



# CAE Juno

## User Guide

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# CAUTIONS AND WARNINGS

It is important to read and understand these cautions and warnings before you use the Product.

**Note:** Any cautions about Electrical Safety or Battery-related information do not apply to Juno Basic.

## Electrical Safety

**IMPORTANT:** Do not use the product in any manner other than specified, as safety features designed for protection may be impaired.

- This product must be connected to an electrical outlet that is properly grounded. Take precaution to ground or polarize correctly.
- Connect only to a 100-240 VAC 50/60Hz power source.
- Always use only the supplied power supplies, cords, and connectors. Do not substitute.
- Always use the supplied power adapter to run the simulator from AC.
- Do not allow excess fluids to flow on or into electronic parts.
- Do not attempt to disassemble the simulator or service any of the electrical components without receiving instructions from Customer Service.
- Do not operate the manikin in rain. Apply water to the manikin only in accordance with the supported clinical procedures explained in this guide.

## Product Use Warnings

### Manikin

- Make sure the manikin is set up on a stable, sturdy work surface that will not collapse and cause injury to users.
- Operate the manikin in ambient temperatures below 104°F (40°C).

**Note:** This only applies when using the manikin without the tablet where CAEMaestro software is installed. For information about temperature ranges for the tablet, see *Ambient Temperature Range* in the *Specifications* section of this User Guide.

- Do not place foreign substances into the airway, with the exception of small amounts of approved lubricant. Only perform invasive procedures supported by the Product as described in the applicable sections of the User Guide.
- Do not insert any materials into the manikin except the equipment or probes supplied.
- Do not lift the manikin by its limbs. Support the head and lift it from the torso. If necessary, have another person help you lift and move the manikin using a patient transfer device such as a patient transfer board, when available.

- Keep the manikin plugged in between training sessions due to a slow drain of the battery that occurs.
- Under normal circumstances, unplugging the external DC power used for powering and charging the manikin is not necessary because the charging stops when the battery is full. A topping charge is only applied when the battery voltage drops to a certain level.
- Do not spill fluids over the manikin’s chest, abdomen, or inside the manikin’s torso. This could damage the system and may also present a possible hazard for the operator. Special attention should be taken while using the the various fluid features.
- Do not use the manikin or equipment in locations where children are likely to be present.

## Fluids System

For manikins such as Juno that are equipped with fluid systems:

- Do not modify the reservoirs or any assembly component.
- Always protect your eyes, skin, and clothing against accidental exposure.

## Battery

Manikins and tablets use lithium batteries that all have special handling requirements to avoid hazardous situations.

For more information about battery specifications, see the *Specifications* section. For more information about battery safety, see the *Battery Safety Information* section.

## Simulator Batteries

<b>Manufacturer</b>	RRC power solutions GmbH Technologiepark 1, D-66424 Homburg-Saar, Germany Mail: <a href="mailto:info@rrc-ps.de">info@rrc-ps.de</a>
<b>Emergency phone number</b>	+49 6841 9809-0 (8.00 – 16.00, MEZ), or contact your national poison information center.

- Always store the polymer lithium-ion battery pack indoors.
- Always keep the battery away from objects or materials with static electric charges.
- Batteries can be charged while the manikin is between 32°F (0°C) and 113°F (45°C).
- Do not store, use or charge the battery inside of an automobile as temperatures can exceed 176°F (80°C).



## Battery Replacement

- If the simulator battery power diminishes significantly, contact Customer Service to replace the battery. For safety, only replace the battery with an approved make and model.
- Before disposing of a simulator battery, apply vinyl tape to its positive (+) and negative (-) terminals to avoid short circuits.
- If a simulator battery needs to be replaced, immediately remove the old battery from the equipment to ensure no damage occurs.
- Do not dispose of the simulator battery into a fire. Dispose of or recycle batteries responsibly.

## Battery Safety Information

For information about battery specifications, see the *Specifications* section of this user guide.

**Important:** Refer to the battery manufacturer's Safety Data Sheet (SDS) for complete safety instructions and handling information.

## Precautions for Handling

Hazards are associated with the contents of the cell or battery. Under recommended use conditions, the electrode materials and liquid electrolyte are non-reactive, as long as the cell or battery integrity remains, and the seals remain intact.

Potential exposure should not exist unless the cell or battery:

- leaks,
- is exposed to high temperatures,
- is mechanically, electrically or physically abused/damaged.

If the cell or battery is compromised and starts to leak, based upon the battery ingredients, the contents are classified as hazardous. In general, if liquid leaks from the battery or foul odor is detected, DO NOT use the battery and keep it away from heat or flame.

- Avoid short circuiting the battery. Do not store with coins, screws or other similar objects.
- Do not immerse in water.
- Do not disassemble or deform the battery.
- Do not expose to, or dispose of the battery in fire.
- Avoid excessive physical shock or vibration.
- Keep out of the reach of children.
- For rechargeable batteries, the battery must be charged in an approved charger.
- Never use a modified or damaged charger.
- Store in a cool, dry, and well-ventilated area.
- Never use a battery that has been damaged or deformed.
- Do not short-circuit the positive (+) and negative (-) terminals.
- Do not place the battery in a device with the positive (+) and negative (-) terminals in the wrong positions.
- Do not solder a battery directly.

## Potential Health Effects

- **Acute (short term):** In the event that the cell or pack ruptures, the electrolyte solution contained within the cell will corrode and can cause burns to skin and eyes.
- **Inhalation:** Inhaling materials from a sealed cell is not an expected route of exposure. Vapors or mists from a ruptured cell can cause respiratory irritation.
- **Ingestion:** Swallowing materials from a sealed cell is not an expected route of exposure. Swallowing the contents of an open cell can cause serious chemical burns to mouth, esophagus, and gastrointestinal tract.
- **Skin:** Contact between the cell and skin will not cause any harm. Skin contact with the contents of an open cell can cause severe irritation or burns to the skin.
- **Eye:** Contact between the cell and the eye will not cause any harm. Eye contact with the contents of an open cell can cause severe irritation or burns to the eye.
- **Interactions with other chemicals:** Immersion in high conductivity liquids can corrode or breach the cell or battery enclosure. The electrolyte solution inside of the cells can react with alkaline (basic) materials and present a flammability hazard.

### Safety Measures

Review the precautions for handling before replacing a battery utilizing guidance from CAE.

Should exposure to hazardous battery components occur, or in the event of a fire, follow all local first aid measures and safety protocols.

### Transport Information

CAE complies with the most current International Air Transport Association (IATA) Dangerous Goods Regulations when transporting and shipping Li-ion batteries. The following terms are defined as follows:


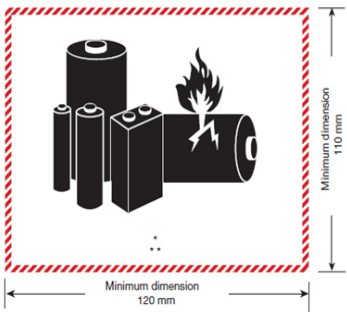
**Consignment** - Equivalent to the term "shipment," meaning one or more packages of hazardous materials accepted from one shipper at one time and at one address, receipted in one lot, and moving to one consignee at one destination address.

**Equipment** - The device or apparatus for which the lithium cells or batteries will provide electrical power for its operation.

It is the shipper's responsibility to ensure that the consignment is packed in compliance to the latest edition of the applicable regulations. Regulations require appropriate training for shipping dangerous goods. Shipping regulations and requirements may vary depending upon:

- Wattage of the battery.
- Whether the battery is shipped independent of, contained within, or packed with the equipment.

When transporting batteries CAE follows these documentation and labeling requirements:

	Item	Description
	Batteries Shipped Independent of the Manikin, Tablet, and Laptop	Batteries contained in or packed with the Manikin, StethoSym, Tablet, Laptop, and HoloLens
UN No.	3480	3481
UN Shipping Name:	Lithium-ion Batteries	Lithium-ion Batteries
Transport Hazard Class:	9	9
Labeling:		 <p>Lithium battery mark</p> <p>* Place for UN number(s)</p> <p>** Place for telephone number for additional information</p>

# SPECIFICATIONS

All hardware and software needed for operating the simulator are provided with the shipment. In the event there is a need to extend the instructor tablet to other manikins or computers, contact CAE Healthcare for further instructions.

## Size and Weight

Equipment	Size	Weight
<b>Manikin/Simulator</b>	69" H x 22" W x 15" D (175 cm x 56 cm x 38 cm)	48.5 lbs (22 kg)
<b>Instructor Tablets</b>	<b>Galaxy S3</b> 9.34" H x 6.65" W x 0.24" D (2.4 cm x 32.5 cm x 22.7 cm)	<b>Galaxy S3</b> 15.1 oz (429 g)
	<b>Surface Go</b> 9.65" x 6.9" x 0.33" (24.5 cm x 17.5 cm x 0.83 cm)	<b>Surface Go</b> 1.15 lb (522g)

## Ambient Temperature Range

Item	Operation	Storage	Relative Humidity
<b>Manikin/Simulator</b>	40°F to 104°F (4°C to 40°C)	40°F to 122°F (4°C to 50°C)	0% to 90% non-condensing
<b>Tablet</b>	50°F to 95°F (10°C to 35°C)	-13°F to 113°F (-24°C to 45°C)	0% to 90% non-condensing

## Maximum Altitude

Item	Operation	Storage	Shipping
<b>Tablet</b>	10,000 ft (3,048 m)	15,000 ft (4,572 m)	35,000 ft (10,668 m)

## Rechargeable Battery

Item	Description
<b>Commercial product name</b>	RRC2054 <b>Note:</b> Juno Basic does not contain batteries
<b>Additional Information</b>	<b>Battery-System:</b> Lithium-ion <b>Nominal Voltage:</b> 14.4 V <b>Nominal Capacity per battery:</b> 3.40 Ah

## Power

Item	Description
<b>Power Adapter</b>	<ul style="list-style-type: none"> <li>AC Input: AC 100 – 240 VAC, 50/60 Hz</li> <li>DC Output: 19 VDC</li> <li>Consumption: Maximum 60 W (charging), 25 W (charged), Typical 13 W</li> </ul>
<b>Manikin/Simulator</b>	<ul style="list-style-type: none"> <li>Internal Batteries: Rechargeable</li> <li>Run Time: 3 hours (typical)</li> </ul>
<b>Tablet</b>	<ul style="list-style-type: none"> <li>Input: 5 V</li> <li>Non-removable Battery: 6000 mAh battery</li> <li>Run Time: 2 to 4 hours (typical)</li> </ul>
<b>Patient Monitor</b>	<ul style="list-style-type: none"> <li>See the product's user guide for power specifications.</li> </ul>
<b>Manikin/Simulator Power Adapter</b>	<ul style="list-style-type: none"> <li>AC Input: AC 100 – 240 VAC, 50/60 Hz</li> <li>DC Output: 19 VDC</li> <li>Consumption: Maximum 60 W (charging), 25 W (charged), Typical 13 W</li> </ul>

## Communications

Item	Description
<b>Simulator Network</b>	<ul style="list-style-type: none"> <li>Wired: 10/100 Ethernet</li> <li>Wireless: IEEE 802.11 g</li> </ul>

# SYSTEM REQUIREMENTS

This section describes the minimum and optimal requirements to run the simulator.

## Software and Hardware

Any computer (or tablet) used to operate the Maestro or Patient Monitor software must meet **minimum** hardware and software requirements. However, optimal requirements should be met to enhance performance. These requirements also apply to devices running Maestro Standalone.

## CAEMaestro Software

The following table identifies the software version associated with the release of this user guide.

Document	Document Version	Software Version
Maestro for Juno	905K600552 v2.3	CAE Maestro v2.12
Juno User Guide	905K600152 v1.5	CAE Maestro v1.3 - 2.12

**Note:** There are periodic system updates for Maestro that can be downloaded from any device with an Internet connection. The updates are available at: <https://www.caehealthcare.com/support/software-updates/>

## Windows<sup>®</sup> Operating System

Minimum Requirements	
<b>Software</b>	<ul style="list-style-type: none"> <li>Win 10 Pro</li> <li>.NET 4.8</li> </ul>
<b>Hardware</b>	<ul style="list-style-type: none"> <li>Surface Go 2</li> <li>Intel Pentium Gold Processor 4425Y</li> <li>4 GB DDR3 RAM</li> <li>32 GB Hard Drive space available</li> <li>1920x1280 screen resolution</li> <li>USB-C</li> <li>Wireless 802.11 a/b/g/n/ac/ax</li> </ul>

## Approved Devices

<b>Make/Model</b>	<ul style="list-style-type: none"> <li>• Samsung Galaxy Tab S3 / SM-T820 / 9.7 in.</li> </ul>
<b>Software</b>	<ul style="list-style-type: none"> <li>• Android version 7.0</li> <li>• Chrome version 60 or higher</li> </ul>
<b>Hardware</b>	<ul style="list-style-type: none"> <li>• 2.15 GHz Quad-Core</li> <li>• 4 GB LPDDR4 RAM</li> <li>• 10 GB Hard Drive space available</li> <li>• 2048 x 1536 screen resolution</li> <li>• USB (Multipurpose) Port</li> <li>• Wireless 802.11a/b/g/n/ac</li> </ul>

<b>Make/Model</b>	<ul style="list-style-type: none"> <li>• Microsoft Surface Go</li> </ul>
<b>Software</b>	<ul style="list-style-type: none"> <li>• Windows 10</li> <li>• Chrome version 62 or higher (not required for use with Maestro v1.8 or later)</li> </ul>
<b>Hardware</b>	<ul style="list-style-type: none"> <li>• Intel Core 2 Duo, 2.0 GHz</li> <li>• 8 GB DDR3 RAM</li> <li>• 32 GB Hard Drive space available</li> <li>• 1366x768 screen resolution</li> <li>• USB-C Port</li> <li>• Wireless 802.11b/g/n Ethernet card 100BASE-T Ethernet Adapter</li> </ul>

**Note:** Upon installation, the software takes up 1.2 GB of hard drive space. For standalone versions of Maestro, the software can store approximately 30.8 GB of patient record files. If this storage capacity is expected to be maximized, plan for additional hard drive space.



# EQUIPMENT OVERVIEW

The manikin includes standard equipment based on its configuration (Base, Live or Complete).

Optional equipment is available to enhance learning scenarios. For more information, see *Simulator Configurations* in this user guide.

## Standard Equipment and Accessories

Juno comes with standard equipment for each of the three configurations.

Base Configuration Equipment
Full Body Manikin
Articulated Arm
IV Arm
Male and Female Genitalia, and Chest Skins
Male and Female Wigs
Inventory Kit

### Full Body Manikin

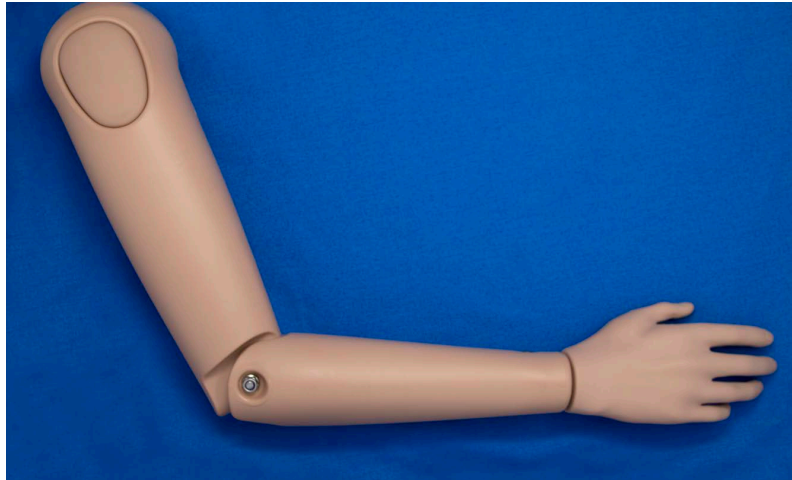
Juno offers a comprehensive, realistic solution for emergency care team training and advanced life support training. This simulator is mobile, lightweight, easy-to-use, and anatomically accurate for better skills proficiency and clinical assessment.



CAE Juno™ Full Body Manikin

## Articulated Arm

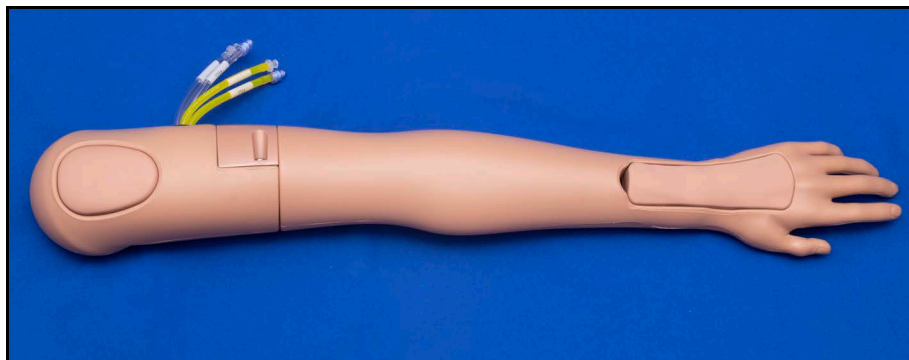
The articulated arm comes with a removable deltoid injection pad for IM injections.



*Articulated Arm*

## IV Arm

The IV arm comes with a removable IM deltoid injection pad.



*IV Arm*

## Male and Female Genitalia, Chest Skins and Wigs

All Juno configurations come with interchangeable male and female genitalia, chest skins, and wigs.



*Female and Male Genitalia and Chest Skins*



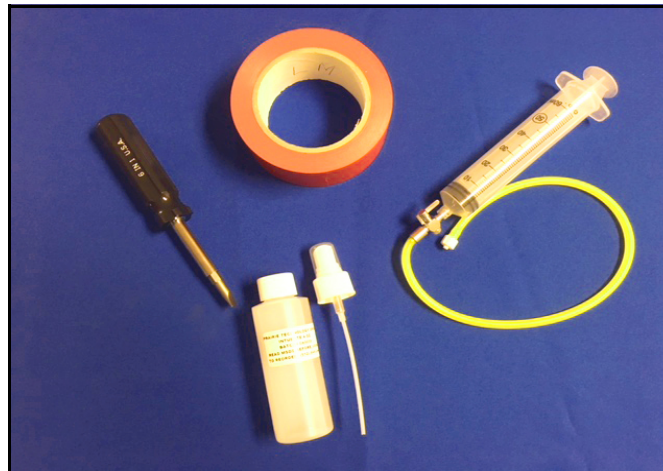
*Male and Female Wigs*

## Tools and Supplies

Additional supplies are included with the simulator.



*IO Pad, Gown, and Arm Sleeves*



*Screwdriver, Tape, Laryngospasm Assembly, and Lubricant*

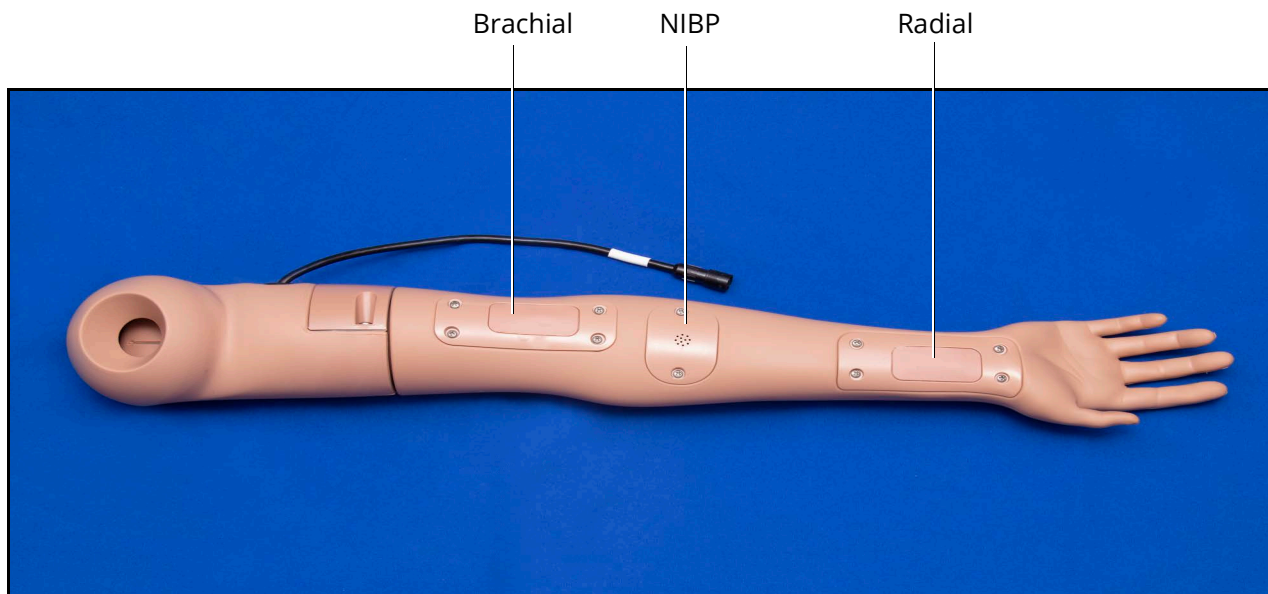
# Live and Complete Configurations

Live and Complete configurations come with Base configuration equipment in addition to the equipment listed in the following table:

Live and Complete Configuration Equipment
NIBP and Pulse Arm
Electronics Live Box
SymEyes
CAE Maestro Command and Control Software
Surface Go Tablet (Complete only)

## NIBP and Pulse Arm

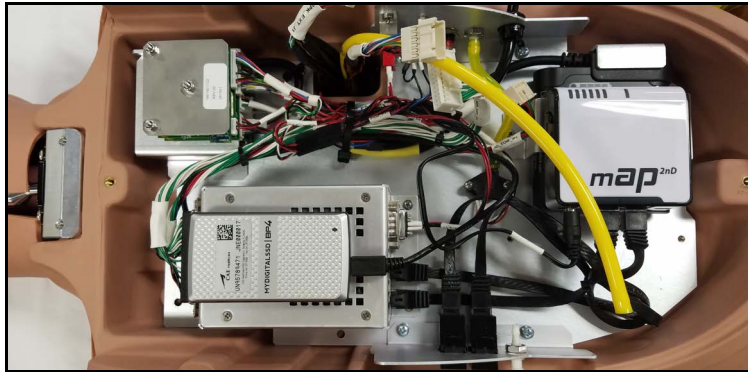
The Live NIBP and Pulse arm allows learners to practice Non-Invasive Blood Pressure monitoring and is offered with Live and Complete Juno configurations.



*NIBP and Pulse Arm with Electronics Tether*

## Electronics Live Box

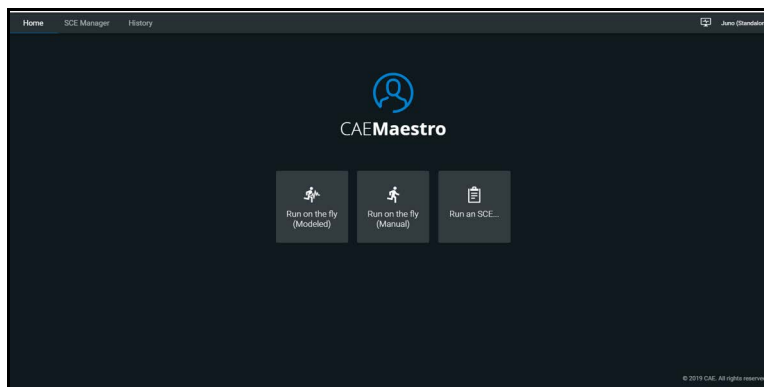
The Live Box electronics module allows you to run SCEs, monitor the patient, apply sounds, and practice NIBP monitoring and is offered with Live and Complete Juno configurations.



*Live Box*

## CAE Maestro Software

CAE Maestro™ software allows facilitators to control and monitor CAE patient simulators and is offered with Live and Advanced Complete Juno configurations only. Maestro allows you to run simulations “on the fly” (manually) in both a Manual or Modeled mode, or you can run preconfigured Simulated Clinical Experiences (SCEs). See the *Maestro for Juno* user guide for more information.



*CAE Maestro™ Software*

## Surface Go Tablet

The Complete configuration includes a software compatible Surface Go instructor tablet. The Surface Go provides the capabilities of a laptop in an ultra-portable tablet. This mobile workstation features a Windows 10 operating system, a 10 in (25.4 cm) touchscreen, and up to 9 hours battery life.

The Surface Go tablet comes equipped with pre-installed CAE Maestro instructor software to control the manikin’s physiological activity during simulations.



*Surface Go Tablet*

## Tablet Carrying Case

The Surface Go tablet carrying case is a way to store and protect the Surface Go tablet. With an ergonomic design, users can operate their tablet with ease and comfort.

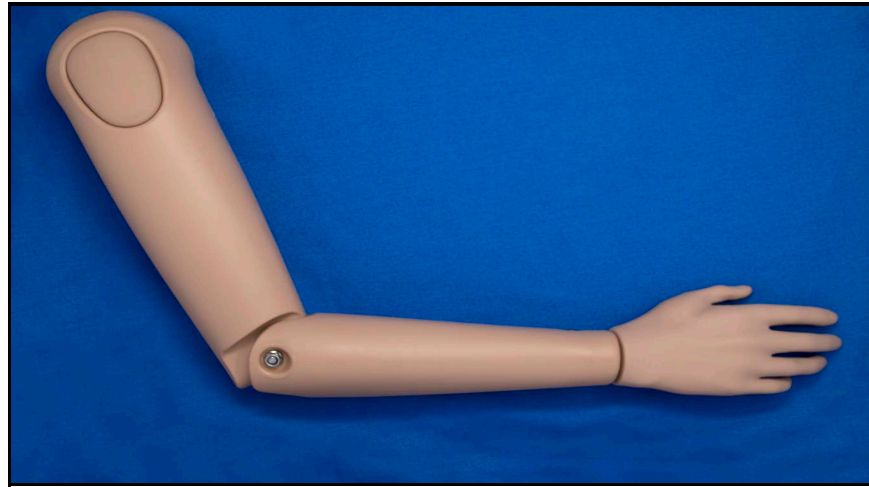
## Optional Equipment

To enhance the simulation experience, the Live and Complete configurations offer optional and additional equipment available for purchase..

Optional Equipment
Articulated Arm
CAE Blue Phantom Ultrasound IV-PICC Arm
Fundus Assessment Kit
Breast Exam Module
Post-Mastectomy Kit
Basic Wound Kit
Complete Wound Kit
Moulage Kit
Geriatric Face Mask

## Articulated Arm

The articulated arm comes with a removable deltoid injection pad for IM injections and can be interchanged with an IO deltoid pad.



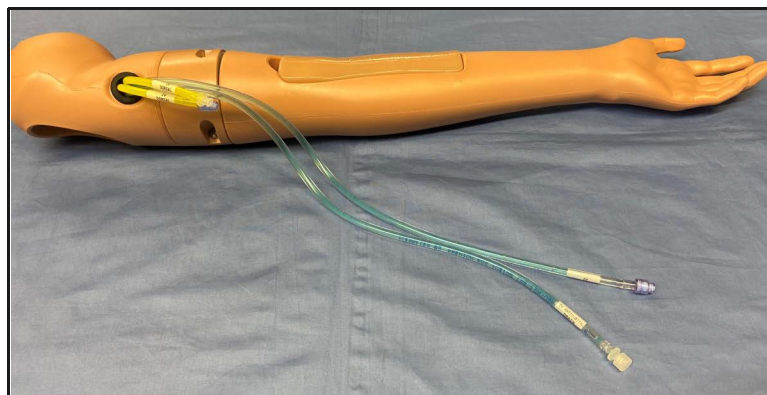
*Articulated Arm*

## Blue Phantom Ultrasound IV-PICC Arm

The CAE Blue Phantom™ ultrasound IV-PICC arm is a replacement arm with an ultrasound insert located in the antecubital IV space. This arm module provides for realistic PICC and IV training with a durable, self-sealing design. A standard IV cannulation module is located in the hand space.

The training module includes:

- One ultrasound IV-PICC arm
- One bottle of blue fluid



*CAE Blue Phantom™ Ultrasound IV-PICC Arm*

Use and care instructions can be found in the CAE Blue Phantom Ultrasound IV-PICC Arm user guide.



## Fundus Assessment Module

The Juno manikin includes a Fundus Assessment Module kit for postpartum obstetric training. The kit includes a boggy uterus, a firm uterus, postpartum genitalia, and anal and urinary valve clamp sets.

## Breast Examination Module

The optional Breast Examination module includes:

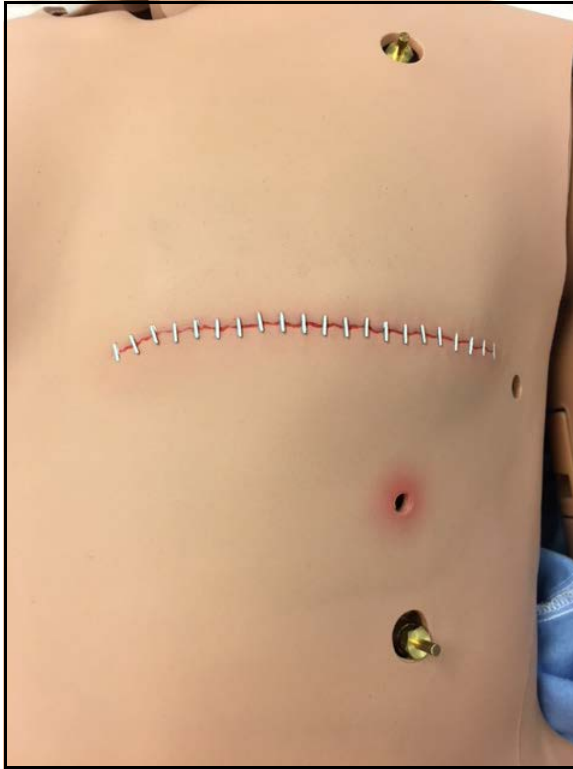
- Two breasts with configurable nodule inserts
- Small (10 mm) hard with peg (6)
- Small (10 mm) hard with longer peg (2)
- Medium (15 mm) hard (2)
- Medium (15 mm) soft (2)
- Large (20 mm) hard (2)
- Large (20 mm) soft (2)



*Breast Exam Module*

## Post-Mastectomy Module

This optional module allows for the practice of post-mastectomy care.



*Post-Mastectomy Wound Kit*

The kit includes:

- Post-operative left total mastectomy incision with staples
- Opening for drain tube to be placed under the skin
- Normal right breast

## Basic Wound Kit

The basic wound kit includes four wounds that are interchangeable with the IM injection pads. The kit Includes:

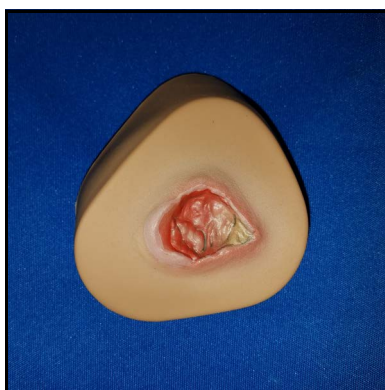
- Thigh incision
- Thigh suture
- Ventrogluteal decubitus ulcer
- Dorsogluteal decubitus ulcer



*Upper Leg Incision*



*Upper Leg Suture*



*Ventrogluteal Decubitus Ulcer*



*Dorsogluteal Decubitus Ulcer*

## Complete Wound Kit

The complete wound kit for Juno includes the four wounds from the basic wound kit and also the following accessories:

- Lower leg with varicose veins and stasis ulcer
- Below knee amputation stump
- Foot with skin tear
- Diabetic foot with toe infection and heel ulcer
- Abdominal incision with staples and penrose drain site
- Abdominal incision with dehiscence
- Abdominal subcutaneous injection pad
- Infected stoma

### *Lower Leg Wound*

The lower leg wound can replace the lower leg that comes with Juno.



*Varicose Veins with Stasis Ulcer*

## *Upper Leg Amputation Wound*

The upper leg amputation wound can replace the right leg that comes with Juno.



*Below the Knee Amputation Stump*

## *Foot Wounds*

The two (2) foot wounds can replace the foot that comes with Juno.



*Foot with Skin Tear*



*Diabetic Foot with Toe Infection and Heel Ulcer*

## Moulage Kit

The STOPS Hyper-Realistic® Moulage Kit (HRMK) is a versatile and reusable special effects kit for wound treatment simulation. The customizable wound patterns support a full range of injury types that can be applied to any anatomical area of the manikin.

The HRMK includes:

- Wound application and removal supplies
- Materials to produce up to 12.5 gallons of artificial blood
- Detailed wound application instructions
- Care and maintenance instructions, including:
  - Wound removal
  - Cleaning
  - Reusing
  - Storing
- Injury reference cards
- Wound patterns

## Geriatric Face Mask

The manikin can simulate a geriatric patient with the addition of the geriatric male face mask.



*Geriatric Face Mask*

# MEET JUNO

CAE Juno™ offers a comprehensive, realistic solution for emergency care team training and advanced life support training. This simulator is mobile, lightweight, easy to use, and anatomically accurate for better skills proficiency and clinical assessment. Juno configurations come with interchangeable male and female chest skins, wigs and genitalia, giving you two patient simulators in one. For information on how to change the simulator's genitalia, see *Changing the Simulator's Genitalia* in this user guide.



**CAE Juno™**

## Simulator Configurations

The simulator is available in three configurations. The Base configuration can be upgraded to the electronic packages (Live and Complete).

Configuration	Components
<b>Juno Base</b>	<ul style="list-style-type: none"> <li>• One articulated arm</li> <li>• One IV arm</li> <li>• Realistic articulation</li> <li>• Airway management</li> <li>• Nasal packing</li> <li>• Bag-valve-mask (BVM) ventilation</li> <li>• Nasopharyngeal and oropharyngeal airway placement</li> <li>• Endotracheal and tracheostomy tube placement and suctioning</li> <li>• Bilateral chest tube insertion for care and maintenance</li> <li>• Unilateral blood pressure measurement by auscultation and palpation</li> <li>• Bilateral carotid pulses (manual)</li> <li>• Unilateral subclavian catheter insertion for care and maintenance</li> <li>• Nasogastric tube insertion and gastric lavage and gavage with fluids</li> <li>• Ostomy care and irrigation with various configurable stomas</li> <li>• Eye and ear irrigation</li> <li>• Enema procedures</li> <li>• Six intramuscular sites for medication administration</li> <li>• Urinary catheterization with fluids</li> <li>• Interchangeable genitalia</li> <li>• Unilateral IV cannulation at antecubital and dorsum of hand</li> <li>• Blood draw with vacuum sealed blood collection system</li> </ul>



Configuration	Components
<b>Juno Live</b>	<ul style="list-style-type: none"> <li>• Base features</li> <li>• Live electronics box</li> <li>• NIBP and pulse arm</li> <li>• SymEyes</li> <li>• SymDefib</li> <li>• Auscultation of normal and abnormal breath, heart, lung and bowel sounds</li> <li>• Prerecorded speech and vocal sounds</li> <li>• Audible Korotkoff sounds generated with NIBP</li> <li>• Two-way communication between the manikin and facilitator</li> <li>• CAE Maestro Command and Control Software</li> <li>• Radial and brachial pulses on right arm with programmable intensities</li> <li>• Defibrillation and cardioversion via software</li> <li>• 4-lead ECG monitoring with real equipment</li> <li>• 12-lead dynamic ECG display</li> <li>• CAE Maestro software platform - instructor driven <b>(Note: bring your own device)</b></li> <li>• 10 Simulated Clinical Experiences (SCEs)</li> </ul>
<b>Juno Complete</b>	<ul style="list-style-type: none"> <li>• Live features</li> <li>• Software compatible Instructor tablet</li> <li>• 10 Simulated Clinical Experiences (SCEs)</li> </ul>
<b>Optional Components</b>	<ul style="list-style-type: none"> <li>• Patient monitor computer</li> <li>• Articulated arms</li> <li>• Blue Phantom ultrasound IV-PICC arm</li> <li>• Fundus assessment kit</li> <li>• Breast exam kit</li> <li>• Post-mastectomy kit</li> <li>• Complete wound kit</li> <li>• STOPS hyper-realistic moulage kit</li> <li>• STOPS blood pumping system</li> <li>• Additional Stethosym units</li> <li>• Six additional CAE Learning Modules</li> </ul>

**Note:** Optional equipment is available for extended post-operative or wound care with all configurations

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# SETUP

This section provides instructions and guidelines to unpack, charge and turn on the manikin. It also provides instructions on how to charge and power on the Instructor tablet.

## Unpacking the Manikin

The manikin comes in a custom-designed container that provides proper placement for all parts and accessories.

Follow the guidelines below when opening your shipment:

- Refer to the *Unpacking Your CAE Manikin* document provided in the shipping container.
- Exercise extreme caution when using sharp objects, such as a box cutter. A damaged container can lead to improper storage of the manikin, potentially damaging skin, body parts, and accessories.
- Reserve a space approximately 2 ft by 6 ft (61 cm by 183 cm) to store the shipping container before and after use. For more information, see the *Care and Maintenance* section of this user guide.
- Read and understand the Cautions and Warnings located in the beginning of this guide.
- Follow the sequence of the steps carefully. Complete all steps in order.
- Do not power on any components until instructed in the text.
- Verify the content of each item in the container against the shipping paperwork to ensure you received the correct product and parts.
- Keep original shipping materials, including boxes and foam. Warranty and repair items must be returned and shipped in their original packaging.

## Setup Preparation

The following instructions and guidelines inform users how to assemble the simulator and configure the instructor laptop.

Before you begin the setup procedure, make sure to complete the initial preparation steps below so the manikin is ready for setup and to prevent damage to your simulator.

- Prior to using the manikin, ensure it reaches ambient temperature.
- Ensure multi-plug AC power outlets exist in the workspace to charge the simulator and its powered components. The instructor tablet is battery operated and enabled for wireless use; however, the patient monitor must be plugged into a power source during use.
- Do not power on any components unless instructed to do so in the *Setup Procedure* section of this guide.

## Setup Procedure

After reviewing the guidelines for unpacking the manikin and setup preparation, proceed to the setup procedure steps.

Setup Procedure	
1	Place the Juno manikin in the work area
2	Prepare the manikin for legs
3	Attach the legs
4	Attach the articulated arm and IV arm
5	Attach the NIBP arm (Optional)
6	Modify a blood pressure cuff (Optional)
7	Place the wig
8	Power on and connect the simulator (Juno Live only)

## Step 1: Place Juno in the Work Area

Select a work area with enough space for all equipment and to easily access and move around the simulator. A minimum 10 ft x 12 ft (3 m x 4 m) work area is recommended.

Before placing the manikin on a surface, make sure the work surface can support 100 lbs (45.4 kg).

**IMPORTANT:** Never lift the manikin by the limbs. Support the manikin's head and lift it from the torso.

**Note:** Live and Complete configurations support wireless use of the instructor tablet. When working with these configurations, ensure a multi-plug AC power outlet is located close to the workspace to recharge powered components.

## Step 2: Prepare Juno for Legs

1. Detach lower skin.
  - a. Reach under Juno and pull the torso skin away from skin attachment pegs.
  - b. Pull the top tab from each peg and leave the lower tab in place.

- c. Fold the skin over the upper torso.



***Lift Skin***

2. Remove abdominal plate.
  - a. Place your fingers into the access cutaways and pull up.
  - b. Leave all hoses attached and set abdominal plate aside.



***Remove Abdominal Plate***

3. Remove genitalia.
  - a. Remove genitalia by lifting it straight up.

- b. Leave all hoses attached and set genitalia aside.

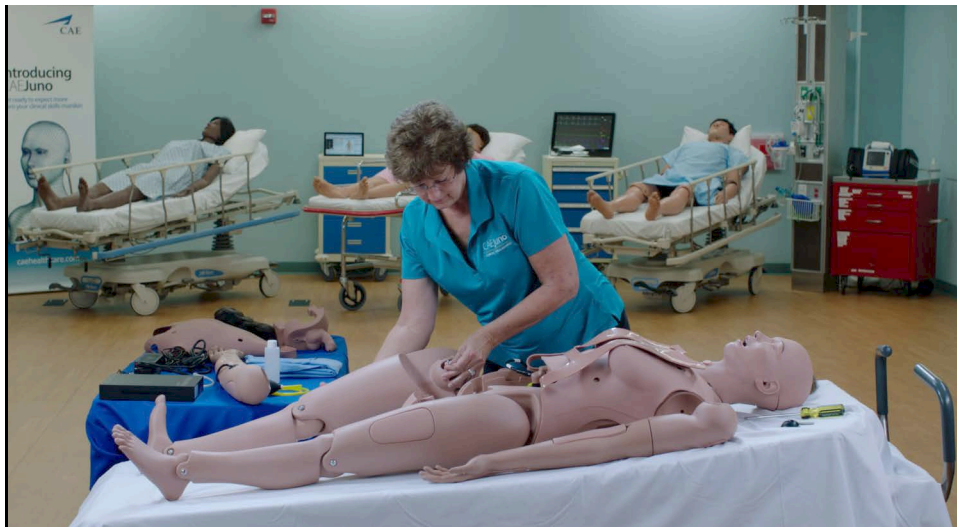


*Remove Genitalia*

## Step 3: Attach Juno's Legs

To attach Juno's legs, use the following provided parts:

- 4 washers
- 2 springs
- 2 knurled nuts



*Attach Legs*

1. Insert the leg screw into the hip joint hole.
2. Place a washer on the leg screw followed by one spring and a second washer.

3. Fasten the assembly to the torso. Use the thumb screw with the knurled portion towards the outside.
4. Tighten until the screw is flush with the nut. Ensure the leg moves freely.



*Leg Hardware Configuration*

5. Repeat for the second leg.
6. Reattach genitalia, abdominal plate, and skin.

## Step 4: Attach Juno's Arms

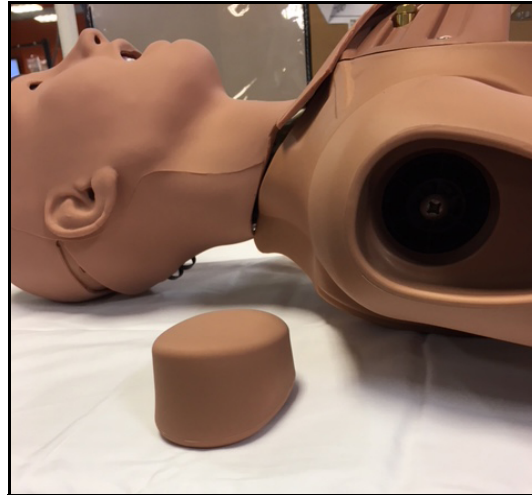
You need (included):

- 1 Articulated arm (right)
- 1 IV arm (left)
- 2 mounting screws
- 1 Phillips screwdriver

To attach the right articulated arm:

Note: If installing the NIBP arm instead, refer to the instructions at Step 5.

1. Remove the shoulder IM pad to access the shoulder opening.



***Mounting Screw Location***

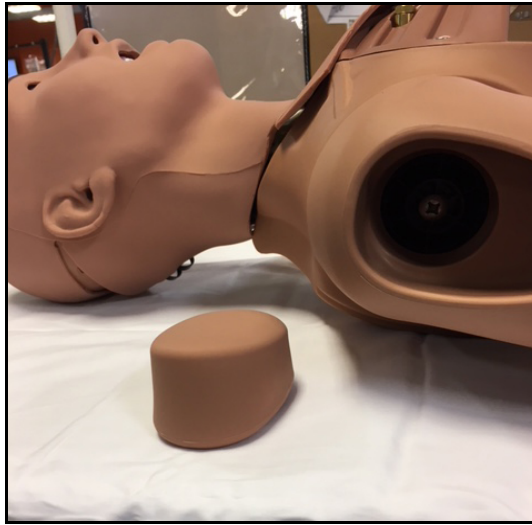
2. Attach the mounting screw to the hole in the shoulder mount.



***Screw in the Flat Side of the Joint Sphere***



3. Use the screwdriver to tighten the mounting screw until it is snug and the arm moves freely.



***Mounting Screw Location***

4. Reinsert the IM pad into the arm.



***IM Pad Inserted***

5. Repeat the steps for the IV arm on the left side.

## Step 5: Install the NIBP Arm (Optional)

**Note:** You must have Juno Live or Complete to install the NIBP arm.

You need:

- NIBP Arm
- #2 Phillips screwdriver (Included)
- 1 Arm screw (Included)
- 1 Joint Sphere (Included)

If upgrading to Juno Live or Complete, remove the right articulated arm.

1. Remove the right arm IM pad and set it aside.
2. Unscrew the arm screw and Joint Sphere assembly. Place assembly aside.
3. Place the right articulated arm aside.

To install the NIBP arm:

1. Remove the IM pad from the NIBP arm. Set it aside.
2. Insert a screw into the flat side of the Joint Sphere.



***NIBP Arm Ready for Installation***

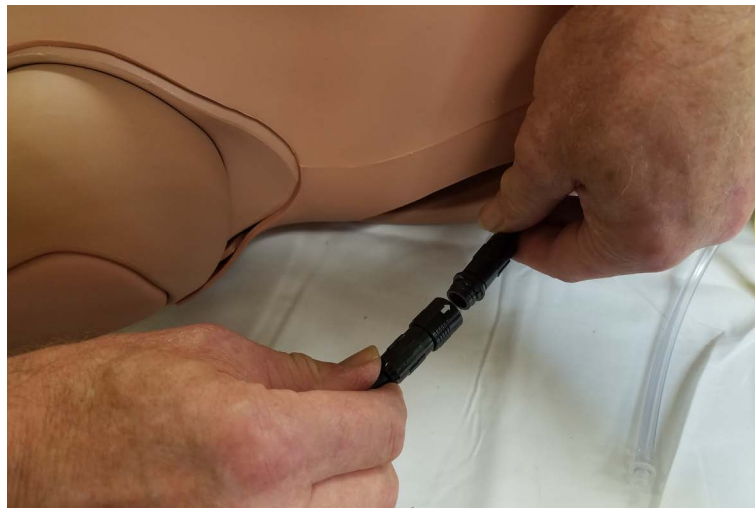
3. Insert the Joint Sphere. Screw the assembly into the mounting hole in the NIBP arm.
4. Attach the mounting screw to the top hole in the shoulder mount.

5. Tighten the mounting screw until it is snug, but the arm moves freely.



***NIBP Arm Attached and Ready for Pad Installation***

6. Reinsert the IM pad into the NIBP arm.
7. Connect the electronics tether from the NIBP arm to the arm connection on the manikin's right side by aligning the arrows.



***Connecting the NIBP Arm Electronics Tether***



*NIBP Connections*

## Step 6: Modify a Blood Pressure Cuff

Juno's blood pressure can be taken using non-invasive monitoring techniques, but first you must modify a standard blood pressure cuff.

You need:

- 1 Standard adult blood pressure cuff
- Scissors
- T-shaped blood pressure adapter (included)
- Cable ties (included)



*Modified Blood Pressure Cuff*

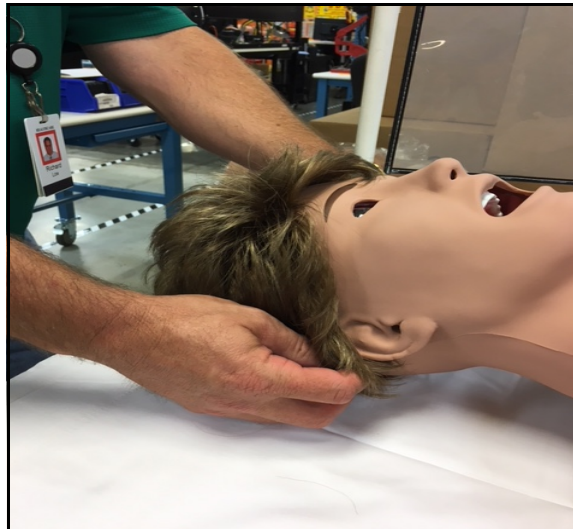
To modify a standard blood pressure cuff:

1. Cut the tubing attached to the gauge approximately 9 cm from the cuff.
2. Locate the T-shaped blood pressure adapter.
3. Insert the barbed connectors into the cut ends of the blood pressure cuff tubing.
4. Secure the tubing connectors with cable ties, and trim the cable ties with scissors.
5. Connect the extension from the long end of the T-shaped blood pressure adapter to the NIBP port on Juno's right side.
6. Attach the blood pressure cuff to Juno's arm.

**Note:** Learners are not able to auscultate the blood pressure using a stethoscope.

## Step 7: Place Juno's Wig

1. Remove the wig from the packaging, and remove all packing materials.
2. Place the wig on Juno's head. If the wig needs to be adjusted, follow the steps in "Adjust the Fit of the Wig" below.



*Placing the Wig*

### Adjust the Fit of the Wig

1. Remove the wig from Juno.
2. Turn the wig hair side down.
3. Locate the adjustment strip.
4. Locate the adjustment hooks towards both ends of the adjustment strip.

5. Use the adjustment hooks to pull the wig tighter by inserting them into loops closer to the center.
6. Loosen the wig by moving the adjustment hooks to loops further from the center.



***Tightening the Wig***



***Loosening the Wig***

### Step 8: Power on and connect the simulator

To use the Juno Live or Juno Complete simulator, you need to connect to its network. Depending on the configuration, you can connect:

- Via customer supplied laptop, using WiFi or Ethernet.
- Via Instructor tablet, using WiFi (Ethernet adapter not included).

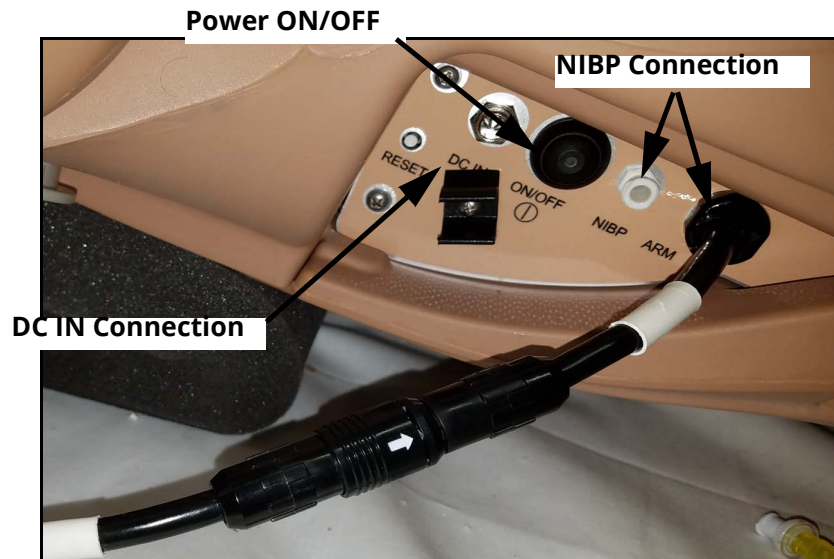
You can also connect multiple laptops to the simulator's network.

The simulator is controlled using the CAEMaestro application. For more information about Maestro, see the *Maestro for Juno User Guide*.

#### Powering on Juno Live or Complete

1. Connect the power supply to the DC IN connection on the manikin's right side.
2. Plug the power supply's power cord into a grounded outlet.
3. Press the ON/OFF button, holding it for three seconds.

The button LED will turn blue. Within approximately three minutes, Juno will say, "Hello."



*Manikin's Right Side Panel*

#### Juno Battery Management

Once charged, you can remove the power cord and Juno Live or Complete can run on battery power only. It is important to manage battery use to ensure uninterrupted operation for simulation.

The information in the table below is provided to support battery management. The % values provided reflect the battery capacity as shown by the Maestro user interface battery icon.

Table 1: Battery Levels

Battery Level - Maestro	Battery Status	Action
Greater than 50%	Normal	Battery icon is green.
Between 30% and 50%	Low	Battery icon is orange.
Below 30%	Very low	Battery icon is red.
29%	Very low	Warning message pops up and must be acknowledged.
15%	Critical	Second warning message pops up and must be acknowledged.
10%	Shutdown	The manikin is shutdown and the battery is set to shipping mode. External power must be connected to the manikin to recharge and operate the system.*

To ensure continuous operation of the manikin, monitor the battery icon and apply external power before the battery reaches the critical stage. If the battery is allowed to drain further, training will be interrupted by automatic shutdown of the manikin.

The battery is automatically removed from shipping mode when the external DC power is plugged into the manikin.

**\*IMPORTANT!** After connecting the manikin to power, the system requires at least five minutes to recharge before the manikin can be powered on again.

## ***Connect via Laptop (WiFi)***

You need a self-provided laptop or computer with wireless network adapter per specifications listed in this User Guide.

**Note:** The performance of customer provided equipment may vary and cannot be guaranteed or supported by CAE Healthcare.

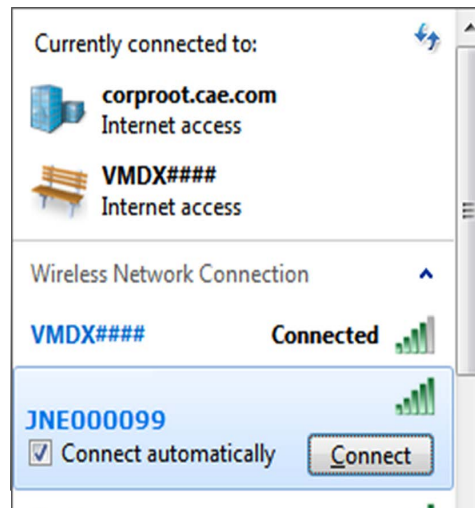
A workstation (laptop) can be connected to the manikin and run from approximately 65 feet (20 meters) with direct line of sight. Connection quality varies depending on interference from surrounding WiFi or physical obstructions.

When you update software on the workstation, make sure the manikin is as close to it as possible.



To connect to Wifi:

1. Open the network connections on your laptop or computer.
2. Select the network **JNE00XXXX** (where XXXX is the last 4 digits of the manikin's serial number). The example below shows Juno number 99.



*WiFi Network*

3. Select the **Connect Automatically** checkbox. Click **Connect**.  
The Connect to Network window opens.
4. In the **Secure Key** field, enter the password, "caeadmin."
5. Click OK.

### ***Connect via Laptop (Ethernet)***

1. Turn on the simulator.
2. Connect an Ethernet cable between your laptop and the manikin's LAN port.  
**Note:** Make sure you connect to the port labeled LAN.
3. On the laptop, open the **Network and Sharing Center**.
4. Right-click the simulator LAN connection.
5. Verify your laptop's **TCP/IPv4** setting is set to **DHCP**.
  1. Select **Properties > TCP/IPv4**.
  - b. Select **Obtain IP address automatically**.
6. Open the the browser. Go to: **https://simulator.local**. Press ENTER.

**Note:** If your laptop does not have a certification installed, you will receive a message asking you to install the VoIP certificate. Follow the on-screen steps to download and install the certificate.

The Maestro Home screen appears.

### *Connect via Tablet (WiFi)*

The Instructor Tablet included with the Complete configuration will automatically connect to the manikin at start up.

To Connect the Instructor Tablet:

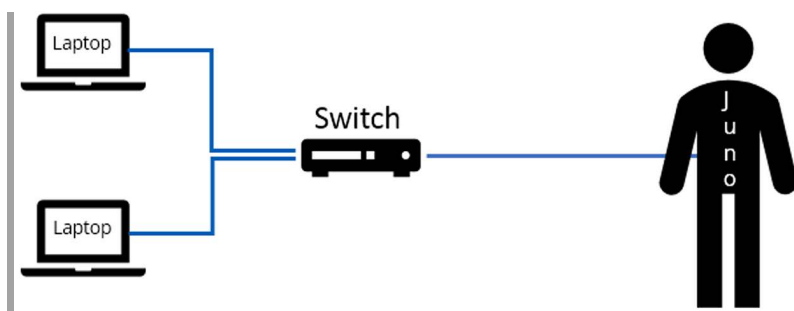
1. Turn on the tablet.
2. When the Start screen appears, swipe to display the Home screen.
3. Tap either the **CAEMaestro** or **CAETouchpro** icon to launch one of the software packages.

If the Samsung S3 Tablet has the Maestro App installed, tap the icon to launch and connect the simulator. The default logon is for both the username and password is: "admin".

### *Connect Multiple Laptops (Ethernet)*

You need an Ethernet switch.

1. Power on your Ethernet switch.
2. Connect the Ethernet Switch to the manikin's LAN port using an Ethernet cable.
3. Ensure the laptops are set to DHCP.
4. Connect the laptops to the Ethernet switch using an Ethernet cable.
5. Tap a Maestro icon to launch the application.



**Multiple Laptops**

**Note:** If your laptop does not have a certification installed, you will receive a message asking you to install the VoIP certificate. Follow the on-screen steps to download and install the certificate.

The Maestro Home screen appears.

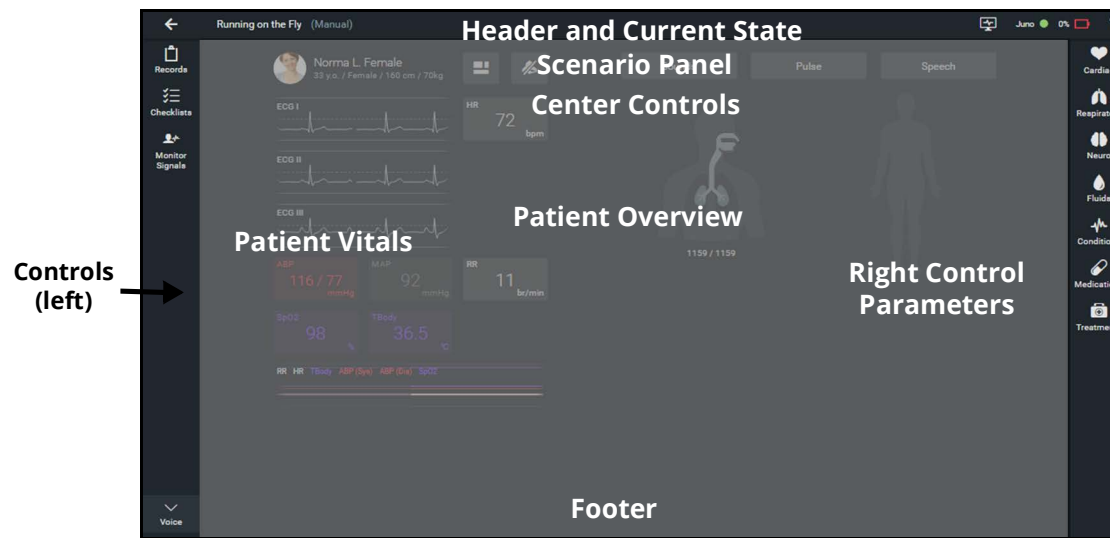
## Install or Update the Maestro App

Installation and update instructions are available from the CAE Healthcare website at: <https://caehealthcare.com/support/software-updates>.

## Manage Maestro Interventions

The Live and Complete configurations include the CAE Maestro software. The Maestro software allows learners and facilitators to conduct and manage several types of interventions.

From Maestro's Run screen, parameter controls include: Cardiac, Respiratory, Neuro, Fluids, Conditions, Medications, and Treatments.



**Maestro Software Interface**

For more information about Learner Interventions, see the *CAEMaestro for Juno User Guide*.

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# JUNO FEATURES

Uniquely designed to meet clinical competencies, CAE Juno offers true mobility, ease of use and a contemporary look and feel for a fully immersive experience. Juno easily converts from female to male, saving on costs and space while facilitating expanded learning opportunities.

## Adult Manikin

The Juno manikin displays the physical characteristics of a fully-grown adult patient. The simulator comes with interchangeable male and female genitalia. Fully operational in the supine position, the manikin can be placed on standard operating room tables, hospital beds, transport stretchers, on the ground or even in a vehicle (in the case of a simulated accident).

## Physiological and Pharmacological Features

Juno presents patient reactions based on complex neurological, cardiovascular, gastrointestinal, genitourinary, respiratory, and pharmacological models. The manikin allows for the physical assessment of various clinical signs (i.e., heart, lung and breath sounds, palpable pulses, chest excursion, airway patency, etc.) that are dynamically coupled with the mathematical models of human physiology and pharmacology.

## Articulation

Juno is wireless, tetherless, and offers realistic articulation for range of motion exercises in the hips, knees, ankles, shoulders, elbows, and wrists. Juno also has cervical motion for the practice of patient stabilization.

### Articulation Features

1 Articulated arm (right)
---------------------------

In addition to the Base configuration features, the Live and Complete configurations include features to enhance the fidelity of the simulator.

### Live and Complete Articulation Features

1 Articulated Non-Invasive Blood Pressure (NIBP) and Pulse arm
--

## Neurologic System

Juno is equipped with a number of features specifically targeted to support training for neurological care. Users can practice clinical procedures on the Juno manikin including:

- Eye irrigation
- Ear irrigation

For more information, see the *Using Juno* section of this user guide.

## Respiratory System

The simulator represents a realistic Respiratory System to achieve an extremely accurate simulation of respiration. This system is tightly integrated with the Cardiovascular System.

Base Respiratory System Features
Symmetric lung ventilation is supported in response to manual bag-valve-mask (BVM) ventilation via face mask, endotracheal tube or tracheostomy tube.
The manikin’s bottom dentures can be removed for practicing oral and dental hygiene.
Nasal packing can be performed on both nares, utilizing ribbon gauze, nasal packs or tampons.
Bilateral chest tubes can be placed for chest tube care and maintenance (no fluids).
The airway accommodates the use of standard clinical devices such as nasopharyngeal and oropharyngeal airways, nasal cannula, nasal packing, endotracheal tube placement, and tracheostomy tube placement.
Airway suctioning with real fluids is supported, with easy access for filling and draining the airway reservoir.
Bottom dentures are removable to allow denture care and replacement.
A chest tube can be inserted into the mid-axillary line of the fifth intercostal space on the right side of the manikin for practicing care and maintenance of a chest tube.

In addition to the Base configuration features, the Live and Complete configurations include features to enhance the fidelity of the simulator.

Live and Complete Respiratory System Features
The simulated patient generates lung sounds, including a range of pathological sounds. There are four anterior lung sound speakers which can be controlled independently.
4 breath sound speakers
1 vocal speaker at right shoulder
Laryngospasms

See the *Appendix A - Recommended Clinical Supplies* section of this user guide for information associated with the Respiratory System features of the simulator.

## Cardiovascular System

Similar to the Respiratory System, the Cardiovascular System accurately simulates a wide variety of hemodynamic conditions and responses.

Base Cardiovascular System
The manikin accommodates bilateral carotid pulses that are actuated manually using the carotid pulse assembly kit.

## Base Cardiovascular System

The simulated patient has a site for the insertion of a subclavian catheter in the upper right chest quadrant. This is for practicing care and maintenance of a central line, no fluids.

The manikin supports unilateral intravenous access at the antecubital fossa and dorsum of the hand sites on the left arm. Fluids and medications can be administered, and blood can be drawn via syringe or with the vacuum sealed blood collection system.

In addition to the Base configuration features, the Live and Complete configurations include features to enhance the fidelity of the simulator.

## Live and Complete Cardiovascular System Features

The simulated patient generates heart sounds, including a range of pathological ones that are synchronized to the QRS complex of the ECG and are audible with a StethoSym assembly. There are four heart sound speakers which can be controlled independently.

A 3- or 4-lead ECG is emitted from the appropriate positions on the patient's chest for a display on a standard cardiac monitor. A normal sinus ECG, as well as a broad range of abnormal cardiac rhythms can be generated. A 12-lead ECG can be displayed on the patient monitor.

The simulated patient can be defibrillated or cardioverted using the simulated functions via the Maestro software. The instructor is able to adjust the levels at which the shock is delivered.

Brachial and radial pulses are provided on the right arm and are synchronous to the ECG. A pulse deficit automatically occurs if the systolic arterial blood pressure falls below the set threshold, which can be adjusted by the instructor to meet specific clinical and educational requirements.

Unilateral blood pressure measurement can be done on the simulated patient's right arm using a modified adult blood pressure cuff. Measurement can be done by both auscultation and palpation.

Fingerstick Blood Glucose

Variable Pulse Strength

4-Lead ECG waveforms can be viewed on a standard monitor and/or the Patient Status Display in the Patient Monitor of the software.

## Gastrointestinal System

The Juno manikin features a realistic Gastrointestinal System for practicing clinical care skills.

### Base Gastrointestinal System

A nasogastric tube can be inserted via either nostril and supports gastric lavage and gavage with fluids, up to 150 ml.

Ostomy care an irrigation of an ostomy can be performed in three different locations: large intestine, small intestine, and bladder.

The manikin supports administration of an enema with fluids, up to 200 ml.

Gastric Distention with esophageal intubation

**Base Gastrointestinal System**

Gastrostomy Tube with Fluids

Orogastric/Nasogastric Tube insertion (no fluids)

In addition to the Base configuration features, the Live and Complete configurations include features to enhance the fidelity of the simulator.

**Live and Complete Gastrointestinal System**

The simulated patient generates bowel sounds. There are four speakers which can be controlled independently.

## Genitourinary System

The manikin is provided with both male and female genitalia. The genitourinary system is designed for excretion of urine upon catheterization. For more information on changing the genitalia and filling the urinary reservoir, see the *Using Juno* section of this user guide.

**Genitourinary System**

Urinary catheterization can be performed with or without fluids.

The fluid reservoir capacity is 60 ml.

## Medication Administration

The Juno manikin features Medication Administration capabilities for practicing clinical care skills.

**Medication Administration**

In addition to the IV sites in the right arm, the manikin also supports six intramuscular injection sites: bilateral vastus lateralis, and bilateral deltoids, ventrogluteal, and dorsogluteal.

The ears and eyes can be irrigated or medications can be administered.

## Simulated Clinical Experiences

The Juno simulator is a manual-driven, script-controlled system designed to simulate a patient's physiological condition, clinical signs, symptoms, and responses to certain clinical interventions. Simulated Clinical Experiences, or SCEs, are process tools that enable the faculty/educator to execute a learning strategy using simulation. Each process tool provides an extensive overview and outline of the learning exercise and requires minimal additional faculty development time for use. Each SCE is comprised of a patient and the scenario.



Juno includes ten preconfigured SCEs, or clinical simulations, that cover a range of events and crises

- Chronic heart failure exacerbation
- Gastrointestinal bleed secondary to esophageal varices
- Skills validation
- Asthma management of a patient in the home care setting
- Postoperative care of the patient with complications: Pneumonia
- Suctioning and tracheostomy care with hypoxia
- Basic assessment of the hip replacement patient
- Postoperative care of the patient with a ruptured diverticulum
- Seizure disorder and moderate learning disability
- Dementia and urinary tract infection in a patient with DNR orders

Each SCE includes the information below:

- Background information and patient history
- Synopsis
- Learning objectives
- Learning performance measures
- Equipment and supplies suggested for the simulation
- Facilitator notes
- Debriefing points
- Teaching Q&A
- References

## Scenarios

Each scenario is a set of simulator commands that instruct or cause the simulator to react or respond in a specific manner. Scenarios are used to determine the initial and subsequent physiological states as well as the different conditions that arise during the simulation exercise. Each scenario also includes documentation to support its use.

By utilizing the SCE Designer feature of the Maestro software, users can copy and modify the preconfigured scenarios or create custom scenarios from scratch to meet specific educational objectives.

Instructors may also modify events within a given scenario in real-time to increase or decrease event severity and shorten or prolong the duration of an event at any time during a simulation exercise.

For instructions on modifying scenarios and creating new scenarios, refer to the *Maestro for Juno User Guide*.

## System Controls

Juno is designed to allow the instructor to focus attention on learner actions and reactions by providing a flexible set of tools that adjust to the instructor's needs.

## Application Software

CAE Maestro software is the application that provides the instructor a means to control all features of the simulator. Instructors can select SCEs as well as control the flow of the scenarios via the user interface. Various medication, cardiovascular, respiratory, fluid, and other parameters can be individually applied "on the fly" to enhance the course of a simulation exercise. A Patient Status Display and set of simulation log entries provide a real-time display of vital signs, blood gases, medications administered, and other events. This data can be exported into permanent storage or printed for future reference.

## System Tools

An instructor workstation enables the instructor to control all aspects of the simulator. Instructors can select an SCE and control the flow of a simulation exercise while monitoring patient parameters, medications administered, and other interventions. Additionally, all patient parameters can be adjusted "on the fly" to enhance the teaching points of the simulation in progress. The software provides an intuitive, easy-to-learn, and easy-to-use operator/instructor interface.

# USING JUNO

Once the simulator is assembled, the Juno manikin is ready for learners to practice and master new competencies, interventions, and skills during clinical scenarios.

To create a fully immersive simulation experience with advanced intervention capabilities and realtime data feedback, the Live and Complete configurations of the Juno simulator utilize instructor-led software with scenario programming capabilities.

Note: CAE recommends keeping the simulator plugged into a power source while it is in use to extend the longevity of the battery life. To optimize battery life, only remove the power plug during simulations where the patient will be moved or transferred as part of the scenario. For further information, refer to the *Storage* section of this user guide.

## Neurologic System

The clinical features that can be controlled from the Neurologic view are:

- Blood temperature
- Body temperature

Users can also control the speech from the instructor-led software.

For more information, see the *Maestro for Juno User Guide*.

## Neurologic System Controls

The clinical features for the Neurologic system are controlled manually, with the software, or both.

Neurologic System Controls			
Anatomy, Physiology and Clinical Signs	Clinical Interventions, Patient Monitoring and Scenarios.	Software Control	Manual Control
<b>Eyes</b>	Eyes can be used as an indicator of a patient's condition and/or consciousness during an assessment.	None.	None.
<b>Temperature: Body</b>	Myocardial oxygen supply and demand automatically influence the cardiac rhythm, yielding response to hypoxemia (Modeled only).	Tap <b>Neuro</b> and tap <b>Temperature: Body</b> to adjust.	None required.
<b>Temperature: Blood</b>	Changes in arterial temperature may alter the position of the standard oxyhemoglobin dissociation curve (shift). As temperature increases or pH decreases, more oxygen is released from hemoglobin and thus the patient's saturation decreases (Modeled only).	Tap <b>Neuro</b> and tap <b>Temperature: Blood</b> to adjust.	None required.

## Respiratory System

The Juno manikin includes respiratory features that allow learners to practice basic assessment and life support skill sets. With the manikin, learners can:

- Manage difficult airways
- Maintain tracheostomy site

## Nasal Packing

Juno supports nasal packing. Nasal packing can be performed on both nares, utilizing ribbon, gauze, nasal packs, or tampons.

To apply nasal packing:

1. Cut a length of ribbon gauze or use commercially available nasal pack or nasal tampon.
2. Insert the nasal packing into the nasal cavity using forceps.
3. When the simulation session is complete, remove the nasal packing material.

## Airway Management

The manikin's anatomically realistic upper airway allows intubation, while various clinical signs (e.g., lung sounds, chest excursion, airway patency) can be simulated using software commands. During ventilation (BVM, endotracheal intubation, etc.), the chest will rise with sufficient ventilation volume. Other airway features include a hard and soft palate, as well as oro-, naso-, and laryngopharynges.

## Ventilation

Juno supports manual bag-valve-mask (BVM) ventilation via face mask, airway adjuncts, endotracheal tube, and tracheostomy tube. Proper ventilation will demonstrate chest rise and fall.



*Manual Bag-Valve-Mask (BVM) Ventilation*

## *Intubation*

The upper airway of the manikin is designed to allow for intubation. .

**CAUTION:** Airways can be damaged by improper insertion of an airway adjunct (such as an endotracheal tube). To protect the airway, lubricate the adjunct prior to insertion using the silicone oil spray provided. Use **ONLY** the provided SILICONE OIL to lubricate the adjunct. **NEVER** use a water-based lubricant which can damage the airway.

## *Endotracheal Tube Placement*

**IMPORTANT:** The following instructions provide adequate endotracheal tube placement. The endotracheal tube placement described here has no correlation to real life patient care. To protect the manikin's airway, endotracheal tubes should be inserted through the tracheostomy site.

To place an endotracheal tube:

1. Wrap the inflatable cuff tubing around the endotracheal tube. Then, insert the end fitting into the endotracheal tube.



***Endotracheal Tube***

2. Lubricate the endotracheal tube with silicone spray.

3. Remove the tracheostomy plug.



***Remove Endotracheal Plug***

4. Remove the bottom dentures.



***Remove Bottom Dentures***

5. Insert the end of the endotracheal tube with the inflatable cuff through the tracheostomy port.



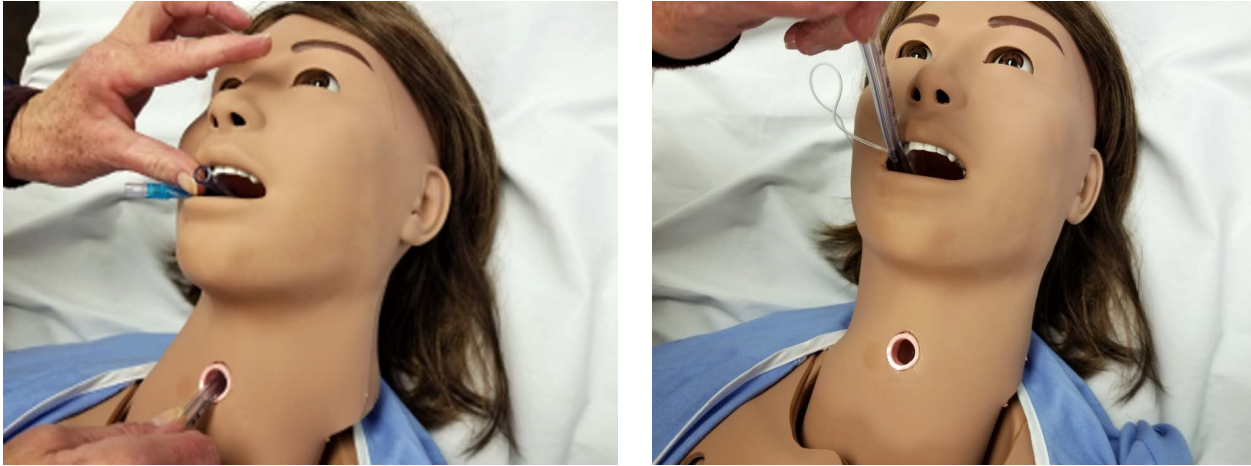
***Insert the Endotracheal Tube***

6. Continue to insert the endotracheal tube until it can be seen at the back of the manikin's throat.



***Endotracheal Tube Visible at Back of Throat***

7. Pull the endotracheal tube through the manikin's mouth until the distal end enters the tracheostomy port.



**Endotracheal Tube Placement**

8. Replace the tracheostomy plug.
9. Fill the endotracheal cuff and secure the endotracheal tube.
10. Replace the bottom dentures.

## ***Airway Suctioning***

To practice suctioning with fluids, follow the steps below to fill the airway secretions reservoir:

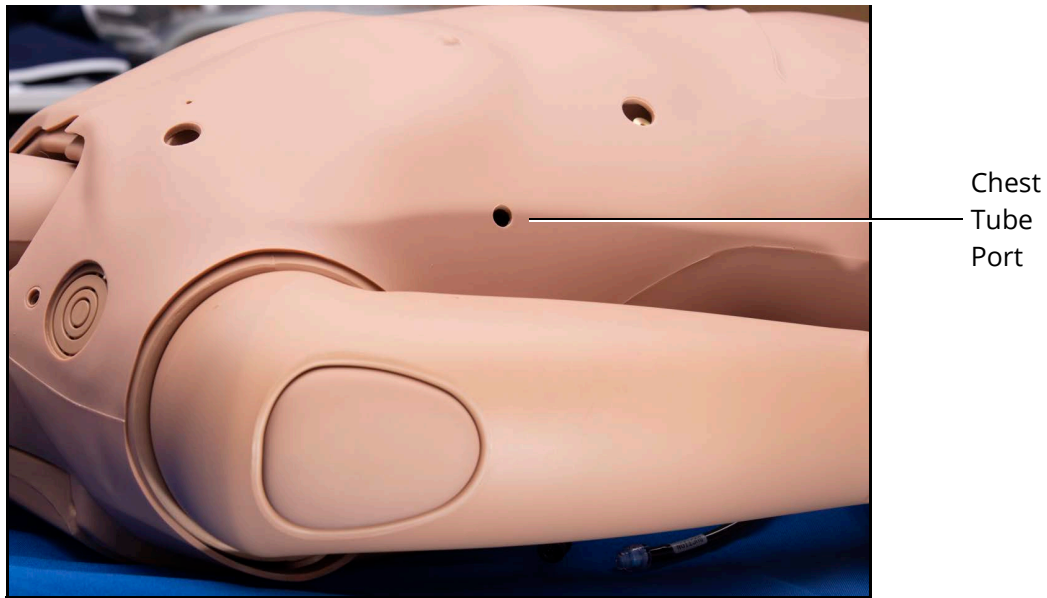
1. Adjust the bed to place the torso at a 30 to 45-degree angle.  
**Note:** If an adjustable bed is unavailable, place Juno's shoulders onto a 12" high foam block, pillow, or rolled-up towel.
2. On the right side of the manikin, locate and remove the cap on the black Airway Suction Fill/Drain line.
3. Connect an empty syringe to the Airway Suction port and draw back 60ml or until the bag is empty (flat), thereby creating a vacuum.
4. Fill a syringe with distilled water.
5. Connect the water-filled syringe to the Fill port and slowly inject 30ml into the bag.
6. Remove the syringe and replace the cap.

To empty the reservoir, see draining instructions in the *Care and Maintenance* section of this guide.



## Chest Tube

Juno also has bilateral holes approximately in the fifth intercostal space slightly anterior to the mid-axillary line for chest tube placement. The chest tube can be taped into place for learners to practice chest tube care.



*Chest Tube Port*

## Cardiovascular System

The Juno manikin includes cardiovascular features that allow learners to practice basic assessment and life support skill sets. With the Juno manikin, learners can:

- Palpate pulses
- Place IV lines and catheters
- Administer IM and SQ injections
- Auscultate realistic heart sounds
- Perform ECG monitoring

# Cardiovascular System Controls

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

Cardiovascular System Controls			
Anatomy, Physiology and Clinical Signs	Clinical Interventions, Patient Monitoring and Scenarios.	Software Control	Manual Control
<b>Heart Sounds</b>	Normal and abnormal heart sounds are synchronized to the cardiac cycle and audible with a standard stethoscope. Heart sounds can be auscultated over the lower sternal border and apex.	None required; specific sounds can be selected.  From the Run screen, tap <b>Sounds</b> and select Heart tab.	None required.
<b>4-Lead ECG</b>	ECG waveforms can be viewed on a standard monitor and/or on the Patient Monitor. Normal and abnormal cardiac rhythms are linked to patient physiology (e.g. blood pressure, cardiac output).	None required; specific rhythms can be selected.	ECG monitor may be utilized.
<b>Myocardial Ischemia</b>	Myocardial oxygen supply and demand automatically influence the cardiac rhythm, yielding response to hypoxemia.	None required, but adjustable.	None required.
<b>Non-Invasive Blood Pressure Measurement</b>	Systemic blood pressure can be measured using the return-to-flow technique.	Volume of Korotkoff sounds can be adjusted by tapping <b>Sounds</b> on the Run screen and then the Korotkoff tab.	Use of modified blood pressure cuff with T-adapter. Connect T-adapter to NIBP connection .

## Pulses

Depending on the pulse location, pulses are manually operated (carotid) or managed using the software (brachial and radial).

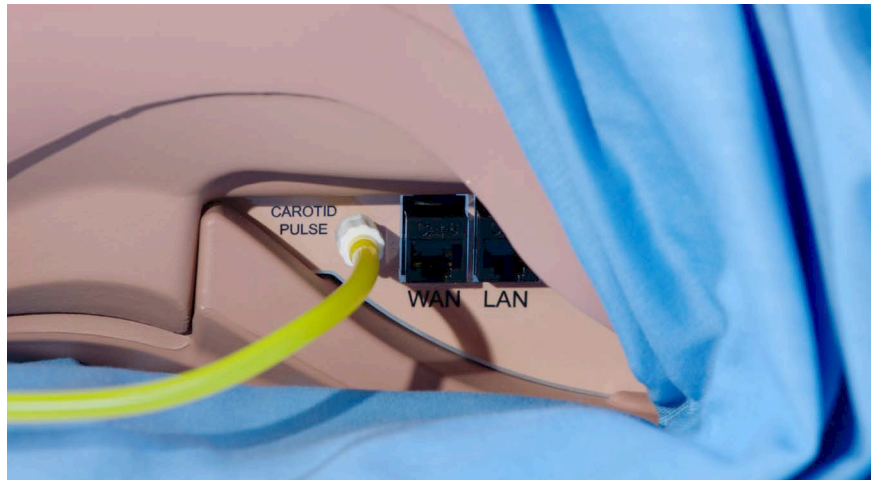
The Juno Live and Complete configurations include two brachial and two radial pulse locations.

### *Practicing Carotid Pulse Techniques*

The manikin has bilateral carotid pulses that are manually operated.

To operate the manual carotid pulse:

1. Fill the syringe with 6 ml of air and attach it to the yellow tubing.
2. Attach the carotid pulse assembly (yellow tubing and syringe) to the carotid pulse port on the left side of the manikin.



***Carotid Pulse Assembly Connection***

**Note:** The basic manikin configuration's syringe will be attached to the tubing that connects to the carotid pulse mechanism.

As you press the plunger, you can feel the carotid pulses. Adjust pulses to be threading or bounding based on the volume of the air added to the syringe.



***Carotid Pulse Palpated***

## Managing Radial and Brachial Pulses

Juno Live and Complete configurations come with a right NIBP and pulse arm which has radial and brachial pulse locations. The pulse is activated when pressure is applied to the correct location. The pulse intensities can be changed using the Maestro software.



*NIBP Arm for Radial and Brachial Pulses*

## Subclavian Catheter

Juno has a small hole in the upper right chest quadrant for placement of a subclavian catheter. Learners can perform catheter care maintenance and dressing changes to the catheter site.

**Note:** Juno is not equipped for any subclavian or chest tube fluids.



*Subclavian Catheter Site*

## IV Administration

There are two IV sites on Juno's left arm, located on the dorsum of the hand and the antecubital fossa. Each IV site has an insert with a loop of tubing. The sites are filled and drained through tubing running from the IV site up to the left shoulder.



*The Dorsum of the Hand IV Site*



*The Antecubital IV Site*

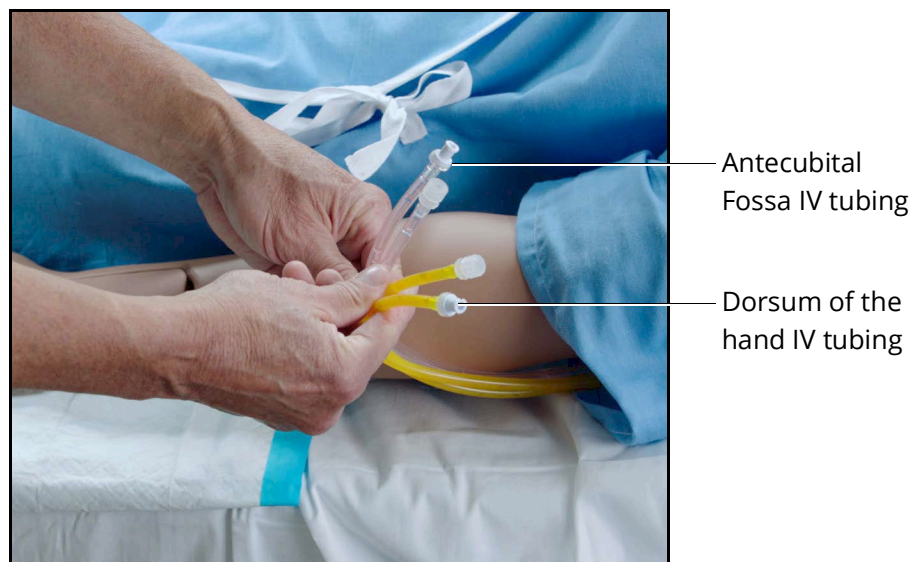
To perform IV administration, learners will need:

- Empty IV bag with IV tubing connected
- Red food coloring (if you want to make simulated blood)
- 20 gauge IV catheter
- Alcohol swab
- IV Dressing
- Extension tubing
- Full IV bag with distilled water (or red colored distilled water) with IV tubing connected
- IV pole

To practice IV administration:

To prepare the IV site for flashback and aspiration, identify the ports that prime and drain the IV site on the left side of the manikin. One tube will be for priming, the other for drainage.

The yellow tubing is for the Dorsum IV site, and the clear tubing is for the Antecubital IV site.

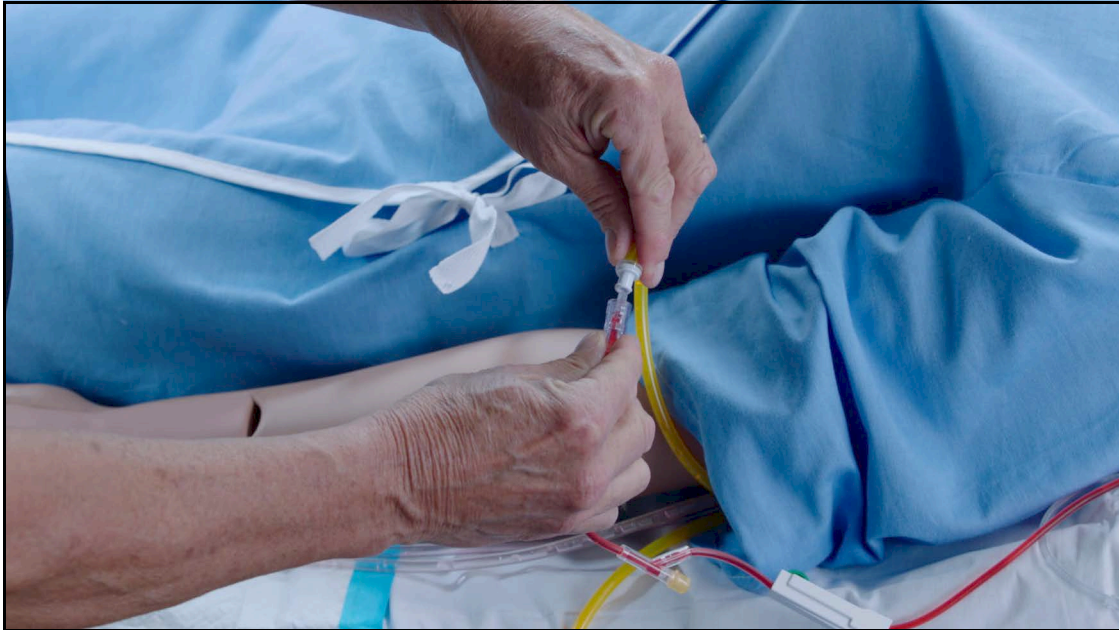


***IV Tubing***

To begin an IV drip:

1. Connect the end of the drain port tubing to the IV tubing and an empty IV bag.
2. Open the clamp on the IV tubing.
3. Fill an IV bag with water, or with water mixed with food coloring to simulate blood. Close the clamp on the IV tubing.

4. Hang the filled IV bag from an IV pole near the manikin's shoulder.
5. Connect the IV tubing from the filled IV bag to the appropriate prime port.



***Connecting to Dorsum of the Hand IV Site***

6. Infuse fluid until the fluid comes out of the drain tubing. This will prime that IV site for flashback and venipuncture.
7. Close the clamp on the drain tubing.
8. Perform venipuncture and confirm flashback. Additional red color fluid can be aspirated back from the IV site if desired.
9. Close the clamp on the IV tubing of the prime fluids.
10. Connect IV fluids/medications to the IV site to be infused.
11. Open the clamp on the IV fluids to be infused.
12. Open the IV drain tubing clamp.

## Intramuscular (IM) Subcutaneous (SQ) Injection

Juno supports IM/SQ injection at six sites:

- Bilateral Deltoid
- Bilateral Vastus Lateralis
- Ventrogluteal
- Dorsogluteal

To administer an IM/SQ injection:

1. Insert an IM/SQ injection pad.
2. Deliver the IM/SQ injection per protocol.



*The IM/SQ Injection Site*

## Intraosseous (IO) Cannulation

Juno also allows for humeral intraosseous (IO) cannulation. The designated IO site is located on Juno's left shoulder and left leg.

**Note:** Replace either of the IM pads with an IO access puck prior to performing IO cannulation.

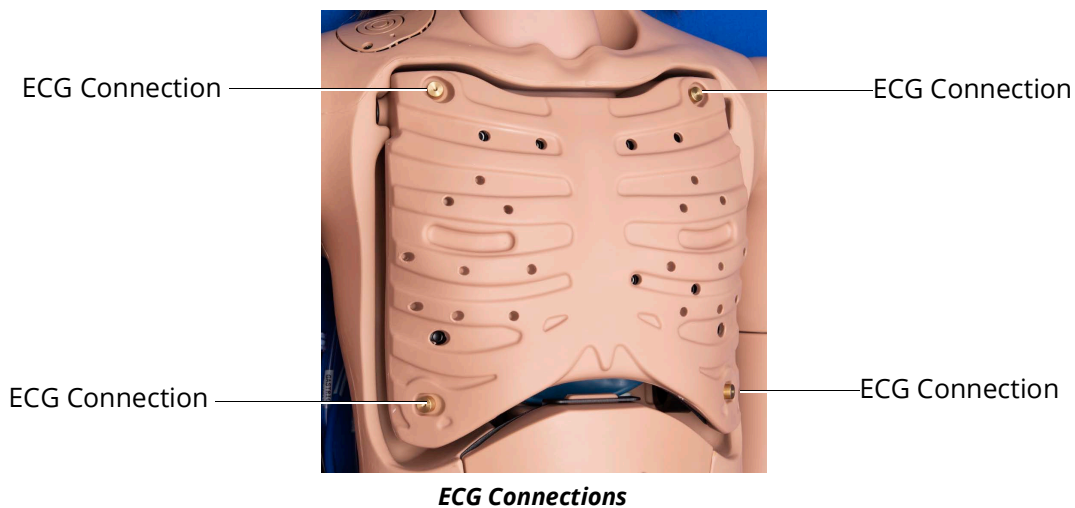


## ECG

On Juno, a 4-lead ECG signal is emitted from the appropriate positions for display on a standard monitor.

To produce ECG signals on a standard patient monitor, connect the ECG leads to the posts.

**Note:** The ECG posts are supplied with the accessories kit and need to be installed at the locations indicated.



## Blood Pressure

Juno Live and Complete configurations support non-invasive blood pressure measurements, and systolic and diastolic readings can be obtained and manipulated through the software.

### *Systolic and Diastolic Blood Pressure*

To manually adjust the systolic and/or diastolic blood pressure:

1. From the Cardiovascular panel, select the parameter of desired blood pressure.
2. Set the pressure by moving the blue slider left or right, or by typing in a value.
3. Select **Accept** to exit and save the changes. The switch is now orange, indicating a change has been made.
4. If using CAE Physiology (optional), return to the programmed physiologic model by selecting the switch and turning the Override switch to Modeled.

### *Non-Invasive Blood Pressure Measurement*

Blood pressure can be taken manually on either arm. Non-invasive blood pressure (NIBP) monitoring techniques can be used by attaching a standard cuff modified with a T-fitting and adapters.

For information on attaching the NIBP arm and modifying the blood pressure cuff, see the *Setup* section in this user guide.

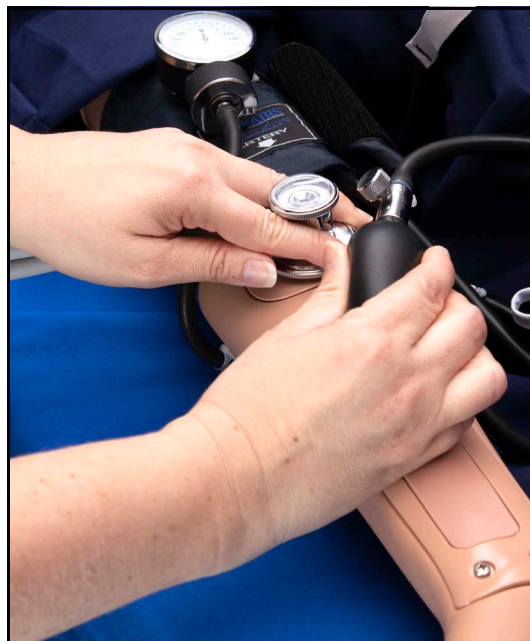
To get a blood pressure reading:

1. Connect the extension from the T-fitting on the blood pressure cuff adapter to either of the NIBP ports on Juno's right side shoulder.
2. Ensure the electronics tether from the NIBP arm is connected to the arm connector on Juno's right side.



***Juno's Right Side***

3. Connect the T-fitting extension to the hose.
4. Take the non-invasive blood pressure reading using the return-to-flow technique or by monitoring Korotkoff sounds.



***Attached Blood Pressure Cuff***

**Note:** Learners are not able to auscultate the blood pressure using a stethoscope.

## Gastrointestinal System

Juno produces realistic bowel sounds. Auscultation of normal and abnormal bowel sounds can be performed with the StethoSym utilizing the RFID tags. For further information, see *Using the StethoSym* in this user guide. In addition, gastric lavage and gavage can be administered.

### Gastric Gavage and Lavage

Juno has a gastric reservoir that allows for simulated nasogastric and orogastric placement for gavage and lavage. Before each use, ensure the reservoir has been drained completely. The reservoir should be primed with 150 ml of fluid before performing gastric suction.

### Nasogastric Tube Placement for Gavage

To practice gastric gavage, you only need to prime or fill the gastric reservoir if you want gastric secretions to be aspirated (suctioned back).

The gastric reservoir is located in the manikin's abdominal cavity.

**Note:** When using the gastric reservoir, place the manikin in an upright position with a minimum of 30° head elevation (not supine). This eliminates the risk of fluid contamination into the airway system.

To practice gavage and lavage techniques:

1. Attach a syringe filled with distilled water to the gastric fill and drain port located on the manikin's right side.



**Gastric Fill Port**

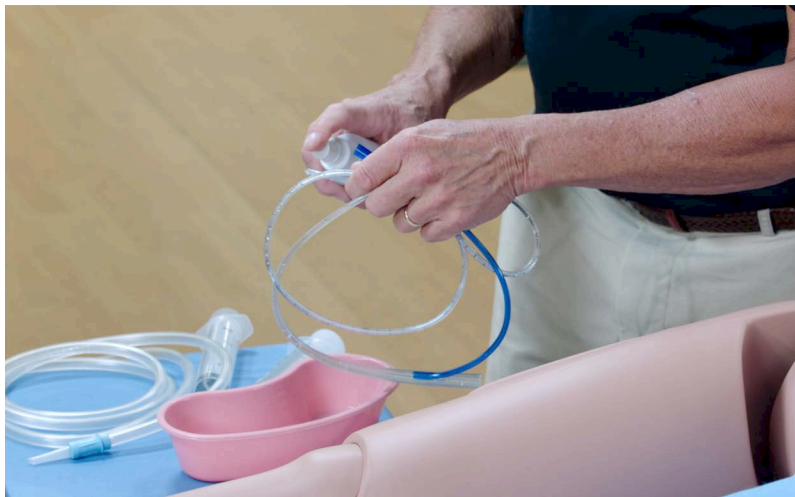
2. Remove the cap from the gastric overflow line.

3. Instill no more than 150 ml of fluid into the gastric reservoir.



***Instilling Fluid***

4. Spray the NG tube with silicone spray.



***Spray NG Tube with Silicone Lubricant***

5. Obtain an appropriate length measurement for NG Tube placement. Measure from the earlobe to the nose, then to the sternum.
6. Insert the tube and secure.



***Insert and Secure NG Tube***

You are now able to:

- Aspirate fluids using 100-150 mmHg of suction
- Instill fluids
- Connect to suction and empty the stomach

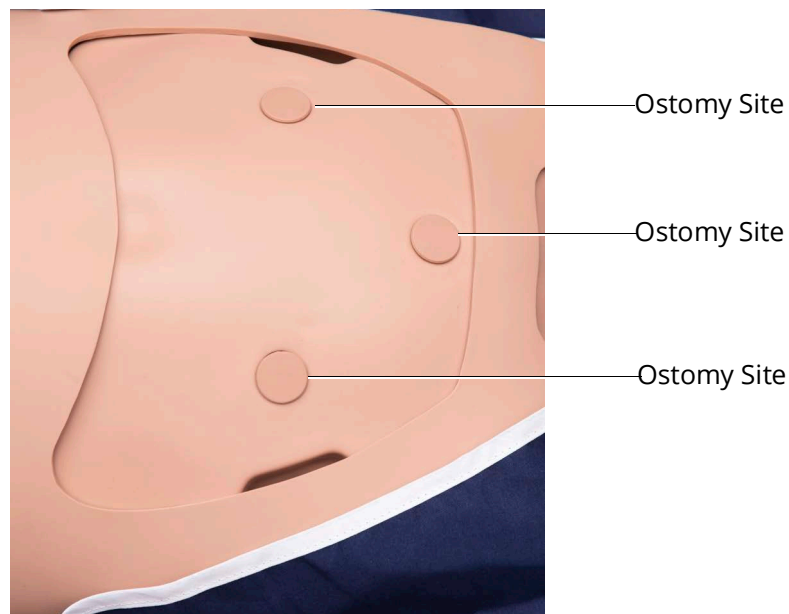
To empty the gastric reservoir, see instructions for draining in the *Care and Maintenance* section of this user guide.

## Ostomy Site Care and Irrigation

There are three stoma sites on the manikin's abdominal plate for stoma placement care and irrigation:

- Colostomy (Large intestine)
- Ileostomy (Small intestine)
- Cystostomy (Bladder)

**Note:** Stoma may be positioned at any of the three sites. A plug should be placed in any unused sites.



**3 Ostomy Sites**

To practice ostomy care and irrigation:

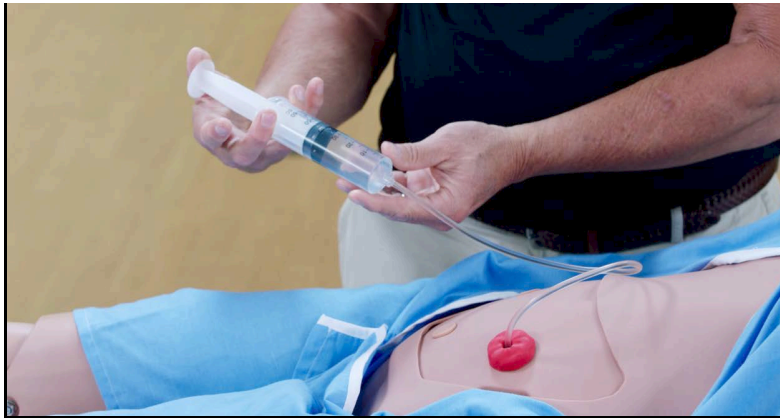
1. Find the site needed for the simulation and remove the plug.
2. Place a stoma insert into the colostomy site and prepare it for the simulation.



**Stoma Insert**

Fluid from irrigation is collected in the internal abdominal reservoir. Only irrigate the stomas with a maximum of 200 ml of fluid.

**Note:** DO NOT overturn abdominal plate once the stoma has been irrigated or fluid will release from the stoma opening.



**Stoma Irrigation**

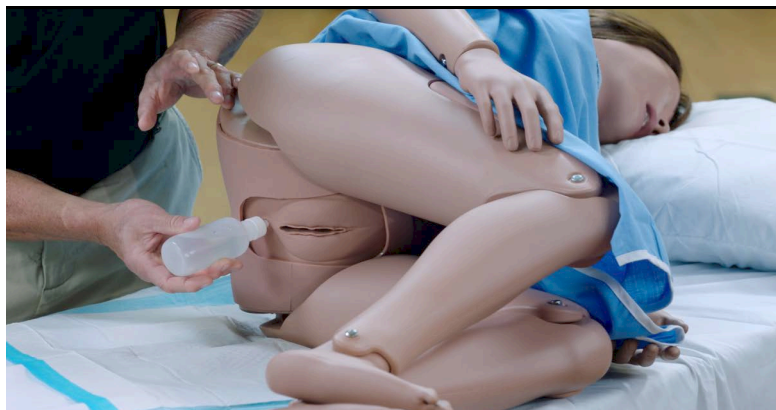
3. After the simulation, remove the stoma insert and replace the plug.

To empty the internal reservoir, see the instructions for draining in the *Care and Maintenance* section of this user guide.

## Enema Procedures

You can practice enema procedures with real fluids:

1. Fill the enema bag with up to 200 ml distilled water.
2. Remove cap on the overflow port.
3. Position manikin onto left side and locate the anus.
4. Lubricate three inches of the tubing, insert and instill enema fluid, not more than 200 ml as per procedure.
5. After the simulation, drain the enema reservoir. For instructions, see the *Care and Maintenance* section of this user guide.



**Performing Enema Procedure**

# Genitourinary System

Juno may be configured with either male or female genitalia, either of which allows for the insertion of a urinary catheter. The genitourinary system also provides for the excretion of urine.

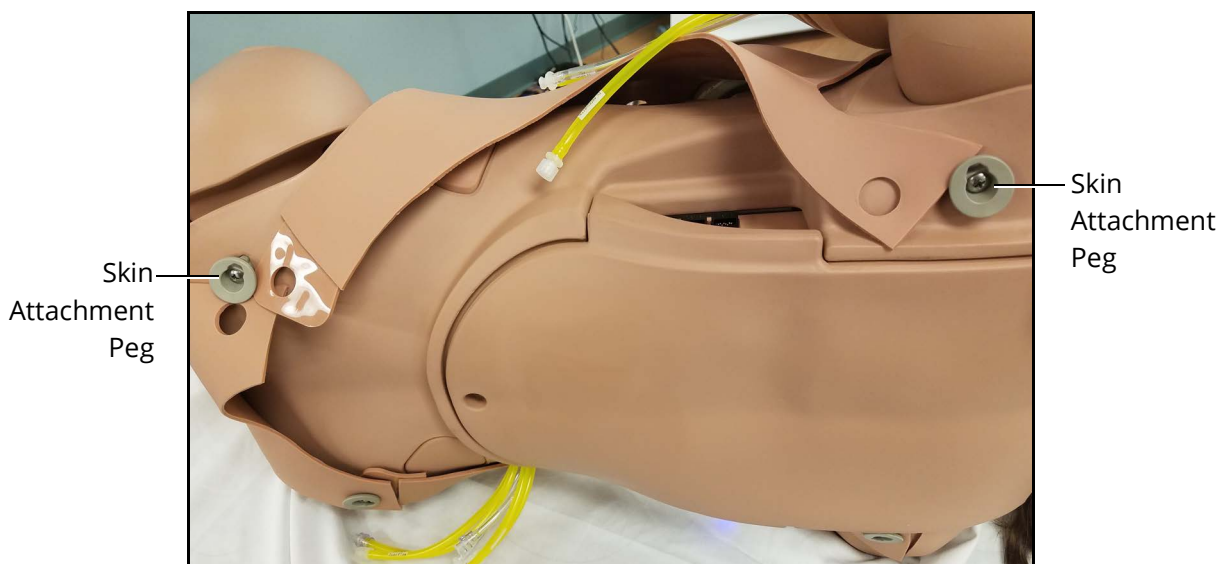
Catheterization may be practiced with or without fluids. For realistic catheterization with fluids, fill the urine reservoir:

1. Lubricate the urinary sphincter valve by placing silicone on a Foley catheter and moving it in and out of the urinary feature three times.
2. Remove the luer cap on the yellow urinary vent line.
3. Inject 60ml of water into the Fill line.
4. Close the Vent port with the luer cap.
5. Inject 80ml of air into the Fill port.

## Changing the Simulator's Genitalia

To change the genitalia:

1. Roll the manikin onto its side.
2. Detach the skin from the lower torso skin attachment pegs by gently pulling the skin tabs up and over the attachment pegs.
3. Repeat the procedure for both upper skin attachment pegs.



***Left Skin Detached from Attachment Pegs***

4. Roll the manikin onto its back.
5. Gently lift the chest skin off the manikin.

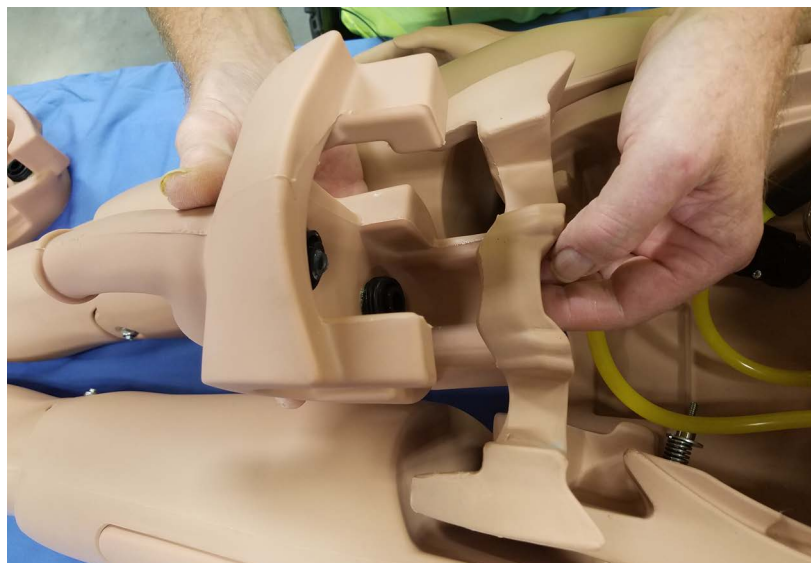


6. Remove the abdominal plate and set it aside.



***Abdominal Plate Detached***

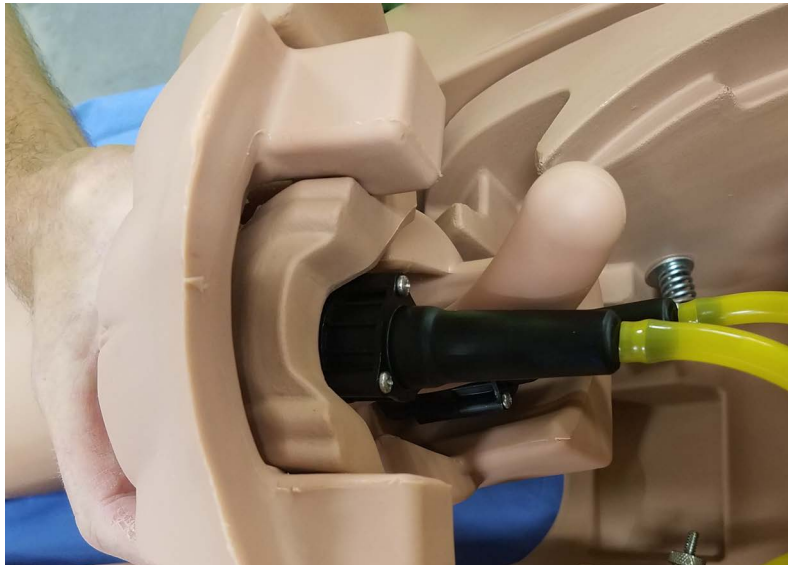
7. Gently pull the current genital insert upward to remove it.
8. Locate the tubing connecting the genital insert to the urine reservoir and enema reservoir. Turn the connectors counter-clockwise to disconnect.
9. Gently push downward to remove the genital from the pubic bone.
10. Attach new genitalia to the pubic bone.



***Attaching New Genitalia to the Pubic Bone***

11. Reconnect the urine reservoir connector to the upper port by turning the black connector clockwise.

12. Reconnect the urine reservoir connector to the lower port by turning the black connector clockwise.



*Urine and Enema Reservoirs Attached*

13. Gently place the new genital insert into position by pushing forward.

**Important!** Make sure the tubing is not tightly bent or kinked as this will affect performance and may damage the tubing.

14. Replace the abdominal plate.

To attach the alternate chest skin:

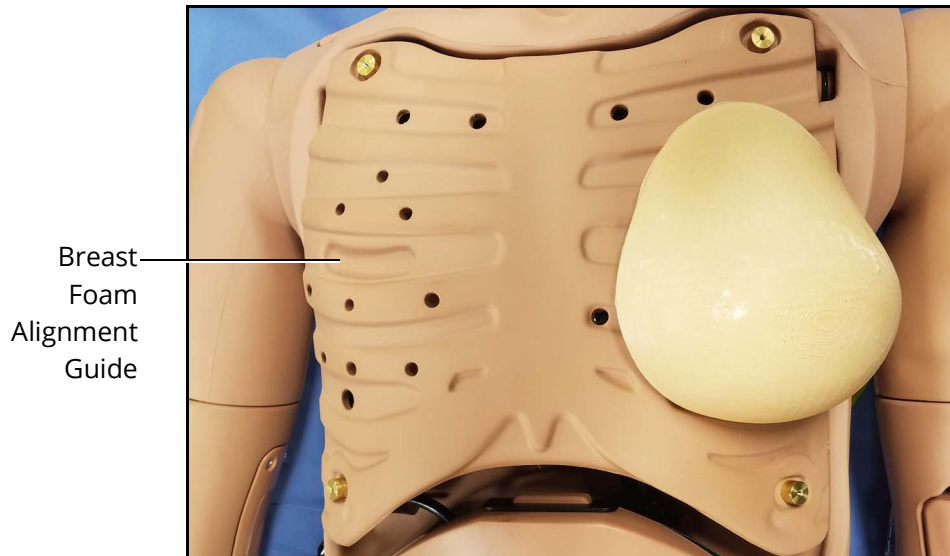
1. Position the new chest skin on the manikin and align the ECG holes.



*Aligning the ECG Holes*

2. Attach the upper skin tabs to the upper skin anchors.

**Note:** If converting from male to female, place and align the breast foam inserts on the female's chest prior to placing the chest skin. Use the breast foam alignment guides on the manikin to assist with proper placement.



***Breast Foam Alignment Guide***

3. Attach the lower skin tabs to the lower skin anchors.
4. Replace the wig (optional).

## Breast Examination

The Breast Exam optional module facilitates training in the recognition of breast disorders. These disorders are “movable” with the nodules placed within the openings on the inside of the breasts.



***Breast Exam Module***

To use the breast exam module:

1. Remove the female skin and breasts.
2. Place the nodules in the holes on the underside of the new breasts (movable). When placing the nodules, make sure to take the following size and hardness characteristics into account:
  - **Medium 15 mm soft** is difficult to feel when placed inside any of the breast holes.
  - **Medium hard** can be felt throughout.
  - **Large 20 mm soft** is difficult to feel if placed in the bottom row of holes inside the breast.
3. Place the breast on the chest plate and cover with the skin.

## Post-Mastectomy Care

This optional module allows learners to practice post-mastectomy care.



***Post-Mastectomy Wound Kit***

The kit includes:

- Post-operative left total mastectomy incision with staples
- Opening for drain tube to be placed under the skin
- Normal right breast

To use the Post-Mastectomy wound kit:

1. Remove the female skin from Juno.
2. Replace with the post-mastectomy skin.

3. Place the end of a drainage system through the hole and underneath the skin.
4. Moulage the drainage.

## Fundus Assessment

This optional module allows learners to train on fundus assessment and massage skills. It allows for the uteri to be placed at different heights from delivery through day three.

The fundus can also be offset due to bladder distention with the ability to perform urinary catheterization. Symphysis pubis and umbilicus landmarks are present.

The module demonstrates a post-partum vagina with elongated genitalia with swelling. The labia minora is set up to expose the vaginal orifice, a second degree midline episiotomy and a thrombosed external anal hemorrhoid.

To set up the module:

1. Place the bottom of the Fundus skin panty underneath the manikin (like a diaper is placed). This will be placed over the chest skin.
2. Remove the abdominal plate, and disconnect the black speaker connection.
3. Insert the metal bracket into the abdominal cavity.
4. Insert the foam padding on top of the metal bracket.
5. Add the desired uteri (boggy or hard) to the desired position.
6. Pull the top portion of the Fundus skin panty up and over the abdominal cavity. Secure it to the bottom skin.

## Medication Administration

The administration of medication using various routes of administration can be simulated through the software, or by the physical administration of simulated medication.

### Administration via Software

Certain medication administration can be simulated using the instructor software. For more information on administering medication in the software only, see the *Maestro for Juno User Guide*.

## Intravenous, Intramuscular/Subcutaneous, and Intraosseous Medication

Learners can administer medications via IM/SQ injection, IV cannulation or intraosseous injection. For more information on these medication administration techniques, see the *Cardiovascular* section of this user guide.

## Administering Suppositories

Up to five small, aspirin-sized suppositories can be administered via the simulator's rectum.

After the skills session, the suppositories must be removed and the rectum cleaned. For instructions, see the *Care and Maintenance* section of this guide.

## Ear Irrigation

Both ears can be used to practice irrigation techniques.

To irrigate ears:

1. Use the ear irrigation device filled with distilled water.
2. Place a towel under the manikin's head.
3. Place the tip of the device at the entrance of the ear canal and irrigate.



*Ear Irrigation*

## Eye Irrigation

Both eyes can be used to practice irrigation techniques.

To irrigate eyes:

1. Place a towel under the manikin's head.
2. Separate the eye lids.
3. Use the eye irrigation device to irrigate eyes.



*Eye Irrigation*

## Sounds

A variety of simulated sounds are available to enhance realism. Sounds are controlled through the instructor software and a patient must be running in the software for any sounds to be available.

To auscultate sounds on the Juno manikin, be sure to locate a stethoscope prior to beginning a simulation.

## Auscultated Sounds

To auscultate sounds on the Juno manikin, be sure to locate a stethoscope and set up the StethoSym prior to beginning a simulation.

**Note:** A patient must be running in the software for any sounds to be available. By default, **Normal** sounds are selected.

To change the sounds from normal, tap any one of the sounds on the **Type** drop-down menu.

To adjust the volume, tap and drag the **Volume** slider.

Sounds in specific/individual or all regions can be turned off using the ON/OFF toggle.

For more information on using these parameters, see the *Maestro for Juno User Guide*.

### ***Heart, Lung, and Bowel Sounds***

Heart sounds are synchronized with the cardiac cycle and lung sounds are independently synchronized with ventilation of the left and right lungs. Sounds can be adjusted by tapping the Sounds button on the Run screen in Maestro. When the Sounds panel appears, select one of the tabs: Heart, Lungs, or Bowel. Adjust all areas or isolate by changing the sound type per region, if applicable. Select the sounds from the Type drop-down menu. See the *Maestro for Juno User Guide* for complete details.



# CARE AND MAINTENANCE

Maintaining the simulator requires careful treatment of electronic and mechanical components. After use, make sure all components are properly handled and correctly removed or placed into storage.

**Note:** Many hardware components of the simulator and the Instructor Workstation are not user-serviceable. Contact CAE Healthcare Customer Support for any questions and concerns regarding hardware maintenance.

## CAUTION

Do not attempt to open or repair any simulator components without authorization from CAE Customer Support. Doing so may void the warranty.

## General Simulator Care

- Avoid the use of writing instruments and sharp objects near the patient simulator to prevent tears or unattractive markings in or on the skin.
- A mild detergent and warm water will remove most marks and stains. Gently rub the soiled area with a soft cloth. DO NOT use ABRASIVE soaps or pads.
- Lubricate airway adjuncts, urinary catheters, nasogastric tubes, and enema tubes with silicone spray prior to insertion. DO NOT use water-based lubricant.
- Prior to using moulage of any kind, and to make cleansing the simulator's skin easier, lightly apply petroleum jelly to the simulator's skin, followed by a light amount of talcum powder (unscented baby powder).
- If the IV sites have been used, remove the fluid as described in the breakdown procedure. Failure to drain and clean the systems may cause problems with the system.
- If the IM injection site(s) have been used, remove the fluid from the sponge inside the injection site pad as described in the breakdown procedure.

## Breakdown

To keep the simulator in good condition, follow the breakdown procedures below before storage.

For Juno Live and Complete configurations only: Before beginning breakdown and cleaning, power off the tablet and simulator.

1. Power off the Windows Surface GoPro instructor tablet:
  1. Tap the white back arrow at the top left of the Maestro run screen to exit the current simulation session.
  - b. Tap **Stop**.
  - c. Tap the **X** in the upper-right corner of the screen to exit Maestro.
  - d. The tablet desktop screen appears.

- e. Tap the **Start** menu icon in the lower-left corner.



**Start Menu**

A menu appears.

- f. From the menu, tap the **Power** button.
  - g. A menu appears.
  - h. From the menu, tap **Shut down**.
2. Power off the manikin: Press and hold the Power button located on the right side of the simulator for three seconds. The LED light will start blinking. When it stops blinking, the manikin is powered down.

#### Break down the Juno Simulator

1	Clean the manikin
2	Drain and clean the rectum
3	Drain and flush the IV
4	Maintain the IM injection site

## Step 1: Clean the Manikin

To clean the simulator, use a soft cloth and warm water with a mild detergent to wipe off any moulage materials on the manikin's skin. Gently rub the soiled area with a soft cloth to remove most marks and stains. DO NOT use solvents or abrasive pads.

Inspect the manikin for damage or puncture marks. If damage exists, contact CAE Healthcare Customer Service immediately for a repair. Prompt repair prevents expansion of the damaged area.

## Step 2: Drain and Clean the Fluid Reservoirs

Remove fluids from any reservoirs that were used in the simulation or practice session.

### *Aspirated Fluids Reservoir*

To remove any water in the reservoir and purge the circuit:

1. Connect an empty syringe to the Airway Suction Fill line and withdraw all remaining water.
2. Reinstall the tracheostomy plug on neck.

### ***Gastrointestinal Reservoir***

To remove any water in the reservoir and purge the circuit:

1. Place a Luer cap on the vent line.
2. Sit the manikin up so that water in the esophagus runs back to the tank.
3. Drain any remaining water from the tank by connecting an empty syringe to the Fill/Drain connection and drawing back until all fluid is removed.
4. Return the manikin to the supine position.

### ***Stoma Reservoir***

To remove any water in the reservoir.

1. Remove the stoma insert and replace it with the skin plug.
2. Detach the belly from the manikin and remove the belly speaker plate.
3. Remove the black cap to empty the tank into a sink or other container.
4. Return it to the manikin, ensuring the O-ring gasket is still within the cap.
5. Reattach the belly speakers.

### ***Urine Reservoir***

To remove any water in the reservoir and purge the circuit:

1. Insert a Foley catheter.
2. Connect a syringe filled with air to the fill port.
3. Inject air into the reservoir until all water is removed.
4. Remove the Foley catheter. (Do not store manikin with catheter inserted.)

### ***Rectum and Enema Reservoir***

If suppositories were administered, remove them and clean any residue from the rectum.

To drain the enema reservoir:

1. Cap the overflow port.
2. Attach syringe to enema fill/drain port on the manikin's right side.
3. Aspirate fluids.

**Note:** To ensure the reservoir is completely empty, place manikin in an upright, 90-degree sitting position and aspirate any additional fluid.

## Step 3: Drain and Flush the IV

If the simulation included use of optional IV administration equipment, perform the following procedure to remove fluids prior to storing the manikin:

1. Drain the remaining fluid from the IV tubes in the left arm.
2. If simulated blood was used, flushing the tubes with clear distilled water is recommended.
3. Fill a syringe with clear distilled water.
4. Attach the syringe to the appropriate IV prime port.
5. Infuse until clear fluid flows from the IV drain tubing.



***Flushing the IV Fill/Drain Tubing***

6. Disconnect the syringe and fill the syringe with air.
7. Flush the IV prime port with air until air flows from the IV drain tubing.
8. Disconnect syringe from IV prime port.
9. Disconnect the IV tubing and bag from the IV drain port.
10. Empty the IV bag.
11. Reconnect the IV tubing and empty IV bag to the drain port.

## Step 4: Maintaining IM Injection Site

If the simulation included use of IM injection equipment, perform the following steps prior to storing the manikin:

1. Remove the pad from the injection site.
2. Remove the sponge from inside the pad.



*Remove the Sponge from the IM Pad*

3. Squeeze all the fluid from the sponge and let air dry.



***Squeezing Fluids from the Sponge***

4. When dry, replace sponge back inside pad.
5. Replace the pad into the injection site.

## Storage

**IMPORTANT:** Do not attempt to open or repair any simulator components. Doing so may void the warranty. If damage exists, contact CAE Customer Service immediately for a repair. Prompt repair prevents expansion of the damaged area.

Prior to storing the product:

- Make certain all fluids have been flushed and drained from the manikin.
- Charge the manikin batteries.

Store all equipment and the manikin:

- Indoors
- In a dry location
- Protected from dust
- Away from direct sunlight
- Within the temperature ranges listed in the *Specifications* section of this user guide

Refer to the following short-term and long-term storage instructions for additional details.

## Short-Term Storage

Follow these guidelines for short-term storage (less than one month):

- Charge the computer and manikin to 100% to increase shelf life.
- Store the manikin on a work table and cover with a sheet.
- Store the manikin and battery in a cool location to extend the life and capacity of the battery.

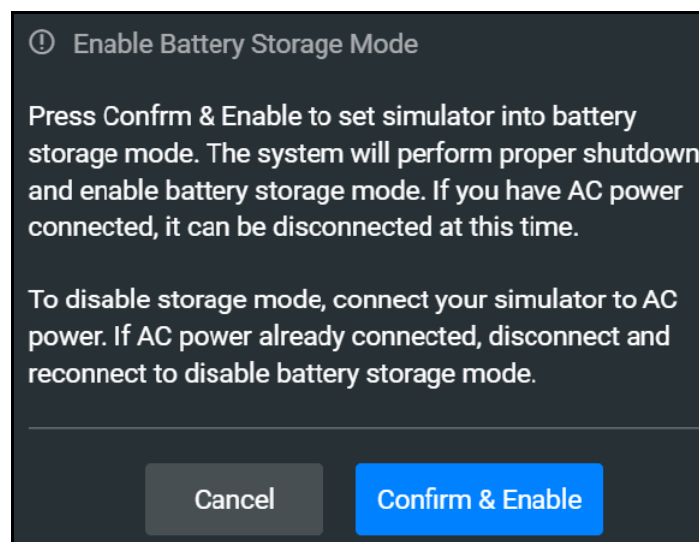
## Long-Term Storage

Follow these guidelines for long-term storage (more than one month):

Always charge the battery before storage. Charge the computer and manikin to 100% in order to maximize shelf-life. Follow the *Battery Safety Information* detailed in this User Guide.

Juno supports Battery Storage Mode for long-term storage. To enable:

1. Remove the power plug from the simulator.
2. Start Maestro, tap the Gear icon, and select System.
3. Tap on the Maintenance tab.
4. Enter the password: caeadmin.
5. Locate Battery Storage Mode, then tap on the Enable button.



**Enable Battery Storage Mode**

6. A popup window displays information about this feature. Tap on the Confirm & Enable button to place the batteries in storage mode. The manikin will begin a safe shutdown.

Complete the storage preparation:

1. Wait until both the manikin and Maestro have shut down.
2. Turn off the computer.
3. Place equipment into the storage box for safekeeping.

Store the manikin in the container the simulator arrived in and refer to the *Unpack and Repack Manual* (this document also was included when the simulator was shipped). Do not stand the container on its side with the manikin stored inside for long periods of time. The shipping container is approximately 2 feet (61cm) by 6 feet (183 cm).

Juno supports storage up to twelve months. After that period of time, the user will need to charge the simulator again.

To charge Juno after storage, plug the AC adapter back into Juno to remove the batteries from storage mode. The software will automatically turn the batteries back on and start the charging process.

**Note:** Prior to using the manikin again, ensure it reaches room temperature.



# APPENDIX A - RECOMMENDED CLINICAL SUPPLIES

Recommended Clinical Supply Sizes	
Urinary Catheter	16 Fr
Nasogastric Tube Insertion	14 Fr
Gastric Lavage / Gavage	14 Fr
Airway Suction	14 Fr
ETT	7 mm
Oropharyngeal Airway	100 mm
Nasal-Pharyngeal Airway	24 Fr
Tracheostomy Tube	6 mm
IV Cannula	20 g
Chest Tube	28 Fr

Other Clinical Supplies
Manual Bag Valve Mask (BVM)
Endotracheal Tube
Lighted Stylets

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For more information about CAE products, contact your regional sales manager or the CAE distributor in your country, or visit [caehealthcare.com](http://caehealthcare.com).

Tel +1 941-377-5562 or 866-233-6384

For customer service, please contact CAE.

**Customer Service Headquarters - United States**

Monday - Friday from 7:00 a.m. to 6:00 p.m. ET

Phone 1-866-462-7920

Email: [srqcustomerservice@cae.com](mailto:srqcustomerservice@cae.com)

**Customer Service - Canada**

Monday - Friday from 8:00 a.m. to 5:00 p.m. ET

Phone 1-877-223-6273

Email: [can.service@cae.com](mailto:can.service@cae.com)

**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

Email: [international.service@cae.com](mailto:international.service@cae.com)

**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@cae.com](mailto:uk.service@cae.com)

**Customer Service - Latin America**

Monday - Friday from 9:00 a.m. to 5:00 p.m. BRT/BRST

Phone +55 11 5069-1510

Email: [la.service@cae.com](mailto:la.service@cae.com)

**Customer Service - Asia Pacific**

Monday - Friday from 8:00 a.m. to 5:00 p.m. CET

Phone +49 (0) 6131 4950354

Email: [ap.service@cae.com](mailto:ap.service@cae.com)

