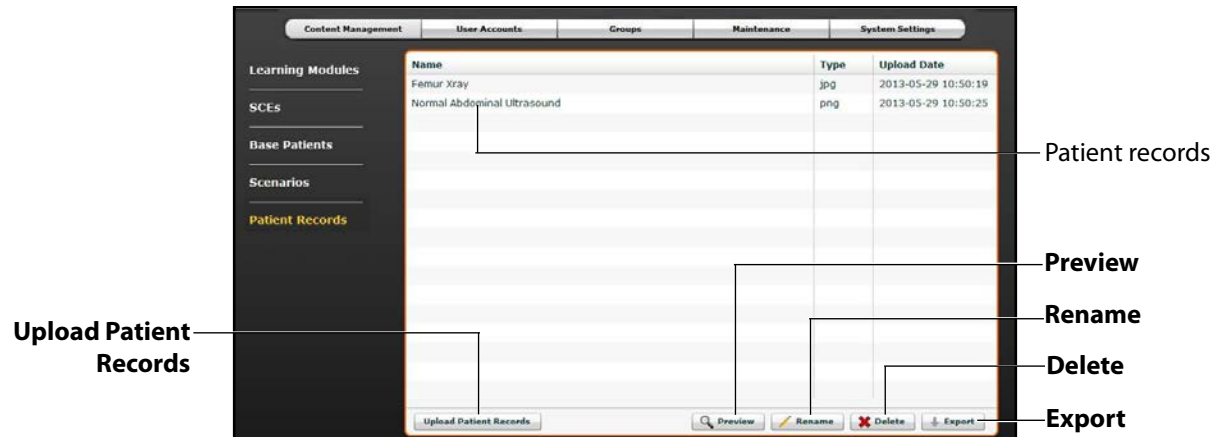
The Patient Records Panel
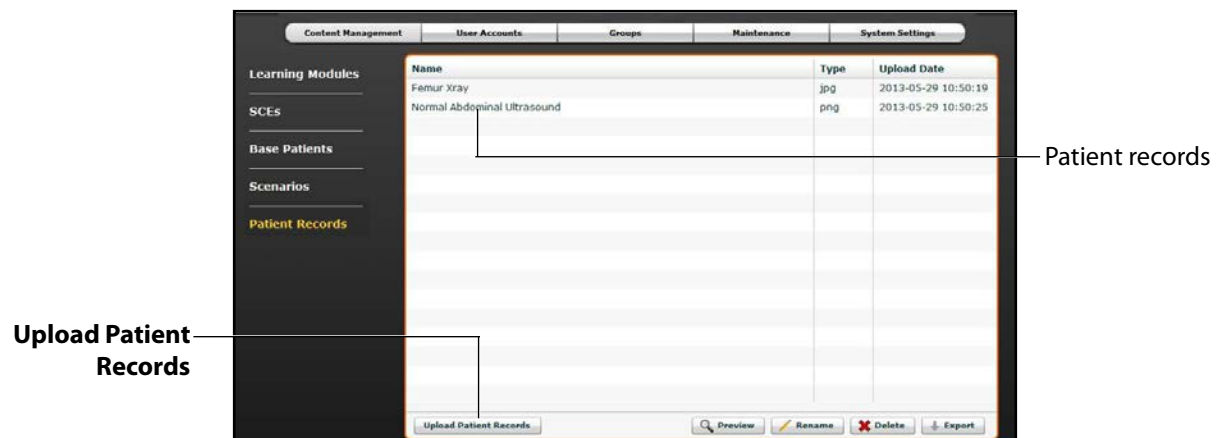
The Patient Records Panel

The following patient record file types can be uploaded to Müse:

- JPG or JPEG images
- GIF images
- PNG images
- XPS images
- PDF documents
- MPEG videos
- MOV videos
- MP3 audio files

A single patient record file cannot exceed 20MB.

To upload a patient record:

1. From Patient Records panel, click **Upload Patient Records**.

   A file selection window appears.

2. Select the desired file and click **Open** or **OK.**

   The file is uploaded and is available to display in the TouchPro software.

Müse can store at least 2GB of patient record files, depending on the disk space available. To ensure adequate space, please delete patient records when they are no longer needed.

To delete a patient record:

1. From the Patient Records panel, select the patient record to delete**.**

2. Click **Delete**.

   The patient record is deleted and is no longer available to display in the TouchPro software.

Individual patient records can also be previewed, renamed or exported by selecting the record and clicking **Rename**, **Export** or **Preview**.

For information about displaying patient records in TouchPro, see *Displaying Patient Records on page 37*.

User Accounts

To access the User Accounts panel, from the System Administration screen, click the **User Accounts** button. The User Accounts panel appears.

From the User Accounts panel, users can create, edit and delete users.
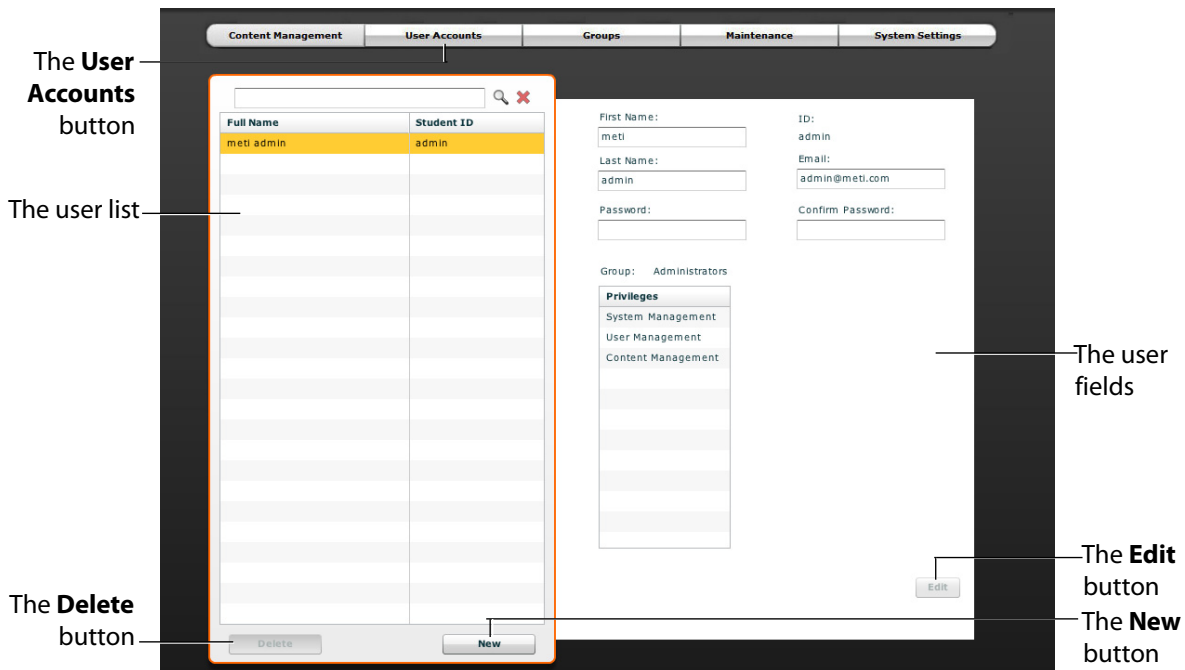
The User Accounts Panel

NOTE: User Accounts functions are available only to users with the User Management or System Management privilege.

Creating a User

To create a new user:

1. From the User Accounts panel, click **New**.

   The New Account Creation panel appears.

2. In the New Account Creation panel, enter the user's personal data and choose a password.

3. Assign the user to a group by selecting a group from the **Group** menu.

   NOTE: A user can only be assigned to one group.

4. Click **Create**.

   The new user is created and the New Account Creation panel disappears.

Editing a User

To edit a user's information or privileges:

1. On the User Accounts panel, select the user to edit.

2. Click **Edit**.

   The user fields become editable.

3. Make the desired changes.

4. Click **Save**.

Deleting a User

To permanently delete a user, from the User Accounts panel, select a user and click **Delete**. When the User Deletion Warning box appears, click **Yes**.

The user account and the data associated with it are deleted. However, the administrative user deleting the account becomes the owner of any SCEs, scenarios or patients created by the user being deleted (i.e., the SCEs, scenarios and patients created by the deleted user are moved to the deleting user's account).

Groups

Users are assigned to groups to define access privileges. To access the Groups panel, from the System Administration screen, click **Groups**.

The Groups panel appears.
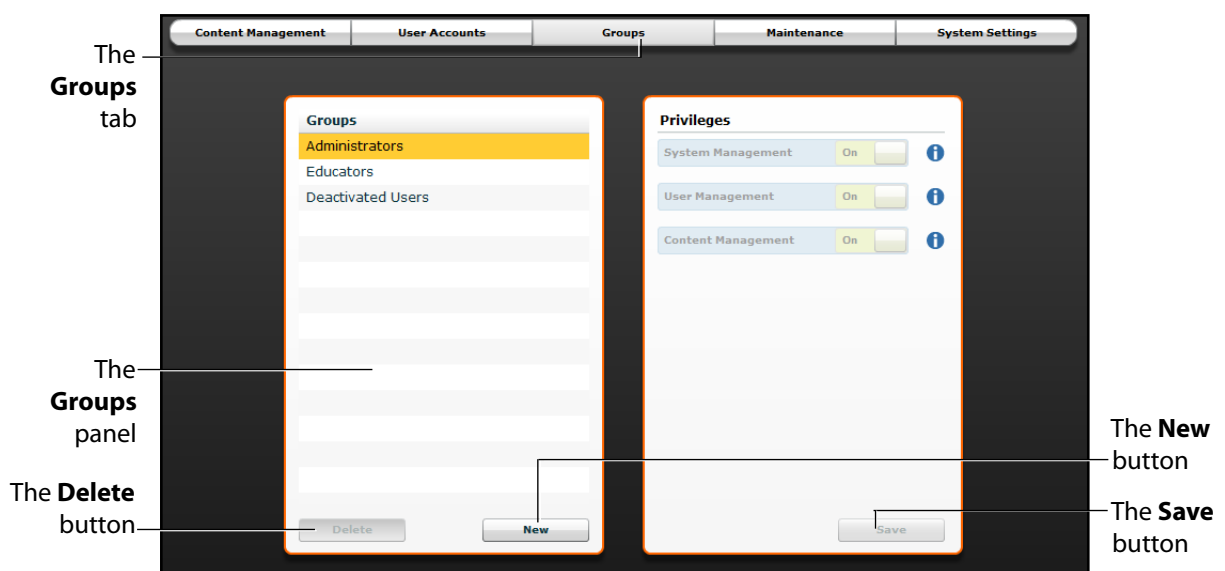
The Groups Panel

NOTE: Groups functions are available only to users with the User Management or System Management privilege.

From the Groups panel, users can create new groups, delete groups and assign privileges to groups.

In the Groups panel, three groups appear by default:

- Administrators
- Educators
- Deactivated Users

Each default group has privileges assigned.

Privilege System

The Müse software has three different privileges:

- System Management
- User Management
- Content Management

User Management and Content Management can be assigned independently or combined. The System Management privilege contains all privileges.

System Management

Users with the System Management privilege have access to all features of the Müse software, including the benefits of the User Management and Content Management privileges, listed below. Users with the System Management privilege can also view system settings, back up and restore data and apply software updates.

User Management

Users with the User Management privilege can manage all users and groups.

Content Management

Users with the Content Management privilege can create and manage all SCEs.

Creating a New Group

To create a new Group:

1. From the Groups panel, click **New**.

    The **Group Name** field appears.

2. Enter the name of the Group in the **Group Name** field.

3. Click **Create Group**.

The group appears in the Groups panel. Privileges can now be selected.

4. Select the privilege(s) to be assigned to the Group.

5. Click **Save**.

Deleting a Group

Groups can be deleted when they are no longer needed. Once a Group is deleted, all users who were affiliated with the Group are moved to the Deactivated Users Group.

To permanently delete a Group, select the group to be deleted from the Groups panel and click **Delete**. When the Group Deletion warning box appears, click **Yes**.

Providing Access to Content Only

To provide users with the ability to create and manage SCEs but not the ability to manage users or groups:

1. Create a new group called Content Only.

2. Assign the group the Content Management privilege. Do NOT assign any other privileges to the group.

3. On the **User Accounts** tab, create or edit the desired users, placing each user in the Content Only group.

Maintenance

The Maintenance panel is used to flush fluids from the simulator. To access the Maintenance panel, from the System Administration screen, click **Maintenance**.

The Maintenance panel appears.

The **Maintenance** button

The **Maintenance** panel

The **Flush System** button

The Maintenance Panel
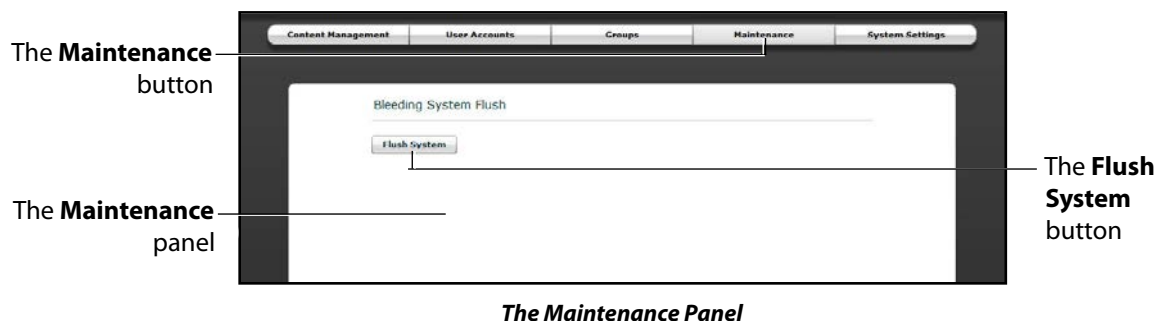
System Settings

From the System Settings panel, users can manage the System Configuration, Data Management, Product Licensing, Language, CTG Configuration, and Performance Metrics of the Müse software.

To access the System Settings panel, from the System Administration screen, click **System Settings**.

The System Settings panel appears.

The **System Settings** button

The **System Settings** panel
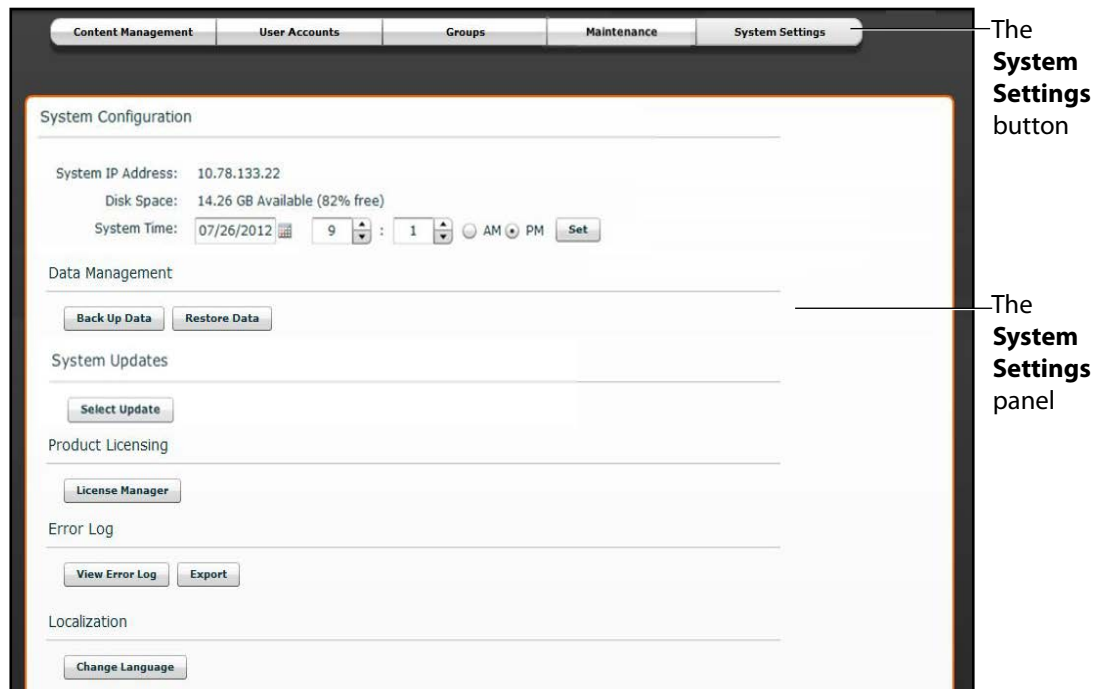
The System Settings Panel

NOTE: System Settings functions are available only to users with the System Management privilege.

System Configuration

Under System Configuration, Disk Space and System Time are displayed.

Data Management

The Data Management feature allows users to back up data to an external device. Users can also restore the backup data.

Backing Up Data

Users should back up data to protect and store content and user data.

To back up data:

1. On the System Settings panel, click the **Back Up Data** button.

The Back Up Data Button

    A Save dialog box appears.

2. Select a location to save the backed up data.

3. Click **Save**.

> **IMPORTANT:** To protect content and user information, data should be backed up weekly.

Restoring Data

Users can restore data when the backed up data needs to be replaced on the software. Restoring data only restores the last backup and does NOT merge the backup data with the current data.

To restore backup data:

1. On the System Settings panel, click **Restore Data**.

The Back Up Data Button

The System Restore warning box appears stating that restoring data erases all current data and asks if you want to continue.
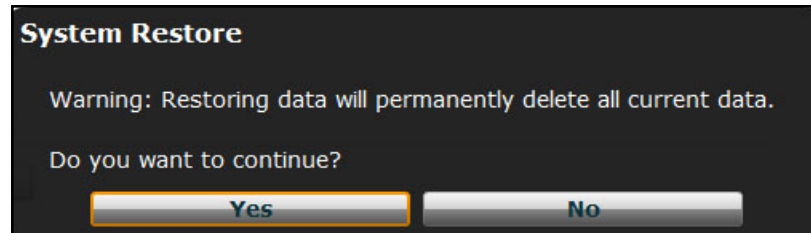
The System Restore Warning Box

IMPORTANT: Restoring data ERASES all current data and replaces it with the backed up data.

2. Click **Yes**.

   A select file dialog box appears.

3. Locate the appropriate .bak backup file to restore.

4. Click **Select**. The data is restored.

System Updates

System updates can be installed from the System Settings panel. To install an update, under the System Updates heading, click **Select Update** and select the update to install.

Product Licensing

To view product licensing information for your simulator or to enter a license key to activate your software, click **License Manager**.

Error Log

The Error Log is available for technicians and is used when diagnosing the Müse software.

IMPORTANT: Do not clear the Error Log.

Language

To change the language of the Müse software:

1. From the System Settings panel, under the Localization heading, Click **Change Language**.

   The Change Language dialog box appears.

2. Select a language from the dialog box.

3. Click **Accept**.

> The Müse user interface changes to the selected language.

NOTE: Only the English version of the User Guide is available via the software, regardless of the Müse language selection. To access the User Guide in other languages, please visit www.caehealthcare.com and click the **Support** link.

Account Profile
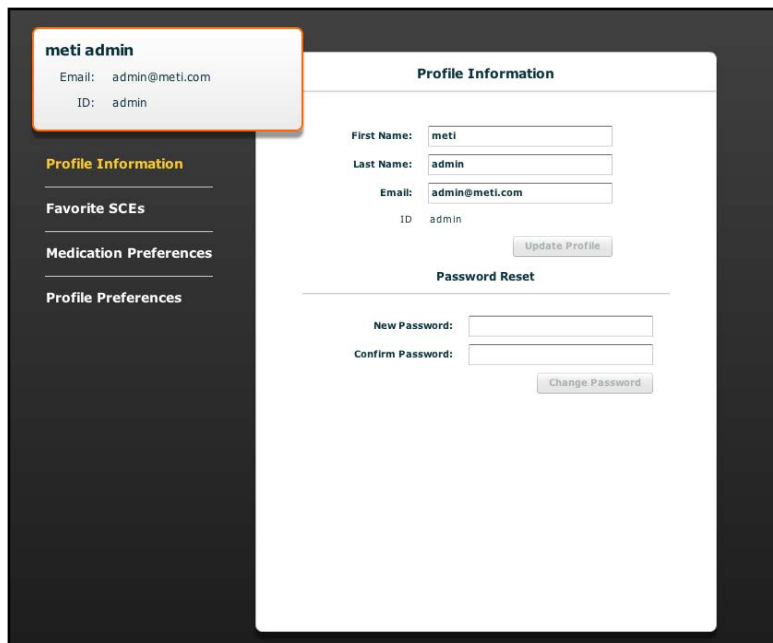
From the Account Profile screen, users can view, update and reset personal profile information. Users can also view and add favorite SCEs from this screen.

Click the **Account Profile** button to access the Account Profile features.
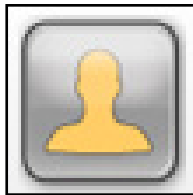
The Account Profile Button

The Account Profile screen appears.
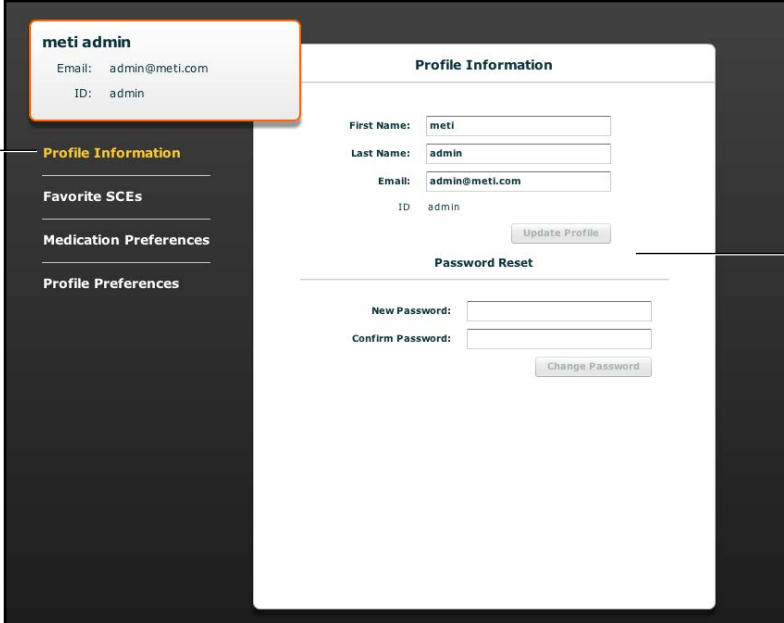
The Account Profile Screen

Profile Information

From the Account Profile screen, the Profile Information panel appears by default. If another panel has been selected, click **Profile Information** to return to the Profile Information panel.

From the Profile Information panel, users can change their profile information and reset their passwords.

The Account Profile Screen

To change profile information, enter the new information in the appropriate fields and click **Update Profile** when finished.

To reset a password, enter the new password in the **New Password** field and re-enter the new password in the **Confirm Password** field. Click **Change Password** when finished.

IMPORTANT: If you change your username or password, you MUST use the new username and/or password upon your next login. You cannot access the system with the old username or password once it has been changed.

Favorite SCEs

To access the Favorite SCEs panel, click **Favorite SCEs** from the Account Profile screen. All of the logged-in user's favorite SCEs appear in the Favorite SCEs panel.
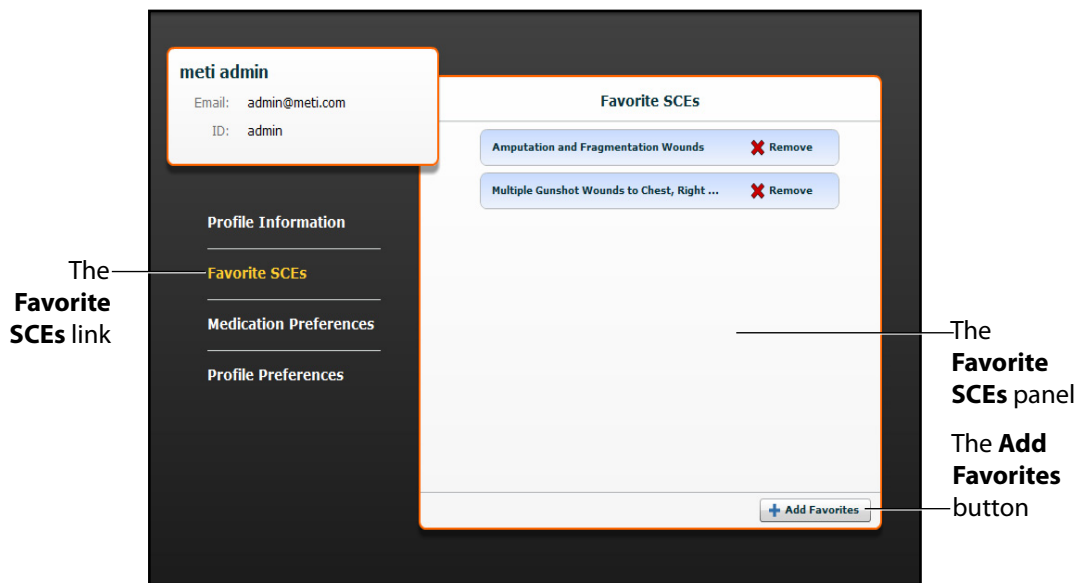
The Account Profile Screen

To add SCEs to the Favorite SCEs panel, click **Add Favorites**. The SCE Library appears. Select the desired SCE and it automatically appears in the Favorite SCEs panel.

To remove a SCE from the Favorite SCEs panel, click the **Remove** button next to the name of the SCE.

Medication Preferences

From the Medication Preferences panel, users can import customized medication response files created in the Pharmacology Editor software.

To access Medication Preferences, click **Medication Preferences** on the Account Profile screen.

The Medication Preferences panel appears.

The **Medication Preferences** link

The Medication Preferences panel
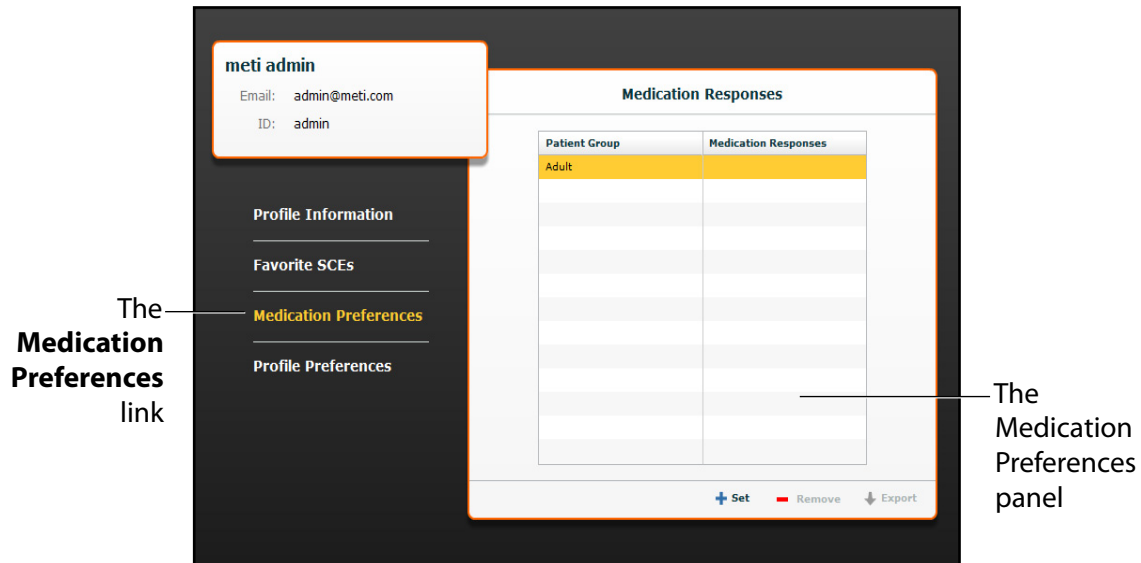
The Account Profile Screen

To import medication response files, click the **Set** button. The **Select File** dialog box appears. Select the medication response file to be added and click **Open** or **OK**.

Medication response files can also be removed or exported.

Profile Preferences

From the Profile Preferences panel, users can change the font size used in the software.

To access Profile Preferences, click **Profile Preferences** on the Account Profile screen.

The Profile Preferences panel appears.

The **Font size** menu

The **Profile Preferences** link

The Profile Preferences panel

The Account Profile Screen

To change the font size, click on the **Font size** selection. The **Font size** drop-down menu appears.

From the **Font size** drop-down menu, select **Normal**, **Small** or **Large**.

Using The TouchPro Patient Monitor

The TouchPro Patient Monitor software enables users to view patient physiology.

The software can be used from the Instructor Workstation or on another computer provided the computer has joined the simulator's wireless network.

IMPORTANT: Only two TouchPro software screens can be open at a time.

Accessing the TouchPro Patient Monitor Software

Like the Müse software, the TouchPro Patient Monitor software is compatible with computers that have touch-screen capabilities.

To run the TouchPro Patient Monitor software, the Instructor Workstation must be connected to the simulator's network.

IMPORTANT: An SCE must be running on the Müse software for any physiological data to be displayed on the TouchPro Patient Monitor software. The TouchPro Patient Monitor software can only show one Patient at a time.

To launch TouchPro Patient Monitor from the Instructor Workstation:

1. With the Müse software running, open a new tab in the web browser and go to the **Home** page of the web browser.

   The Müse Start Screen appears.
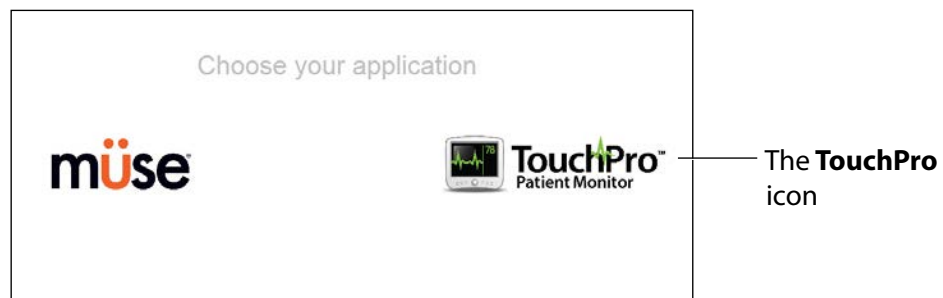
The **TouchPro** icon

The Müse Start Screen

2. Select the **TouchPro Patient Monitor** icon.

When TouchPro Patient Monitor software launches, the simulated patient monitor appears.

The TouchPro Display

NOTE: The capnogram waveform is not displayed on the TouchPro Patient Monitor software from the Instructor Workstation. Capnogram information can be found on the clinical patient monitor if one is connected to the simulator.

Modifying the TouchPro Patient Monitor Display

The layout of the waveforms and numeric data shown on the software can be customized.

The software can show up to six waveforms plus an additional four numeric readouts.

Selecting a Preconfigured Layout

There are six preconfigured CAE Healthcare Layouts:

Labor and Delivery - preconfigured with a waveform and numeric readouts for ECG LEad II and numeric readouts for SpO$_2$, NIBP, HR, and body temperature.

ICU-Arterial Line Only - preconfigured with waveform and numeric readouts for ECG Lead II, ECG Lead V, ABP, Pleth, and a numeric readout for Body Temperature.

EMS-ED-Telemetry - preconfigured with a waveform and numeric readout for ECG Lead II and numeric readouts for SpO$_2$, and noninvasive blood pressure (NIBP).

ICU-OR No CVP - preconfigured with waveform and numeric readouts for ECG Lead II, ECG Lead V, ABP, PAP and Pleth, and numeric readouts for NIBP, Thermodilution C.O., Blood Temperature, and Body Temperature.

ICU-OR - preconfigured with waveform and numeric readouts for ECG Lead II, ECG Lead V, ABP, PAP, CVP and Pleth, and numeric readouts for NIBP, Thermodilution C.O., Blood Temperature, and Body Temperature.

Saturation-Pulse - preconfigured with numeric readouts for SpO_2 and pulse.

To select a preconfigured layout:

1. Click the **Settings** button in the bottom right corner of the display.

The Settings Button

The TouchPro Settings menu appears.

2. Select a layout from the Layouts panel.

3. Click the **Close Settings** button.

The Settings menu closes and the selected layout appears.

NOTE: Preconfigured layouts must be enabled in the Müse TouchPro Setup for the currently running SCE to be accessible in the Layouts panel.

For more information about enabling preconfigured layouts, see *Modifying the TouchPro Setup on page 112.*

Changing a Waveform or Numeric Display

Waveforms and numeric displays can be changed to suit the user's needs.

To change a waveform or numeric display:

1. Click the waveform or numeric to be changed.

The Wave Vital Selection menu or the Numeric Vital Selection menu appears, displaying all the available waveforms or numerics.

The Wave Vital Selection Menu

2. Select the desired waveform or numeric.

The new waveform or numeric is reflected on the screen.

From the **Wave Vital Selection** menu, the alarm, color and scale can be set for the waveform using the **Set Alarm**, **Set Color** and **Set Scale** buttons. From the **Numeric Vital Selection** menu, the color and alarm for the numeric can also be established using the **Set Color** and **Set Alarm** buttons.

Adding a Waveform

The TouchPro software supports up to six waveforms.

To add a waveform:

1. Click the **Settings** button in the bottom right corner of the TouchPro display.

The Settings Button

The Settings menu opens and the **Add Waveform** and **Remove Waveform** buttons appear.

The **Add Waveform** and **Remove Waveform** buttons

An empty waveform field

The TouchPro Display

2. Click the **Add Waveform** (**+**) button in the location above which you want the empty waveform to appear.

   An empty waveform field appears.

3. Click the empty waveform field.

   The Wave Vital Selection menu appears.

The Wave Vital Selection Menu

4. Select the desired waveform from the Wave Vital Selection menu.

   The new waveform is displayed.

Adding a Numeric Display

The TouchPro software contains four numeric display fields. All four numeric display fields are located on one row beneath the waveform displays.

When fewer than four numeric readouts are being displayed, the remaining fields are blank.

To add a numeric to a blank display field:

     1. Click a blank numeric display field.

A blank
numeric
field

The TouchPro Display

        The Numeric Vital Selection menu appears.

     2. Select the desired numeric.

        The new numeric vital is displayed.

Moving a Waveform or Numeric Display

Waveforms and numerics can be moved on the screen to suit the user's needs.

To move a waveform or numeric, click the desired waveform or numeric and drag and drop the display to a desired location.

A dragged waveform

The TouchPro Display

Saving a Layout

Once a layout has been configured, it can be saved and reused.

To save a layout:

1. Ensure the desired waveforms and numerics are in place.

2. Click **Settings**.

   The Settings menu appears.

3. Click **Save As**.

   The Save Layout window appears.

4. In the Save Layout window, in the **Layout Name** field, enter a name for the layout

.

The **Layout Name** field
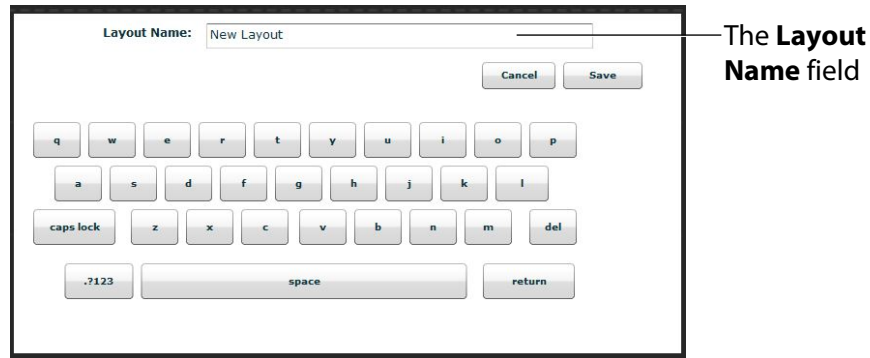
The Save Layout Window

5. Click **Save.**

6. Click the **Close** button to exit the Settings menu.

Saved layouts can be deleted from the Settings menu by dragging and dropping them in the Trash.

NOTE: When a layout is saved, it is available for use only with the current SCE. To enable the layout for use with any other SCE, enable the layout from the TouchPro Setup panel for the desired SCE.

Sounds

All sounds can be silenced by clicking the **Mute** button in the bottom left corner of the TouchPro display.
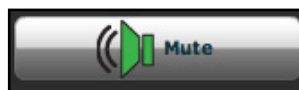
The Mute Button

To set up the audio for the TouchPro:

1. Click the **Settings** button in the bottom right corner of the TouchPro display.

The Settings Button

The TouchPro Settings menu appears.

2. From the Settings menu, click **Audio Setup**.

The Audio Setup window appears.
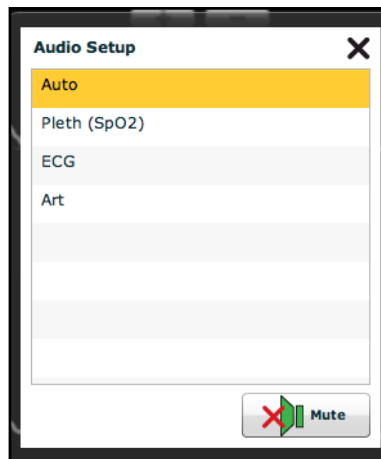
The Audio Setup Window

From the Audio Setup window, select a waveform to set it as the pulse sound. Once a waveform is selected, the Audio Setup window automatically closes.

Clicking the **Mute** button from the Audio Setup window mutes all alarms. Click the **Mute** button again to return the alarms to their original state.

12-Lead ECG

To view a 12-lead ECG report, click the **12-Lead ECG** button at the bottom of the TouchPro screen.

The 12-Lead ECG Button

The report appears.

The **Close** button
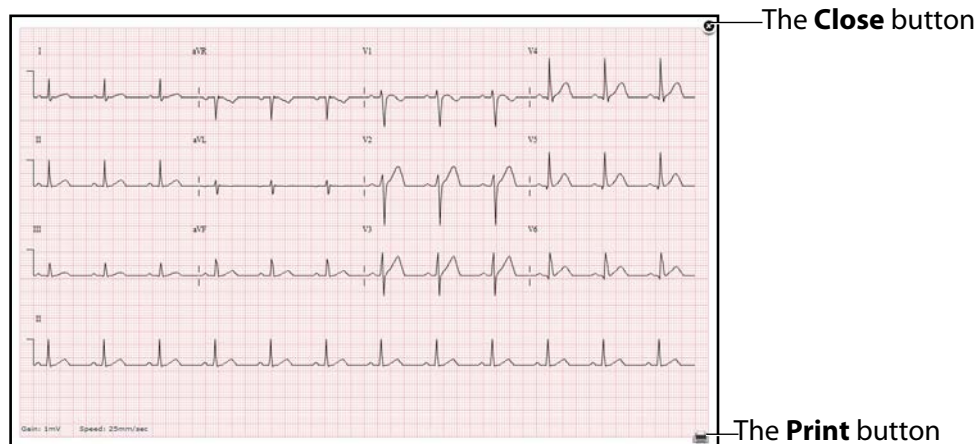
The **Print** button

A 12-Lead ECG Report

The report can be printed or saved by clicking the **Print** button in the bottom right corner of the 12-lead ECG report.

To close the report, click the **Close** button.

IMPORTANT: Prior to saving the report as a PDF or printing to a network printer, the print presets must be adjusted. The page orientation must be set to Landscape and the margins must be set to .25 inches on all sides. These settings vary in location depending on the operating system (i.e., Macintosh or Windows).

To save the report to a PDF file on a Macintosh Instructor Workstation:

1. From the 12-lead ECG report screen, click the **Print** button located in the bottom right corner of the 12-lead ECG report.

    The Report Title window appears.

The **Print** button

The 12-Lead Report Title Window

2. Enter a title for the 12-lead report.

3. Click **Print**.

   The Page Setup window appears.

4. On Page Setup Window, click **OK**.

   The Print window appears.

5. From the Print window, click the **PDF** drop-down menu in the lower left corner.

6. From the drop-down menu, select the S**ave as PDF** option.

   The Save window appears.

7. In the Title field, enter the 12-lead report title.

8. Click **Save.**

   The report saves as a PDF on the Macintosh Instructor Workstation.

To save the report to a PDF file on a Windows Instructor Workstation:

1. From the 12-lead ECG report screen, click the **Print** button located in the bottom right corner of the 12-lead ECG report.

   The Print dialog box appears.

2. From the drop-down menu, select Microsoft XPS Document Writer.

   The report saves on the Windows Instructor Workstation.

To print a report:

1. From the 12-lead ECG report screen, click the **Print** button located in the bottom right corner of the 12-lead ECG report.
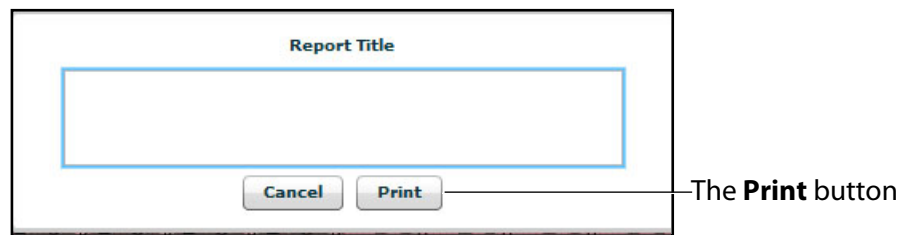
The 12-Lead Report Title Window

2. Enter a title for the 12-lead report.

   The Print window appears.

3. From the Printer drop-down menu, select the appropriate network printer.

   NOTE: A network printer must be configured in order to appear as an option.

4. From the Print window, click the **Print** button.

   The report prints to the designated network printer.

NIBP Cycling and Manual NIBP

When non-invasive blood pressure (NIBP) is displayed, the patient's NIBP can be updated at specified intervals using NIBP Cycling, or the current NIBP can be displayed immediately using the **Manual NIBP** button.

NIBP Cycling can be used to set the patient's NIBP to be updated at regular intervals.

To set NIBP cycling:

1. Click the **Settings** button in the bottom right corner of the TouchPro display.

The Settings Button

   The TouchPro Settings menu appears.

2. From the Settings menu, click **NIBP Cycling**.

   The NIBP Cycling window appears.
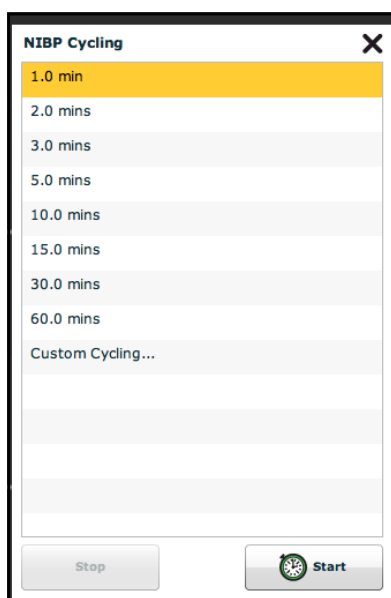
The NIBP Cycling Window

3. From the NIBP Cycling window, select the desired interval for the cycling.

4. Click **Start**.

Custom cycling is also available.

To display the patient's current NIBP, click the **Manual NIBP** button.

The **Manual NIBP** button

The TouchPro Display

The current NIBP is displayed.

NOTE: Manual NIBP can be used at any time during cycling. However, this turns off auto-cycling.

Patients

To view the available Patients:

1. Click the **Settings** button in the bottom right corner of the TouchPro display.

The Settings Button

The TouchPro Settings menu appears.

2. From the Settings menu, click the **Patients** button.

    The current Patients window appears.

The Patients Window

NOTE: When connected to the simulator, the TouchPro only displays the active Patient.

Configuring the TouchPro Software

The background color and alarm suspension time can be set from the TouchPro Configure panel.

To access the Configure panel:

1. Click the **Settings** button in the bottom, right corner of the TouchPro screen.

The Settings Button

    The Settings menu appears.

2. From the Settings menu, click the **Configure** button.

    The Configure window appears.

3. From the Configure window, set the background color and alarm suspension time.
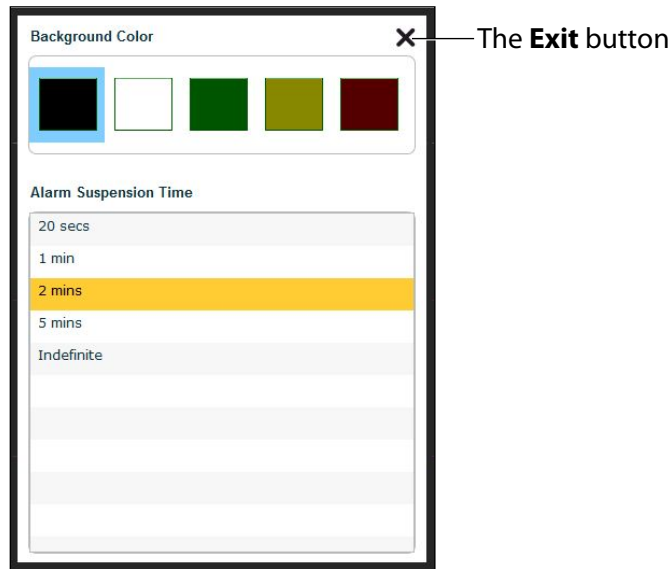
The **Exit** button

The Configure Window

4. Click the **Exit** button to exit the Configure window when finished.

Changing the TouchPro Language

To change the language of the TouchPro software:

1. Click the **Settings** button in the bottom, right corner of the TouchPro screen.

The Settings Button

The Settings menu appears.

2. From the Settings menu, click the **Language Selection** button.

The Language Selection window appears.

3. From the Language Selection window, select a language.

4. Click **Accept**.

The TouchPro software changes to the selected language.

Exiting the TouchPro Software

To exit TouchPro:

1. Click the **Settings** button from the bottom, right corner of the TouchPro screen.

The Settings Button

The Settings menu appears.

2. From the Settings menu, click **Shutdown**. A warning box appears asking if you want to exit.

3. Click **Shutdown**.

TouchPro shuts down and the Müse Start Screen appears.

Using Caesar

Once the setup procedures are complete and the software is configured, Caesar is ready for training use. The features of Caesar are broken down by Neurological, Respiratory, Cardiovascular and Fluid systems.

Neurological

Eyes and Neuromuscular Blockade can be controlled from the Neurological View.

To access the Neurological view, from the **Run** screen, click the brain on the human form.
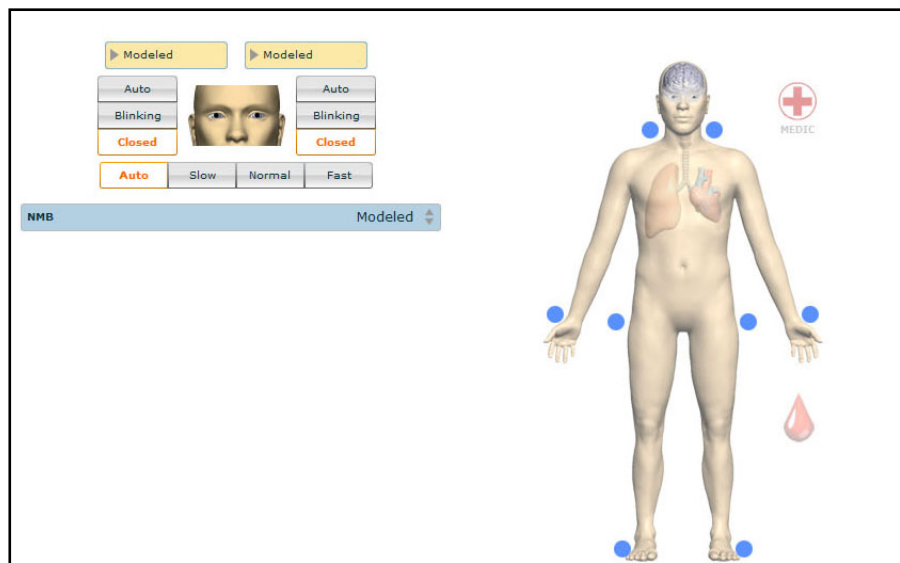
The Neurological View

Eyes

The pupil diameter, pupil reactivity, blinking and blink speed of the simulator's eyes can be controlled from the software.

Click the **Pupil Control** drop-down menus of each eye to choose the option most appropriate for patient's status: Modeled, Constricted, Dilated or Blown.

Click **Auto** to have the eyes blink while the patient is conscious. Click **Closed** to close the eyes. Click **Blinking** to force the eyes to be open and blinking regardless of patient consciousness. These features can be set independently for each eye.

Click **Auto**, **Slow**, **Normal** or **Fast** to control the blink speed.

Neuromuscular Blockade

To manually adjust the Neuromuscular Blockade (NMB: Set), click **NMB**. The **NMB** slider appears. Set the percentage by dragging the arrow up or down, or by entering a new value in the **percentage** box. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the NMB panel. Click **Accept** to exit and save the changes. The NMB parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Respiratory

Caesar's Respiratory system is comprised of the airway management, spontaneous breathing and ventilation features. On Caesar, various clinical signs such as breath sounds, chest excursion and airway patency can be physically demonstrated. A series of speakers inside the simulator can generate a range of breath and throat sounds used in diagnosing conditions. To access the Respiratory parameters of Caesar, on the Run screen, click the lung on the human form. The respiratory parameters appear.
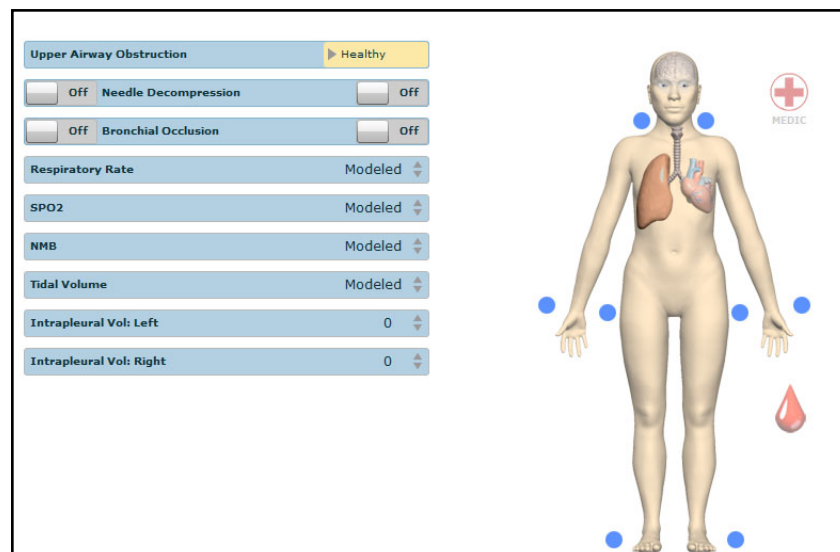
The Respiratory View

Airway

Various clinical signs such as breath sounds, chest excursion and airway patency can be physically demonstrated. A set of speakers at the top of the simulator's head generates breath sounds.Caesar's anatomically realistic upper airway provides the opportunity to intubate the patient as well as apply other airway interventions. In addition, the airway was designed to be a difficult airway that teaches learners to use the best technique when encountering clinical situations with real patients.

Respiratory Features			
Anatomy, Physiology and Clinical Signs	**Clinical Interventions, Patient Monitoring and Scenarios**	**Software Control**	**Manual Control**
Realistic Upper Airway (Oropharynx, Naso-pharynx and Larynx)	Allows direct laryngoscopy, oral and nasal intubation and use of specialty airway devices.	None required.	None required.
Airway Management and Ventilation	Alveolar and arterial gas appropriately reflect the efficacy of ventilation and oxygen administration.	Oxygen administration input by the instructor. View: **Respiratory**	None required.
Cricothyrotomy Membrane	Allows needle cricothyrotomy.	None required.	See Cricothyrotomy section for more information.

Realistic Upper Airway

Caesar's upper airway supports intubation and laryngoscopy. Oral and nasal intubation can be performed using a variety of airway devices, including endotracheal tubes, nasal-pharyngeal airways and oropharyngeal airways. For recommended sizes, see *Recommended Clinical Supply Sizes on page 169*

The simulator detects when ventilation is being performed and records it in the Event Log.

IMPORTANT: Airways can be damaged by improper insertion of an airway adjunct (e.g. endotracheal tube). To protect the airway, lubricate the adjunct prior to insertion using the silicone spray provided.

Use ONLY the provided SILICONE SPRAY to lubricate the adjunct. NEVER use a water-based lubricant because of resulting residue damage.

NOTE: The cross-finger technique should be used when the patient's head is in the neutral position.

NOTE: Double-lumen airways lose flexibility after repeated use over an extended period of time. CAE Healthcare recommends using new double-lumen airways for training purposes, if available.

Upper Airway Obstruction

Caesar's upper airway can be controlled using the **Upper Airway Obstruction** drop-down menu. The options include **Healthy, Initial, Partially Obstructed** and **Completely Obstructed**. During the **Partially Obstructed** and **Completely Obstructed** settings, the patient's physiology reflects airway distress until the instructor manually changes the setting back to **Initial** or **Healthy**. The software does not automatically detect when an obstructed airway has been cleared.

The Upper Airway Obstruction Menu

Cricothyrotomy

Cricothyrotomy can be simulated on Caesar. Before performing a needle cricothyrotomy, a 2.25 inch (6 cm) piece of tape from the roll provided must be placed over the hole.

To replicate a needle cricothyrotomy:

1. Locate the simulated cricothyroid membrane sealed with tape underneath the neck band.

2. Follow standard clinical techniques and palpate to find the cricothyroid space.

3. Puncture the space through the neck band on the simulator and into the tape "membrane." This puncture goes all the way through to the "trachea," simulating the clinical procedure.

4. Reseal the tape "membrane" that simulates the cricothyroid membrane after each cricothyrotomy.

    NOTE: Replacement components are available in the Inventory Kit.

Resealing the Membrane After a Puncture

To reseal the cricoid feature, apply a small piece of cricothyrotomy tape from the roll provided in the inventory kit over the punctured area. This can be repeated a brief number of times, but when the number of layers impedes the cricothyrotomy, all existing tape must be removed and replaced with new tape.

Replacing the Cricothyrotomy Tape

To replace the cricothyrotomy tape:

a. Remove the old, punctured tape completely from the cricoid feature.

b. Use an alcohol prep pad or alcohol and a paper towel to clean any lubricant residue from the surface. Allow the surface to dry.

c. Cut a 2.25-inch (6 cm) piece of cricothyrotomy tape from the roll provided in the inventory kit.

d. Lightly stretch the newly revealed adhesive side of the tape over the cricothyroid space and press down over the sides of the cricoid feature.

Needle Decompression

Needle decompression can be performed bilaterally into a small hole located at the midclavicular line of the second intercostal space. For recommended needle size, see *Recommended Clinical Supply Sizes on page 169*

To enable the Needle Decompression feature, activate the switch for the appropriate side(s) using the **Needle Decompression** switch to **On** and set an appropriate intrapleural volume using the **Intrapleural Volume** parameter on the Respiratory view.

The Needle Decompression Switch

When a needle is inserted in the second intercostal space at the midclavicular line, air release will be felt and heard.

Bronchial Occlusion

When bronchial occlusion is enabled, unilateral chest excursion is observed during spontaneous breathing or positive pressure ventilation. From the Respiratory view, turn the desired Bronchial Occlusion switch to **On** to stop airflow to the bronchi and create a bronchial occlusion.

The Bronchial Occlusion Switch

Respiratory Rate

To adjust the respiratory rate manually, from the Respiratory view, click **Respiratory Rate**. The Respiratory Rate slider appears. Set the rate by dragging the arrow up or down, or by entering a new value in the **breaths/min** box. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the Respiratory Rate Selection panel. Click **Accept** to exit and save the changes. The Respiratory Rate parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Pulse Oximetry

To adjust the SpO_2 percentage manually, from the Respiratory view, click **SpO_2**. The SpO_2 slider appears. Set the rate by dragging the arrow up or down, or by entering a new value in the **percentage** box. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the SpO_2 panel. Click **Accept** to exit and save the changes. The SpO_2 parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Neuromuscular Blockade

To manually adjust the Neuromuscular Blockade (NMB: Set), click **NMB**. The **NMB** slider appears. Set the percentage by dragging the arrow up or down, or by entering a new value in the **percentage** box. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the NMB panel. Click **Accept** to exit and save the changes. The NMB parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Tidal Volume

To manually adjust the tidal volume, click **Tidal Volume**. The Tidal Volume slider appears. Set the mL amount by dragging the arrow up or down, or by entering a new value in the **percentage** box. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the Tidal Volume panel. Click **Accept** to exit and save the changes. The Tidal Volume parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Intrapleural Volume

Intrapleural Volume for the right and left lung can be adjusted using the software. To manually adjust the intrapleural volume, click **Intrapleural Vol (Left or Right)**. The Intrapleural Volume slider appears. Set the volume by dragging the arrow up or down, or by entering a new value in the **mL** box. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the Intrapleural Volume panel. Click **Accept** to exit and save the changes. The Intrapleural Volume parameter listing becomes orange, indicating an override has been applied.

Cardiovascular

With Caesar's Cardiovascular system, users can replicate the clinical signs associated with cardiac activity, including palpable pulses, heart sounds and electrical activity.

To access Caesar's Cardiovascular parameters, on the Run screen, click the heart on the human form. The cardiovascular features appear.
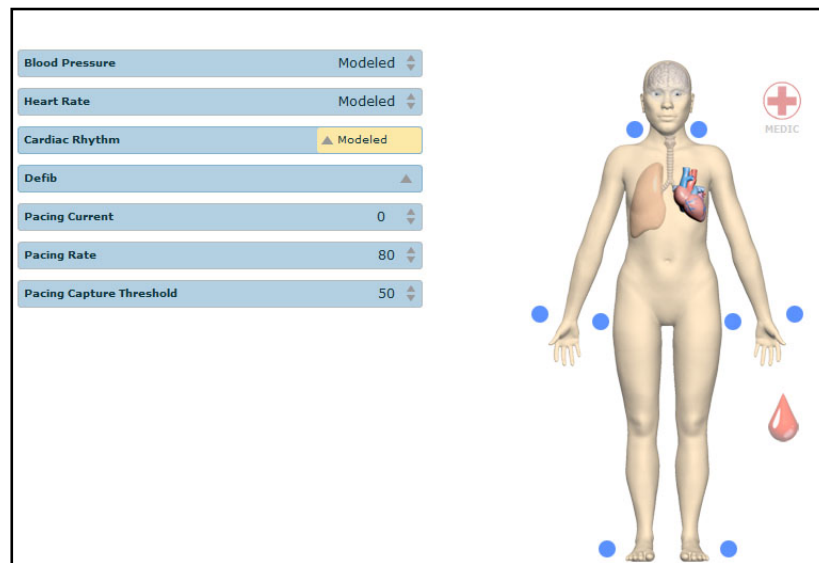
The Cardiovascular View

Pulses

Caesar has eight pulse sites that are activated by touch:

> Carotid (2)
>
> **NOTE**: The left and right Carotid pulses are controlled together.
>
> Radial (2)
>
> Femoral (2)
>
> Dorsalis pedis (2)
>
> **NOTE**: The dorsalis pedis pulses are only available on the healthy limbs.

Pulses can be controlled from all physiological views in the software. All pulses, unless altered by an SCE, are enabled by default. To disable a pulse, click the pulse location on the human form. To enable a pulse, click the pulse location again.
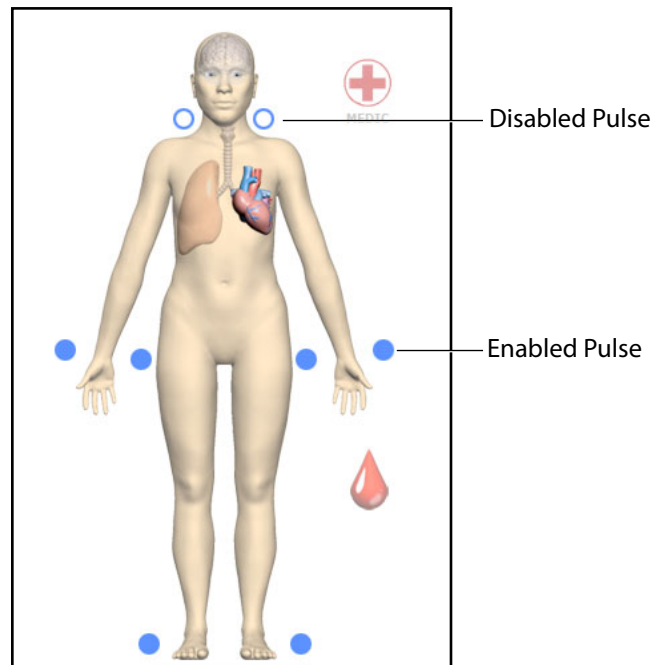
Enabled and Disabled Pulses

Blood Pressure

Caesar supports virtual systolic and diastolic readings, which can only be obtained and manipulated through the software.

Systolic and Diastolic Blood Pressure

To manually adjust the systolic and/or diastolic blood pressure, from the Cardiovascular view, click the desired blood pressure parameter. Set the pressure by dragging the systolic and diastolic arrow up or down, or by entering a new value in the **mmHg** value field. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the Blood Pressure panel. Click **Accept** to exit and save the changes. The Blood Pressure parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Heart Rate

To manually adjust the heart rate, from the Cardiovascular view, click **Heart Rate**. Set the rate by dragging the arrow up or down, or by entering a new value in the **mmHg** value field. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the Heart Rate panel. Click **Accept** to exit and save the changes. The NMB parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Cardiovascular Interventions/Therapy

Caesar only perform virtual forms of electrical therapy, including cardioversion, defibrillation and pacing.

> **WARNING:** DO NOT use any electrical interventions for cardiovesion, defibrillation or pacing. Using an electrical intervention will damage the simulator.

> **WARNING:** DO NOT attempt to perform cardiac compressions on the simulator. Performing CPR may damage the simulator.

Cardioversion

Cardioversion can only be performed virtually by selecting the Electrical Therapy: Cardioversion intervention in the Interventions palette.

Caesar does not support manual cardioversion interventions using a device.

Defibrillation

Defibrillation can only be performed virtually by applying the Defib parameter in Cardiovascular view of the Müse software or selecting the Electrical Therapy: Defibrillation Biphasic or Defibrillation Monophasic interventions in the Interventions palette. To perform a simulated defibrillation, click the **Defib** parameter and enter the desired Joules amount in the numeric value field. Click **Shock** to administer the simulated defibrillation.

Caesar does not support manual defibrillation interventions using any defibrillator or AED device.

> **WARNING:** DO NOT attempt to defibrillate the simulator using a defibrillation device.

Pacing Current

Pacing can only be performed virtually by applying the Pacing Current parameter in the Cardiovascular view on the Run screen or selecting the Electrical Therapy: Pacing Current option from the Interventions palette. The simulator automatically detects and responds to pacing signals (from 20 mA to 200 mA, in increments of 10). To manually adjust the pacing parameters, click **Pacing Current** The slider appears. Set the mA amount by dragging the arrow up or down, or by entering a new value in the **mA** value field. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the panel. Click **Accept** to exit and save the changes. The parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Caesar does not support manual pacing interventions using a pacing device.

> **WARNING:** DO NOT attempt to connect a pacing device to the simulator.

Pacing Rate

Pacing can only be performed virtually by applying the Pacing Rate parameter in the Cardiovascular view on the Run screen or selecting the Electrical Therapy: Pacing Rate option from the Interventions palette. The simulator automatically detects and responds to pacing signals (from 20 bpm to 119 bpm, in increments of 10). To manually adjust the pacing parameters, click **Pacing Rate** The slider appears. Set the bpm amount by dragging the arrow up or down, or by entering a new value in the **bpm** value field. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the panel. Click **Accept** to exit and save the changes. The parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Caesar does not support manual pacing interventions using a pacing device.

> **WARNING:** DO NOT attempt to connect a pacing device to the simulator.

Pacing Capture Threshold

Pacing can only be performed virtually by applying the Pacing Capture Threshold parameter in the Cardiovascular view on the Run screen or selecting the Electrical Therapy: Pacing Capture Threshold option from the Interventions palette. The simulator automatically detects and responds to pacing signals (from 20 mA to 119 mA, in increments of 10). To manually adjust the pacing parameters, click **Pacing Capture Threshold** The slider appears. Set the mA amount by dragging the arrow up or down, or by entering a new value in the **mA** value field. The change can take place immediately or can be programmed to take place over a specified number of minutes or seconds using the value field and the minutes or seconds slider at the bottom of the panel. Click **Accept** to exit and save the changes. The parameter listing becomes orange, indicating an override has been applied. To return to the programmed physiologic model, select the parameter and return the Override switch to **Modeled**.

Caesar does not support manual pacing interventions using a pacing device.

WARNING: DO NOT attempt to connect a pacing device to the simulator.

IV Cannulation

Veins for the IV cannulation feature are located in the forearms. For supported needle sizes, see *Recommended Clinical Supply Sizes on page 169*.

Inserting an IV

To prime the IV access ports, connect a 60 mL syringe filled with distilled water (with clinically appropriate food coloring if desired) to the IV tubing on Caesar's forearm and firmly inject all 60 mL. This primes the arms and charges the system for flashback and venipuncture support.

WARNING: If a flash does NOT occur, do NOT inject any fluid and remove the needle immediately. Repeat the priming directions and ensure you have injected the needle properly and into the simulated vein.

Fluids and simulated medications can be administered intravenously. Approximately 50 mL of fluid may be infused. To support infusion of larger volumes, connect an empty IV bag or other receptacle to the IV/IO drain tube located on the right side of the simulator's abdomen.

NOTE: To extend the lifespan of the IV site, smaller gauge needles can be used.

To simulate realistic flashback, the system must be primed prior to use. Ensure all fluids have been removed from previous uses before each new use to prevent overfilling. Please refer to the *Care and Maintenance* section of this user guide for directions on fluid removal.

NOTE: Cleanup is very important when using simulated fluids. Please refer to the *Care and Maintenance* section for directions on fluid removal.

Fluids

Caesar has six bleeding ports and is capable of bleeding simultaneously at two sites from an internal tank. Arterial and venous bleeding can be simulated.
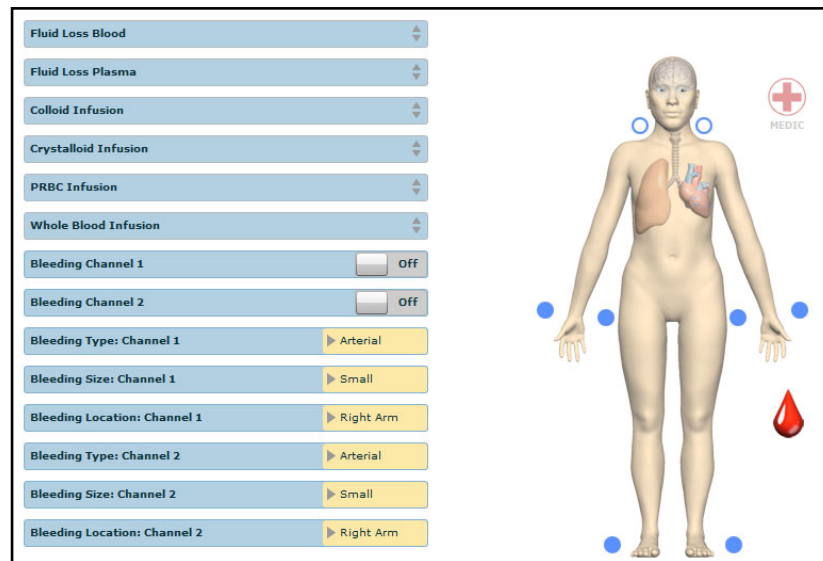
The Fluids View

Venous settings produce a continuous bleed at three user-adjustable flow rates.

Arterial settings produce a pulsing flow synchronized with the cardiac cycle at three user-adjustable flow rates.

The flow rate is determined by the selected **Bleeding Size** and the blood pressure. In addition, the simulator features auto-sensing of hemorrhage control (e.g., tourniquet application or direct pressure).

Bleeding results in an automatic loss of blood from the physiologic models with subsequent changes in hemodynamics. Blood loss occurs at a rate dependent on wound size and Mean Arterial Pressure (MAP).

Setup must be completed before using the bleeding feature. For instructions, see *Step 5: Preparing the On-Board Bleeding System* in the *Setup* section of this user guide.

To enable bleeding, on the Run screen, click the blood droplet. The Fluids view appears. Turn on the **Bleeding Channel 1** and/or **Bleeding Channel 2** switch(es), as desired.

IMPORTANT: Simulated blood MUST be removed from the simulator after each use. Failure to remove simulated blood from the simulator can void the warranty. For instructions on how to clean the simulator after using the Bleeding feature, see the *Care and Maintenance* section of this user guide.

Hemorrhage Setup

The user determines the type and placement of the bleeding moulage for the lesson. An optional Moulage Kit can provide molded gunshot wounds, broken and protruding bones, amputations and an abdominal wound as well as theatrical components.

To use one of the wound appliances available from CAE Healthcare:

1. Connect the appliance to the desired bleed ports located on the simulator. Bleed ports are located in the left arm, right arm, left leg, right leg, upper body and lower body.

2. Secure the appliance over the simulator using the integrated straps.

3. Enable **Bleeding Channel 1** or **Bleeding Channel 2** on the Fluids view of the Müse software.

4. Select **Bleeding Type: Arterial** or **Bleeding Type: Venous** for the **Bleeding Type** for the desired channel.

5. Select **Bleeding Size: Small, Bleeding Size: Medium** or **Bleeding Size: Large** for the desired channel.

6. Select the **Bleeding Location** for the desired channel. Choose from one of six locations: **Left Arm**, **Right Arm**, **Left Leg**, **Right Leg**, **Upper Body** and **Lower Body**.

NOTE: Do not set both bleeding channels to the same location.

Hemorrhage Control

When bleeding is controlled (e.g., hemostat, tourniquet), the action is detected and logged, and the physiology responds accordingly.

Tourniquet Application

A tourniquet may be applied to stop the flow of blood. The tourniquet sensors located bilaterally in the upper thighs and upper arms detect when a tourniquet is applied. Once the appropriate pressure is applied, the Müse software reflects the appropriate physiology for the stopped blood flow.

For added realism, the simulator should be dressed in clothing that can be torn to "conform" with the type of injury being demonstrated. Bleeding moulages and the wound umbilical should be concealed under the simulator's clothing with only the wound showing.

Sounds

The Caesar mannequin has built-in speakers at the top of the head to amplify responses, cries, screams, breath sounds and other sound effects.

To adjust the volume of the sounds, click on the **Sounds** button located on the Run screen. Use the slider to adjust the volume of the speakers.

Care and Maintenance

Maintaining Caesar requires careful treatment of the electronic and mechanical components. Each time Caesar is assembled or disassembled, make sure all components are properly handled and correctly removed from or placed into storage.

NOTE: Certain hardware components within the Caesar simulator and Instructor Workstation are not user serviceable. Consult CAE Healthcare Customer Service to address any hardware maintenance concerns.

CAE Healthcare Warranty Programs

General Information

CAE Healthcare patient simulator products come with a one-year Manufacturer's Warranty (excluding batteries and consumables). All warranties begin at the date of shipment or CAE Healthcare installation. You may upgrade your first year Warranty to an Enhanced Warranty and receive remedial and planned maintenance. To prevent equipment downtime and delays after you warranty expires, we encourage you to contract for extended maintenance services for all subsequent years.

Units Out of Agreement

For units no longer under warranty that requires repairs, the Time and Materials service plan applies (see *Time and Materials on page 147*).

To place an out-of-warranty unit under a warranty contract, CAE Healthcare reserves the right to have the patient simulator inspected by a CAE Healthcare-approved technician at the customer's expense. If necessary, the unit would have to be repaired at the customer's expense prior to issuance of a warranty contract.

The repairs required as the result of the examination will be quoted on a time and material basis.

Contract Period

Warranty contracts are not ordinarily offered for periods of less than one year. However, multiple-year warranty contracts may be arranged for up to an additional three years. Discounts are available for purchase of multiple-year contracts.

Limitations of Agreement

Your exclusive remedy for any defective patient simulators is limited to the repair or replacement of the defective patient simulator.

CAE Healthcare may elect which remedy or combination of remedies to provide at its sole discretion. CAE Healthcare shall have a reasonable time after determining that a defective material exists to repair or replace defective material. CAE Healthcare's replacement material will be manufactured from new and/or serviceable parts. CAE Healthcare's agreement applies to repaired or replaced materials for the balance of the applicable period of the original warranty or ninety days from the date of shipment of a repaired or replaced material, whichever is longer. CAE Healthcare warrants its labor for 30 days or the balance at the applicable period of the original warranty, whichever is greater.

CAE Healthcare shall not be liable under this warranty for incidental or consequential damages, or in the event of any unauthorized repairs or modifications have been made or attempted, or when the product, or any part thereof, has been damaged by accident, misuse or abuse. This warranty does not cove normal wear or tear, staining, discoloration or other cosmetic irregularities that do not impede or degrade product performance. Any damage or malfunction as a result of the installation of software or hardware, not authorized by CAE Healthcare, will be repaired under the Time and Materials service plan (see Time and Materials section).

CAE Healthcare's warranty does not cover products that have been received improperly packaged, altered or physically damaged. Products will be inspected upon receipt.

Some states in the USA do not allow the exclusion or limitations of incidental or consequential damages, so the limitations above may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

Return Materials Authorization (RMA)

No product may be returned directly to CAE Healthcare without first contacting CAE Healthcare for an RMA number. If it is determined that the product may be defective, you be given an RMA number and instructions for product return. An unauthorized return (e.g., one for which an RMA number has not been issued) will be returned at your expense. Authorized shipments are to be shipped prepaid to the address on the RMA. Your original box and packaging materials should be kept for storing or shipping your product. To request an RMA, please contact Customer Service.

System Software Upgrade Support

Customers with current warranty contracts are entitled to receive upgrades to applications software previously purchased. Installation of the system software is the user's responsibility.

The System Software Upgrade Support includes software upgrades for base software and purchase optional software modules.

NOTE: This does not apply for major upgrades or technological enhancements.

Pricing Structure

Time and Materials

For those systems not under agreement, service will be provided as required on a Time and Material basis:

Principal period of on-site support (customer's local time) is:

- Monday through Friday, 8:00 AM to 5:00 PM (customer's time zone)
- Holiday and non-business days excluded
- Support outside principal period is billed at the premium rate (hourly rate x 1.5)

A minimum of 48 hours notice is required for scheduling an on-site support call. Urgent on-site support with less than 48 hours notice will be charged at the premium hourly rate.

On-site time is described as the time period commencing from arrival at customer site through departure from customer site.

How to Contact Customer Service

For customer service, please contact CAE Healthcare.

CAE Healthcare Customer Service Headquarters - United States and Latin America
Monday - Friday from 7:00 a.m. to 6:00 p.m. ET
Toll Free: +1 (866) 462-7920
24-hour Hotline: +1 (941) 342-5605
Fax: +1 (941) 342-5600
Email: customerservice@caehealthcare.com
Website: www.caehealthcare.com

CAE Healthcare Customer Service - Canada
Monday - Friday from 8:00 a.m. to 5:00 p.m. ET
Toll Free: +1 (877) 223-6273
Email: can.service@caehealthcare.com

CAE Healthcare Customer Service - Europe, Middle East and Africa
Monday - Friday from 8:00 a.m. to 5:00 p.m. CET
Phone: +49-(0) 6131 4950354
Fax: +49 (0) 6131 4950351
Email: international.service@caehealthcare.com

CAE Healthcare Customer Service - United Kingdom and Ireland
Monday - Friday from 9:00 a.m. to 5:00 p.m. GMT
Phone: +44(0)800-917-1851
Email: uk.service@caehealthcare.com

Principal hours of operation exclude holidays and non-business days.

How to Contact CAE Healthcare Academy

For questions or concerns regarding CAE Healthcare education and training, please contact the training services manager:

CAE Healthcare Manager of Training Services
Phone: (941) 536-2806
Fax: (941) 377-5590
Email: training@caehealthcare.com

Breakdown

After each use, Caesar should be properly disassembled and stored in a secure place. To ensure that Caesar remains in good working condition, follow the prescribed CAE Healthcare breakdown procedures below. The procedures are estimated to take less than 30 minutes.

Breaking Down the Caesar Simulator	
1	Flush the On-Board Bleeding System
2	Shut Down the Software
3	Power Off the Simulator
4	Clean the Simulator

Step 1: Flush the On-Board Bleeding System

To flush the on-board bleeding system:

a. Ensure the simulator is powered on and no scenarios are running.

b. Ensure the simulator is lying on its back.

c. Remove cap from one of the bleed ports and ensure that all the other bleed ports are capped.

d. Locate a wastewater bucket to capture the drained fluid and place it below the open bleed port.

e. In the Müse software, click the **System Administration** button.

The System Administration Button

f. From the System Administration screen, click the **Maintenance** tab.

g. Click the **Flush System** button.

The Bleeding System Flush message appears.
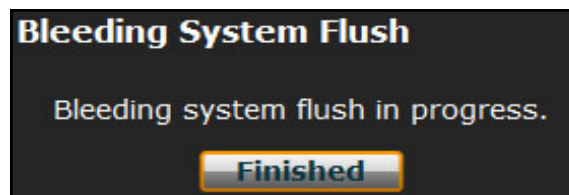
The Bleeding System Flush Message

h. Once the fluid is completely drained from the simulator, click the **Finished** button on the Maintenance screen.

i. Locate the FILL and DRAIN tube connectors on the right side of the simulator's abdomen.

j. Connect the DRAIN overfill bottle tube to the simulator's DRAIN tube.

k. Connect the FILL trauma fill tank tube to the simulator's FILL tube.

l. Ensure the yellow relief valve on the trauma fill tank is closed.

m. Unlock the trauma fill tank pump handle by turning counter-clockwise (Be careful not to loosen the pump from the tank).

n. Pump the handle of the trauma fill tank 12 times. The filling process begins automatically.

o. When the overflow bottle attached to the trauma fill tank has received fluid for 20 seconds, the reservoir is full.

   NOTE: The maximum quantity that the blood reservoir can hold is 1.4 liters.

p. Disconnect the FILL tube from the simulator.

q. Disconnect the DRAIN tube from the simulator.

r. Lock the pump handle back into the pump assembly by turning clockwise.

s. Immediately release pressure from the tank by turning and holding the yellow pressure relief knob clockwise until all air pressure is released.

   If pressure will not release using the relief knob, place a rag over the top of the tank and pump handle. While firmly pushing down on the pump handle, slowly turn the handle counter-clockwise.

t. Fill the trauma fill tank with approximately 1 liter of clear, distilled water.

   IMPORTANT: Only distilled water can be used.

u. Pour the desired amount of distilled water into the trauma fill tank, being careful NOT to exceed 6 liters (1.6 gallons) of fluid.

v. With the simulator lying on its back, unzip the right side torso skin zipper approximately three (3) inches (7.62 cm) to reveal the fluid fill tubes.

w. Disconnect the FILL tube and DRAIN tube from the simulator.

x. Repeat the steps c through i.

y. Empty the wastewater bucket and fill tank. Dry the wound haptic with a towel before storage.

IMPORTANT: To prevent mold, mildew and fungus from growing in the system, occasionally flush the system with a 1-liter IV bag of distilled water mixed with 10 mL of white vinegar. Follow the procedure above for flushing the system using the vinegar solution, then repeat the procedure using plain distilled water. The system should be cleaned in this way about once every two months.

To drain the IV/IO system:

    a. Remove the PRIME port cap.

    b. Push 140 mL of air into the IV/IO PRIME port to drain the system until air is expelled from the DRAIN port.

    c. Disconnect IV bag tubing from the DRAIN port.

    d. Replace caps on both PRIME and DRAIN ports.

Step 2: Shut Down the Software

To shut down the Müse Software:

    a. From the Home page, click the account name in the bottom right corner of the screen.

    The Logout dialog box appears.
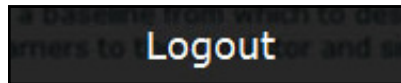
The Logout Dialog Box

    b. Click **Logout** to exit the software.

To shut down the Instructor Workstation:

    a. Using the stylus, tap the left margin of the screen.

    The virtual keyboard appears.

    a. Double tap on the **Windows** key.

    b. Select **Shut Down** from the Start menu.

    The Instructor Workstation shuts down.

Step 3: Power Off the Simulator

To power off the simulator:

    a. Remove the simulator's clothing to expose the right hip.

    b. Press the power button located on top of the right side of the simulator's pelvis.

       When the power button indicator light and Caesar's eyes turn off (approximately 1 minute), Caesar's on-board computer has completely shut down.

       IMPORTANT: Do not remove power until the on-board computer has completely shut down.

Step 4: Clean the Simulator

To clean the simulator:

    a. Remove any medical equipment from the simulator (e.g., tourniquets, catheters, IV needles, bandages, moulage, etc.).

    b. Clean or discard used items.

    c. Remove and launder any garments.

To clean the skin, eyes and airway:

    a. Clean the airway of any lubricants.

    b. Clean the skin and eyes using a cloth dampened with soapy water (use a mild soap such as dish soap).

       NOTE: DO NOT submerge or soak the simulator in water to clean it. DO NOT use caustic cleaning agents, abrasive cleaning tools or excessive force while cleaning.

To drain fluid from torso (if simulator is exposed to rain or water during simulation), unzip the torso skin and place Caesar in a seated position. The fluids that gathered within the simulator's torso from exposure will drain downward automatically.

Maintenance Advice

Simple care and maintenance helps to ensure that Caesar stays in good working condition. Many problems are caused by inadequate or improper maintenance. Perform a thorough check of the various components each time the simulator is used. Failure to follow these guidelines can lead to damage not covered by the warranty.

General Simulator Care

The following preventive measures should be taken for the general care of the simulator:

- Inspect the blood tubing for leaks and repair as need.
- Inspect the skin for minor tears and abrasions and repair with silicone glue when necessary.
- Dress the simulator fully in clothing, gloves, a helmet and boots to protect the skin during outdoor training simulations.
- Prior to moulage of any kind, CAE Healthcare suggests the application a very light coating of petroleum jelly, followed by a light dusting of baby powder, to the simulator's skin. This application makes cleaning the skin easier.

Storing the Simulator

To avoid damage to the simulator, please observe the following storage guidelines:

- Storage temperature should not exceed 50°C (122°F) or fall below 5°C (41°F).
- If a soft-sided simulator case is being used, the simulator should lie flat.
- The simulator should NEVER be stored or shipped with fluids in the system.
- Charging the Batteries

The simulator and Instructor Workstation batteries should be recharged daily. If performing multiple simulations, the batteries may need to be recharged more frequently.

Charging the Simulator Batteries

To charge the simulator batteries using the AC adapter:

1. Connect the AC adapter connection into the port located on the top right side of the simulator's pelvis.
2. Connect the electrical plug on the other end of the AC adapter to a power source.

   NOTE: The batteries charge at a slower rate if the simulator is powered on while the AC adapter is plugged in.

An external battery charger can be purchased to charge the batteries outside of the simulator.

WARNING: If the simulator is still in use, ensure that the AC adapter is plugged into the simulator and a working power source prior to removing both batteries.

To charge the simulator batteries using the external battery charger:

1. Lift the torso skin slightly and remove the battery compartment cover located on the top of the simulator's pelvis.

2. Turn the security latch to the vertical position.

3. Remove the batteries from the simulator by pulling on the tabs and lifting the batteries out of the battery compartment.

    NOTE: Ensure that the battery tab is accessible and not tucked into the battery compartment.

4. Plug the external charger into a power source.

5. Insert the batteries into the external charger charging station with the LED charge screen facing upward.

    Batteries require approximately four hours to fully charge.

To insert charged batteries into the simulator, see *Step 4: Insert the Batteries on page 16* in the *Setup* section of this user guide.

Charging the Instructor Workstation

To charge the Instructor Workstation, connect the Instructor Workstation to an external power source using the AC adapter. The battery automatically begins charging.

Regular Maintenance

The following maintenance procedures should be performed after every use or as noted:

- Cleaning the Bleeding System (blood reservoir, lines and trauma fill tank) - Daily
- Cleaning the Simulator (skin, eyes and airway) - Every Use
- Cleaning the Wound and Moulage Sites - Every Use
- Charging Batteries (simulator and instructor workstation) - Daily

Periodic Maintenance

The following maintenance procedures should be performed periodically as noted:

- Replacing the Cricothyrotomy Tape - Each time a cricothyrotomy is performed
- Replacing the Neck Band - As warranted by usage affecting the quality of training or at the owner's discretion
- Replacing the IV Cartridges - After approximately 10 uses
- Replacing the Needle Decompression Cartridges - After approximately 75 uses
- Replacing the Skin - As warranted by usage affecting the quality of training or at the discretion of the owner

Detaching a Leg

The legs can be interchanged while the simulator is powered on.
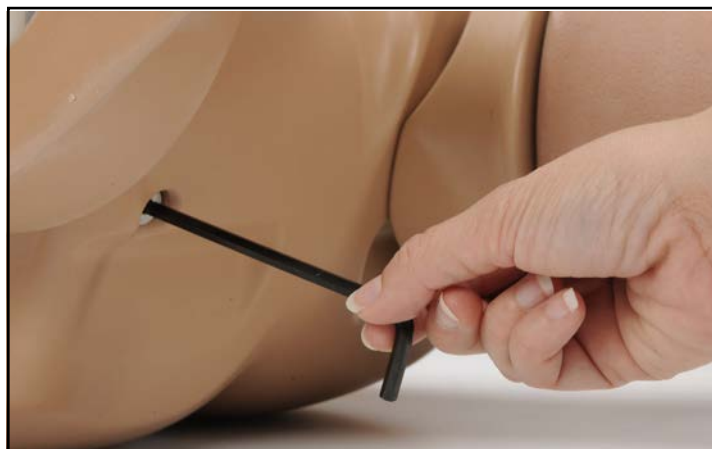
To detach a leg:

1. Lift the leg to a vertical position.

The Leg Lifted

2. Insert the 3/16" allen wrench into the screw located on the back side of the simulator's pelvis and turn counter-clockwise until the screw is removed.

The Screw

3. Return leg to horizontal position.

4. Pull the leg outward and away from the simulator's torso.

    NOTE: Tube and cable will be attached to leg.

The Leg and the Hip Opening

5. Gently pull the connected tube and cable out of the hip opening.

The Connected Tube and Cable

6. Pull apart the electrical cable to detach the cable from leg.

The Cable Connection

7. Twist the connector on the tube and gently pull the tube away from the hip tube connector.

The Tube Connection

8. Leg is ready to be removed from the simulator's torso.

Attaching a Leg

To attach leg:

1. Place the top of the leg next to the simulator's hip.

2. Align the electrical cable from the leg with the electrical cable on the simulator's hip and push the cables together to connect.

The Cable Connection

3. Connect the tube in the leg to the tube on the simulator's hip.

The Tube Connection

The Connected Tube and Cable

4. Gently push the connected tube and cable into the hip opening.

5. Push the leg slightly towards the simulator's midline.

The Leg and the Hip Opening

6. Lift the leg to a vertical position.

The Leg Lifted

7. Insert the screw into the hole located on the back side of the simulator's pelvis using a 3/16" allen wrench and turn the wrench clockwise until the screw is secured.
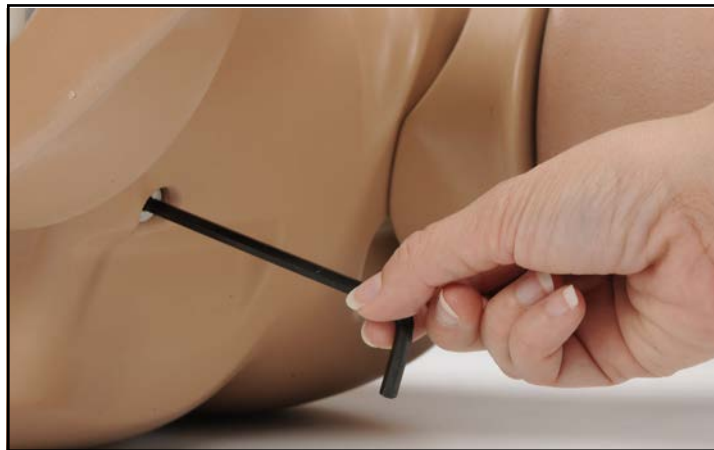
The Screw

8. Return the leg to a horizontal position. Leg is now attached

Changing the IV Tubing

To change the IV tubing:

1. Remove the simulator's clothing to expose the arm.

2. Roll back the upper forearm skin to reveal the IV tubing.

Removing the Upper Forearm Skin

3. Roll down the lower forearm skin to reveal the metal vein tubing connectors.
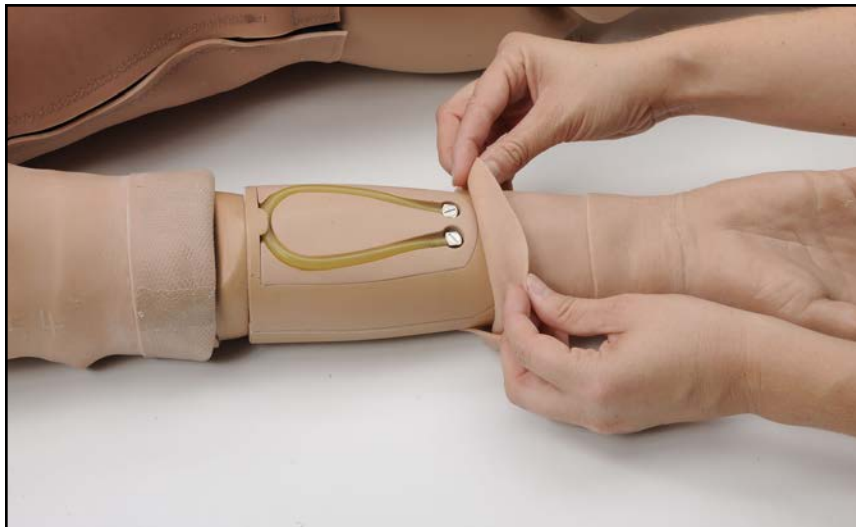
Rolling Down the Lower Forearm Skin

4. Gently pull upward to remove the tubing from the grooves.
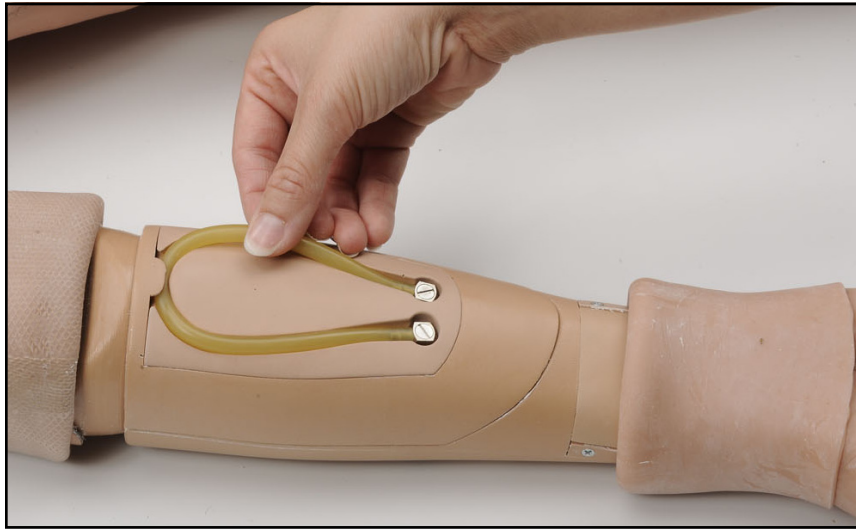
Removing the IV Tubing

5. Gently pull upward to remove tubing from the metal vein tubing connectors.

6. Cut an 8-inch piece of tubing from the IV tubing roll located in the Inventory Kit.

7. Position the IV tubing above the metal vein tubing first connector and push the IV tubing onto the first connector.

Pushing the IV Tubing onto the Connector

8. Align the tubing in the vein groove and repeat step 6 for the second connector.

9. Replace the skin and cover the IV tubing.

10. Replace the clothing, if applicable.

NOTE: When replacing IV tubing, check the condition of the arm skin and assess replacement needs due to wear and puncture marks.

Removing the Chest Skin

Removing the simulator's skin is a necessary step to perform maintenance procedures such as changing the needle decompression cartridge (see *Changing the Needle Decompression Cartridge on page 167*). The skin may also need to be removed and replaced after general usage and wear.

NOTE: The process of removing the skin may require the assistance of an additional person.

To remove the chest skin

1. Locate the right chest skin side zipper and unzip.

Unzipping the Side Chest Skin Zipper

2. Locate the left chest skin side zipper and unzip.

3. Locate the back chest skin zipper and unzip.

Unzipping the Back Chest Skin Zipper

4. Pull the chest skin over the arms.

5. Lift the chest skin and detach the hook-and-loop fastener on the front of the simulator and pull away from the chest to remove the chest skin.

Detaching the Hook-and-Loop Fastener

Removing the Torso Skin

To remove the torso skin:

1. Lift the simulator to the seated position.

2. Unfasten the hook-and-loop fasteners located on the simulator's back and remove the shoulder straps.
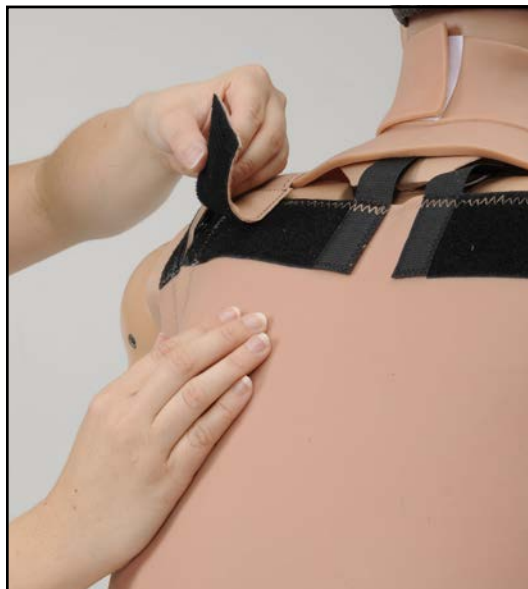
Removing the Shoulder Straps

3. Unzip the torso side zippers on both the left and right sides of the simulator.
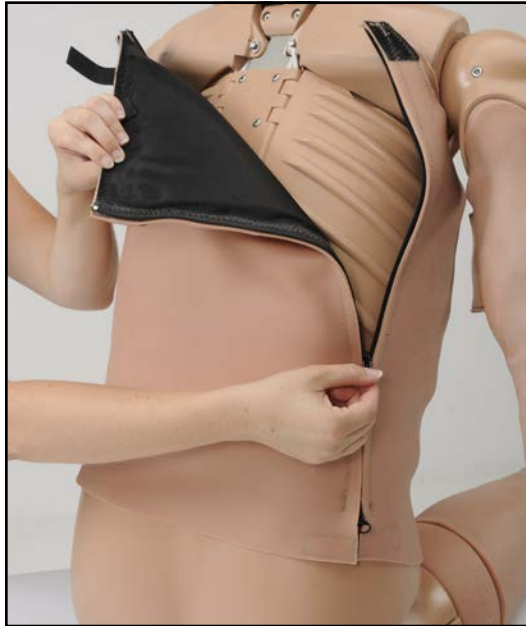
Unzipping the Torso Skin

4. Detach the hook-and-loop fasteners on the left and right sides of the simulator below the torso side zippers.

5. Unclip the clip fasteners on the left and right sides of the simulator's torso to remove the torso skin.

NOTE: To reduce the amount of wear on the skin membrane, only remove the skin to the extent necessary. For example, to replace the IV tubing in the arm, only remove the arm skin to expose the IV tubing in the forearm, leaving the skin in place over the hand and wrist.

Changing the Needle Decompression Cartridge

To change the needle decompression cartridge:

1. Ensure that a scenario is not running and the Caesar simulator is powered off.

2. Remove the simulator's clothing and follow the chest skin removal procedure (see *Removing the Chest Skin on page 163*).

3. Locate the cartridges on the upper left and right quadrants of the chest.

4. Remove the cartridge by pulling on the straps attached to the cartridge.

Pulling the Cartridge

5. Push the new cartridge into the opening, ensuring the straps remain accessible, until it is flush with the chest. New cartridges are included in the Inventory Kit

Pushing the Cartridge

6. Replace the skin and clothing.

Recommended Clinical Supply Sizes

The following clinical supply sizes are recommended for use with the simulator. Other sizes may cause damage and should not be used.

Clinical Supply	Recommended Size
ETT	7 mm
LMA Unique	#3
King LTS-D LT-D	#4
Combitube	37 Fr
IV Cannula	16 gauge
Needle Decompression	14 gauge 6 cm

The Ischemic Index (Death Spiral)

The Ischemic Index is a measure of the myocardial ischemia modeled using classical determinants. When an unfavorable oxygen supply/demand ratio occurs, myocardial ischemia follows. The lower the Ischemic Index, the greater the myocardial ischemia. The Ischemic Index is derived through the underlying physiological models and cannot be measured clinically.

Favorable supply/demand ratios (slower heart rates, higher blood oxygenation levels) generally result in a higher Ischemic Index value, whereas unfavorable supply/demand ratios (faster heart rates, lower blood oxygenation levels) generally result in a lower Ischemic Index value.

The patient's Ischemic Index value can be viewed by selecting the Ischemic Index widget from the Patient Status Display.

The table below lists Ischemic Index values and their corresponding patient conditions.

Model-Driven ECG Rhythm	Ischemic Index (I.I.)
Normal Sinus Rhythm (NSR)	I.I. ≥ 0.90
Mild ST Segment Depression	0.90 > I.I. ≥ 0.70
Moderate ST Segment Depression	0.70 > I.I. ≥ 0.60
Premature Ventricular Contractions (PVCs)	0.60 > I.I. ≥ 0.40
Ventricular Tachycardia (VTach)	0.40 > I.I.
Ventricular Fibrillation (VFib)	1 minute after VTach
Asystole	1 minute after VFib

The patient's response to myocardial ischemia may be altered using the **Ischemic Index Sensitivity** parameter found in the **Cardiovascular** view (Additional Parameters). To make the patient less sensitive to ischemia, lower the value below the default setting. To make the patient more sensitive, increase the value above the default setting.

Appendix A – Condition Guidelines for Programming Caesar with Müse

This section is intended to help you select Müse conditions to achieve desired vital signs within each programmed state. All four conditions should be programmed into each state in the order presented below:

Respiratory: Desaturation

Cardiovascular: Blood Pressure

Cardiovascular Heart Rate

Respiratory: Respiratory Rate

The Müse software is physiologically driven. When using multiple conditions (e.g., Desaturation + Hypertension + Tachycardia + Tachypnea), physiological regulatory mechanisms such as the baroreceptor reflex and ventilatory control cause compensatory changes within parameters. To achieve the desired vital sign, select one condition level, above (greater) or below (less), to achieve the desired physiological effect.

Respiratory: Desaturation

Desaturation	SpO$_2$ Value
Reset	98%
High 90s	96-97%
Mid 90s	94-96%
Low 90s	91-93%
High 80s	87-90%
Mid 80s	84-86%
Low 80s	80-83%
High 70s	77-80%
Mid 70s	74-77%
Low 70s	69-71%
Less than 70	<69%

Cardiovascular: Blood Pressure

Hypertension		Hypotension	
Reset	110s/70s	Reset	110s/70s
Increased	120s/80s	Decreased	100s/70s
Pre-Borderline	130s/80s	Pre-Borderline	100s/60s
Borderline	140s/90s	Borderline	90s/50s
Mild	150s/90s	Mild	80s/40s
Moderate	160s/100s	Moderate	70s/40s
Severe	170s/100s	Severe	60s/30s
Profound	190s/110s	Profound	50s/30s
Extreme	220s/120s	Extreme	40s/30s

Cardiovascular: Heart Rate

Tachycardia		Bradycardia	
Reset	70s	Reset	70s
Increased	High 70s	Decreased	Mid 60s
Elevated	80s	Pre-Borderline	Low 60s
Pre-Borderline	90s	Borderline	Mid 50s
Borderline	100s	Intermediate	Low 50s
Intermediate	110s	Mild	High 40s
Mild	120s	Moderate	Mid 40s
Moderate	130s	Severe	Low 40s
Severe	140s	Extreme	Mid 30s
Supra	150s	Acute	Low 30s
Profound	160s		
Extreme	170s		
Acute	High 170s		

Respiratory: Respiratory Rate

Tachypnea		Bradypnea	
Reset	11	Reset	11
Increased	15	Increased	10
Elevated	18	Intermediate	9
Borderline	20	Mild	7
Intermediate	22	Moderate	6
Mild	25	Severe	5
Moderate	28	Profound	3
Severe	31	Extreme	2
Profound	33		
Extreme	36		

Appendix B – Müse Parameter Descriptions

The Müse software has a number of parameters that control the physiological features of the CAEsar simulator. The parameters are grouped by category: Neurological, Respiratory, Cardiovascular, Fluids and Sounds. Each screen lists the Basic parameters by default. The following is a brief description of each parameter. Each parameter description lists the default settings for the Stan D. Ardman and Norma L. Female patients as well as the ranges, if available, for all patients.

Neurological

The CAEsar simulator can simulate a variety of neurological clinical indicators.

Neurological Parameters
Eyes: Pupil Control
Eyes: Blink Speed
NMB

Eyes

Each eye has pupils that constrict and dilate and eyelids that blink and close.

Eyes: Pupil Control

These parameters are used to control the pupils in the eyes. Each eye has changeable pupils and functional eyelids that blink.

Currently, there are four pupil options that are used to control the diameter of the pupils in both eyes: Modeled, Constricted, Dilated and Blown.

If the Eyes are set to **Modeled**, the pupils are set to a normal size. Other settings allow the user to fix one or both pupils to a specific size.

> **Default:** Modeled

Eyes: Blinking

In **Auto** mode, the eyelids are normally blinking under the following conditions: Minute Ventilation is greater than 1500 mL, SpO_2 is greater than 70% and neuromuscular blockade (NMB) is less than 30%.

The **Blinking** and **Closed** settings allow the user to have one or both eyes either blinking or closed and override the automatic response.

> **Default:** Auto

The **Slow**, **Normal** and **Fast** parameters control the eyelid blinking frequency. Presently, blinking frequency is not linked to the physiological models. However, the response can be done "on the fly" or scripted using the Scenario Designer.

> **Default:** Normal

Neuromuscular Blockade (NMB)

The pharmacokinetic and pharmacodynamic models based on the neuromuscular blocking agents administered and the time course of their injection automatically determines the degree of NMB. For some educational applications, however, the instructor may wish to set a fixed degree of neuromuscular blockade that remains stable for an indefinite period. This can be accomplished using the **NMB** parameter. The default setting instructs the pharmacologic models to determine the degree of neuromuscular blockade based upon the drugs injected and their pharmacologic properties.

When a numeric value is assigned to this parameter, the degree of NMB is set to that level. For example, 80% NMB causes the simulator to set the degree of NMB to 80%, regardless of the presence (or absence) of neuromuscular blocking drugs. Clinically, the spontaneous tidal volume is markedly reduced.

> **Default**: Modeled

> **Range**: 0% - 100%

Respiratory

Respiratory Parameters
Upper Airway Obstruction
Needle Decompression
Bronchial Occlusion (Left and Right)
Respiratory Rate
SpO$_2$
NMB
Tidal Volume
Intrapleural Volume: Left Intrapleural Volume: Right

Needle Decompression

The **Needle Decompression** parameter is used to activate the **Needle Decompression** hardware in the simulator to relieve a pneumothorax in the simulator. This causes a rush of air to be heard on successful decompression. The amount of decompression is automatically subtracted from the **Intrapleural Volume** set.

> **Default**: Off

NOTE: The **Chest Tube** and **Needle Decompression** features cannot be enabled simultaneously.

Bronchial Occlusion (Left and Right)

Turning on the **Bronchial Occlusion** parameter completely obstructs the right or left bronchi, simulating a lower airway obstruction (e.g., mucus plug). Right and left bronchi can be occluded individually.

> **Default:** Off

Respiratory Rate

The **Respiratory Rate** parameter is used to set the respiratory rate to a given number of breaths per minute. Once set, arterial oxygen and carbon dioxide values have no effect on the resulting respiratory rate, but continue to influence other components of the physiological models. The patient continues to breathe at the set number of breaths-per-minute, regardless of the arterial oxygen or carbon dioxide levels.

For example, when the respiratory rate is set to 10 breaths per minute, the respiratory rate remains at 10 breaths per minute, regardless of arterial oxygen or carbon dioxide levels. In such situations, the patient can only respond to arterial oxygen or carbon dioxide levels by adjusting the **Tidal Volume** parameter.

> **Default**: Modeled
>
> **Range**: 4 breaths per minute - 40 breaths per minute

SpO$_2$

The SpO$_2$ parameter is used to override the normal pulmonary circulation and set the SpO$_2$ at a fixed numeric value, regardless of the oxygen applied. Resetting to Modeled returns control of the underlying SpO$_2$ to the physiological models.

> **Default:** Modeled
>
> **Range:** 0% - 100%

Neuromuscular Blockade (NMB)

The pharmacokinetic and pharmacodynamic models based on the neuromuscular blocking agents administered and the time course of their injection automatically determines the degree of NMB. For some educational applications, however, the instructor may wish to set a fixed degree of neuromuscular blockade that remains stable for an indefinite period. This can be accomplished using the **NMB** parameter. The default setting instructs the pharmacologic models to determine the degree of neuromuscular blockade based upon the drugs injected and their pharmacologic properties.

When a numeric value is assigned to this parameter, the degree of NMB is set to that level. For example, 80% NMB causes the simulator to set the degree of NMB to 80%, regardless of the presence (or absence) of neuromuscular blocking drugs. Clinically, the spontaneous tidal volume is markedly reduced.

> **Default**: Modeled
>
> **Range**: 0% - 100%

Tidal Volume

The **Tidal Volume** parameter is used to set the tidal volume to a given volume per breath. Once Tidal Volume is set to a numeric value, arterial oxygen and carbon dioxide values have no effect on the tidal volume, but continue to influence other components of the physiological models.

For example, with the tidal volume set to 600 mL in the adult simulator, the tidal volume remains a constant (set) 600 mL even in the event of falling arterial oxygen levels. In such situations, the patient can only respond to arterial oxygen or carbon dioxide levels when the respiratory rate is adjusted.

> **Default**: Modeled
>
> **Range**: 0 mL- 2500 mL

Intrapleural Volume (Vol): (Left and Right)

The **Intrapleural Vol** parameters allow intrapleural volume to accumulate, for example, as happens during pneumothorax, hydrothorax or hemothorax.

To simulate a pneumothorax, set the corresponding **Intrapleural Vol** to a value greater than 0 mL. Values more than 1500 mL reduce the corresponding lung volume significantly. The breath sounds are automatically diminished on the appropriate side due to decreased ventilation of the affected lung.

> **Default**: 0
>
> **Range**: 0 mL - 2500 mL

Cardiovascular – Basic Parameters

Cardiovascular Parameters – Basic
Blood Pressure
Heart Rate
Heart Rate Factor
Cardiac Rhythm
Defib
Pacing Current
Pacing Rate
Pacing Capture Threshold

Blood Pressure

The Blood Pressure parameter is used to override the physiological modeling for blood pressure. The systolic and diastolic blood pressures can both be set to fixed numeric values, regardless of interventions performed. Resetting the parameter to Modeled returns control of the underlying Blood Pressure to the physiological models.

>   **Default:** Modeled
>
>   **Range:** Systolic 20 mmHg - 300 mmHg
>
>   Diastolic 10 mmHg - 300 mmHg

Heart Rate

The **Heart Rate** parameter is used to set the heart rate to a given (fixed) number of beats per minute. Once the heart rate is set to a numeric value, administered drugs or intravascular volume changes have no effect on the heart rate, but continue to influence other components of the physiological models. Use this parameter to "fix" or set the heart rate to a specific number.

>   **Default**: Modeled
>
>   **Range**: 30 beats per minute - 220 beats per minute

Heart Rate Factor

The **Heart Rate Factor** parameter is used to change the baseline heart rate before physiological controls are taken into account. A value of 2 doubles the baseline heart rate, while a value of 0.5 decreases the heart rate by 50%. Use this parameter to raise or lower the heart rate.

>   **Default**: 1
>
>   **Range**: 0.10 - 4.00

Cardiac Rhythm

The **Cardiac Rhythm** parameter is used to change the patient's underlying cardiac rhythm displayed on the Patient Status Display, TouchPro software or patient monitor. To change the cardiac rhythm, click the **Cardiac Rhythm** parameter and select the desired rhythm from the available list. If a number appears following the cardiac rhythm on the list, this overrides the heart rate to the rate indicated.

Default: Modeled

Options: Modeled
Asystole
Atrial Fibrillation
Atrial Fibrillation: HR 80
Atrial Fibrillation: HR 120
Atrial Flutter
Atrial Flutter: HR 150
Bundle Branch Block: Left
Bundle Branch Block: Left with PVCs
Bundle Branch Block: Right
Mobitz Type I: Wenckebach
Mobitz Type II
Myocardial Ischemia: Mild
Myocardial Ischemia: Moderate
Myocardial Ischemia: Moderate with PVCs
Myocardial Ischemia: Severe
Normal Junctional
Normal Junctional: HR 50
Paroxysmal Junctional Tachycardia
Paroxysmal Junctional Tachycardia: HR 130
PEA: Pulseless Electrical Activity
Sinus
Sinus Tachycardia
Sinus Tachycardia: HR 120
Sinus Bradycardia
Sinus Bradycardia: HR 40
Sinus with PAC
Sinus with PVCs: 10%
Sinus with PVCs: 25%
ST Elevation with Chest Pain
Third Degree AV Block
Ventricular Fibrillation: Coarse
Ventricular Fibrillation: Fine
Ventricular Tachycardia
Ventricular Tachycardia: HR 151
Ventricular Tachycardia: Pulseless
Ventricular Tachycardia: Pulseless HR 151

Defibrillation (Defib)

The **Defib** parameter is used to simulate a specified amount of energy discharged via an external cardiac defibrillator. Setting this parameter results in the characteristic spike in the ECG, followed by a return to the pre-defibrillation rhythm. **Defib** has no direct effect on the electrical conduction system of the heart. Thus, synchronized cardioversion may be done "on the fly" or scripted using the Scenario Designer.

> **Default**: 0 Joules
>
> **Range**: 0 Joules- 360 Joules

Pacing Current

The **Pacing Current** parameter is used to simulate a specified amount of current discharged via an external cardiac pacer. Setting this parameter results in the characteristic pacing signal on the ECG waveform when the pacing current is at or above the capture threshold. Also, see **Pacing Capture Threshold**.

> **Default**: 0 mA
>
> **Range**: 0 mA- 200 mA

Pacing Rate

The **Pacing Rate** parameter determines the cardiac rate (in beats/minute) when the pacing current is at or above the pacing capture threshold. Also, see **Pacing Current** and **Pacing Capture Threshold**.

> **Default**: 80 beats per minute
>
> **Range**: 0 beats per minute - 119 beats per minute

Pacing Capture Threshold

The **Pacing Capture Threshold** parameter determines the minimum pacing current necessary to pace the heart via an external cardiac pacer. Also see **Pacing Current**. Pacing current values below the pacing capture threshold have no effect on the patient's heart rate.

> **Default**: 50 mA
>
> **Range**: 0 mA - 119 mA

Pulses

The table below shows the defaults and ranges for the pulses and pulse deficits for CAEsar.

Pulse	Default	Range
Carotid (Left and Right)	On	N/A
Carotid Deficit	60	0 - 300
Left Radial	On	N/A
Right Radial	On	N/A
Radial Deficit	90	0 - 300
Left Femoral	On	N/A
Right Femoral	On	N/A
Femoral Deficit	70	0 - 300
Left Popliteal/Pedal	On	N/A
Right Popliteal/Pedal	On	N/A
Popliteal/Pedal Deficit	80	0 - 300

All pulses, unless altered by an SCE, are enabled by default. To disable a pulse, click the pulse location on the human form. To enable a pulse, click the pulse location again. Click and hold a pulse location to adjust the pulse deficit.

Appendix C - Base Patients

The following pages describe the standard Müse base patients.

Stan D. Ardman II

Stan D. Ardman II is a healthy 33-year-old male. He demonstrates a HR in the 70s, BP in the 110s/70s, RR in the teens and SpO_2 in the upper 90s on room air. The patient's cardiac rhythm is model-driven normal sinus. Heart sounds are normal, breath sounds are clear in all lung fields and bowel sounds are normal in all four quadrants. The patient's weight is 70.0 kg.

Norma L. Female

Norma L. Female is a healthy 33-year-old female. She demonstrates a HR in the 70s, BP in the 110s/70s, RR in the teens and SpO_2 in the upper 90s on room air. The patient's cardiac rhythm is model-driven normal sinus. Heart sounds are normal, breath sounds are clear in all lung fields and bowel sounds are normal in all four quadrants. The patient's weight is 66.0 kg.

GI Stan
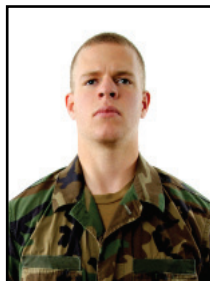
GI Stan is a healthy 20-year-old male soldier. He demonstrates a HR in the 80s, BP in the 100s/70s, RR in the low teens and SpO_2 in the upper 90s on room air. The patient's cardiac rhythm is model-driven normal sinus. Heart sounds are normal, breath sounds are clear in all lung fields and bowel sounds are normal in all four quadrants. The patient's weight is 85.0 kg.

Appendix D - Activating and Deactivating Müse

Current versions of the Müse software require activation. When you receive your Instructor Workstation for the first time, Müse has already been activated. However, if you have an older Instructor Workstation (prior to the release of Müse build 167), the version of Müse installed on it does not require activation. When you update to a newer version of Müse, you will need to activate your software.

Müse can be used for 30 days without activation. At the end of the 30 days, Müse must be activated for continued use.

Once installed and activated, if the Müse software needs to be transferred to a different Instructor Workstation, the Müse software on the old Workstation must be deactivated before the new Workstation can be activated.

IMPORTANT: Müse for Caesar Instructor Workstations CANNOT be activated or deactivated online. Please use only the offline process shown on the following pages.

Activating Müse

To activate Müse on an Instructor Workstation:

1. Launch Müse.

2. From the Müse start screen, click the License Manager link.

Click **License Manager**
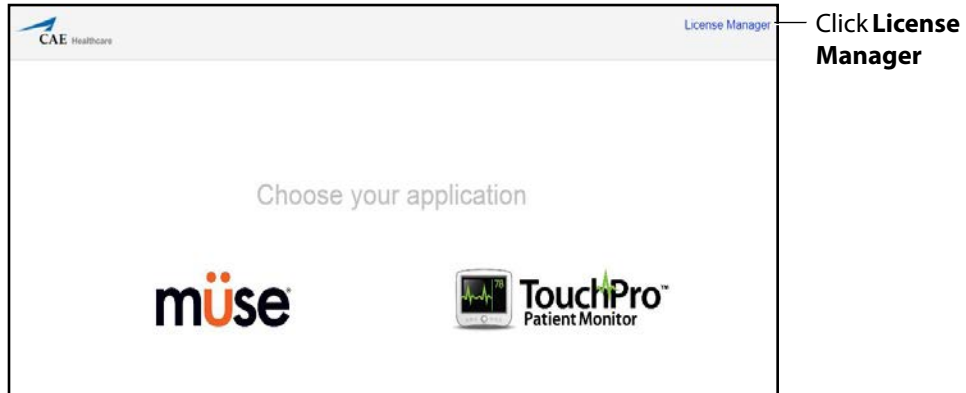
The Müse Start Screen

The License Manager appears.
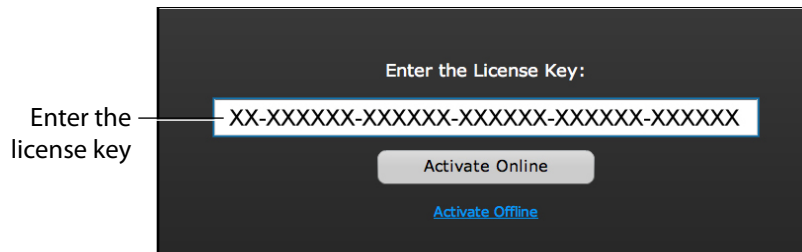
3. Click the **Enter New License** link.

Click **Enter New License**

The License Manager

The Product Activation screen appears.

4. Enter the license key provided by CAE Healthcare.

Enter the license key
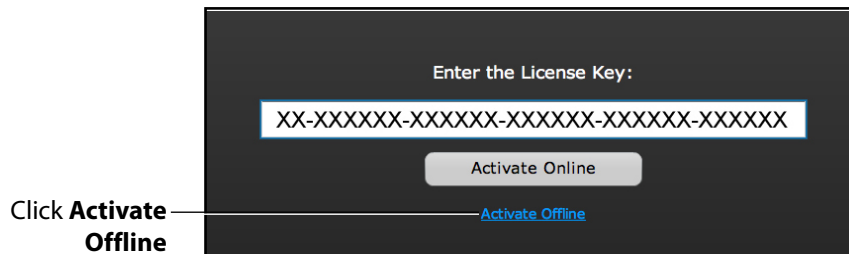
> **Enter the License Key:**
>
> XX-XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX
>
> Activate Online
>
> Activate Offline

The Product Activation Screen

5. Click the Activate Offline link.

> **Enter the License Key:**
>
> XX-XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX
>
> Activate Online
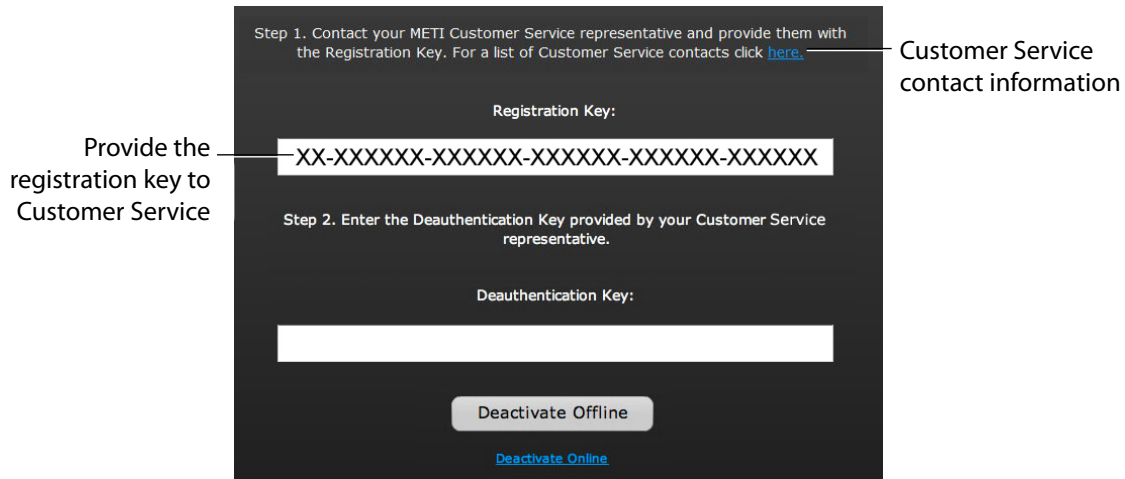>
> Activate Offline

Click **Activate Offline**

The Product Activation Screen

The **Registration Key** and **Authentication Key** fields appear.

6. Call or email CAE Healthcare Customer Service and provide the registration key, which is pre-populated in the Registration Key field.

    For CAE Healthcare Customer Service contact information, click the Customer Service link near the top of the Product Activation screen. When contacting Customer Service, please be sure to indicate whether you are requesting Activation or Deactivation.

> Step 1. Contact your METI Customer Service representative and provide them with the Registration Key. For a list of Customer Service contacts click here.
>
> **Registration Key:**
>
> XX-XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX
>
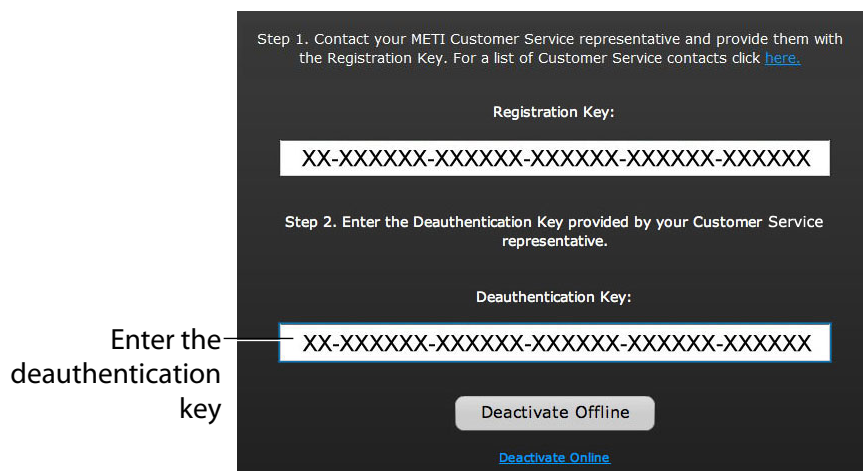> Step 2. Enter the Authentication Key provided by your Customer Service representative.
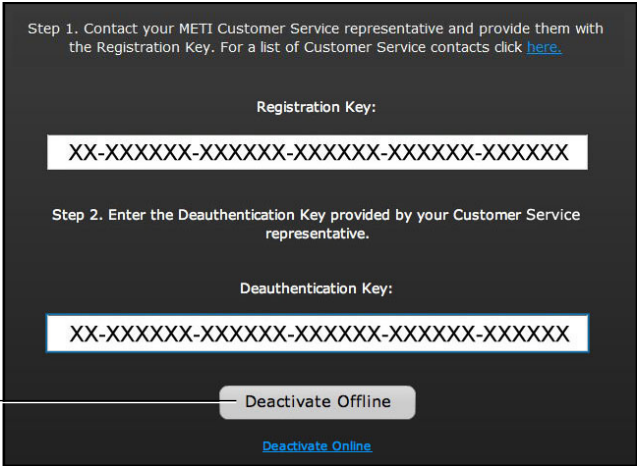>
> **Authentication Key:**
>
> Activate Offline
>
> Activate Online
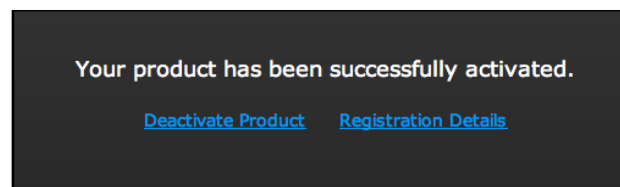
Customer Service contact information

Provide the registration key to Customer Service

The Registration Key

7. In the Authentication Key field, enter the authentication key provided by CAE Healthcare Customer Service.

Enter the authentication key

The Authentication KeyClick the Activate Offline button.

Click **Activate Offline**

The Activate Offline Button

The successful activation message appears.

The Successful Activation Message

NOTE: It may take up to one minute after the activation process for activation to take effect.

Deactivating Müse

To deactivate Müse on an Instructor Workstation or SCE Development Workstation offline:

1. From the Müse start screen, click the **License Manager** link.

Click **License Manager**
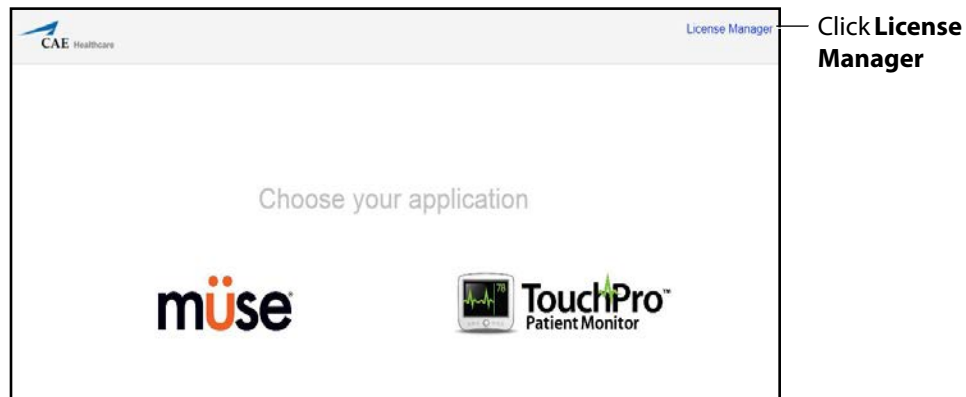
The Müse Start Screen

The License Manager appears.

2. From the License Manager, make a note of the license key to be deactivated. This license key will be needed to activate the new Instructor Workstation.

Make a note of the license key
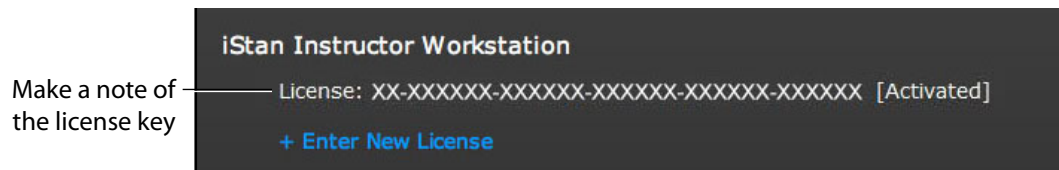
The License Manager

3. Click the license key to be deactivated.

Select the license key
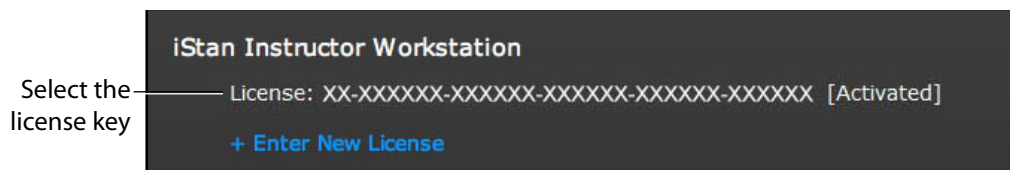
The License Manager

The Product Activation screen appears.

4. Click the **Deactivate Product** link.

Click **Deactivate Product** —

Your product has been successfully activated.

Deactivate Product   Registration Details
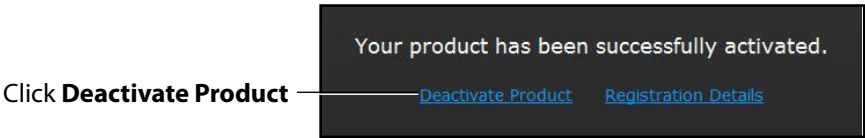
The Product Activation Screen

The Product Deactivation screen appears. The license key field is pre-populated.

5. Click the **Deactivate Offline** link.

Warning: Once you deactivate this product you will not be able to use it on this computer until you activate it again.

License Key

XX-XXXXXX-XXXXXX-XXXXXX-XXXXXX-XXXXXX

Cancel   Deactivate Online

Click **Deactivate Offline** —   Deactivate Offline

The Product Deactivation Screen

The **Registration Key** and **Deauthentication Key** fields appear.

6. Call or email CAE Healthcare Customer Service and provide the registration key, which is pre-populated in the Registration Key field.

   For CAE Healthcare Customer Service contact information, click the Customer Service link near the top of the Product Activation screen. When contacting Customer Service, please be sure to indicate whether you are requesting Activation or Deactivation.

The Registration Key

7. In the Deauthentication Key field, enter the deauthentication key provided by Customer Service.

The Deauthentication Key

8. Click the **Deactivate Offline** button.

Click **Deactivate Offline**

The Deactivate Offline Button

A confirmation key appears.Provide the confirmation key to Customer Service.

The confirmation key

The Confirmation Key

IMPORTANT: You MUST complete this step in order to complete your product deactivation. If you do not complete this step, you will be unable to activate a new Instructor Workstation in place of the old Instructor Workstation.

9. Click **Complete**.

Click **Complete** ─────
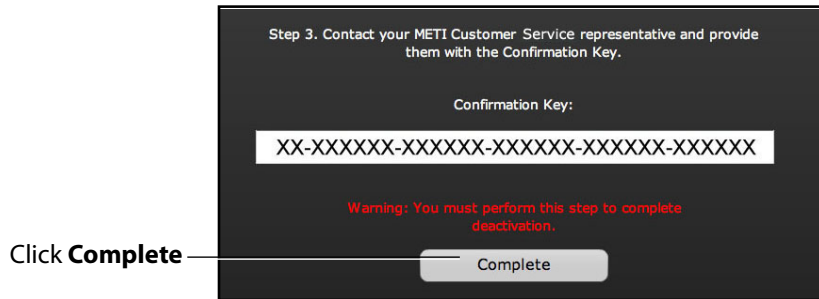
The Complete Button

The successful deactivation message appears.

The Successful Deactivation Message

NOTE: It may take up to one minute after the deactivation process for deactivation to take effect.

The workstation has been deactivated.