



# RealMom



3B Scientific

Operative Experience

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# The RealMom Simulator System

The RealMom simulator system includes a full-body birthing female manikin and a full-term baby manikin for realistic natural deliveries. RealMom features relevant bony landmarks, accurate anatomy, lifelike skin and naturally elastic soft tissue, an active birth canal with real-time dilation and fetal station progression controlled by touch screen software. RealMom sets up easily and requires no complicated programming or maintenance. Though RealMom has the durability required to perform consecutive birthing simulations throughout the day, she should be treated as you would a human patient.

Two iPads (or, alternatively, two Android tablets) are provided for the instructor and trainee, but the simulator may also be run on any device with a browser and wireless capabilities.

## Product Components

Each wireless, full-body female simulator comes with all the components needed to perform multiple delivery scenarios.

RealMom Simulator	1
Baby with Placenta Cord	1
Case with Casters	1
iPad (or Tablet)	2
iPad Case (Tablet Case)	2
iPad Set-Up Instructions	1
Fake Blood (Bag)	1
Fake Urine (Bag)	1
Amniotic Fluid (Bag)	1
Lubricant (Bag)	1
Glycerin (Bottle)	2
Hospital Gown	1
Pair of Socks	1
User Manual	1

## External Access

RealMom is designed for realism, with only a few external access points:

- A skin slit with flap in the abdomen for insertion of the baby manikin
- Fluid infusion ports located on the left shoulder for blood, amniotic fluid, lubricant and urine
- A power receptacle located on the right shoulder

# Caring for Your Simulator

**Treat the simulators as you would human patients.**

## Technical Support

Simulators must be serviced by qualified OEI technicians only.

To schedule service, contact:

Operative Experience Inc.  
500 Principio Parkway West  
Suite 900  
North East, MD 21901

Phone: 410-287-5748

Email: support@operativeexperience.com

## Lubrication

Glycerine (or cotton seed oil) should be used liberally to lubricate both the baby and placenta and the inside and outside the vaginal area.

## Use and Treatment

The simulators are durable, but not indestructible. RealMom weighs 130 pounds, so be sure to take the necessary safety steps to ensure she is lifted and moved properly. RealMom is water-resistant, but not waterproof, so do not immerse the simulator in water.

## Cleaning

Simulators can be wiped clean with a simple solution of mild soap and water.

## Storage

Simulators should be dry, fluid free, and without clothes during long-term storage. See *Storing the Simulators* below. The blood flow system does not need to be flushed for overnight storage, but must be for long-term (one week or more) storage. See *Flushing/Cleaning the Bleeding System* below.

## Troubleshooting

User-troubleshooting is restricted to the functions described in this manual. Simulator electronics are inaccessible and should only be serviced by qualified OEI technicians.

# RealMom

Every simulation with RealMom requires preparation and use of the female manikin, the baby manikin, and the OEI Sim Application for instructor control and the patient monitor.



Figure 1: RealMom and Baby

The full-body female manikin measures 65”H x 23.6”W x 11”D (165cm x 60cm x 28cm), weighs 130 pounds (59kg), and is available in diverse skin tones. With natural feeling skin and soft tissue, the female manikin has articulating legs, an authentic pelvic structure, a massageable fundus, and a naturally dilating cervix for realistic deliveries.

The full-term baby manikin measures 10”H x 5”W x 7”D (25.4cm x 12.7cm x 17.78cm), weighs 6.3 pounds (2.85kg), and has a realistic placenta and umbilical cord. Once placed inside the female manikin, the baby may be moved through the fetal stations using software commands.

Two iPads (or Android tablets) are included with the simulator with the OEI software used operate the Instructor Control Interface (for instructors) and the Virtual Monitor (for trainees). The OEI Sim Application can be projected onto a screen for large-scale viewing in a classroom or laboratory.

The OEI Sim application can be downloaded from Google Play™ or the App Store by searching for an App using OEI Sim or Operative Experience as your search criteria (see *Configuring the Tablets* below).

# Understanding the Tablets

The Instructor Interface tablet is used to start and stop the simulation, control the features and provide you with a log with a record of the simulation. In Trainee mode, the software on the tablet provides learners the ability to view information on RealMom's vital signs along with an ECG and the fetal heart beat. Alternative devices can be used when the Operative Experience software has been installed.

## Configuring the Tablets

Prior to their first use, the tablet should be configured with the OEI Application, which can be downloaded from the App Store (for iOS devices such as the iPad) or the Google Play Store (for Android devices). For additional information on how to install the software, visit the Operative Experience Support page (<https://operativeexperience.com/support/>), which has links to pages with detailed information about downloading and installing applications.

### Downloading from the Apple App Store

For all iOS devices, the App Store is a default application on your screen. You'll need an Apple ID to download and install the OEI application using either the App Store (or iTunes®).

1. Click the App Store icon to go to the store's page.
2. Use the Search field (i.e., the field with the magnifying glass) and enter OEI Sim or Operative Experience as your search criteria.
3. Select the OEI APP and click Get.
4. Click **Install**.

You can also access the application by going directly to <http://appstore.com/oeisim>.

### Downloading from the Google Play Store

For most Android devices, the Play Store is a default application on your screen. To download

1. Click the Play Store icon (or go to <https://play.google.com/store>) to go to the store's page and select **Apps**.
2. Use the Search field (i.e., the field with the magnifying glass) and enter OEI Sim or Operative Experience as your search criteria.
3. Click the OEI APP icon.
4. Click **Install**.

You can also access the application by going directly to

<https://play.google.com/store/apps/details?id=com.operativeexperience.oeiapp>.

## Configuring the Wireless Connection

When you first configure the wireless connection (or, if the tablet's Wi-Fi doesn't recognize the simulator network) a page appears with a field for the Simulator IP.

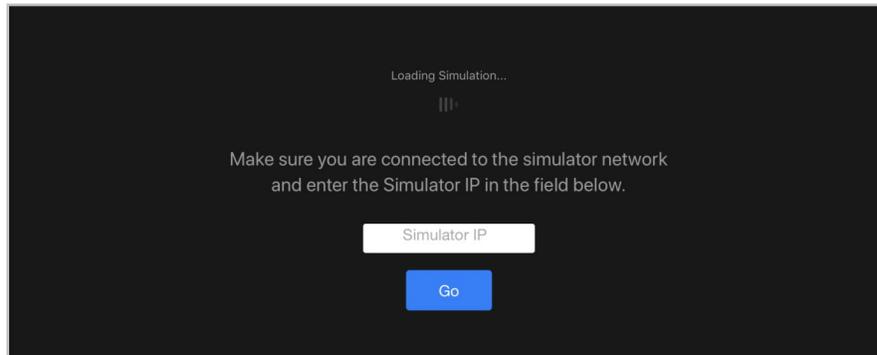


Figure 2: Configuring the Wi-Fi Connection

1. Enter the IP address of 10.42.0.1 for the simulator. The IP address is *always* 10.42.0.1.
2. Click **Go** (or press **Enter**).

The OEI Sim application appears.

## Establishing the Wireless Connection

Power on the tablet.

Make sure RealMom has been prepared for the simulation, having been turned on and the baby positioned.

1. On the Instructor tablet's Wi-Fi settings, select the simulator's network, indicated by OVD and the simulator's serial number (OVD-XXX). For example, a simulator with the serial number of 002 has a wireless network of OVD-002.
2. Enter the password of *oeiadmin*.
3. Once the wireless connection has been established, click the shortcut icon for the simulator.



Figure 3: The Shortcut Icon

The OEI Sim application loads.

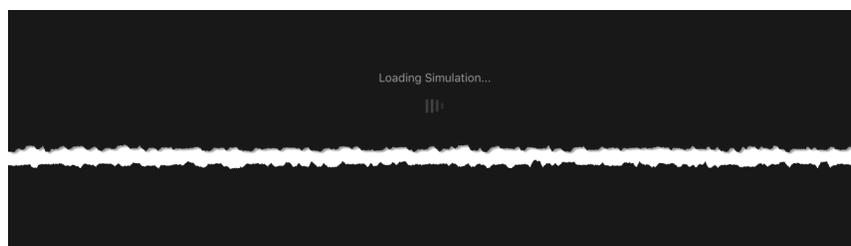


Figure 4: Loading the Simulation Application

The OEI Sim application appears.

# Running the Simulation

Begin the simulation by powering up the simulator and opening the software on the tablet(s).

DO NOT INSERT THE BABY UNTIL THE SIMULATOR HAS BEEN TURNED ON and HAS COMPLETED CALIBRATION.

## Connecting the Power

Attach the power cord to the connection on the right shoulder.



Figure 5: The Power Cord Connected to the Simulator

Plug the power cord into the AC receptacle.

## Powering On

Be sure the baby has NOT been loaded into the simulator.

1. Power on the simulator by holding down the button on the right shoulder for approximately two seconds or until the blue light comes on.



Figure 6: The Power Button in the On Mode

The simulator powers up.

2. Turn on the tablets and connect to the WiFi.

## Preparing the Simulators

The baby should be inserted into RealMom only AFTER the SIMULATOR is TURNED ON and the boot sequence, which moves and calibrates the actuator, has completed.

1. Once the simulator has been turned on, generously lubricate the baby and placenta with Glycerine.



Figure 7: Lubricating the Baby

2. Generously lubricate the abdominal cavity.
3. Lift the abdominal and uterine opening and insert the baby into the cavity.



Figure 8: Inserting the Baby

4. Position the baby and placenta according to the procedure being practiced.

5. Ensure the baby is positioned against the “pusher” cover. The baby has an opening that enables positioning with the pusher inserted into either the head or the posterior.



Figure 9: Baby's Anterior (Head) Opening



Figure 10: Baby's Posterior Opening

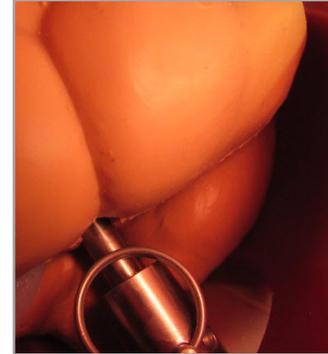


Figure 11: Pusher Inserted

6. Insert the placenta on top of the baby to lower left of the pelvis. Ensure the cord is not blocking the baby's head.



Figure 12: Positioning the Placenta

7. Generously lubricate the vaginal area inside and out with Glycerine (or cotton seed oil).
8. Pull the abdominal skin flap back into place and close the abdomen using the zipper.



Figure 13: The Abdominal Skin in Position

The simulation can now be initiated by pressing the Play button on the Instructor Interface tablet.

## Using the Tablet

As the instructor, you use the tablet to control the simulation, and as the trainee, you're able to use the second tablet (or the projected image) to view RealMom's physiological condition (as well as the fetal heart rate).

To learn more about the possible physiological settings, see *Understanding the OEI Sim Application* below.

### Controlling the Simulation with the Instructor Interface

To control the simulator with the **Instructor Interface** tablet:

1. Power on the simulator by holding down the button on the right shoulder for approximately two seconds or until the blue light comes on.
2. Power on the tablet.
3. Connect the tablet to the simulator's Wi-Fi (see *Configuring the Wireless Connection* above).
4. Start the OEI Sim application.
5. Using the OEI SIM APP set those Physiological Controls appropriate to begin the simulation (remembering that not all controls are needed for every simulation).
6. Press **Play** to begin the simulation.
7. During the simulation adjust those Physiological Controls appropriate to the scenario.
8. Press **Stop** to end the simulation.
9. Click **Yes** on the dialog box that appears requesting verification that you wish to end the simulation.
10. Power down the simulator by holding down the button on the right shoulder for approximately four seconds. The blue light flashes on and off momentarily before turning off.

All the settings and adjustments you make during the simulation are displayed in the **Simulation Log** and remain in the history stored on the Simulation Logs page.

### Viewing RealMom's Condition Using the Trainee Interface Tablet

1. Power on the tablet.
2. Connect the tablet to the simulator's Wi-Fi (see *Configuring the Wireless Connection* above).
3. Start the OEI Sim application.
4. From the **Menu**, select **Settings**.
5. On the Settings page, under **Control Interface Type**, select the **Trainee** option from the drop-down menu for the **Interface Type**.

# Understanding the OEI Sim Application

When you activate the Instructor tablet, the main screen appears, displaying the fourteen panels of the OEI Sim application.

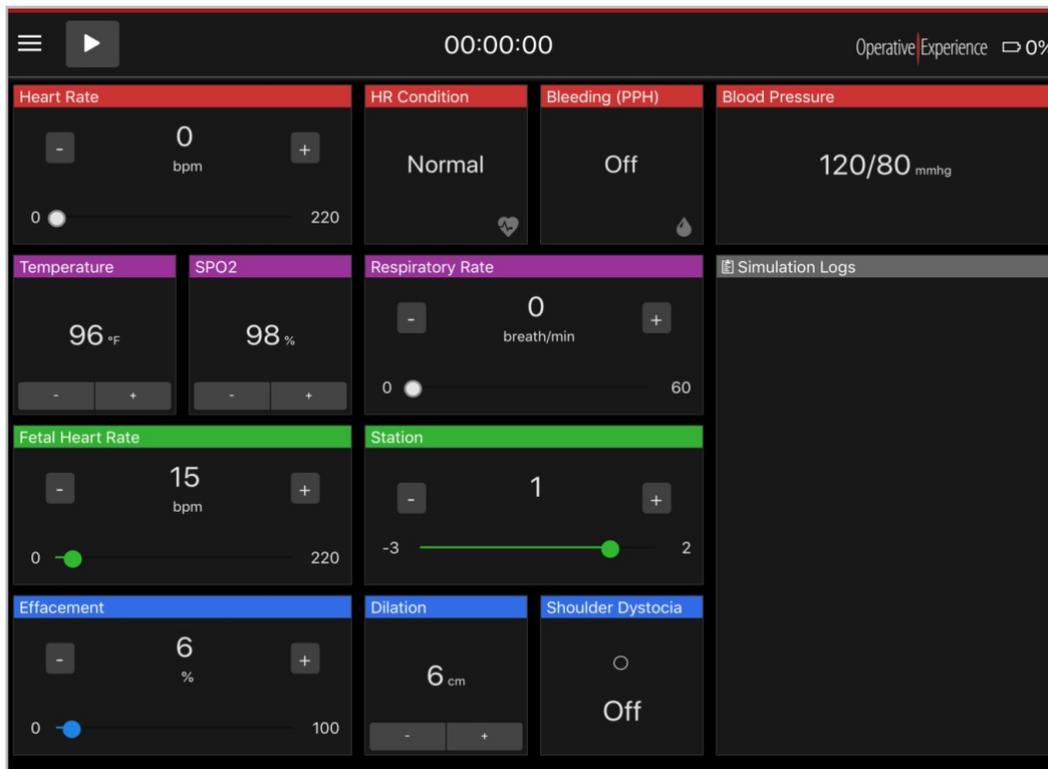


Figure 14: The Instructor Tablet's Main Screen

The panel at the top contains the primary operating controls, the panels below allow you to set the various physiological features and view an active log of the simulation.

## Using the Operational Panel

At the top of the main screen the uppermost panel displays the **Menu** button, the **Play/Stop** button, and a clock recording the time of the simulation.

Selecting the **Menu** button opens a menu with five options related to system operation.

- The **Instructor** option is activated by default, giving the tablet operator control of the simulator and displaying the Main Screen.
- Selecting the **Sim Logs** option opens a page with a history of the simulation logs and the messages logged for each of these simulations.
- Choosing the **Settings** option displays a page with controls to set the **App Color** and the **Language** (**English** is selected by default). **System Update** files are also uploaded and installed using this option.
- Clicking the **Diagnostics** option opens a page with the basic **Product Information** as well as all **System Diagnostics**. If necessary, the **Shutdown Simulator** or **Reboot Simulator** functions can be initiated from this page.

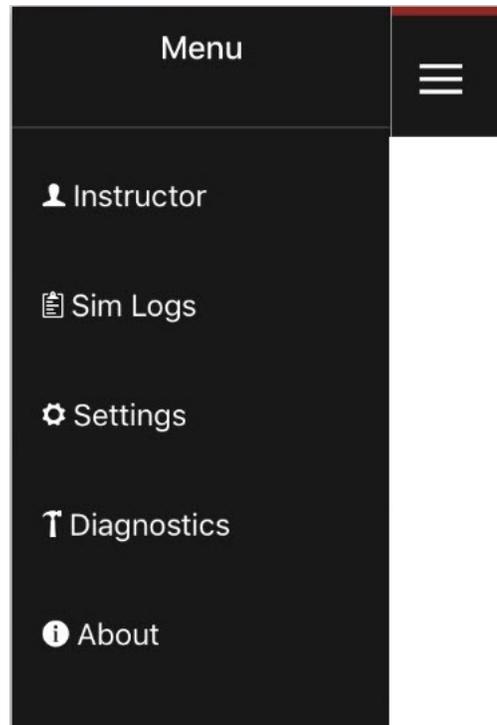


Figure 15: The Menu

- The **About** option opens a page with the basic details of the system.

Navigation between these pages is available from the menu. For example, you can return to the Main Screen from the **Settings** page by selecting the **Instructor** option.

To the right of the menu is the **Play/Stop** button. When you first activate the Tablet, the **Play** button is visible. Once you click **Play**, the **Stop** button appears during the simulation.



Figure 16: The Play and Stop Buttons

Clicking the **Stop** button stops the simulation. A warning box appears to verify that you wish the simulation to end.

The clock in the center of the uppermost panel displays the runtime for the simulation. The clock begins when play is clicked and is stopped when the simulation ends by clicking the **Stop** button.

## Setting the Physiological Controls

Beneath the Operational Panel are twelve panels used to set the vital signs for RealMom and the baby and to control the baby's position prior to birth.

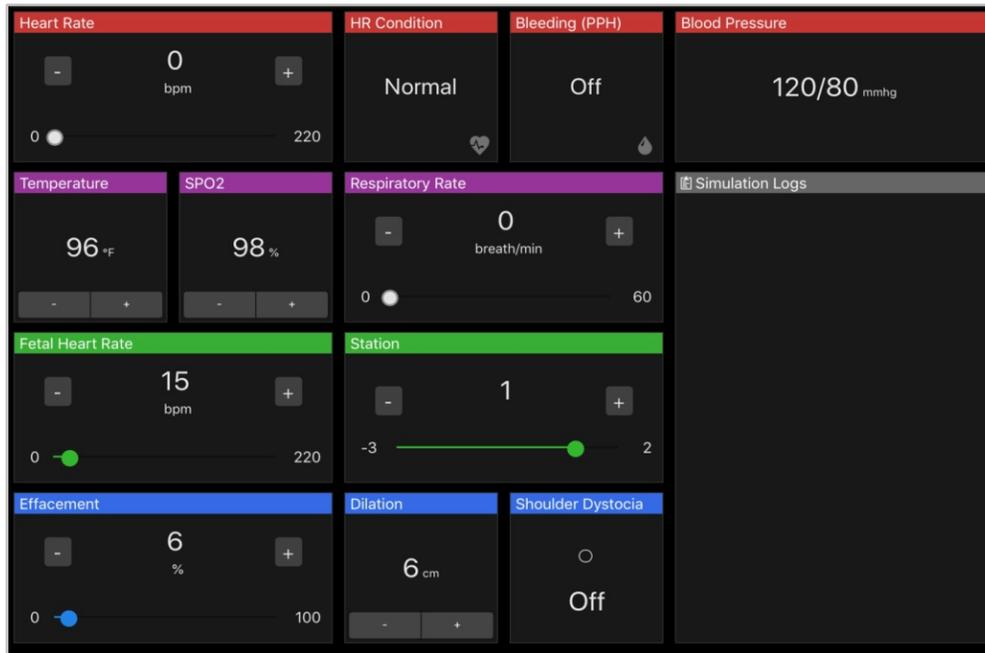


Figure 17: Physiological Controls

Once the simulation begins, these controls can be used on the fly to regulate the vital signs apparent to the trainee. Each of these can be set independently; however, the default settings that automatically occur when you change the Heart Rate Condition (**HR Condition**) simultaneously affect multiple parameters. The Simulation Logs panel records the list of the setting changes along with a timestamp for each change.

### Heart Rate

RealMom's **Heart Rate** can be set from 0 to 220 bpm (beats per minute) using the slider bar or by using the minus the plus (+) controls on either side of the reading.

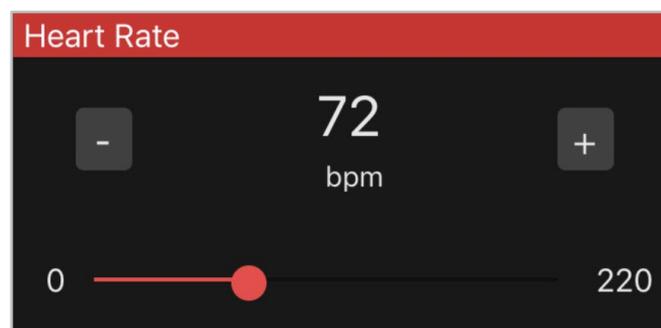


Figure 18: Setting the Heart Rate

This parameter can be viewed on the Trainee Interface. The heart rate can be changed during the simulation “on the fly.”

## HR Condition

RealMom's Heart Rate Condition has four settings, **Normal**, **Tachycardia**, **Bradycardia**, and **Palpable**. Click on the panel to activate the menu.

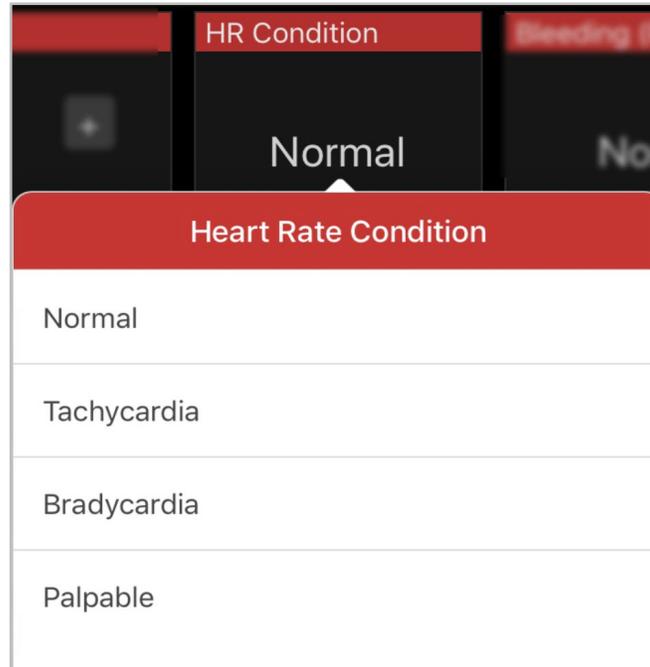


Figure 19: Selecting a Heart Rate Condition

Each setting makes corresponding changes to the Blood Pressure, Heart Rate, Respiratory Rate and SpO2. Should you choose, these parameters can subsequently be modified using the individual panel controls.

Heart Rate Condition	Blood Pressure	Heart Rate	Respiratory Rate	SpO2
Normal	120 / 60	72	98.5°F	17
Tachycardia	120 / 65	126	102°F	21
Bradycardia	100 / 60	50	98.5°F	13
Palpable	180/130	150	101°F	20

## Bleeding (PPH)

The rate of bleeding for post-partum hemorrhage is controlled using the four settings available when you click on the Bleeding (PPH) panel: **None**, **Normal**, **Impressive**, and **Maximum**.

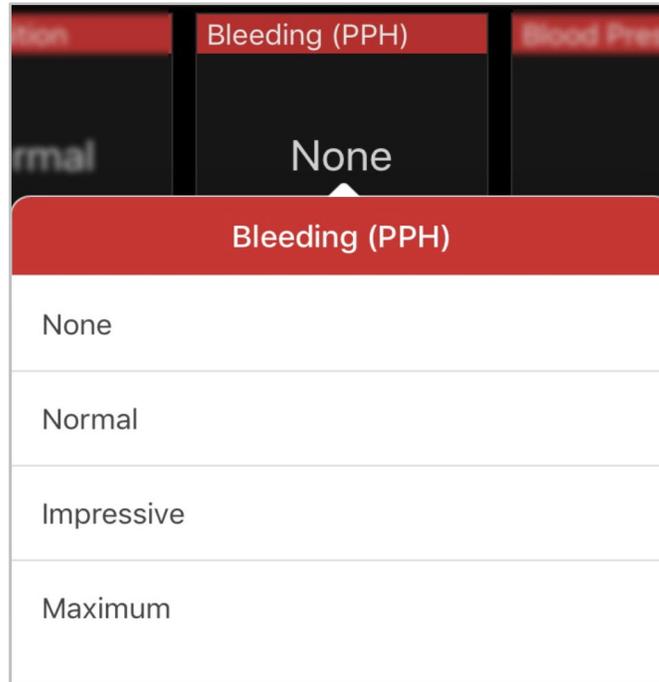


Figure 19: Setting Bleeding

Each setting from **None** through **Maximum** increases the amount of blood flowing from the simulator. Click on the panel to activate the menu.

## Blood Pressure

RealMom's **Blood Pressure** can be set from 0 to 220 (Systolic) over 0 to 180 (Diastolic) using the slider bars or by using the minus the plus (+) controls on either side of the readings. Click on the panel to activate the menu to access the controls.

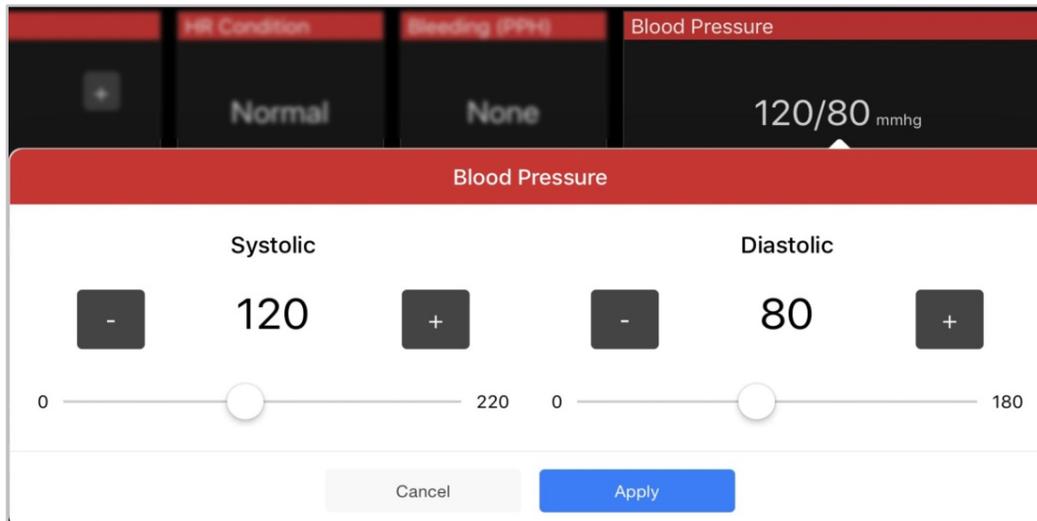


Figure 20: Controlling the Blood Pressure

Click **Apply** once you've established the readings you want.

This parameter can be viewed on the Trainee Interface. RealMom's blood pressure can be changed during the simulation "on the fly."

## Temperature

RealMom's **Temperature** can be set from 96 to 106 using the minus (-) and the plus (+) controls. Click on the panel to activate the menu to use the slider bar.

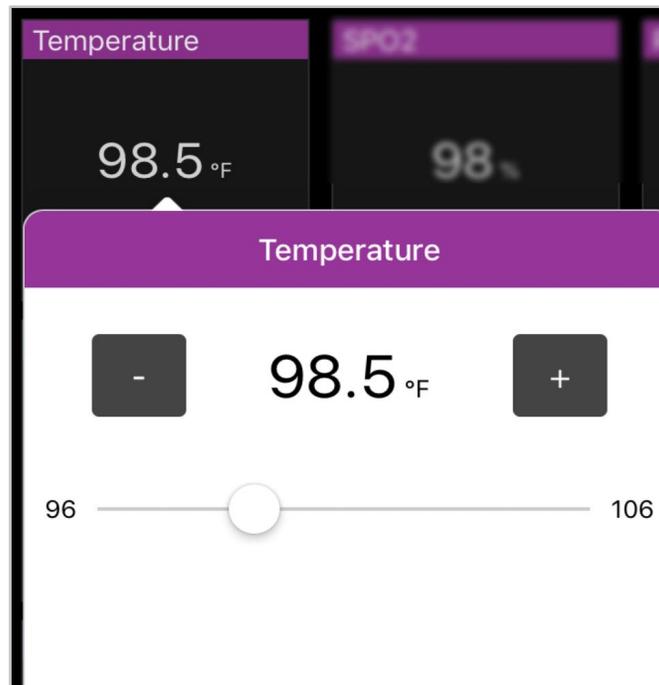


Figure 21: Setting the Temperature

This parameter can be viewed on the Trainee Interface. RealMom's temperature can be changed during the simulation "on the fly."

## SpO<sub>2</sub>

RealMom's **SpO<sub>2</sub>** (oxygen saturation rate) can be set from 0 to 100 using the minus (-) and the plus (+) controls. Click on the panel to activate the menu to use the slider bar.

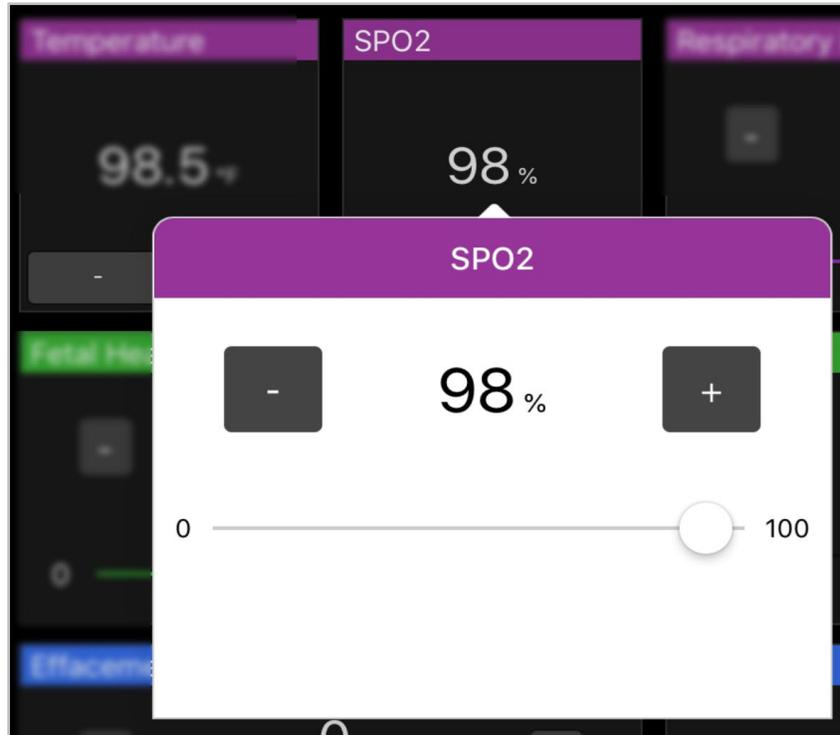


Figure 22: Setting the SpO<sub>2</sub>

This parameter can be viewed on the Trainee Interface. RealMom's SpO<sub>2</sub> can be changed during the simulation "on the fly."

## Respiratory Rate

RealMom's **Respiratory Rate** can be set from 0 to 60 bpm (breaths per minute) using the slider bar or by using the minus the plus (+) controls on either side of the reading.

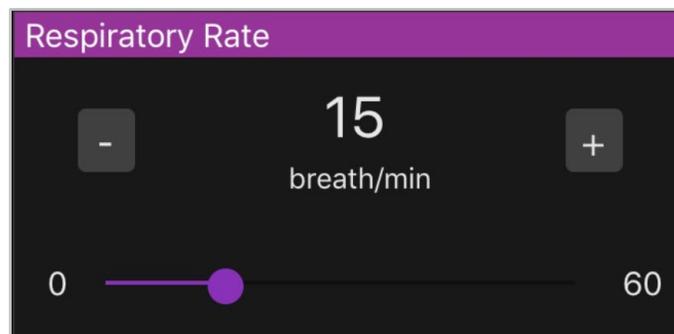


Figure 23: Setting the Respiratory Rate

This parameter can be viewed on the Trainee Interface. RealMom's respiratory rate can be changed during the simulation "on the fly."

## Fetal Heart Rate

**Fetal Heart Rate** can be set from 0 to 220 bpm (beats per minute) using the slider bar or by using the minus the plus (+) controls on either side of the reading.

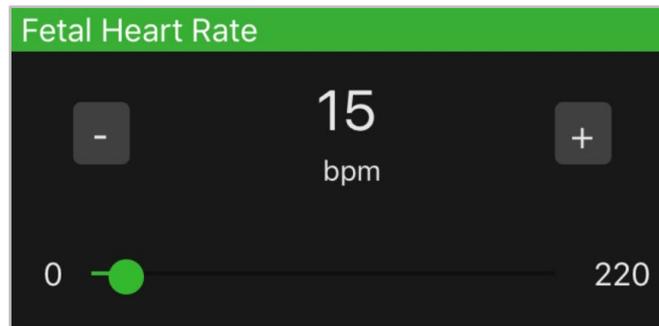


Figure 24: Setting the Fetal Heart Rate

This parameter can be viewed on the Trainee Interface. The fetal heart rate can be changed during the simulation “on the fly.”

## Station

The **Station** can be set from -3 to 2 using the slider bar or by using the minus the plus (+) controls on either side of the reading. The baby moves through the birth canal based on the **Station** setting.

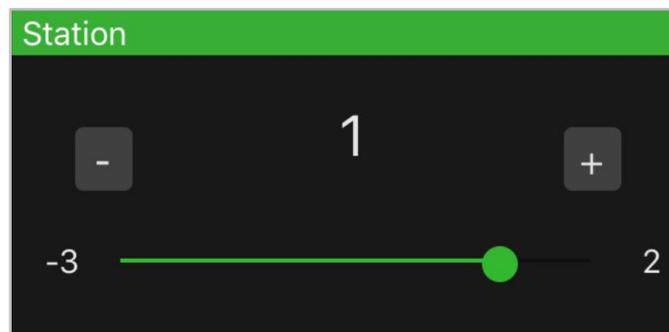


Figure 25: Controlling the Station

The station can be changed during the simulation “on the fly.”

## Effacement

Effacement can be set from 0 to 100% using the slider bar or by using the minus the plus (+) controls on either side of the reading.

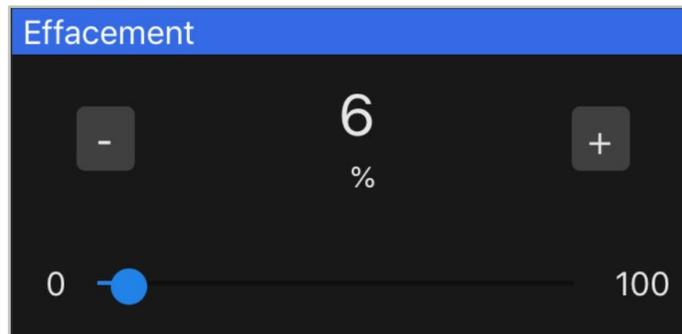


Figure 26: Controlling Effacement

Effacement can be changed during the simulation “on the fly.”

## Dilation

Effacement can be set from 0 to 10 using the minus (-) and the plus (+) controls. Click on the panel to activate the menu to use the slider bar.

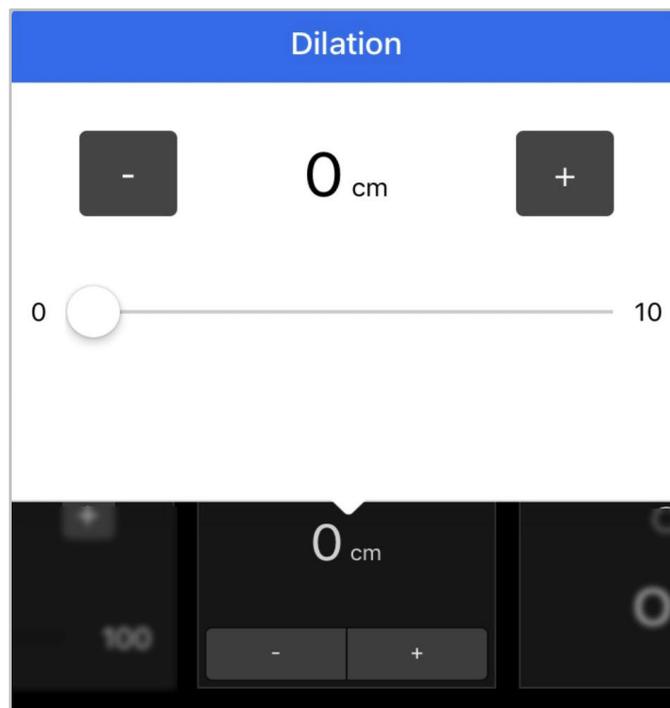


Figure 27: Setting Dilation

Dilation can be changed during the simulation “on the fly.”

## Shoulder Dystocia

**Shoulder Dystocia** is **Off** by default. Click the panel to toggle the parameter to **On**.



Figure 28: Shoulder Dystocia Set to On

When **On**, the Shoulder Dystocia panel displays a green dot.

## Recording the Simulation

The panel on the right displays a list of the setting changes along with a timestamp recorded for each change. As the Physiological Controls are used in the simulation, a scrollable list actively updates, displaying the new setting. In addition to those entries logged when the simulation is started or stopped and any control is set, the log automatically records changes to the ECG associated with HR changes and all the presets applied when a **Heart Rate Condition** is selected.

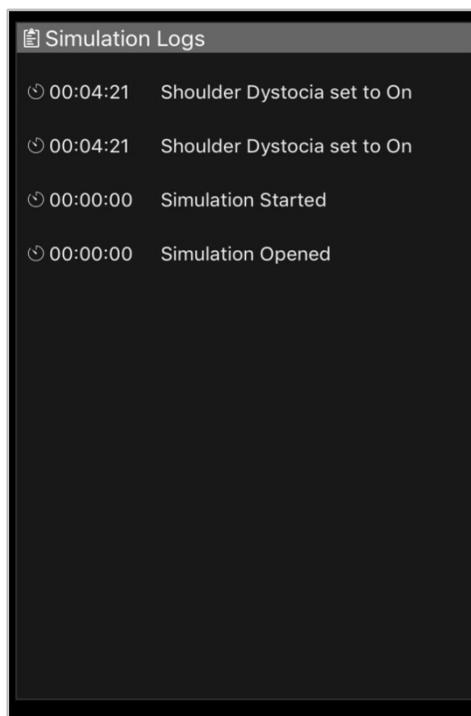


Figure 29: Recording the Simulation

Once the simulation has completed, the log is stored and is accessible using the **Sim Logs** option on the **Menu** to activate the Simulation Logs page.

## Modifying Settings

Select the **Settings** option from the **Menu** to open the Settings page.

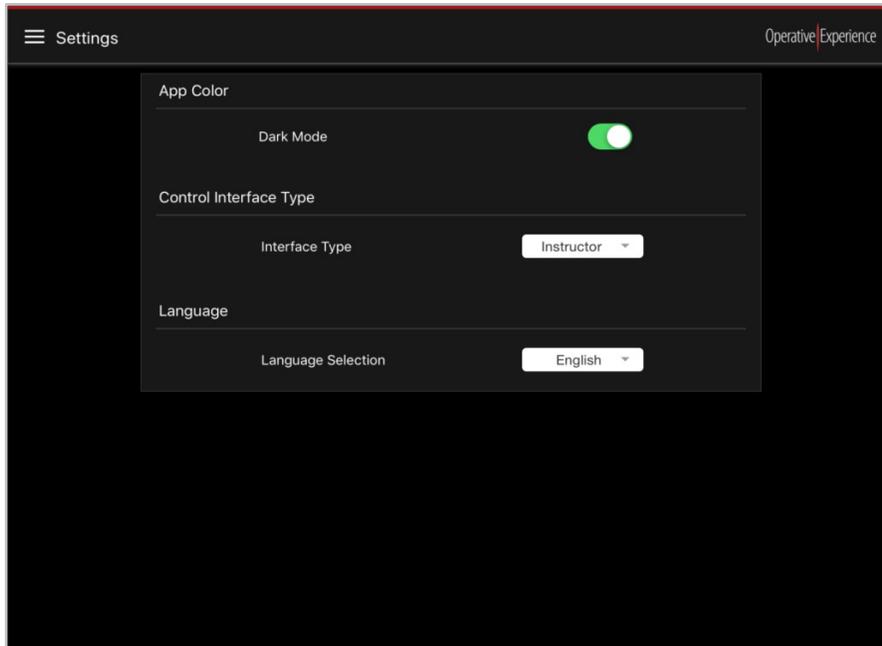


Figure 30: The Settings Page

The Settings page is comprised of four panels:

- **App Color** – Turn the **Dark Mode** on or off by toggling the control to the right for “on” (showing green) or to the left for “off” (which changes the screen to a white background).
- **Control Interface Type** – Using the drop-down menu, select either the **Instructor** or **Trainee** option to configure the tablet.

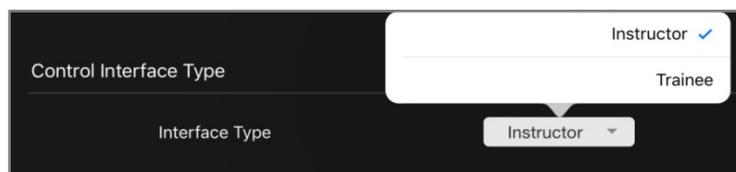


Figure 31: Selecting the Control Interface Type

- **Language** – Choose a **Language Selection** from the drop-down menu. **English** is selected by default. Currently, Spanish and Chinese are also available, and more languages are to be added in future updates.



Figure 32: Selecting the Language

## The Trainee Interface

Often, the second tablet is configured as a Trainee interface, displaying RealMom's vital signs as well as the fetal heart rate. In addition to the parameters set on the Instructor interface, an ECG readout related to the HR is displayed.

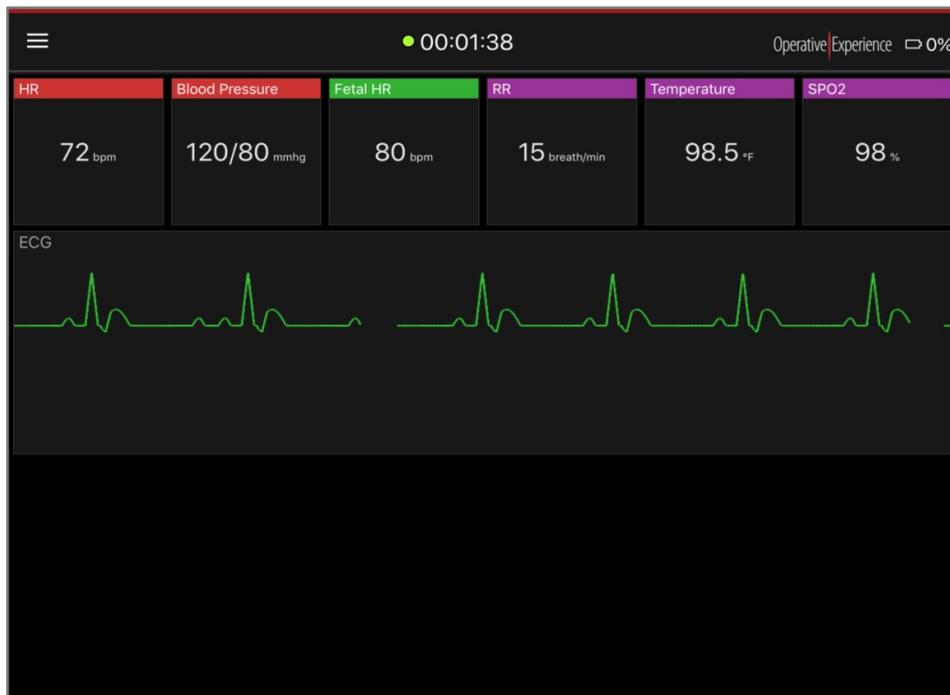


Figure 33: The Trainee Interface

## Light Mode (Dark Mode Set to Off)

Below is an example of the screen with the **Dark Mode** set to “off.” The Light Mode is available for both the instructor and the trainee tablets.

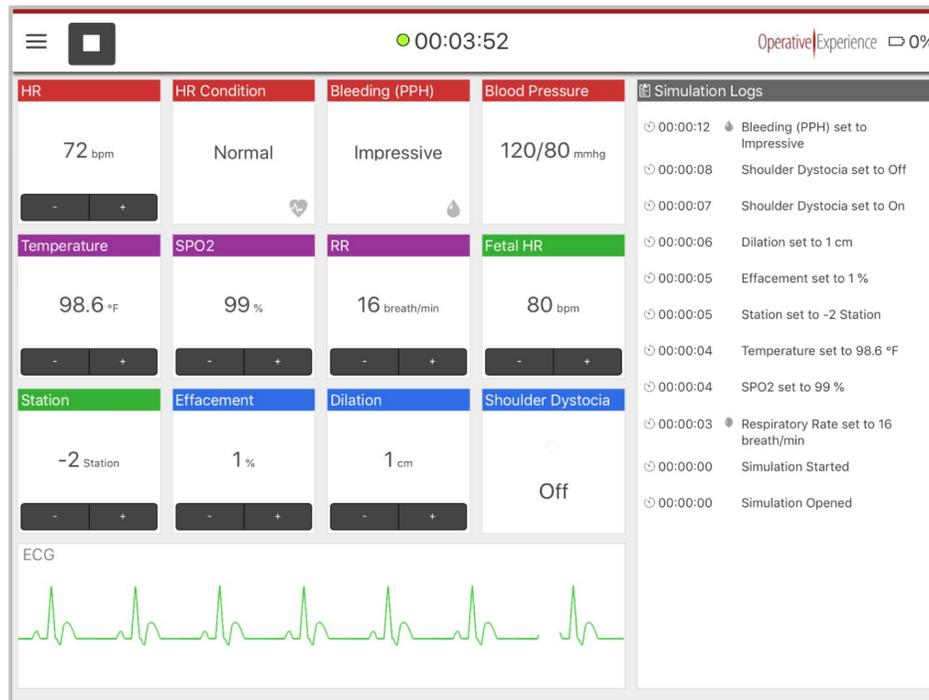


Figure 34: Instructor Interface in Light Mode

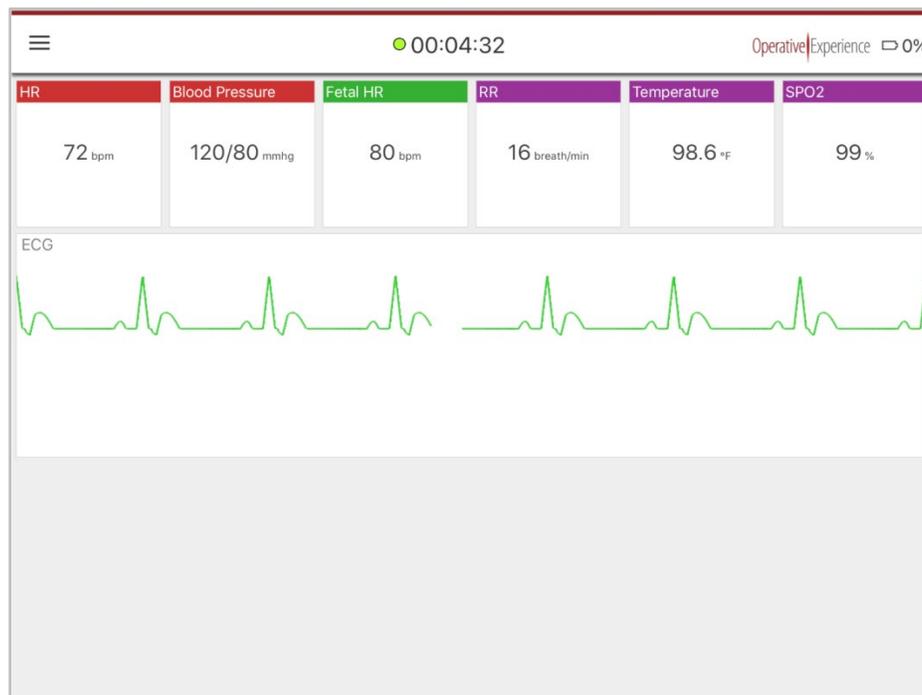


Figure 35: Trainee Interface in Light Mode

## Viewing the Simulation Logs

To view the simulation logs, select the **Sim Logs** option from the **Menu** to open the Simulation Logs page, which is comprised of two columns. On the left of the page is a list of all the **Simulation Sessions**. Selecting a simulation session displays all the messages recorded for that session under **Simulation Log Messages** in the right column.

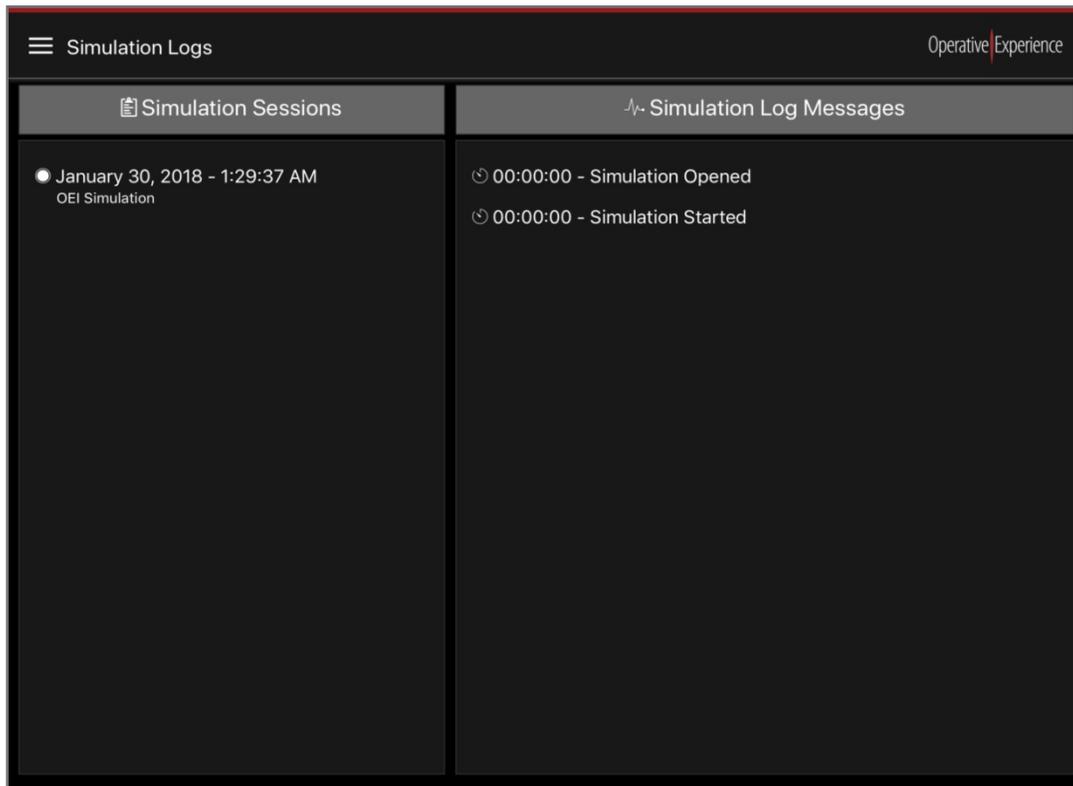


Figure 36: The Simulation Logs Page

The most recent simulation session appears at the top of the left column.

The **Simulation Log Messages** column begins at the top with the initial opening of the simulation at 00:00:00.

When either of the lists is too long to be shown on the page, you're able to scroll to view additional entries.

## Examining Diagnostics

Select **Diagnostics** from the **Menu** to open the Diagnostics page, which is comprised of two panels.

The upper panel contains Product Information and shows your simulator's **Product Type**, the firmware version used in running the system, and the version of the software on the tablet.

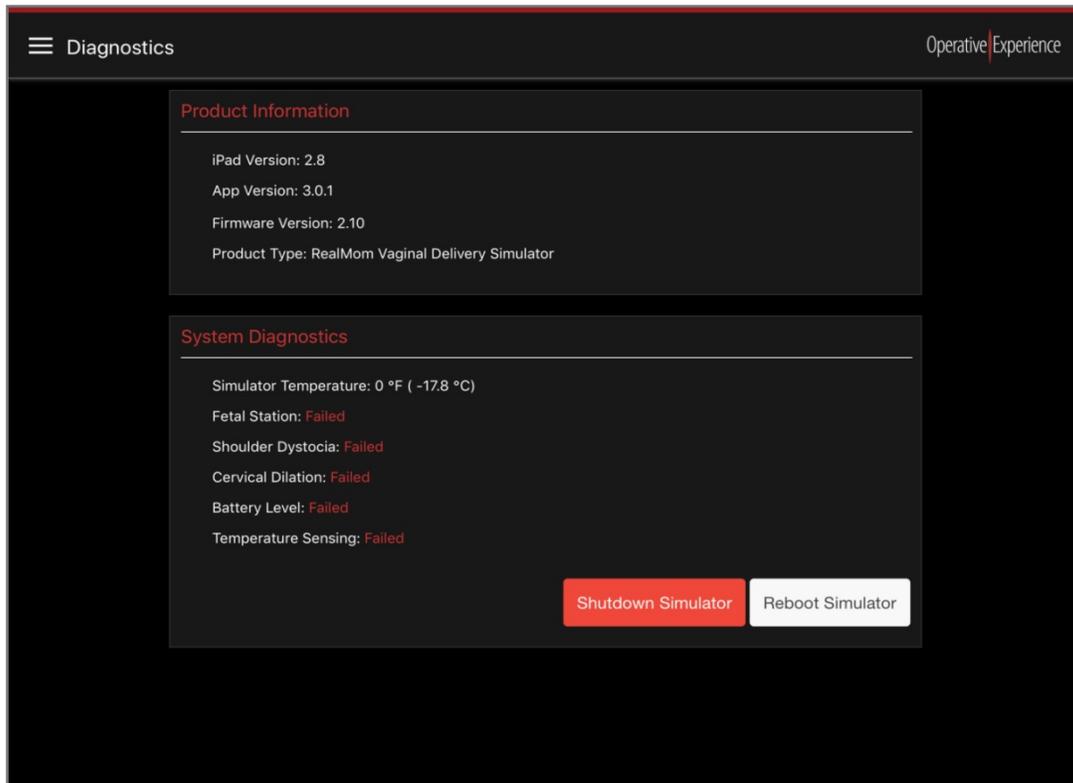


Figure 37: The Diagnostics Page

The lower panel displays the System Diagnostics. In addition to displaying the Simulator Temperature, five additional systems are shown with their operational status. Properly functioning systems display an **OK** status.

When a system is not functioning properly, a **Failed** status appears to its right.

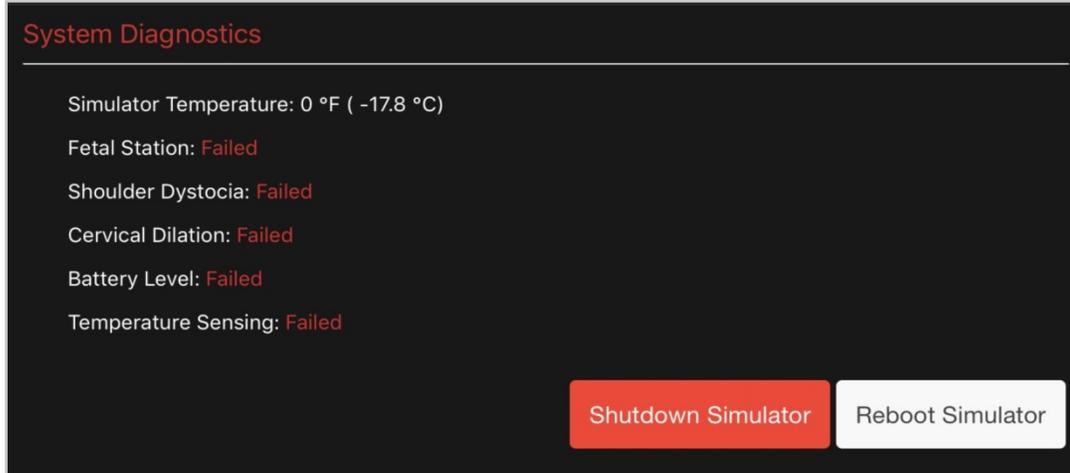


Figure 38: System Diagnostics Showing System Failures

When systems are failing, you should use the buttons on the System Diagnostics page to shutdown the simulator, or, in some cases, reboot the simulator to reset the systems.

Clicking the **Shutdown Simulator** or **Reboot Simulator** button opens a message box requesting your verification of the shutdown or reboot.

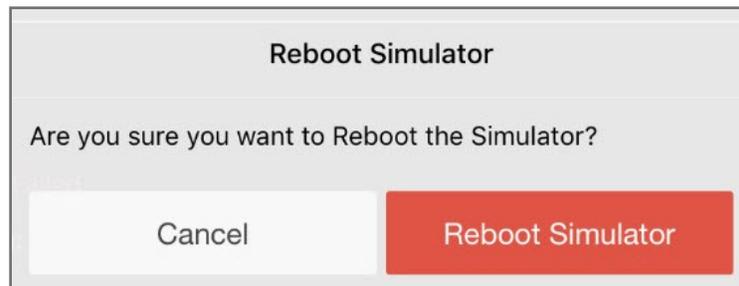


Figure 39: Reboot Simulator Verification Message

Click the **Reboot Simulator** or **Shutdown Simulator** button on the message to complete the action.



Figure 40: Shutdown Simulator Verification Message

## Viewing the About Page

Select **About** from the **Menu** to open the About page, which is comprised of two panels.

In addition to the OEI Mission Statement, this page identifies your product and provides you with basic information about the versions of the software and firmware you're running, as well as contact information for Operative Experience.

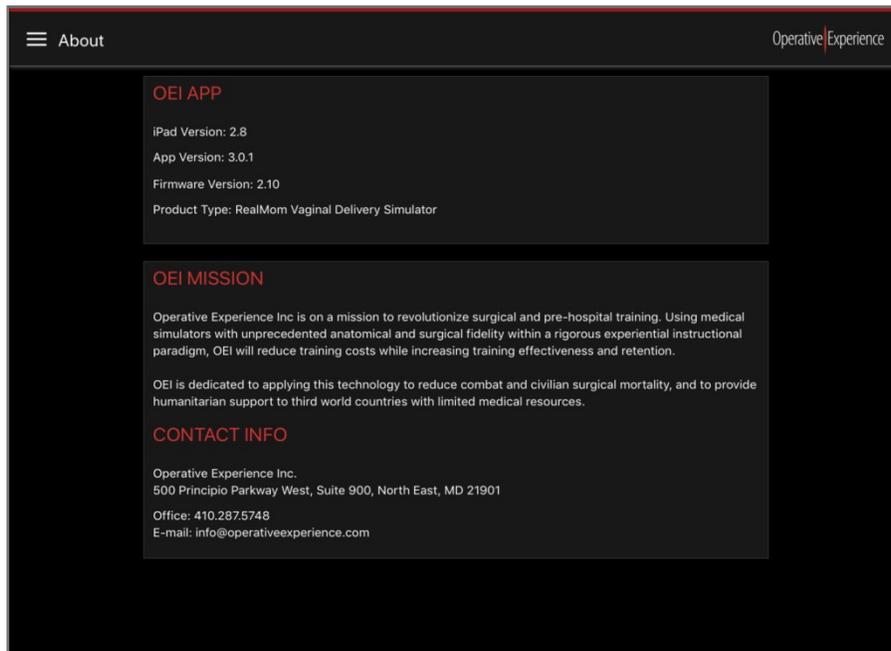


Figure 41: The About Page

# Operating Your Simulator

RealMom includes a fully-realistic birth canal, placenta and umbilical cord.

## Inserting the Birth Canal

The birth canal is inserted through the slit in the abdomen. Prior to insertion, be sure the uterine bleeding tubes are on top the birth canal, and the two tubes located in the abdomen remain accessible during insertion.



Figure 42: Preparing the Birth Canal

1. Insert the birth canal cervix first, followed by the bladder.

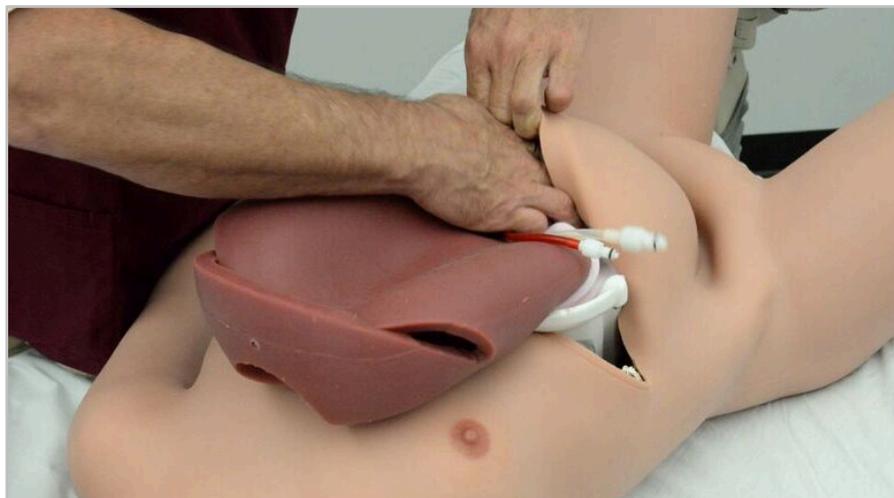


Figure 43: Inserting the Birth Canal

2. To move the birth canal into position, pull from the vaginal opening.



Figure 44: Pulling the Uterus into Place

3. Using two hands, manipulate the birth canal over the guide pins inside the abdomen so that the cervix fits into the vaginal opening.



Figure 45: Positioning the Birth Canal

Once you've completed insertion, the birth canal should lie within the abdomen and the vaginal opening should reveal the cervix.



Figure 46: Completing the Birth Canal Placement

## Sealing the Vaginal Opening

1. Make sure all surfaces are clean.
2. Mix the two components of the OEI Special Adhesive together in a ratio of 1:1.



Figure 47: Mixing the Adhesive

3. Cover the simulator with a paper towel or cloth to protect the skin from an accidental coating of adhesive.
4. Using the application stick spread the adhesive on the inside of the opening.



Figure 48: Applying the Adhesive

5. Press the skin against the plastic cervix to secure the skin and present a smooth surface.



Figure 49: Securing the Skin

## Connecting the Fluid Supplies

The manikin should be supine (face up) when attaching and using the fluid supply.

For the blood supply, within the abdomen, connect the two blood tubes, using the color-coding to match the two red tubes and two yellow tubes.



Figure 50: Connect the Lines in the Abdomen

On the left shoulder, attach the four fluid lines.

Each bag of fluid must be attached to a specific port associated with that fluid. The fluid lines are connected matching the color of the fluid to the color bars provided on the shoulder.

- Light Pink (upper left) – Lubricant
- Yellow (lower left) – Urine
- Dark Pink (upper right) – Amniotic Fluid
- Red (lower right) - Blood

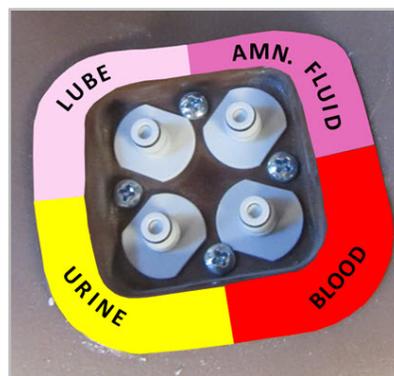


Figure 51: Fluid Line Location

Push each line onto its associated port.



**Figure 52: Connecting the Fluid Lines on the Left Shoulder**

Once the fluid lines are all connected, Bleeding is controlled by the Instructor tablet. All the fluids are pushed through the system using the gravity bags.



**Figure 53: The Left Shoulder Fluid Lines Connected**

## Troubleshooting During Operation

When errors occur, warning boxes appear providing you with information regarding the problem.

When encountering a simulation hardware error, first attempt to correct the problem by rebooting the simulator. Click the **Reboot Simulator** button on the dialog box to reboot. You can also go the Diagnostics page where more information is available and reboot from there as well. Click **Yes** on the verification message to complete the process.

You can also power off the simulator by holding the Simulator Power Button for four (4) seconds before turning the simulator back on.

If you receive a **Simulator High Temperature Warning**, shut down the simulator immediately by clicking the Shutdown Simulator button or by holding the Simulator Power Button for four (4) seconds. Click **Yes** on the verification message to complete the process. Let the simulator cool before turning it back on.



Figure 54: The Simulator High Temperature Warning

Contact Customer Support ([support@operativeexperience.com](mailto:support@operativeexperience.com)) should these issues persist.

When the WI-FI connection between the tablet and simulator is interrupted, a Connection Error notification pops up.

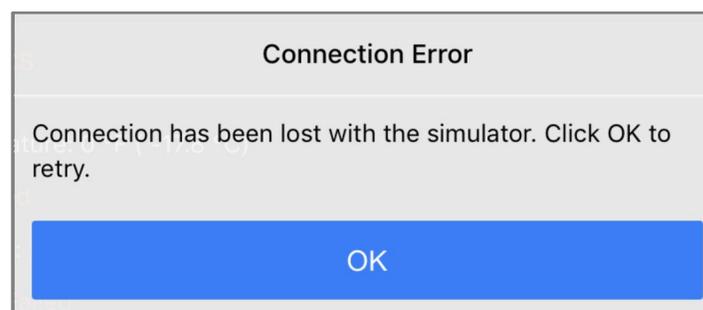


Figure 55: Connection Error Notification

Click the **OK** button to reestablish the connection.

## Shutting Down the Simulator

1. On the Instructor tablet, press the **Stop** button to discontinue the simulation.
2. Confirm the simulator is not operating.
3. Close the OEI Sim application.
4. Turn down the simulator by holding down the button on the right shoulder for approximately four seconds. The blue light flashes on and off momentarily before turning off.

## Performing Deliveries

Each simulator is designed for training for multiple types of delivery. The fetal station is controlled by the Instructor Tablet.

### Modifying the Delivery

You have the ability to perform common assisted deliveries using forceps or vacuum devices, and trainees can perform Leopold Maneuvers as the **Station** setting is used to move the baby.

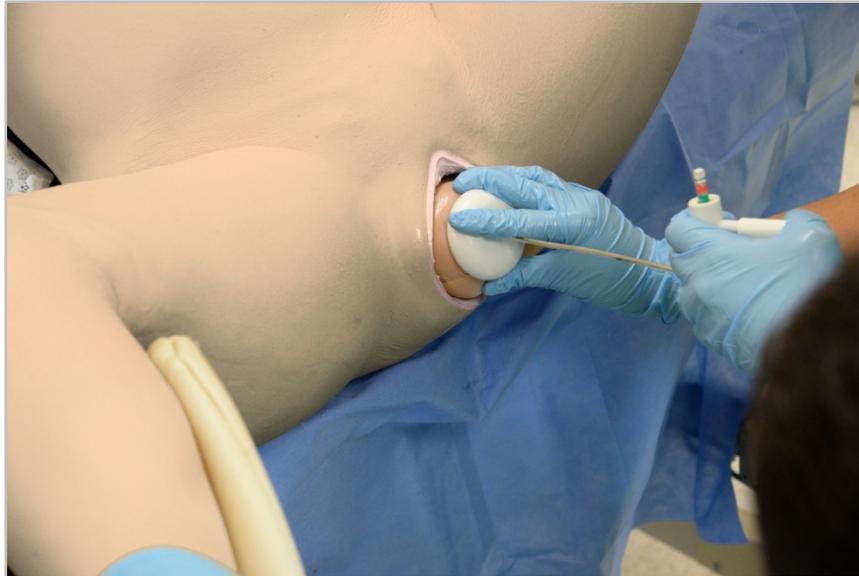


Figure 56: Delivery Assisted by Suction

Any obstetric suction device used during a delivery can be used with the simulator.



Figure 57: Delivery Assisted by Forceps

All types of obstetric forceps can be used to assist a delivery.

With **Shoulder Dystocia** set to **On**, trainees can perform a MacRoberts maneuver.

You have the ability to present with complications:

Positioning the baby

- Breech – placing the baby feet first within the abdomen
- Compound Delivery – placing a hand (or foot) by the head for presentation

Positioning the umbilical cord

- Nuchal Cord – wrapping the umbilical cord completely (360°) around the baby's neck
- Cord Prolapsed – placing the umbilical cord in front of the baby toward the cervix

Positioning the placenta

- Placenta Previa – placing the placenta in front of the baby toward the cervix (marginal, partial, and complete)
- Retained Fragments (also known as Retained Placenta) – having the placenta remain in the birth canal

## Controlling the Postpartum Hemorrhage Control

To simulate a postpartum hemorrhage:

1. Disconnect one or both the blood tubes within the abdomen.
2. On the Instructor's tablet, set the Bleeding to Normal, Impressive, and Maximum.

Trainees may use Bakri and Ebb balloons to treat the hemorrhage.

# Maintaining Your Simulator

## Flushing/Cleaning the Bleeding System

Periodically flush the bleeding system by activating the blood flow until the bleeding stops, and then, using the blood port, infuse the body with a mixture of water and Germaben® II-E (one capful for every gallon of water to prevent algal/fungal growth) until the output is no longer red.

## Upgrading the Simulator's Firmware

### Requirements

- A laptop or a desktop computer with Wi-Fi capability
- Administrator access to the laptop or desktop computer
- Access to the Internet
- An internet browser supported by the application:
  - Chrome: 63.x.x or higher
  - Firefox: 54.x or higher
  - Safari: 11.x.x or higher
  - Edge: 41.x or Greater

**WARNING: Make sure all devices, such as the tablet, are disconnected from the simulator before beginning. Once the computer is connected to the simulator, any additional device could corrupt the system and make the simulator unusable.**

### Procedure

1. Connect the computer to the Internet.
2. Open your browser and go to [www.operativeexperience.com/support](http://www.operativeexperience.com/support) to download the latest firmware software OEI file (e.g., OEI\_Update\_X.X.X.oei) for your simulator.
  - a. Select the Software Downloads and Updates tab
  - b. Under the name of the update (e.g., Simulator Firmware X.X.X), click **Download**.
  - c. Follow your computer's prompts to complete the download process.

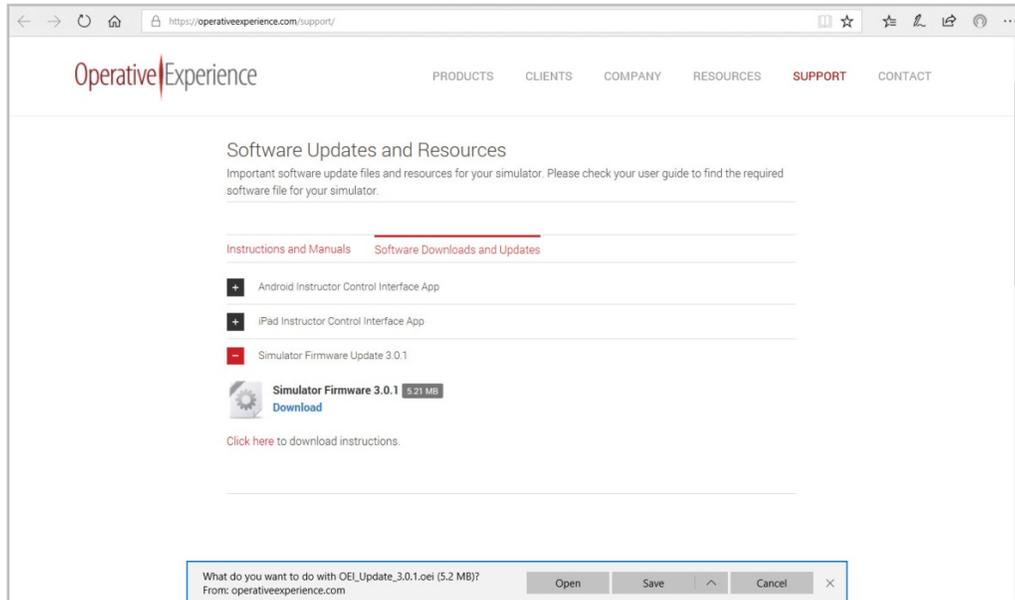


Figure 58: Downloading the Update File

3. Power up the simulator.
4. After verifying that no device is connected to the Simulator Network, use your computer's network settings to select the Simulator Network. (Your computer is no longer connected to the Internet.)
5. In the browser's URL field, type: <http://10.42.0.1>.

The main screen of the OEI Sim application appears.

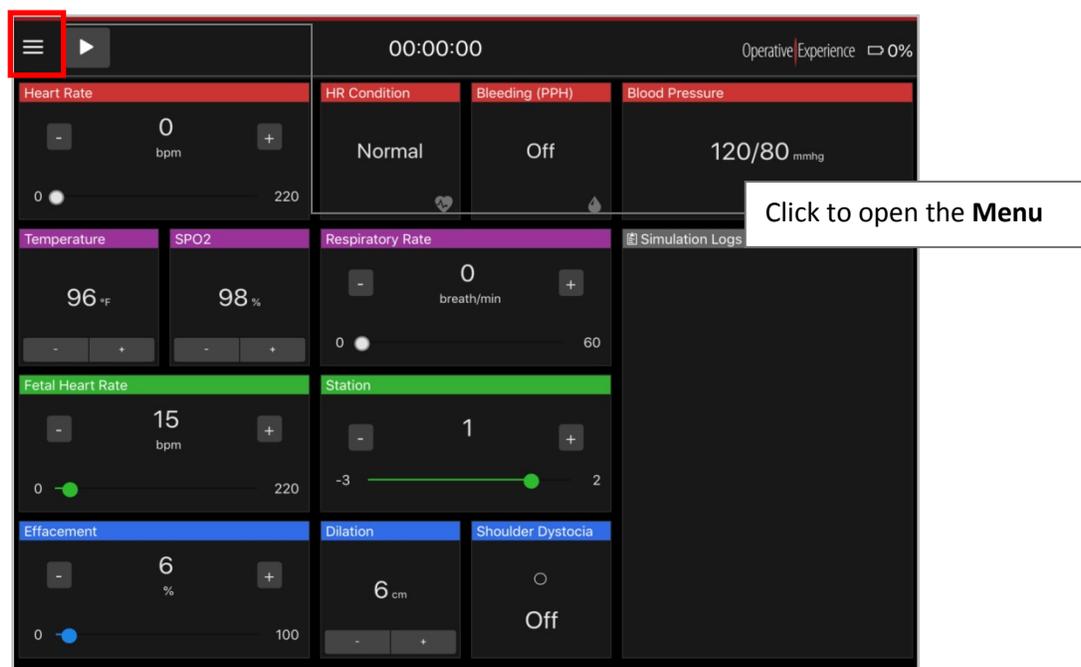


Figure 59: Open the Menu on the OEI SIM APP

6. Open the **Menu**, and select **Settings**.

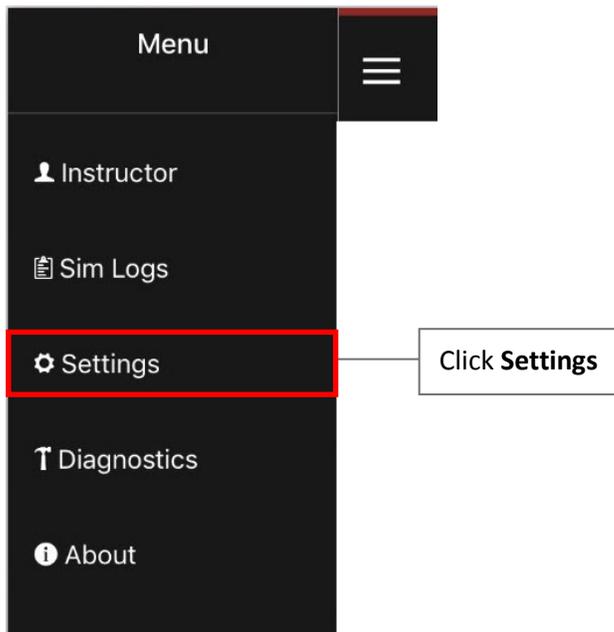


Figure 60: Click Settings

The Settings screen appears displaying a **Choose Files** button.

7. Click the **Choose Files** button.

The File Picker (for Macs) or File Explorer (for PCs) appears.



Figure 61: Searching for a File (Mac OS)

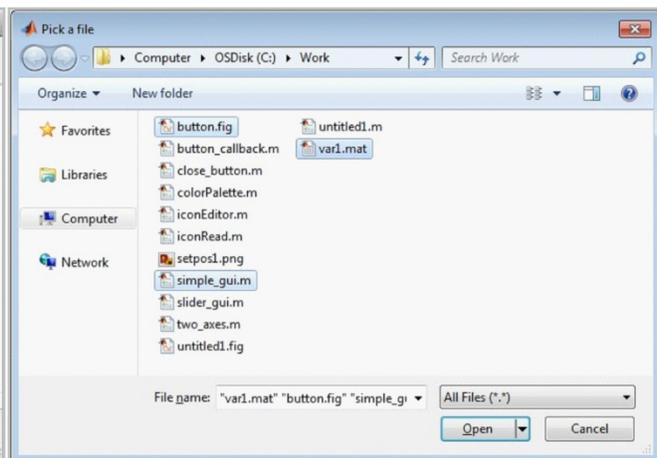


Figure 62: Searching for a File (Windows)

8. Locate and select the downloaded file.

Once you've selected the file, the file name appears on the Settings screen.

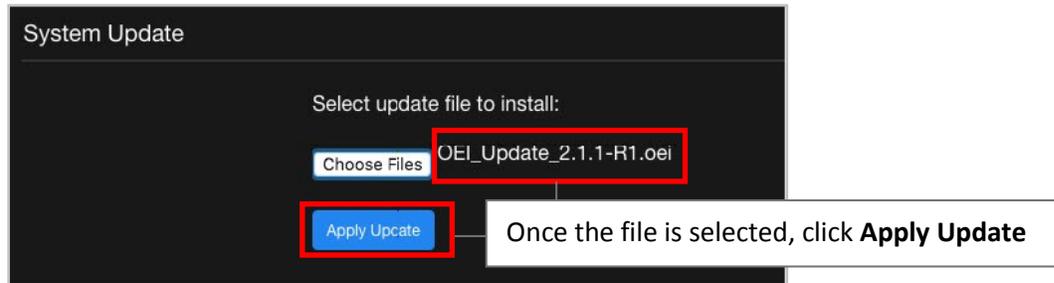


Figure 63: Click Apply Update

9. Click **Apply Update**.

After the Update process begins, the Connection Error message appears.



Figure 64: Click OK on the Connection Error Message

10. Click **OK**.

When the update has completed, the simulator restarts, and a screen appears reminding you to reconnect to the simulator.

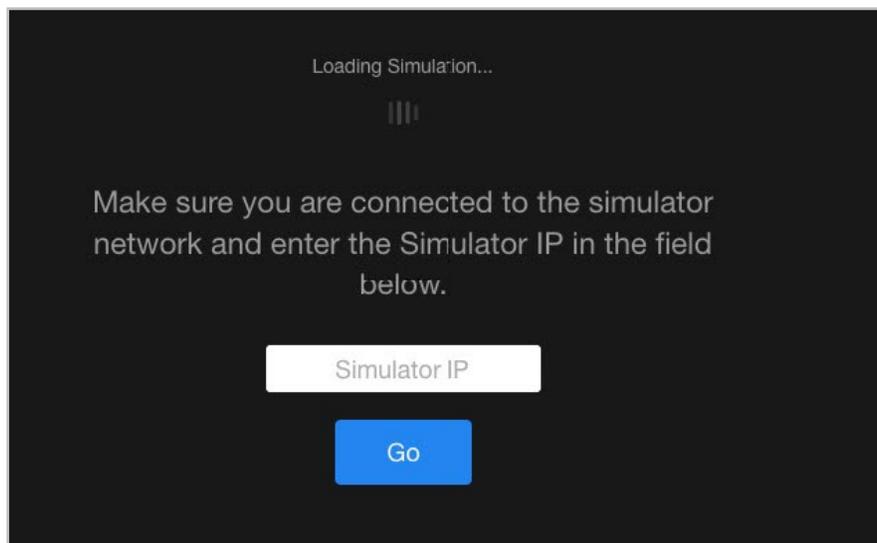


Figure 65: The Emergency Airway Neck Band

11. In your computer's settings, verify that you're still connected to the Simulator Network.

12. Enter the **Simulator IP** (10.42.0.1) and click **Go** to reconnect to the simulator.

The OEI SIM APP appears.

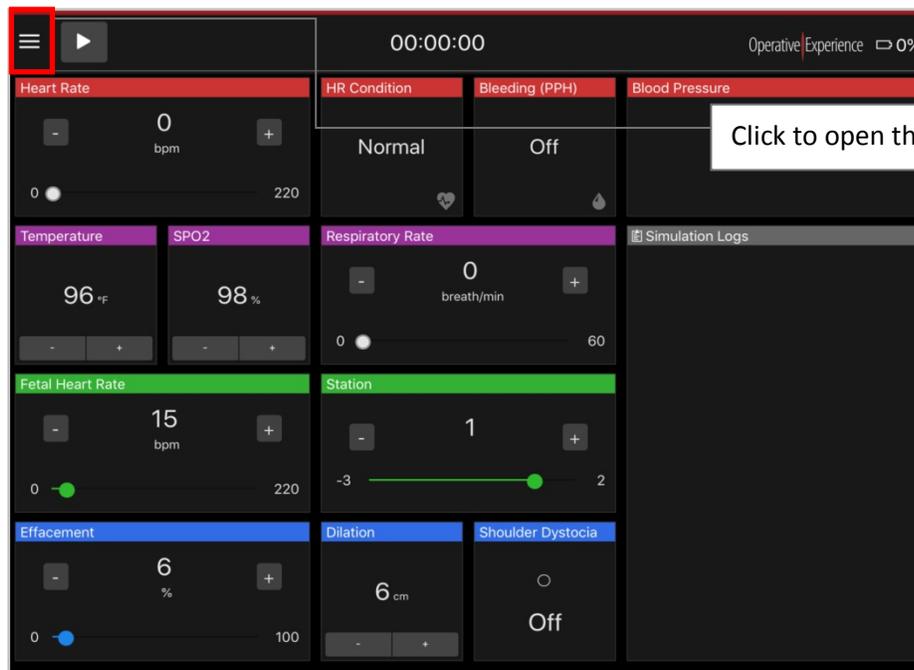


Figure 66: Open the Menu on the OEI SIM APP

6. Open the **Menu** and click **About**.

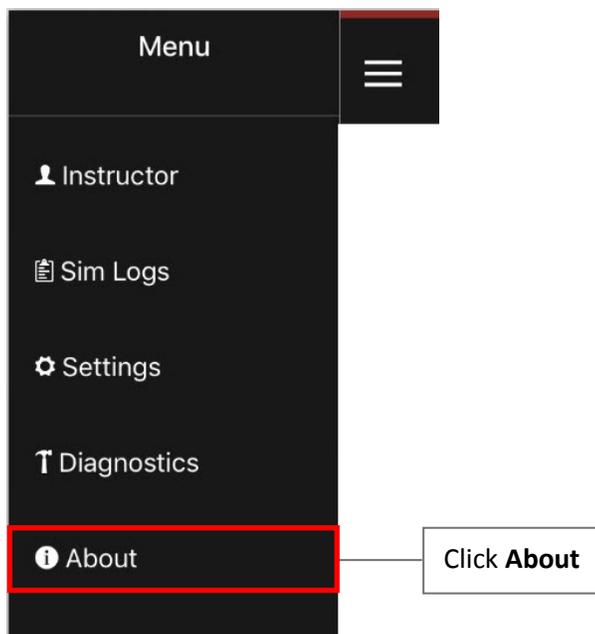


Figure 67: Select About

The About screen appears, displaying the current version of the application under **OEI APP**.

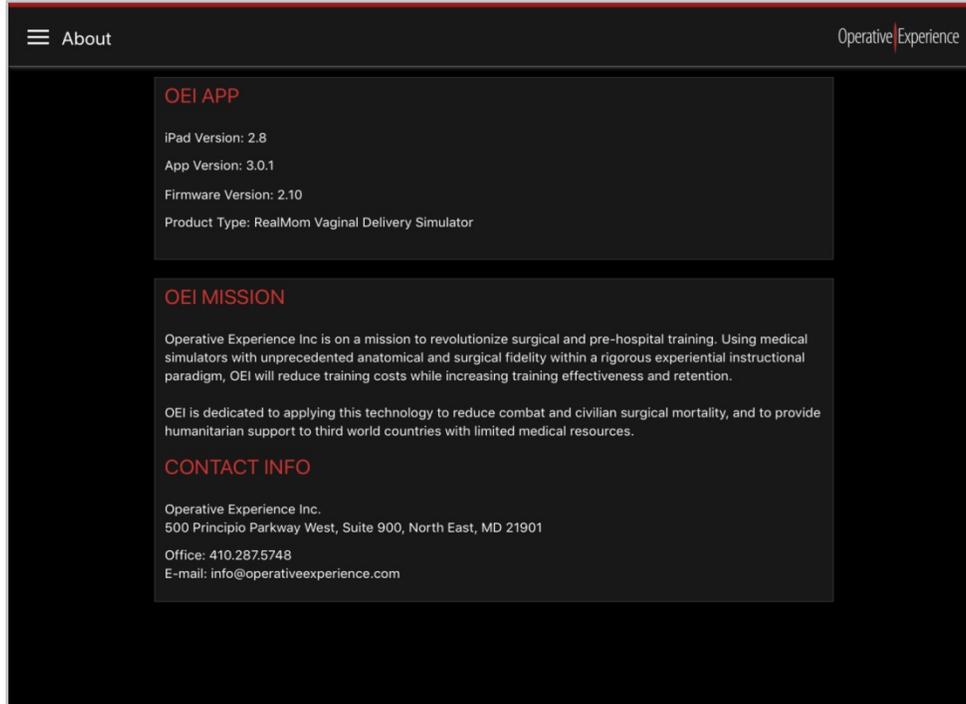


Figure 68: Verify Versions on the About Page

14. Verify that the configuration is current and the product type is correct by reviewing the following:
  - a. **APP Version**
  - b. **Firmware Version**
  - c. **Product Type**
15. Once you've verified that you're running the updated version, close the Internet Browser and disconnect the computer from the Simulator Network.
16. Start your tablet for operation of the simulator.
17. Join the Simulator Network and start the OEI Sim application.
18. Using the About screen on your tablet's OEI SIM APP, verify that the application is running the correct version.

## Storing the Simulators

Simulators are delivered in custom, wheeled, stackable storage cases. When not in active use, prevent accidental damage by keeping the simulator in the Storage Case. Simulators should be dry, fluid free, and without clothes during long-term storage.

Place the protective cloth in the case before loading the simulator.



Figure 69: Placing the Simulator in the Storage Case

Wrap the simulator in the cloth and secure the simulator using the straps. Tighten the straps to prevent movement, but **DO NOT OVERTIGHTEN**. Close the case and secure the latches. Packing can be added when shipping to further prevent movement.



Figure 70: Securing the Simulator in the Storage Case

The storage cases should **NOT BE STACKED** more than **TWO** high. Simulators should be stored in a dry environment.