ATLAS JUNIOR THE ALS PEDIATRIC SIMULATOR P76

USER MANUAL   1024552, 1025235

ATLAS JUNIOR THE ALS PEDIATRIC SIMULATOR P76

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ATLAS JUNIOR THE ALS PEDIATRIC SIMULATOR P76

› PRODUCT INTRODUCTION

Atlas Junior is the ALS pediatric simulator by 3B Scientific used for conducting interdisciplinary and interprofessional emergency training. It offers extensive emergency-specific applications for advanced life support in simulation-based training and further training.

› DELIVERY CONTENT

1. Consumable bag
2. Atlas Junior charger
3. IM replacement

4. IO replacement
5. IV replacement
6. Lubricant

7. Luer lock pipe
8. Quick Start Guide
9. Carry Bag

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› FEATURES

Atlas Junior features:

- Atlas Junior replicates the anatomy of the airways, complete with tongue, epiglottis, vocal cords, trachea, esophagus and vallecula.
- Airway management - head-tilt/chin-lift or the Esmarch maneuvre.
- Ability to clear the airway includes simulated aspiration and removing inserted foreign bodies. No fluids.
- The airway of the simulator can accommodate extra-/supra-glottic airway alternatives and oral and nasal intubation.
- Advanced airway, for insertion of oral airways (OPA) and nasal airways (NPA).
- Intraosseous (IO) vascular access via the left tibia.
- Intravenous (IV) vascular access via the right antecubital fossa.
- Intramuscular (IM) access via the right vastus lateralis muscle.
- Tristate pupillary assessment (Normal/Constricted/Dilated)

Vallecula
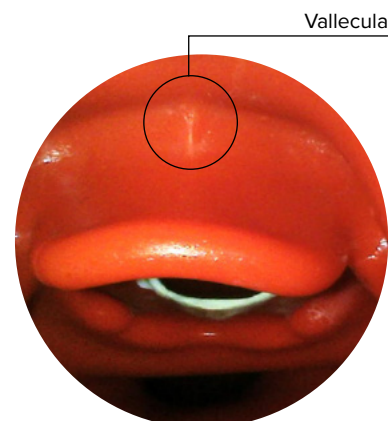
Atlas Junior features in combination with REALITi 360:

Atlas Junior works with REALITi 360 using Wi-Fi connection. By using on the fly or pre-programmed scenarios, the manikin and the virtual defibrillator interact. The following functions can be shown in combination with REALITi 360 depending on the monitor interface selected:

- CPR dashboard screen for viewing all relevant parameters and values of cardiopulmonary resuscitation according to the AHA & ERC Guidelines.
- Atlas Junior allows observation and recognition of vital sign such as bilateral carotid pulse.
- Automatic simulation control based on pre-programmed scenarios.
- Compression artifact waveform displayed in the ECG and information of the hand position, compression depth and rate displayed when performing chest compressions.
- Ventilation-triggered EtCO2 waveforms provide information on ventilation rate and inspiratory tidal volume.
- Carotid pulse when using a perfusing rhythm (Systolic >50mmHg).
- Using dynamic vital signs provided by REALITi 360, Atlas Junior can simulate different emergency scenarios including cardiac arrest that require a wide range of invasive procedures.
- REALITi 360 extends the therapy options to defibrillation, cardioversion and pacemaker application on the real or generic monitor. The bilateral carotid pulse feature allows to determine the indication and success of applied intervention.

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› GENERAL HANDLING

Before using Atlas Junior keep in mind these safety instructions

- Wear gloves as required during simulation scenarios.
- Avoid using colored plastic gloves, as they may cause discoloration.

- To maintain Atlas Junior skin, wash hands before use and place Atlas Junior on a clean surface.
- To avoid permanent staining avoid the use of ink pens, felt-tipped markers, acetone, or iodine.
- Avoid placing Atlas Junior on newsprint or colored paper.
- After using Atlas Junior, remove glue residue from Atlas Junior skin with 70% ethyl alcohol wipes, if necessary.

- Ensure that Atlas Junior is properly secured during transportation to prevent personal injury or damage to the product.
- Always lubricate (silicon oil) the airway device (tracheal tubes, iGel) before inserting it in the airway.

- The device may only be stored and charged in dry rooms.
- Operating temperature: -10 °C up to +35 °C
- Storage temperature: -10 °C up to +35 °C
- Air humidity: 15% - 80%

- Only use the charger provided by the manufacturer.
- Charger connection specifications: Input USB-C 5V / 2A
                                     12.6V = 2200 mAh
- Recommendation: Once the battery is fully charged, take it out of the charger. Getting the manikin overcharged puts more stress on the battery and can shorten the battery life.

- Follow the instructions and keep in mind the warnings while using the product.

› SAFETY INSTRUCTIONS

To ensure optimum performance and durability of Atlas Junior, read and follow the user information and warnings:

- Ø **DO NOT** perform mouth-to-mouth or mouth-to-nose rescue breathing on Atlas Junior.
- Ø **DO NOT** introduce fluids into Atlas Junior with the exception of IV/IO/IM system.
- Ø **DO NOT** use electrotherapy or a live defibrillator or AED.
- Ø **DO NOT** use sharp objects in the airways.
- Ø **DO NOT** create a surgical airway.
- Ø **DO NOT** perform a relief puncture or inserting thoracic drains.
- Ø **DO NOT** use if there are signs of electrical malfunction, or unusual smell of smoke.
- Ø **DO NOT** use oxygen.
- Ø **DO NOT** use damaged chargers.
- Ø **DO NOT** take the battery apart. Never try to take the battery out of the device.
- Ø **DO NOT** try to repair the device yourself.
- Ø **DO NOT** use live defibrillators.
- Ø **DO NOT** use live cardiac pacing.

› INSTALLATION

Atlas Junior is 1.10 m tall, weighs 7 kg and comes in two different skin tones. Atlas Junior can be charged using the provided charger and can be used wirelessly during training sessions.

Atlas Junior features a color-coded indicator on the right side of its body, which serves to display the status of its Wi-Fi connection through different colors: a green light indicates that a Wi-Fi connection has been established, a blue light appears when bluetooth speaker connection is established and a red light indicates that SSID name & password is ready to be changed.

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› AIRWAY

Atlas Junior replicates the anatomy of the airways, complete with tongue, epiglottis, vocal cords, trachea and esophagus. Use Atlas Junior to practice positioning of the head, manual maneuvers to open the airway and apply compatible aids for realistic airway management.

The airway can be opened by tilting back the head or by using the Esmarch maneuver. Other methods to clear the airway include simulated dry aspiration, removing inserted foreign bodies and inserting Guedel tubes (OPA) or Wendl tubes (NPA).

When single-assistant or dual assistant bag mask ventilation (BVM) is performed correctly on Atlas Junior there is a visible expansion of the thorax.

Nasal or oral intubation can be performed using a size 5.5 endotracheal tube (ET). For optimal intubation, use the improved Jackson position and the BURP maneuver. To intubate use a classic laryngoscopy, or video laryngoscopy.

Recommended tube sizes:
- Oraltracheal tube 5.5
- Nasotracheal tube 4.5
- iGel 2
- Laryngeal mask 2.5
- Laryngeal tube 2
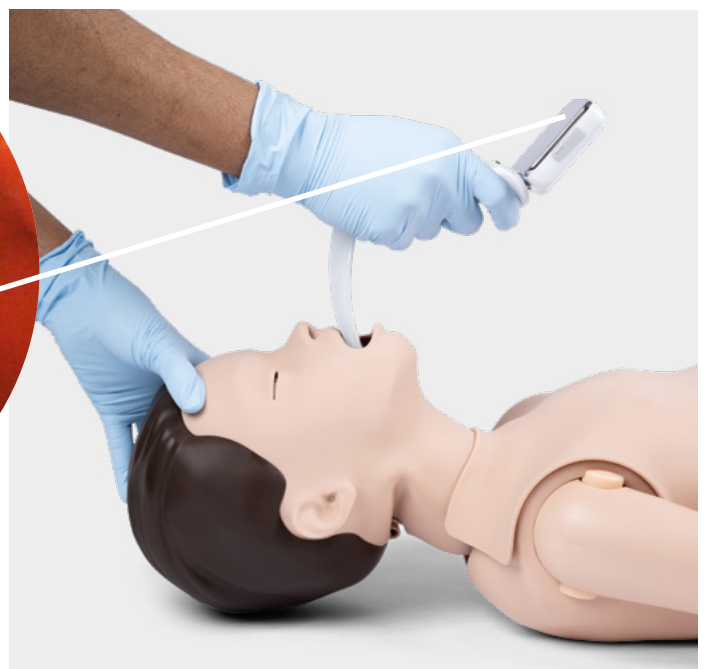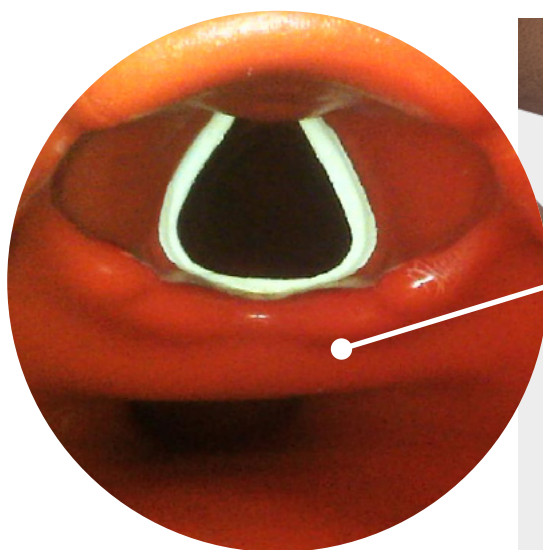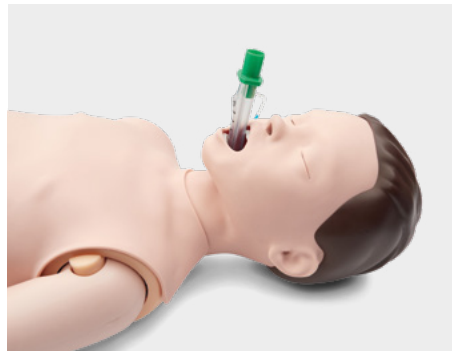
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By using auscultation and checking for an excursion in the thoracic region, you can determine whether bag-mask ventilation was performed correctly and if the airway was properly cleared. Likewise incorrect right stem intubations can be confirmed when there is chest excursion and lung sound in the right side. Use auscultation to check for an excursion in the abdomen to determine esophageal intubation.

Supra-glottic airway alternatives like, iGel, Laryngeal Masks (LMA) and Laryngeal Tubes (LT) can be used in accordance with manufacturers' instructions. Moreover a gastric probe can be inserted. Second generation airway option make it possible to insert a gastric probe.
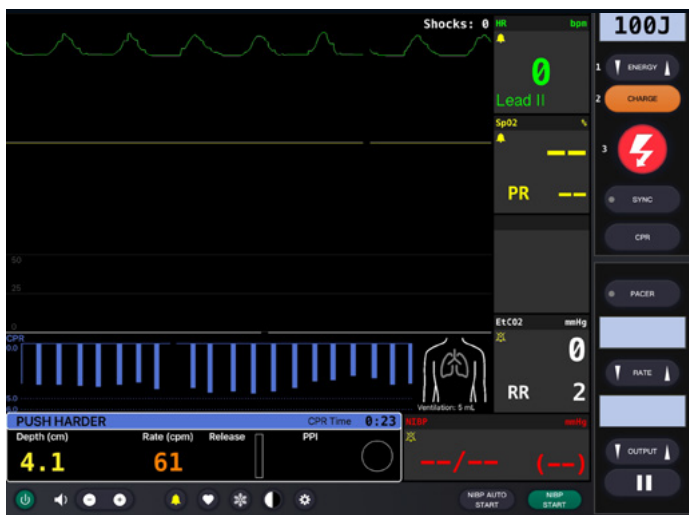
➜
Note:
Prior to using airway adjuncts, apply a small amount of silicon airway lubricant to the equipment.

In order to see the inspiratory tidal volume use the quality CPR Dashboard and generic defibrillator screen from REALITi 360.

➜
Lung Specification
- Max tidal volume: 300 mL
- Max airway pressure: 6.92 kpa

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› CPR

Atlas Junior replicates the anatomy of a rib cage and enables thoracic compressions to be carried out in accordance with the resuscitation guidelines.

Thoracic compressions can be performed intermittently or continuously with bag-mask ventilation providing a realistic resistance of the chest during CPR.

The CPR dashboard screen and Generic Defibrillator gives you feedback on the hand position.

With the use of REALITi 360 resuscitation artifact displays on the ECG tracing, in addition to the compression rate and depth being displayed on the monitor.

The CPR Dashboard screen and Generic Defibrillator allows:

✓ Compressions that generate ECG artifacts
✓ Realistic compression depth and resistance
✓ Detection of depth, release, and frequency of compressions
✓ Real-time view of Quality of CPR on the CPR Dashboard
✓ Detection of hand position
✓ Compliant with ILCOR resuscitation

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› CIRCULATION

Atlas Junior features an IV site for peripheral line placement on the right arm, an IO site on the distal tibia, and an IM site in the vastus lateralis muscle. When administering medication through the IV pad, IO access site, or IM access, connect a drain bag to the Luer lock adapter to manage fluids.

→ **Recommended puncture sizes**
- IV: ≤20G
- IO: drilling system

To change the IV pads, IO insert and IM insert, remove them from their original position and disconnect them from the drainage system. Then connect the replacement to the drainage system and place the new training pad in the slot. At the end of the training session, we recommend drying, removing the cannulas, and taking the drainage system apart.

When the day's sessions are done, flush the IV/IO/IM sites with air to remove any fluid/liquid in the system. Connect a syringe filled with air to the IV/IO/IM catheter and flush the IV pads/IO insert/IM insert with air until only air exits the overflow tube.
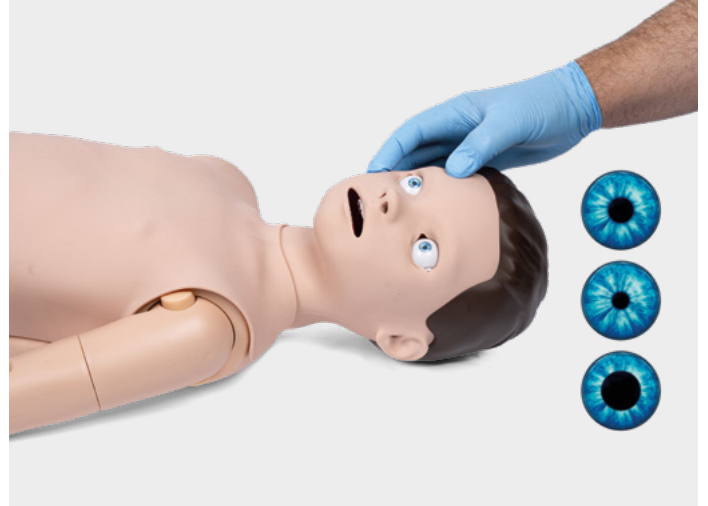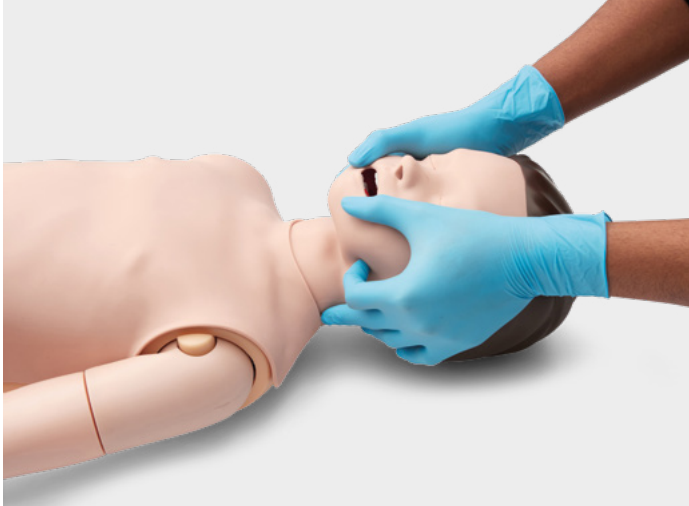
Replacement of IV sites

Replacement of IO/IM site
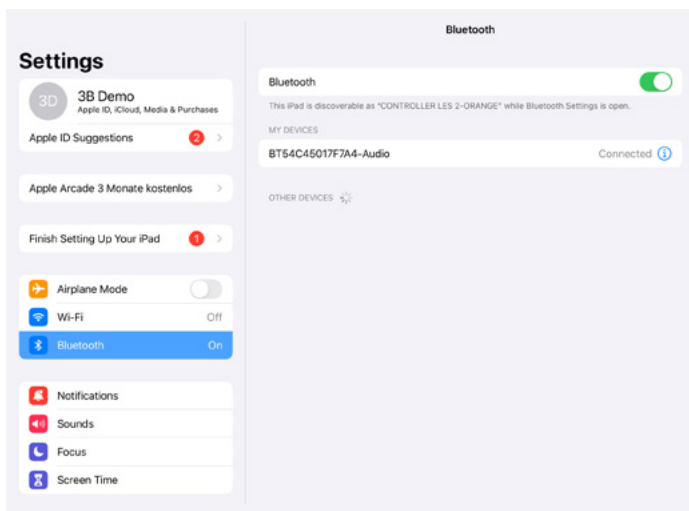
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› NEUROLOGICAL

Atlas Junior features a versatile pupillary assembly, offering three distinct eye states: normal, constricted, and dilated. Easily adjust the eyes by gently rolling open or closing the eyelids.

› AUDIO

Atlas Junior features a speaker integrated into the manikin. This speaker can be connected using the iSimulate iPad to access a variety of sounds from the REALITi sound library.

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❯ HOW TO CONNECT ATLAS JUNIOR WITH REALITI 360?

Scenario 1: Your existing Wi-Fi router is called iSimulate-5.0

1. **Power Up:** Start by turning on your iSimulate-5.0 router.

2. **Wi-Fi Connection:** Ensure both the REALITi Monitor iPad and the Control iPad are connected to the iSimulate-5.0 network.
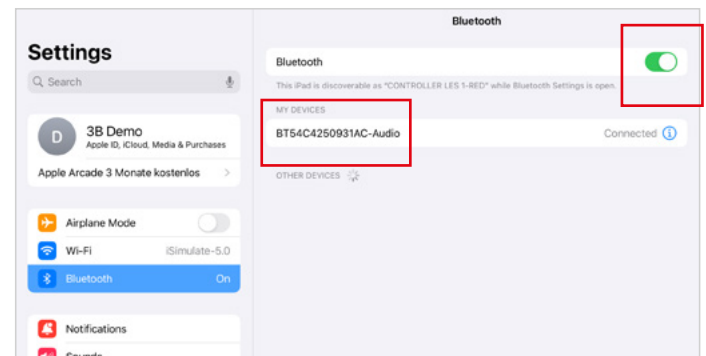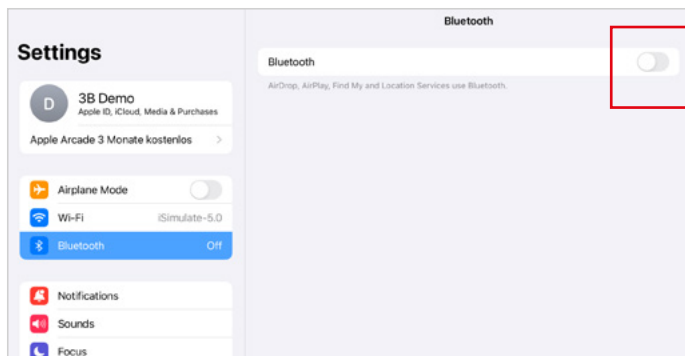
   WiFi Name: iSimulate-5.0
   Password: iSimulate2012
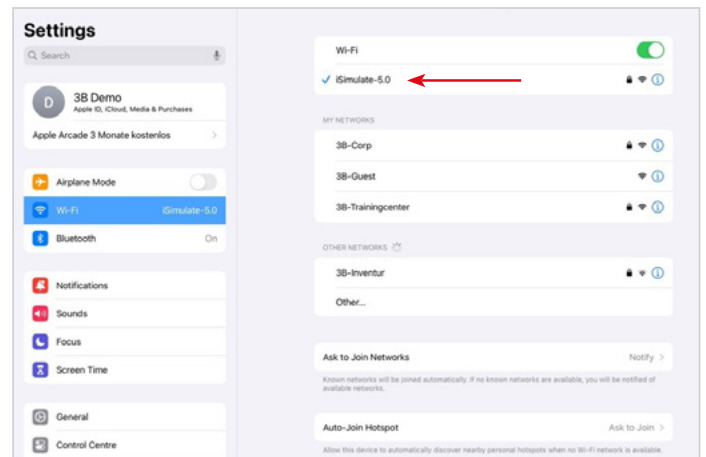
3. **Turn On Atlas Junior:** Locate and press the power button on the right side of the manikin, which will automatically join the iSimulate-5.0 network.

4. **Bluetooth Settings:** Disable Bluetooth on the Monitor iPad, but enable it on the Control iPad to pair with Atlas Junior's Bluetooth.
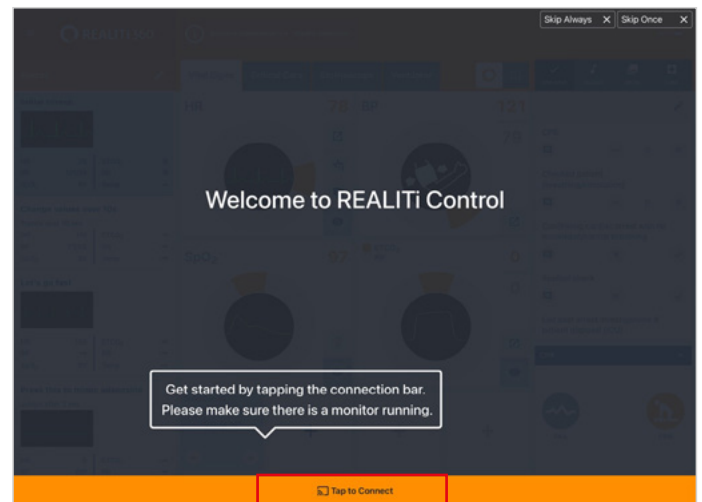
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5. **Launch REALITi App:** Open the REALITi app on both iPads, selecting 'Staging' on the Monitor and 'Control' on the Control iPad.


6. **Connect iPads:** Use the 'Tap to Connect' feature on the Control iPad to link both devices.

   If the Monitor iPad does not appear in the list, check that the Staging iPad and the Monitor iPad are both connected to the Wi-Fi network of your REALITi router: iSimulate-5.0 (both iPads must be on the same Wi-Fi network).

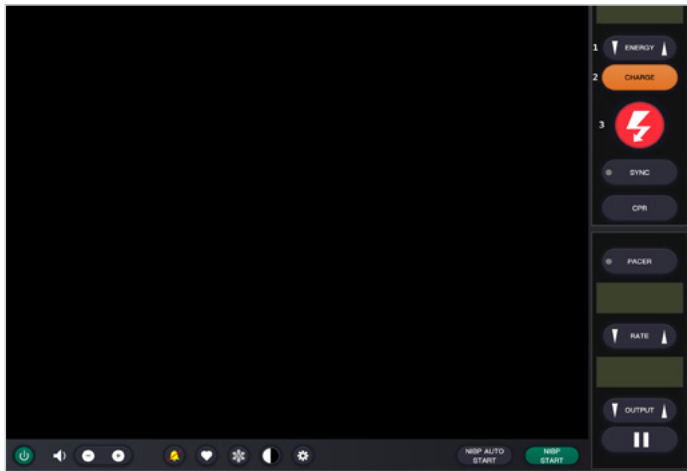7. **Choose and Start a Scenario:** From the Control iPad, select a scenario or monitor setup to begin.
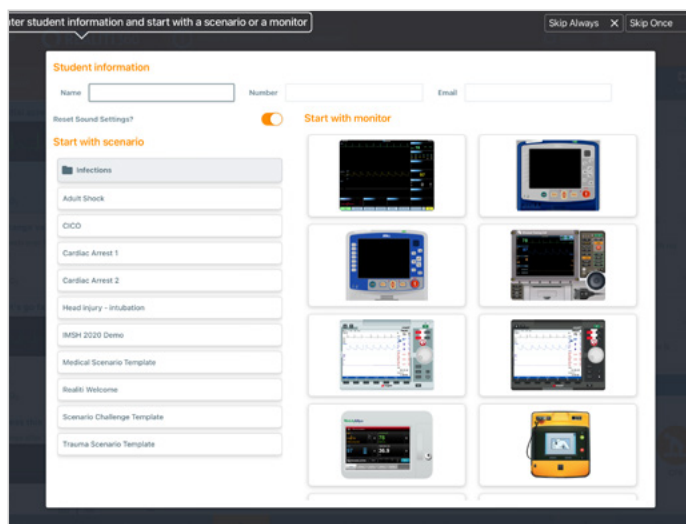
8. Select a scenario or monitor and tap the 'Start' button. Launch the Defibrillator from the main menu on the iPad:
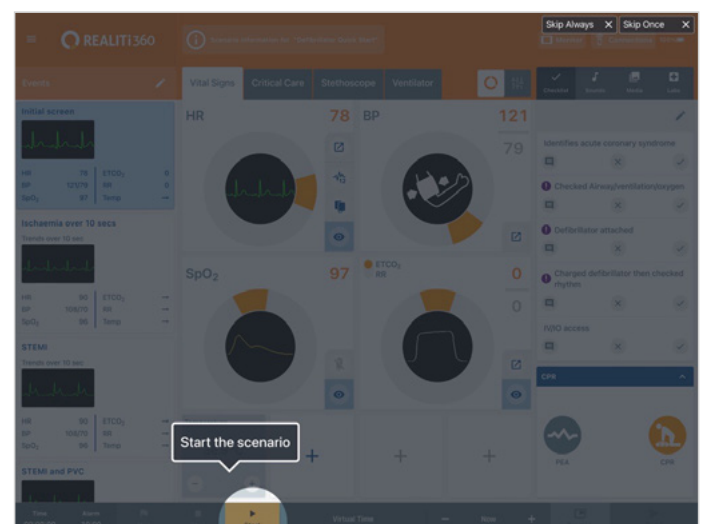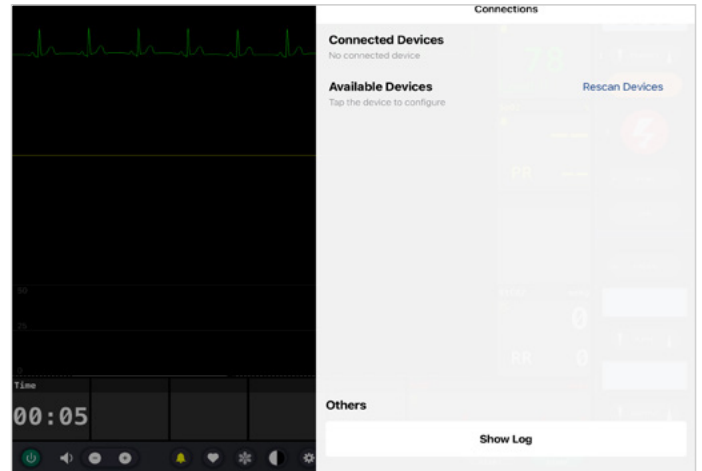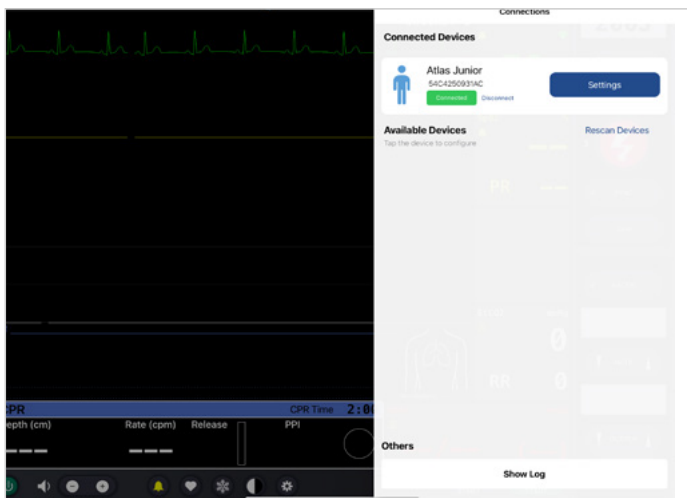
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9. On the Monitor iPad, the scenario or monitor selected from step 7 should appear. Start the defibrillator.

10. **Scan for Atlas Junior:** Swipe in from the right screen edge of the Monitor iPad to show the 'Available Devices'.

11. Tap 'Rescan Devices'. From the available devices select 'Atlas Junior' by tapping 'Connect Device'. The connected Atlas Junior will be calibrated automatically. The manikins will simulate a carotid pulse.

12. **Commence Simulation:** Compress the manikin. You will be able to see the CPR compression in the ECG waveform and the bar graph.
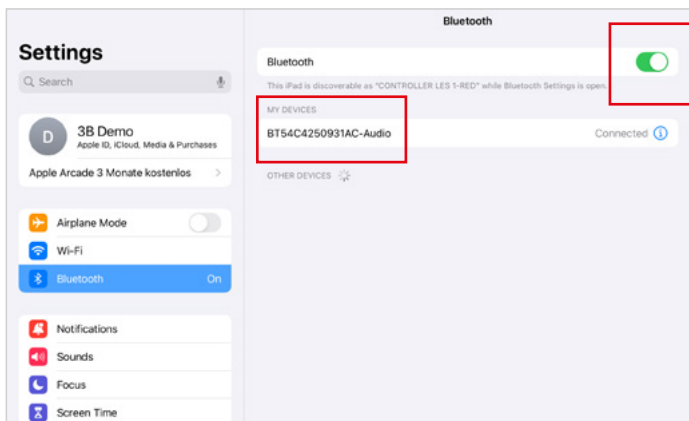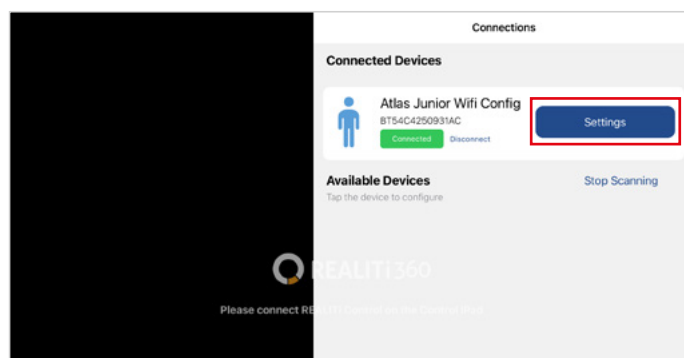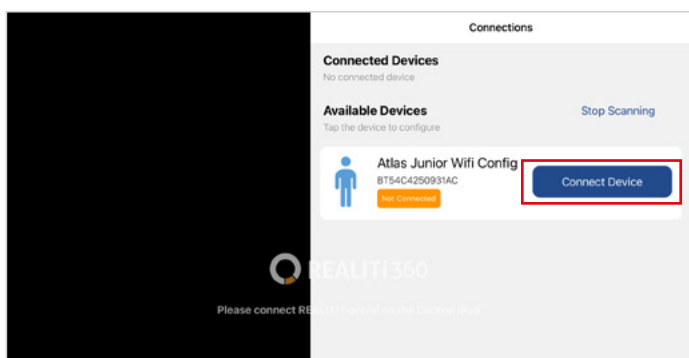
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❯ HOW TO CHANGE THE WI-FI SETTING ON ATLAS JUNIOR?

Scenario 2: Your existing Wi-Fi router is not called iSimulate-5.0

1. **Bluetooth Settings:** On the Monitor iPad, switch on the Bluetooth and connect to Atlas Junior.

2. **Launch REALITi App:** On the Monitor iPad start the REALITi app and select the 'Staging' button:


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3. **Scan for Atlas Junior:** swipe in from the right edge of the Monitor iPad's to reveal the 'Available Devices' menu. Select 'Rescan Devices' and choose 'Atlas Junior Wi-Fi Config' from the list by tapping 'Connect Device.'

4. Upon successfully connecting to 'Atlas Junior Wi-Fi Config,' access the 'Settings'.

5. **Rename Wi-Fi SSID:** The Atlas Wi-Fi settings will show up, allowing you to customize the Wi-Fi network name to match your router. Ensure that both the Wi-Fi SSID (name) and password align with your Wi-Fi router.
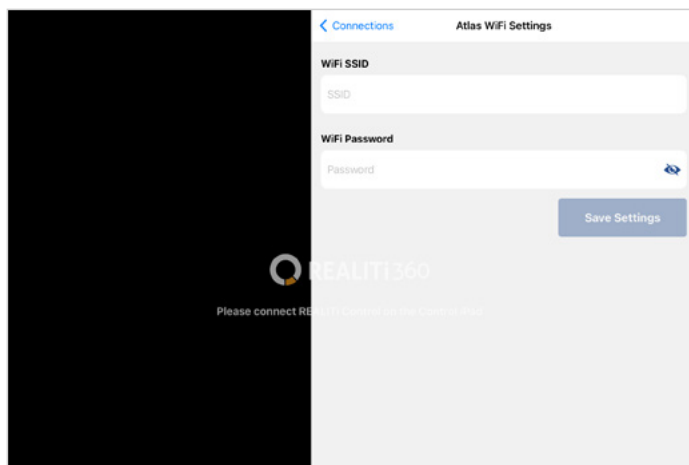
6. After entering the desired Wi-Fi SSID and password, tap 'Save Settings' to apply the changes successfully to the Wi-Fi configuration.
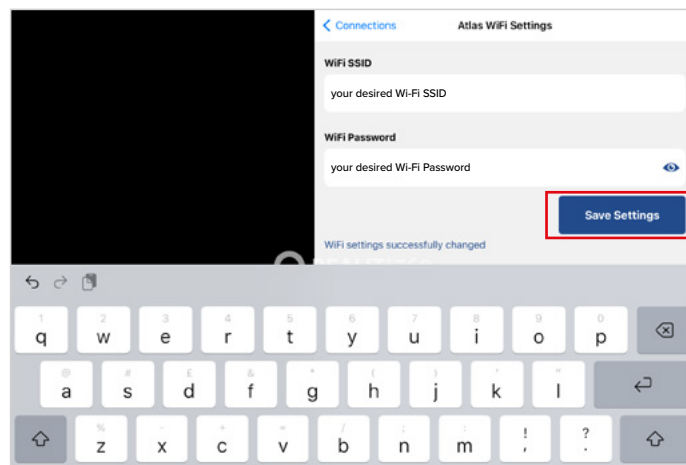
7. Exit the app by double tapping the home button and swipe the app's preview card upward to close.

8. Turn off Atlas Junior.

9. Connect the Monitor iPad and the Staging iPad to the Wi-Fi network of your router. Both iPads must be on the same Wi-Fi network.

10. Follow step 3 to step 12 from scenario 1.
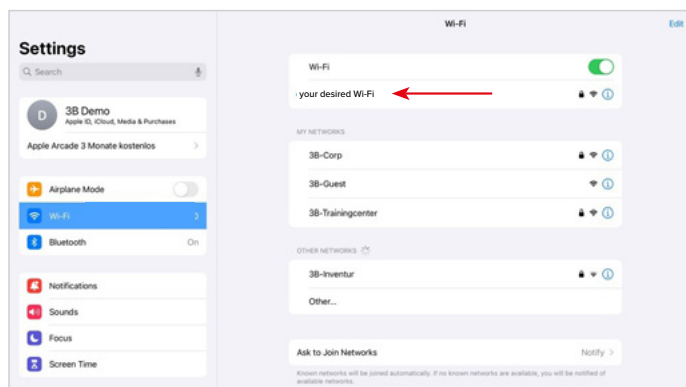
Atlas Junior is ready to start!

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❯ FAQ

My Atlas Junior is unable to connect to REALITi?

Cause	Solution

Incorrect Wi-Fi Network selected	• Connect to the correct Wi-Fi on both iPads
	   NOTE: Default SSID Wi-Fi "iSimulate-5.0"
	        Default password is "iSimulate2012"
	
	• If operating more than one Atlas Junior, ensure that each simulator has its own unique SSID name. If operating more than one Atlas Junior, ensure each simulator has its own router/network to connect to.
	
	   NOTE: Follow the procedure from the Quick Start Guide
	        (How to connect Atlas Junior with REALITi360?)

REALITi 360 App is not updated	Go to the App Store on both your iPads and update the REALITi 360 app to the latest version available
Atlas Junior too far from Wi-Fi	Move your network and REALITi system closer to Atlas Junior

My connection with REALITi and Atlas Junior is lost?
Multiple network connections may interfere with transmissions between REALITi and Atlas Junior.
Forget other networks on both your iPads beside the network required to connect with Atlas Junior. Default network is "iSimulate-5.0"

How to change the Wi-Fi setting on Atlas Junior?
The steps are available on page 13 of the Atlas Junior manual.

Atlas Junior airways have become contaminated from mouth-to-mouth resuscitation
DO NOT perform mouth-to-mouth on Atlas Junior. If damage is reported:
• Clean the outside of Atlas Junior with manikin wipes.
• Clean the inside of the oral cavity with manikin wipes.
• Change the lung bag.

No chest rise visible on Atlas Junior
• If chest-rise is unilateral, ETT may be inserted into the right main stem bronchus. Correct the insertion of the ETT.
• Lung bag is leaking or tubing to lung is twisted, kinked, or disconnected for which the lung bag will need to be replaced.
• Seal the airway.
• Check air tubing for leakage.
• Check that all connections are intact.
• Replacing tubing if necessary.

Atlas Junior carotid pulse can not be felt
The following may be the cause:
• The blood pressure is set below 50mmHg Systolic.
• The connection is lost between the REALITi 360 app and Atlas Junior.
• Non-perfusing cardiac rhythm
• PEA rhythm

Atlas Junior is not connecting to the BT speaker
• Open Settings on your iSimulate iPad and switch on Atlas Junior.
• Tap Bluetooth.
• Toggle Bluetooth on.
• Select the device 'BT...-Audio' from the list.
• Once connected, you'll see the device listed as "Connected" under My Devices.

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› REPLACEMENT PARTS

Consumables		Item No.
Chest skin spare part	light skin	1025364
	dark skin	1025422
IO replacement	light skin	1025362
	dark skin	1025420
IV replacement	light skin	1025358
	dark skin	1025417
IM replacement	light skin	1025363
	dark skin	1025421
Lung bag		1025365
Stomach bag		1025366
Carry Bag		1025367
Left and Right Legs (w/o IO/IM)	light skin	1025360
	dark skin	1025419
Torso Connector		1025361
Right arm (w/o IV pad)	light skin	1025357
	dark skin	1025416
Left arm	light skin	1025356
	dark skin	1025415
Arm Connector		1025359
Battery charge		1024326

› TECHNICAL DATA

Operating temperature: -10 °C up to +35 °C
Storage temperature: -10 °C up to +35 °C
Air humidity: 15% - 80%

› CONTACT INFORMATION

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