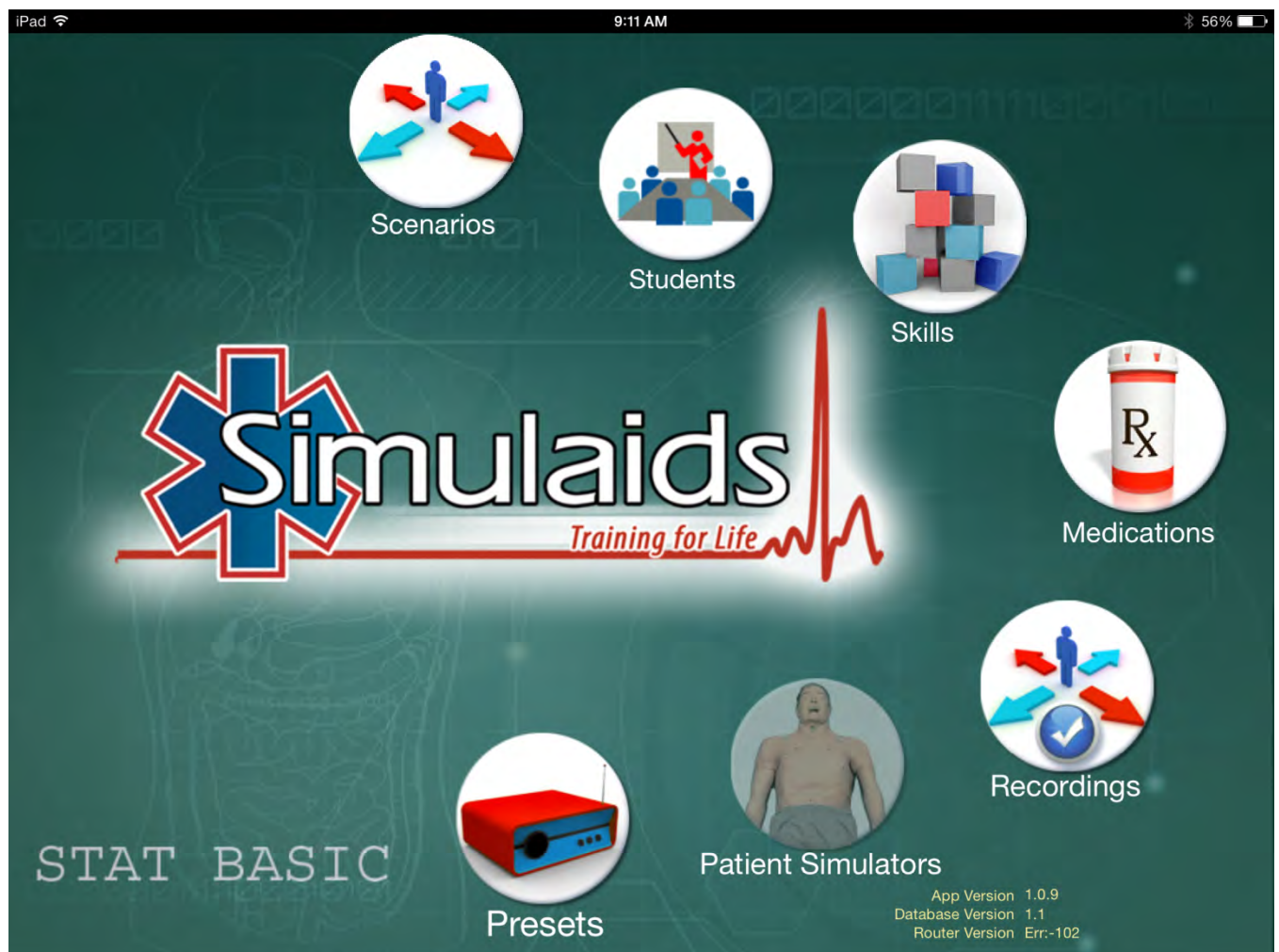# SMART STAT BASIC #8002
Instruction and Care Manual

Now with iPad® control

Thank you for purchasing Simulaids' SMART STAT Basic.

Simulaids is pleased to bring you the latest in patient simulator technology with our wireless, battery operated, self-contained simulator that is operated by an iPad®.

The intent of this document is to familiarize the user with the basic operation and care of SMART STAT Basic. You will be able to immediately start using this unit by following a few simple steps. These steps include installing the programming on your iPad® available now at the App Store; just search for SMARTSTAT.

It is recommend that you make note of, and store in a convenient location, your simulator's serial number, invoice date, invoice number, and the company name (Simulaids' distributor) you purchased it from. These three pieces of information are required for any warranty issues. When you have questions concerning the product, don't hesitate to call your distributor sales representative, or Simulaids' Customer Service Department at 800-431-4310.

The SMART STAT Basic patient simulator is intended to be used in various environmental locations for training of emergency medical personnel. All disciplines of training can be administered to this patient simulator, including: physicians, nurses, combat medics, ALS, and BLS providers.

The lung, heart and abdominal sounds associated with the SMART STAT Basic patient simulator are used under license from Cardionics of Webster, TX, and are not to be used for any commercial purpose outside the context of the SMART STAT Basic patient simulator programming

Model	Input Voltage
8002	120VAC
	240VAC

table of contents

What you received:
SMART STAT Basic Patient Simulator
iPad®
Shorts with Simulaids' Logo
WV IV Pro device (eliminates the use of tape at the IV site)
SMART STAT Basic B/P Cuff
Chest Post Adapter Set of Two
Manual Defibrillator Adaptors Set of Two
Laerdal Adapters Set of Two
Marquette Adapters Set of Two
Physio Adapters Set of Two
Instructions for Care and Use

Consumables:
Cricothyrotomy Neck Skins,
Tension Pneumothorax Pads
IM Injection Sites (Arm and Leg)
Replacement Teeth
Airway Lubrication Kit
Blood Powder
Reservoir Bags

Options available with SMART STAT purchase
Battery Leg, Part Number 407N
Amputated Bleeding Leg, Part Number 408
I/O Leg, Part Number 409
Xtreme Bleeding Leg, Part Number 482

To assemble a variety of clothing (not included) to fit the simulator see the sizing chart for information.

Sizing Chart	Torso Length	Sleeve Length	Chest Size	In Seam	Waist	Head Cir.	Neck	Height	Foot Length	Shoe Size
SMART STAT Basic	18"	34"	46"	32"	40"	26"	18.5"	72"	10"	13 men's
Metric equivalent in cm	46	87	118	82	102	66	47	183	25	

What you need:
iPad® 2 (or newer)
iTunes® Account
Computer for maintaining and printing student records

Product set up:
Simulaids' authorized SMART STAT Basic distributors (who you purchased your SMART STAT Basic from) are available to assist you with the set up.

Charging the battery (If option was purchased)

The batteries require approximately five (5) hours of charging. Before installing the leg on the simulator fully charge the battery, which is concealed in the lower left leg. The battery is not removable from the leg.

There are two connections necessary to charge the battery between the leg and the charger. One large connector charges the batteries and the smaller connector is a heat sensor.
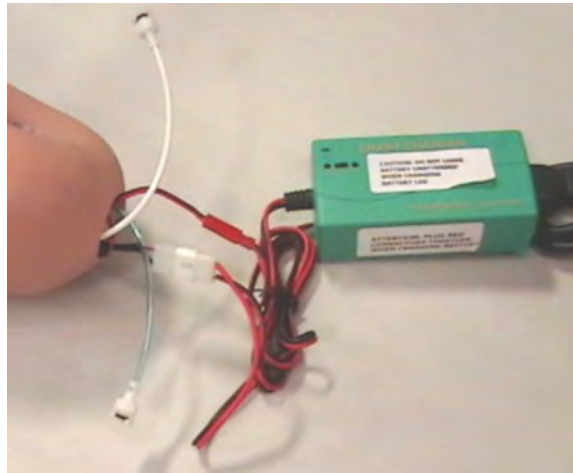

Battery Charger and connections (2)

1. **Always plug in the heat sensor first.** Failure to connect the heat sensor to the charger may result in a fire hazard
2. Connect the power charge connector
3. Place the battery leg on a surface until the batteries are fully charged. The light on the charger will turn green when the charging is complete.

The battery charge will last approximately 5 hours while the simulator is idling at default features. NOTE: When operating the simulator on a/c electrical power, it is recommended to separate the battery leg connector at the knee joint so the battery leg. When the battery reaches an expired level of energy, the simulator will automatically shut down. To preserve the active functions of the simulator plug into the 110 or 240 a/c source before the battery energy expires. The plug for an extension cord is found inside the pelvic shorts on the right hand side of the simulator. To increase battery time it is recommended to obtain an extra "battery leg" no. 407N.

Leg Assembly:
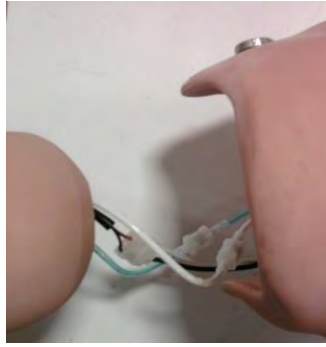
1. Connect the matching colored wires and tubing
2. Check all the connectors to ensure they are securely seated, so the wires do not separate
3. Push the excess wiring into the thigh, as not to encumber the knee joint
4. Secure with the knee pin

Right Thigh Connectors

The black cord connects to the transformer power block.
The USB connection is to link to an external computer.
The category 5 cable can be used to connect to a router to make a Wi-Fi link.

Fluids:
Ink and fake blood products will permanently stain and cannot be removed.

Mixing Blood Powder: Included with the simulator is an initial supply of blood powder; mix it according to the instructions printed on the bag. Left over blood can be stored in a refrigerator for up to two weeks.

Blood Pressure (B/P)

Blood Pressure Arm

This photo shows the hole on the upper arm for the B/P cuff connection.   The left arm can be used for determining the systolic and diastolic pressures.
1. Place the B/P cuff on one arm
2. Insert the projecting connection port on the cuff bladder into the hole on the upper arm. A very small amount of vegetable oil on the "O" ring of the connector will allow it to slide into the arm port for an air-tight seal.
3. Wrap the cuff tightly around the arm and securely fasten the hook and loop.

IV ARM:
Caution – contains latex*.* To augment the IV training, use the blood supply bags.
1. On one of the reservoir bags, close the tubing clamp and then fill the bag with pre- mixed simulated blood or colored water.
2. Attach the bag tubing to one of the IV arm tubes that exit the simulator's right shoulder.
3. Hang the bag on an IV pole next to the simulator, or, as in the case of patient moving in ALS, place the reservoir bag under the shoulder of the simulator to induce pressure.
4. To the other IV arm tube attach an empty IV reservoir bag.
5. Make sure the filling port is closed and the tube clamp released.
6. Place the empty bag on the floor or ground. Gravity (or shoulder pressure) will cause the IV veins to fill once you release the clamp on the full bag. As the scenario continues, the blood will drain into the lower bag.
7. When the upper bag is about empty, switch the positions of the bags and the blood supply in the arm will remain constant.
8. Before storing the simulator, flush the IV tubing of the arm by hanging a bag of warm water and allowing it to circulate through the arm.
9. Drain the rinse water into a receptacle for disposal. Flush the IV arm until the water exiting the tubing is clear.

VEIN REPLACEMENT:
1. If the water or blood oozes out of the arm where the IV catheters have been installed and withdrawn, replace the veins with a segment from the enclosed IV Vein set.
2. Pull down the IV arm skin to access the affected area.
3. Clip with scissors the damaged section of vein tubing.
4. Install a plastic tubing connector in each of the remaining vein ends.
5. Use the new tubing in the kit and cut a piece the correct length for replacement.
6. Install it between the tubing connectors. Make sure the tubing is seated all the way onto the connectors.
7. Pull the IV arm skin back over the veins.

The deltoid muscle of the right arm is for **IM injections** (*Use only water*). Pull the injection site out of the arm after use and squeeze the foam insert dry. Let it air dry before storing. Replacement units are included.

CHEST TUBE PLACEMENT:
This bilateral feature will allow the use of normal sized trocars during the insertion process. This trainer is not designed to be a technique trainer; rather, it offers the opportunity to install a chest tube to indicate that the procedure is necessary under current patient conditions as evidenced by the practitioner's assessment.

1. Close the tubing clamp before filling the reservoir bag.
2. Fill the bag and attach the tubing end to port C.
3. Once the tubing is securely connected elevate the reservoir bag about 30″ above chest level
4. Release the tubing clamp so the water can flow into the system.

TENSION PNEUMOTHORAX:
Install the pneumothorax patches when needed. The smaller circle fits the cut out area of the overlay. The larger circle is the shoulder that holds the patch in place.
When a needle is inserted in either of the bi-lateral chest sites, the bladder will release the compressed air with an audible hiss.

ECG MONITORING AND DEFIBRILLATION

Four ECG limb lead connectors on the chest are attached to the rib cage for removing the overlay skin. The ECG snaps cannot be used for defibrillation and each one is labeled, "NOT A DEFIBRILLATION SITE". Doing so will void the warranty.

To view limb lead ECG waveforms, attach the 3, 4, or 5-lead ECG cable to the ECG snaps at the following locations:

     RA (right arm): right shoulder snap

LA (left arm): left shoulder snap
LL (left leg): left waist snap
RL (right leg): right waist snap

Two defibrillation sites associated with lead II are located on the chest at the apex and sternum locations.

These two sites are not labeled and have a base to screw in the Chest Post Adapters (included in the accessories bag). The Chest Post Adapters are two threaded, ¼″ diameter, metal parts; screw these into the two defibrillation sites and attach the training cable to the adapters.

Defibrillator with hand-held paddles will need to use a pair of Manual Defibrillator Adapters that are inserted in the defibrillator chest sites. These adapters are 1-1/2″ diameter discs and are included with the patient simulator.

To deliver defibrillator and pacer pulses, and to view the PADS ECG waveform attach the training cable (or hold paddles) at the following locations:
    Apex: left side of chest, lower rib area
    Sternum: right side of chest, middle rib area

Turn on SMART STAT BASIC: The switch is located in the recessed area of the left shoulder, switch it so that the "−" is depressed.

The simulator will be active with default values:
Blood Pressure 120/80
Respirations Rate 10
Heart Rhythm Normal 72 BPM
Lung Sounds Normal
Bowel Sounds Normal
Pulses On

iPad® Functions
**Connecting SMART STAT BASIC to the iPad®**
Steps:
1. Open your iPad® box and follow the manufacturer's set up instructions
2. Set up an iTunes® account
3. Go to the App store
4. Search for SMART STAT BASIC (or Simulaids)

5. Download and install the SMART STAT BASIC App on the iPad®
6. Go to the iPad® Settings screen

Wi-Fi

7. Turn off Wi-Fi; turn it back on
8. Select the Wi-Fi labeled "STAT-XXXX4" (a number suffix). Before it will open, a password pop up window will appear. Type in the password: simulation01 (all lower case) and follow the prompt. After it is connected, it will have a check mark next to the labeled Wi-Fi and the name will show up on the left column where Wi-Fi is identified.
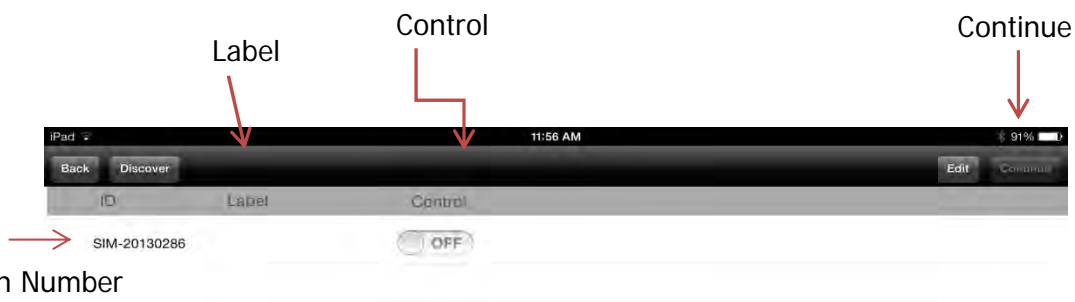9. Close the Settings screen.
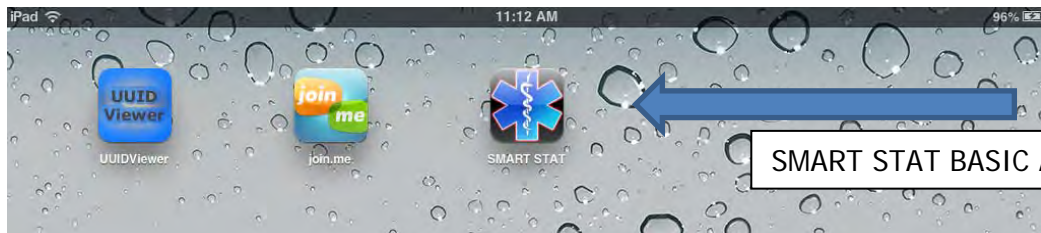
SMART STAT BASIC App

10. Go to the SMART STAT BASIC app and initialize it.
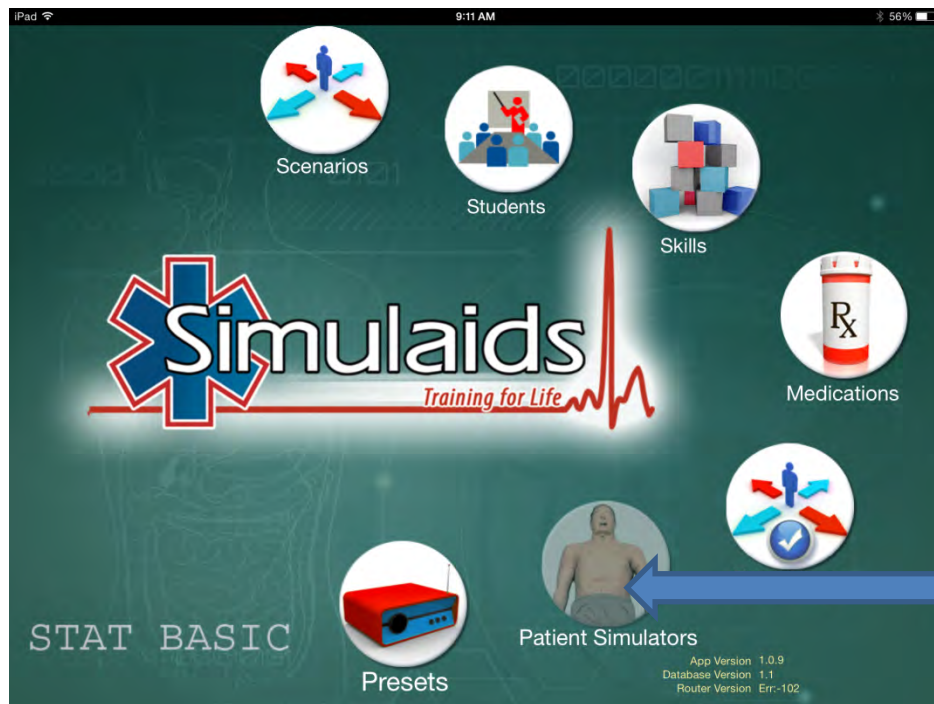
11. On the SMART STAT Basic app home screen, tap the "Patient Simulators" icon


Label   Control   Continue

Manikin Number

12. If you want to name your patient simulator tap the area under the "Label" column. A text box will display, that when tapped will bring up a keyboard to enter a name for the patient simulator. After you type the name, tap the 'Done' button on the keyboard to save it.
13. Tap the switch for the "Control" column. Wait until it has connected.
14. In the upper right corner of the iPad® screen, tap the "Continue" button.
15. Tap anywhere on that line once and wait for the blue highlight to appear on that line.

Student

16. This will display the student screen. It is not required to select a student name to run on the fly; it is only necessary to select a student name when running sessions and/or Recordings. An initial run through the iPad® set up will not have any student names, but if there were any students, this is where they will display. Go to the upper right corner of the screen and tap "Continue".
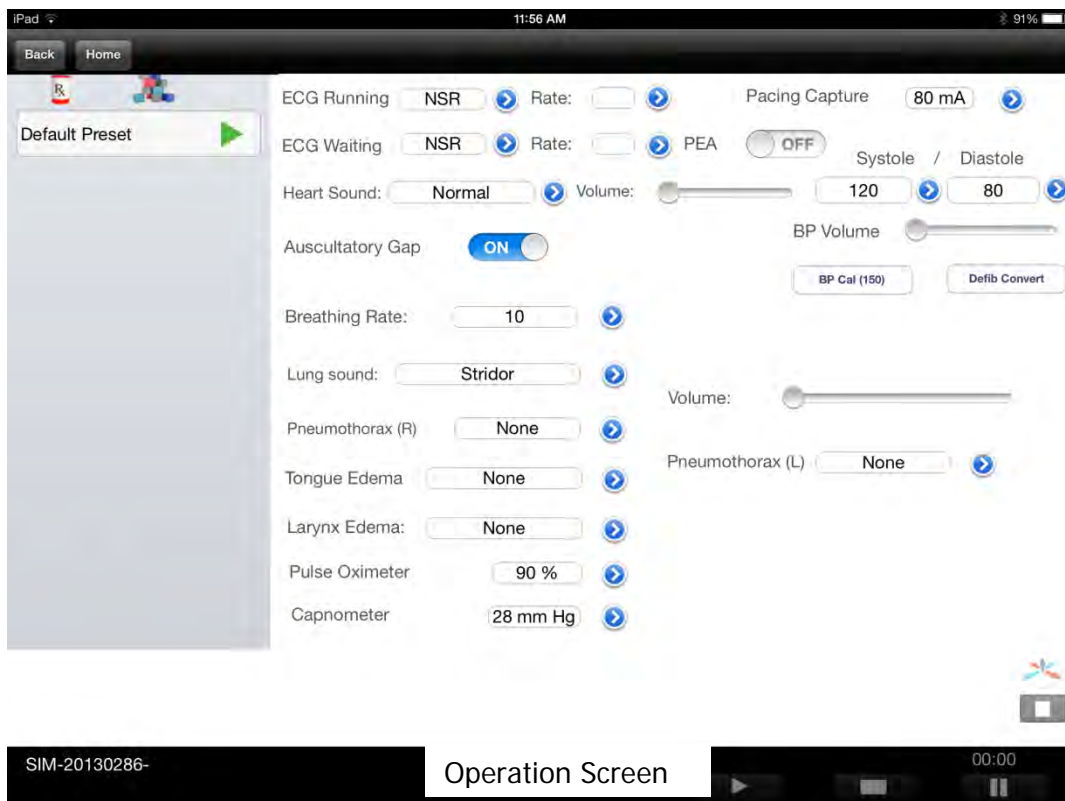
Operation Screen

This will display the features operation screen. Always tap the green preset arrow ▶ before starting any operations. This automatically syncs the patient simulator and iPad®.

You will hear a series of bells indicating the simulator and the iPad® are connected.

User Interfaces

PRESETS

Presets allow you to create a set of feature lists that will put the simulator back into any given set of presets with the tap of one button. Presets are especially useful when working with scenarios that put the simulator in all kinds of conditions.

On the home screen of your SMART STAT Basic app, tap the PRESETS icon. Edit details.

Title Block
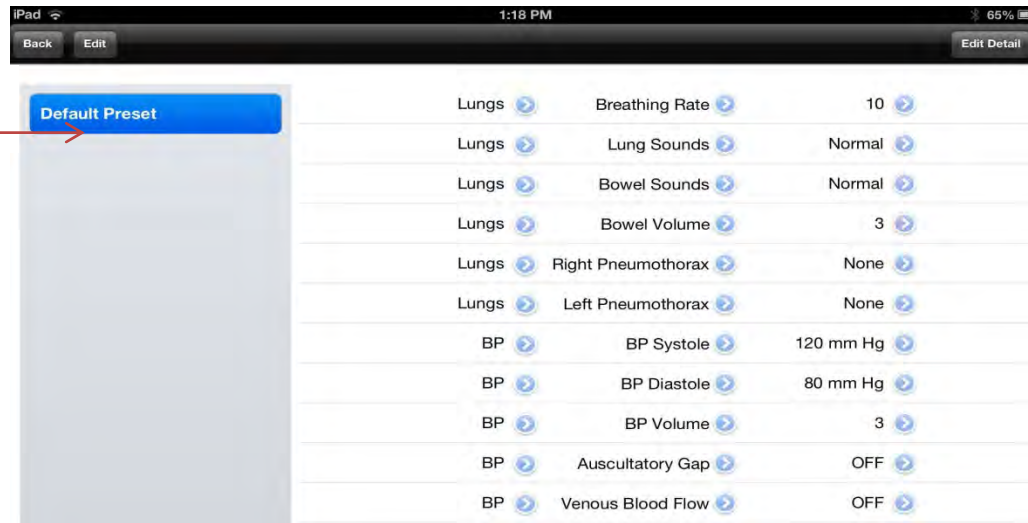
1. Selecting one of the options by tapping the title block displays a screen with all of the features listed in one place. The screen above shows the highlighted title block, Default Preset. Scroll down this list to see all the features listed.
2. To change/edit features listed in a Default Setting, tap the edit detail in the upper right hand corner of the screen.
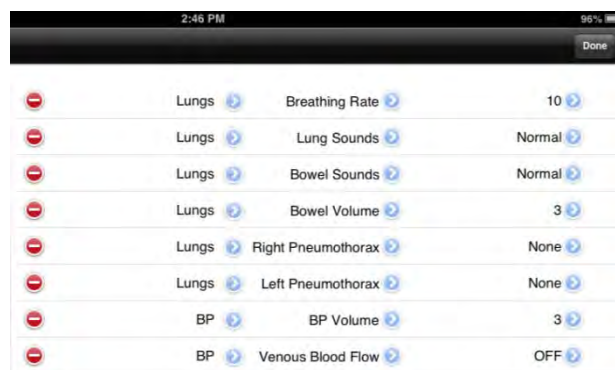

3. Tap any of the line items that you want to change and you will be given the red dot icons ⊖. Selecting any of the features by tapping on a line will result in a highlighted blue line through that selection.
4. Go to the right column and tap the little blue arrow icon ⊙ to access the various choices you have for that item. The program list is complete; it is recommended that you do not delete any lines.
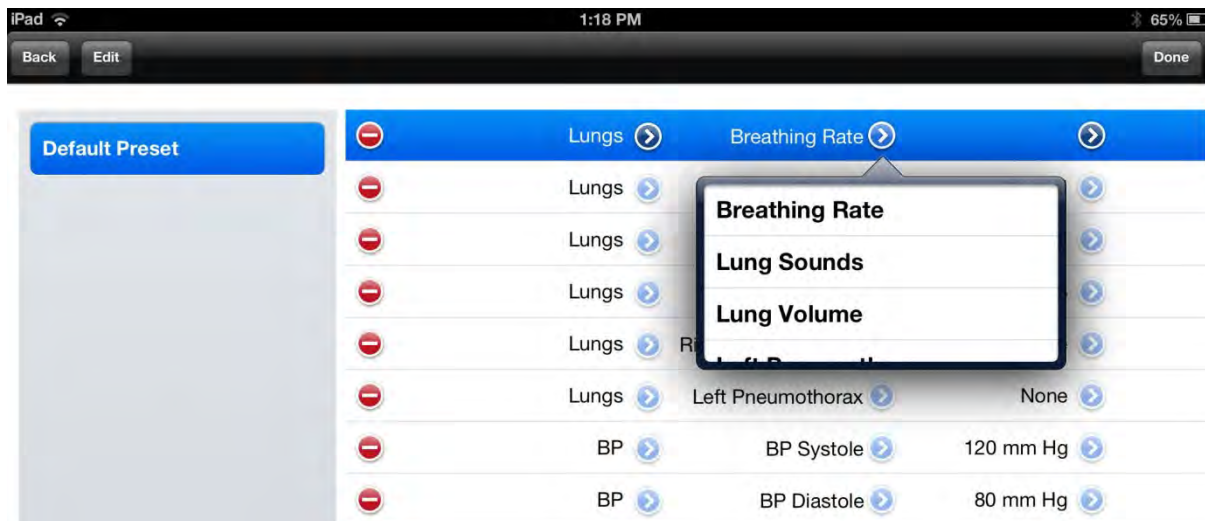
5. Select the rate to default to by tapping the selection. Then tap the 'Done' button in the upper right corner.
6. When you are done changing the defaults to your preferences, simply press the 'Done' button and they will be available to you with a single tap on the Default Preset on the control screen.
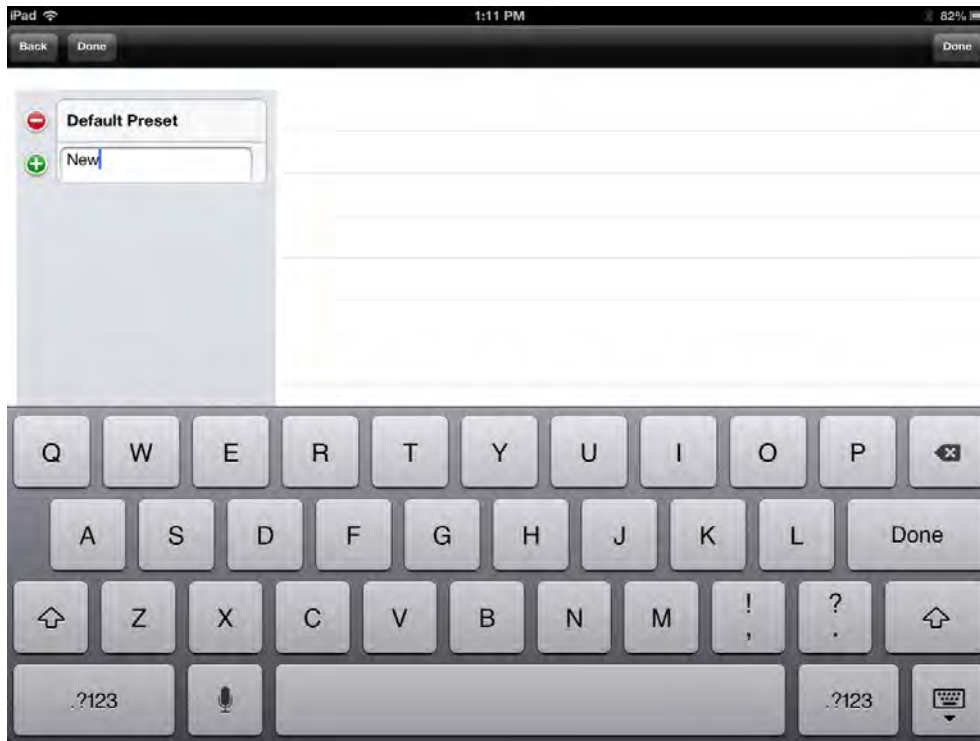
To create a new set of Defaults:
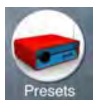
1. Start by tapping the PRESET icon on the home screen,
2. Tap the 'Edit' button on the upper LEFT side of the screen

14
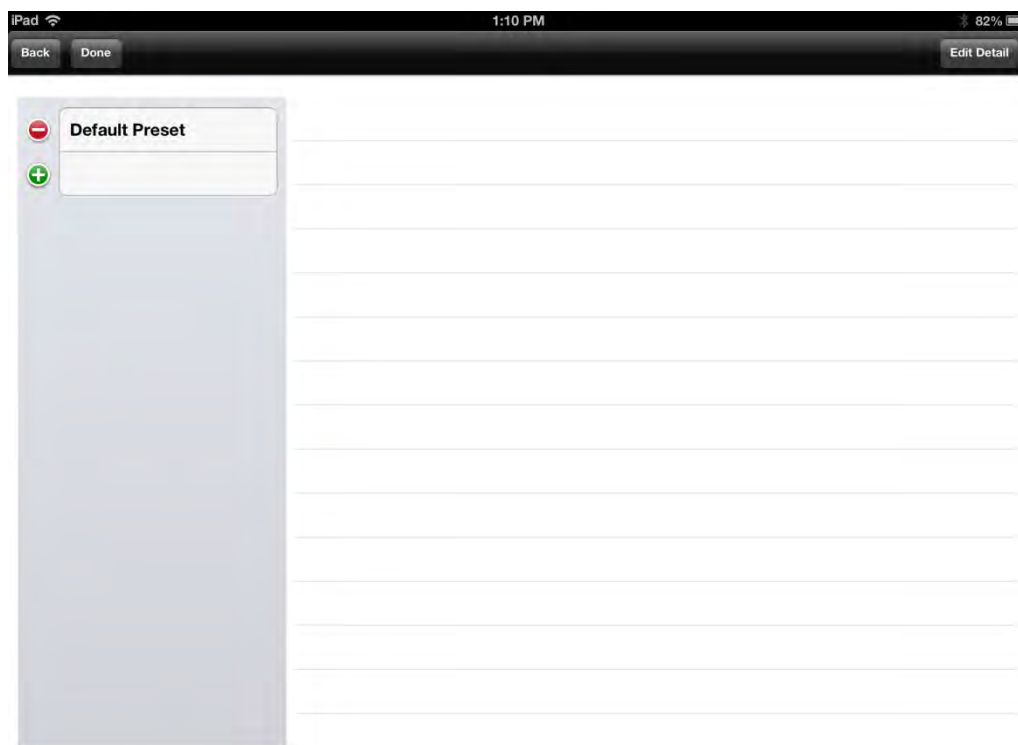
3. Tap the green + circle icon ⊕ to name your preset.

4. Press 'Done' on the left side.
5. Select the new Preset List and tap the Edit Detail button on the upper right corner.
6. Continue to build your preset list as you did in the above Preset steps 1 through 6.
7. When the Preset list is finished, tap the 'Done' button. It will be saved and available on the control screens for immediate use.

Consider custom presets as scenarios that will be used over and over again. It is easier to use a custom preset to reset your SMART STAT Basic rather than depending on a scenario.

STUDENT LIST

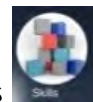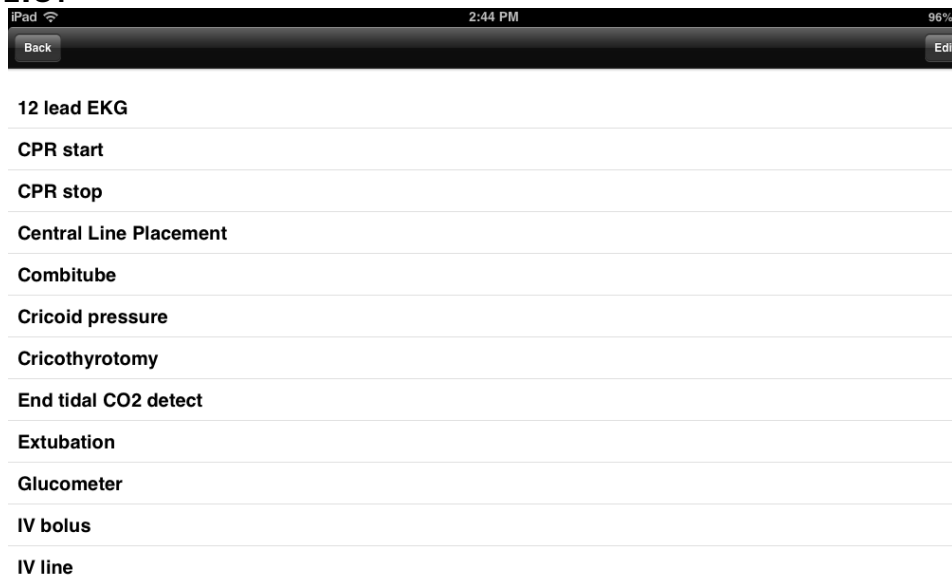1. To create a list of students, go to the SMART STAT Basic app home screen.

2. Tap the Student [icon] icon

3. Tap the 'Edit' button on the right upper corner of the screen once.


4. Tap the green + circle and enter a name and/or a team name.
5. Tap 'Done'.
6. To enter another name, repeat the steps for each additional name to be entered.

SKILLS LIST

1. To create or edit a skills check list, go to the home screen and tap the Skills [icon] icon.
2. Select a current skill by tapping it to highlight the skill.
3. In the upper right corner of the screen tap the "Edit" button.
4. You will be given the choice of editing any of the items or adding a new one.
5. To add a new skill, tap the green + circle and fill in the blank. Add as many skills as you want for session recordings.
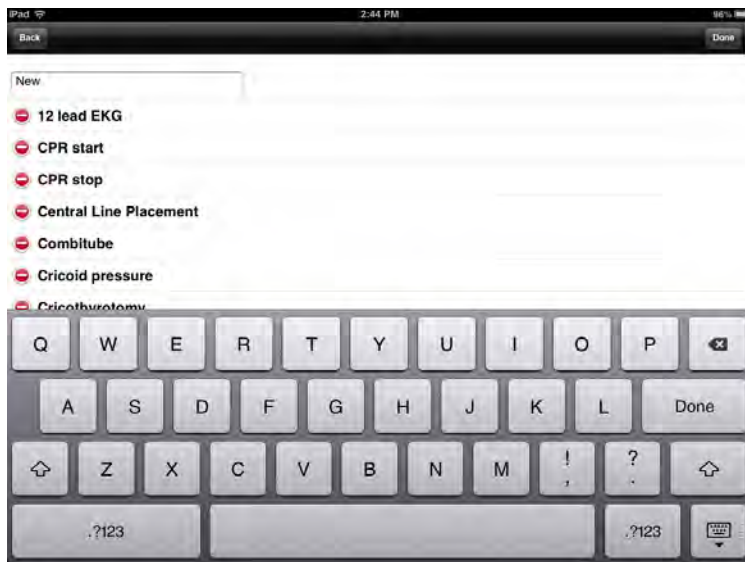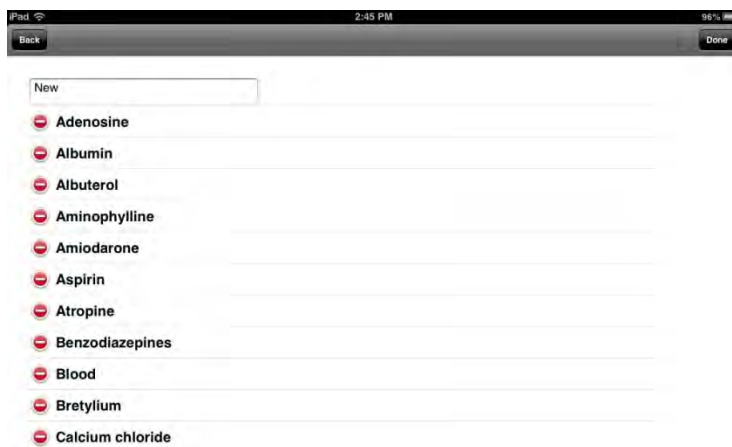
6. When you are finished, tap the 'Done' button in the upper left corner of the screen.

   Each scenario has a place for the selected skills. The skills will appear alphabetically; to see the entire list scroll down.

MEDICATION LIST

1. To create or edit Medications, go to the home screen and tap the Medication icon.
2. Follow create/edit 'Skills' steps to create/edit Medications. Scroll down the page to see the entire list of available medications.
3. When you are finished adding medications to the list, hit the back button in the upper left corner to return to the home screen.

SCENARIO LIST

This is where you create custom scenarios for any of your curriculum needs. There are simple examples included with the app. If you have friends, who are building scenarios on their Simulaids' app, you can exchange files with them by using the Import/Export feature.

To view scenarios or to create a new scenario, tap on the Scenario icon to open the feature.

Edit

Your first choice is to work with a scenario. Start by tapping the 'Edit' button in the upper right corner.

A list of scenarios will appear, along with a green + circle ⊕ button. From this screen you can delete, add or edit existing scenarios.

1. Delete a scenario: tap the red – circle ⊖ and choose delete on the far right side.

1. Add a scenario: tap the green + circle ⊕ to start with adding a name.
2. Tap the blank box, type the name and tap the keyboard 'Done' key to save it.
3. Tap the blue arrow circle ⊙ on the right side of that line to bring up the scenario

4. Tap the 'Edit' button to begin building your scenario.
   a. Select the time you want it to start; generally 00:00 (minutes/seconds)
   b. Use the drop down lists to create your scenario features' operations.
   c. Create a time line of when you want certain features to be active by tapping the individual arrow buttons for each. Then tap the 'Done' button.
   d. To put another line on the scenario, tap the Edit button again and enter your next line.
   e. Tap 'Done' and then 'Edit' to continue building and complete your scenario.
   f. When you back out of the screen, your scenario is saved.

In the upper left corner of the screen, tap back until you reach the screen you need to continue your work on the iPad®.

If you enter the Scenario screen and wish to edit an existing scenario, tap the blue arrow circle on the right side of the line you want to change and edit as explained previously.

At the bottom of the edit scenarios screen and above this text line are the two icons shown in the black line.

When you are done editing the scenario details (left icon) you may tap the Scenario Skills button to add a set of skills the student is expected to perform during the scenario.
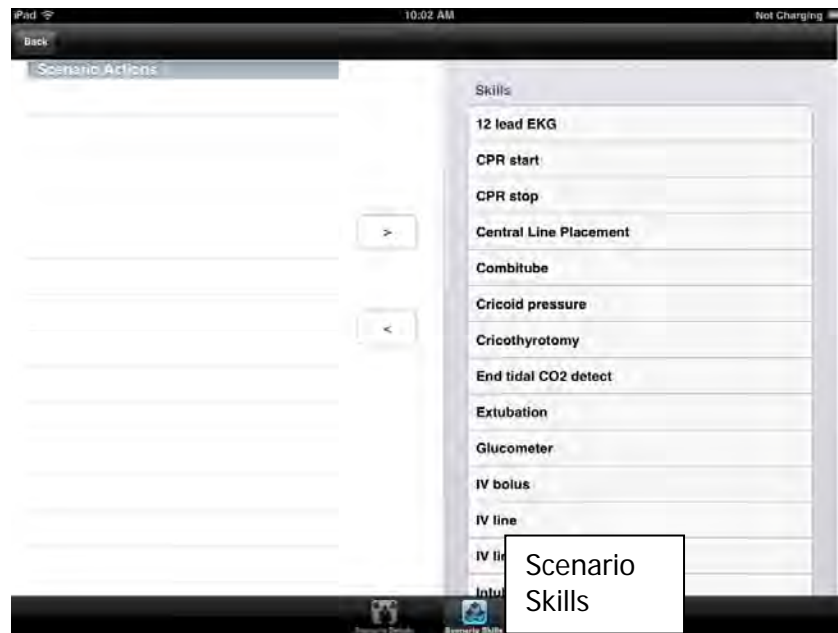
Scenario
Skills

a. Tap a skill to highlight it and then tap the left arrow to place the skill set on the scenario file.

b. After all of the skills have been entered for a specific scenario, tap the back button at the top.

   When you play the scenario, these skill sets will display in the left column on the control screen and can be checked off as the student performs the skills.

c. To add a skill that is not on the scenario list, back out to the home screen and go to the Skills section to add the additional skill sets. When you return to the scenario actions screen, the added skills will be available.
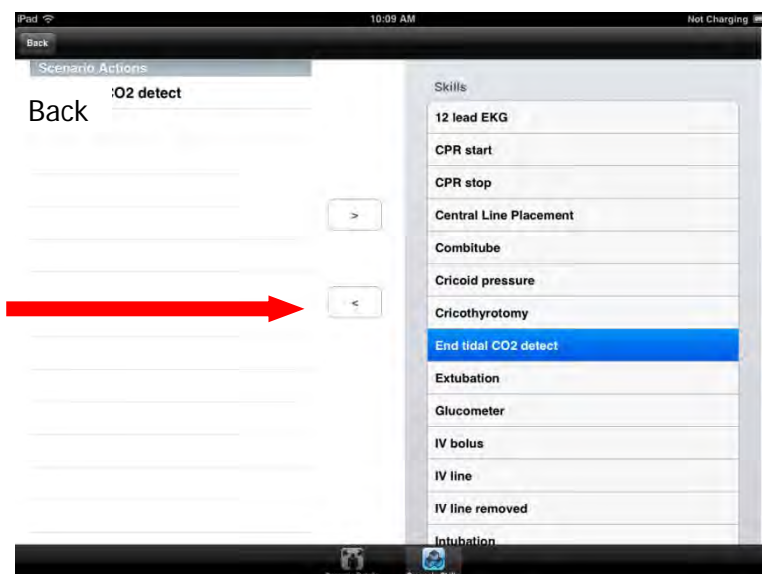
Back

d. Eliminate skill sets from the list by highlighting the skill on the left column and tapping the right arrow to put it back in the database column on the right side. Back out of the screen to save it.

1st	66
2nd I	40 – 52
2nd II 3:1	26
2nd II 4:1	19
3rd	37
AFIB	120 – 160
AFLTR	150
ASYS	0
J BRADY	42
NSR *	72
S BRADY	40
S TACH	120
SVT	210
VF	>200
VT fast	185
VT poly	>200
VT slow	140

Normal	100%	80%
Crackles minor edema	99%	75%
Crackles moderate edema	98%	70%
	97%	60%
Stridor	96%	50%
Rhonchi scattered	95%	40%
Rhonchi bases	94%	30%
Wheeze upper	93%	20%
Wheeze bases	90%	10%
	85%	

Normal	-10
Systolic Murmur	-5
Diastolic Murmur	5
Friction Rub	10

On
Off

None
Partial
Complete

Apnea
5
10
20
30

Ignore
40 mA
50 mA
60 mA
70 mA
80 mA
90 mA
100 mA
110 mA
120 mA
130 mA
140 mA

0 mm Hg	38 mm Hg
4 mm Hg	39 mm Hg
8 mm Hg	40 mm Hg
12 mm Hg	41 mm Hg
16 mm Hg	42 mm Hg
20 mm Hg	44 mm Hg
24 mm Hg	46 mm Hg
28 mm Hg	50 mm Hg
32 mm Hg	54 mm Hg
36 mm Hg	58 mm Hg

1
2
3
4
5

Select Simulation

STAT SIMULATION DEFAULTS

MANIKIN CONDITION		DEFAULT
Airway		
	Tongue	Normal
	Capnography	40 mm hg
	Larynx	Normal
Heart		
	Running Rhythm	NSR
	Waiting Rhythm	NSR
	Convert	Disabled
	PEA	Off
	BP Systole	120
	BP Diastole	80
	BP Volume	II
	Pacing Capture	80 mA
	Heart Sounds	Normal
	Heart Volume	II
Lungs		
	Breathing Rate	10
	Lung Sounds	Normal
	SpO2	99%
	Lungs Volume	II
	Right Lung	None
	Left Lung	None

ECG RATES

| ABBREVIATION	CONDITION	RATES
2nd I	2nd Degree Type I AV block	60*
2nd II	2nd Degree Type II AV block, Wide QRS	60*
2nd II PVC	2nd Degree Type II AV block, PVCs, Wide QRS	60*
3rd	3rd Degree AV Block, Wide QRS	60*
AFIB	Atrial Fibrillation	140-200
AFLTR	Artrial Flutter	150
ASYS	Asystole	0
J BRDY	Junctional Bradycardia	60
NSR	Normal Sinue Rhythm	72
S BRDY	Sinus Bradycardia	50
S TACH	Sinus Tachycardia	165
Sinus PVC	SINUS RHYTHM WITH PVCs	90
SVT	Supraventricular Tachycardia	240
VF	Ventricular Fibrillation	>200
VT Fast	Ventricular Tachycardia	170-220
VT Poly	Ventricular Tachycardia, Fluctuating QRS	<200
VT Slow	Ventricular Tachycardia	148

*Heart rate display will change when R wave drops.

Running a Session, Recording a Scenario:

A session is a timed and logged series of events based upon how the instructor challenges the student(s) and how the student(s) responds to the challenges.

To start a recording session, connect to a patient simulator from the Home screen

1. Tap the Patient Simulator icon
2. Turn on the Control button
3. Select the line to highlight it blue.
4. Tap Continue once (wait for it) in the upper right corner.
5. This displays the Student screen.
6. Tap Continue to connect the patient simulator to the iPad®.
7. Tap the Home in the upper left hand corner
8. Tap the Scenario icon
9. Select a scenario
10. Tap Continue
11. Select the patient simulator you connected to in step 1.
12. Tap Continue
13. Select Student/Team
14. Tap Continue
15. Tap the default preset green arrow
16. Start scenario
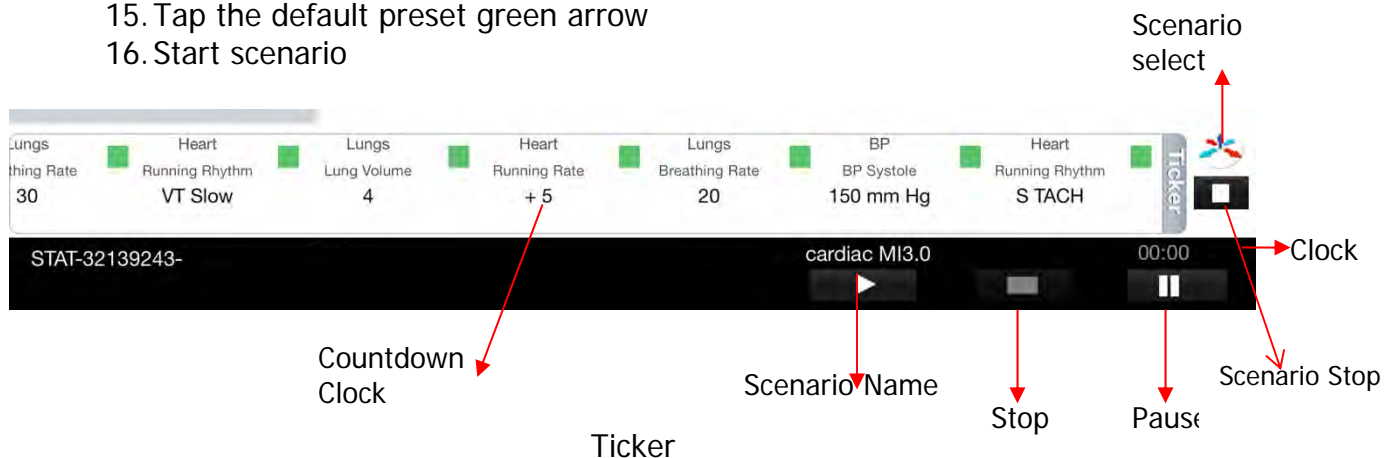
To insert a scenario into a recording session, tap the Home button in the upper left of the screen.

The control screen is displayed and the scenario is outlined in the Ticker strip at the bottom of the screen. Within the ticker strip, and at each feature change, is a countdown clock in parenthesis [-5]. Observe these clocks to know when the next change will occur according to the scenario programming. (By unchecking a feature that has not played will cause it to be skipped.)
Below the ticker strip are the play, pause and stop buttons. Pause the session and the elapsed time clock will continue to run, but the log clock stops until you resume by tapping the pause icon again. If you stop a session recording by tapping the white rectangle, all features and session recordings stop.

At the bottom of the control screens are two icons on the margin above the elapsed time clock. These represent the scenario selections and the scenario stop button. When you are recording a session, you can switch scenarios, as in the instance of first starting a presentation scenario, then changing to a deterioration scenario. Do this by tapping the stop icon and then tapping the scenario icon to start a new scenario. You can stop a scenario and start another scenario as many times as you want during a recorded session. Tapping the stop button below the ticker line stops all recordings and ends the session.

Viewing, Printing, and Saving Recordings

Go to the home screen and find the session recordings by tapping the Recordings icon. Once you have completed a session recording, you will find it on this screen. This feature allows you to view, print or export session recordings.

1. From the home screen tap the Recordings icon.
2. Locate and select the student name on the Students drop down menu, and select student's session from the Sessions drop down menu.
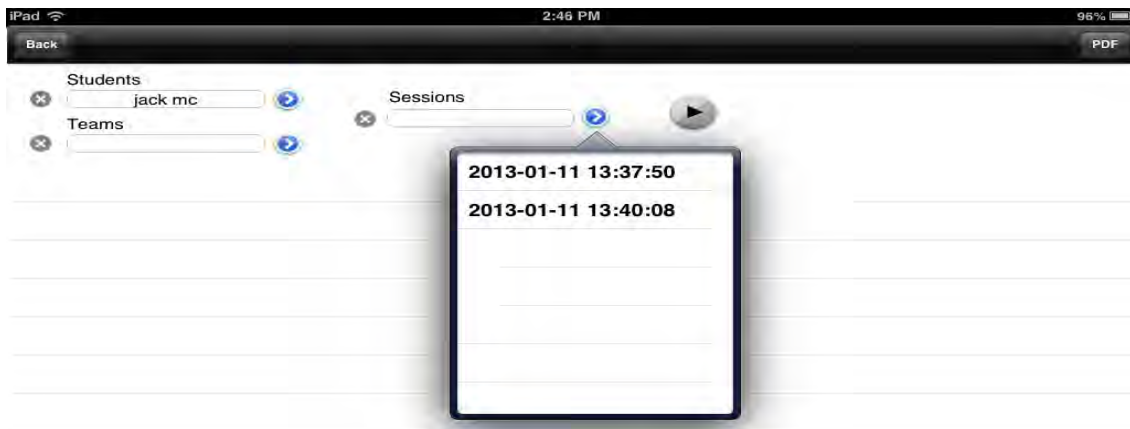

3. Tapping the arrow icon ⊙ will cause the session recording to list by line in chronological order. To see another recording by the same student, tap the Sessions drop down list and select it and tap the arrow ⊙ again.

4. When you have selected the session that you want to print, tap the PDF button in the upper right corner of the screen. This will place the file in a location to transfer it to iTunes® for the next time you sync your iPad®. Once the recordings are in PDF form, they can be printed and/or emailed.

Retrieving PDF files from iTunes®:

1. Synchronize the iPad® to your computer by connecting the charging cable to the iPad® and the USB port on the computer. (You also can refer to your iPad® user guide.)
2. Open the iTunes® on your computer.
3. Watch in the upper right corner of the tools line as the iPad® icon appears next to the iTunes® button.
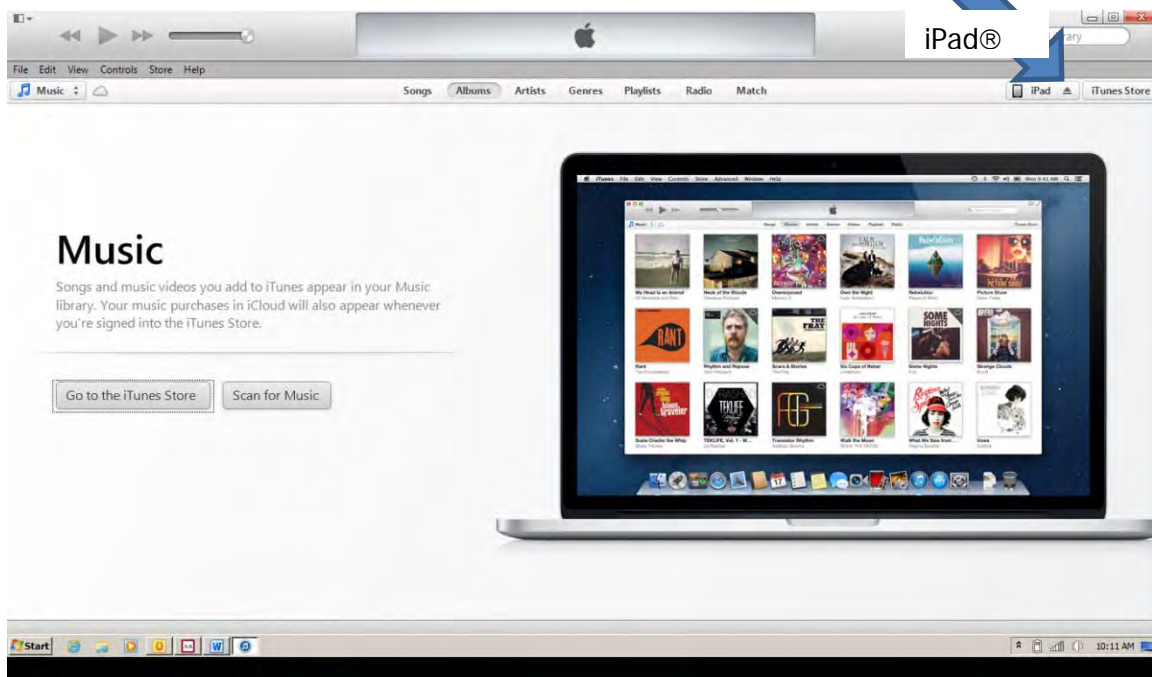
4. Click on the iPad® icon on the left side of the button. If you click on the up arrow icon, you will not go to the correct location.
5. On the bottom right of the screen tap the Sync button.

6. At the top of the screen you'll see the progress of the sync process. Wait for it to complete.

7. Under the Apple® bar, on the line that identifies your iPad®, find the Apps button and tap that.
8. Move to the far right of the screen and drag the slider down to view the bottom of the page.

9. Find the SMART STAT Basic Apps icon (Star of Life) and tap it once.

SMART STAT
Basic App
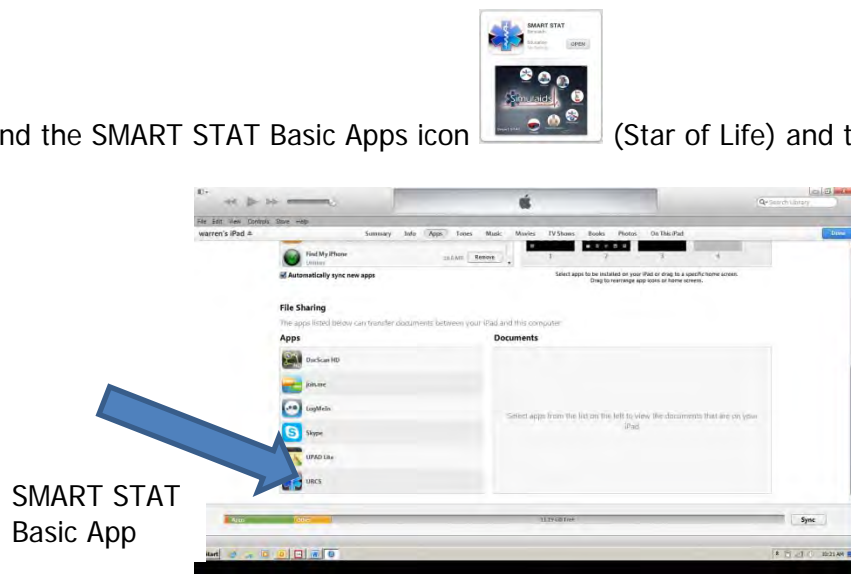
10. On the lines in the right column you will find all of the files that you have exported from the iPad® app, including PDF student recordings, scenarios and other lists.
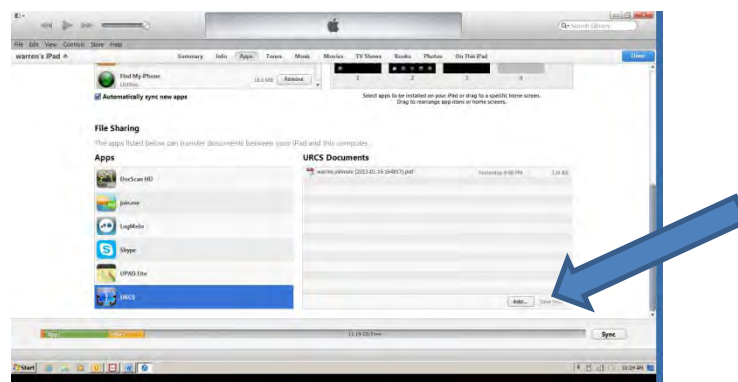
11. You can print, save, copy, paste or discard any of the files after saving the files on a computer by using the "Save to…" button on the bottom of the iTunes® Documents column.

A sample of a PDF file generated on iPad® SMART STAT Basic
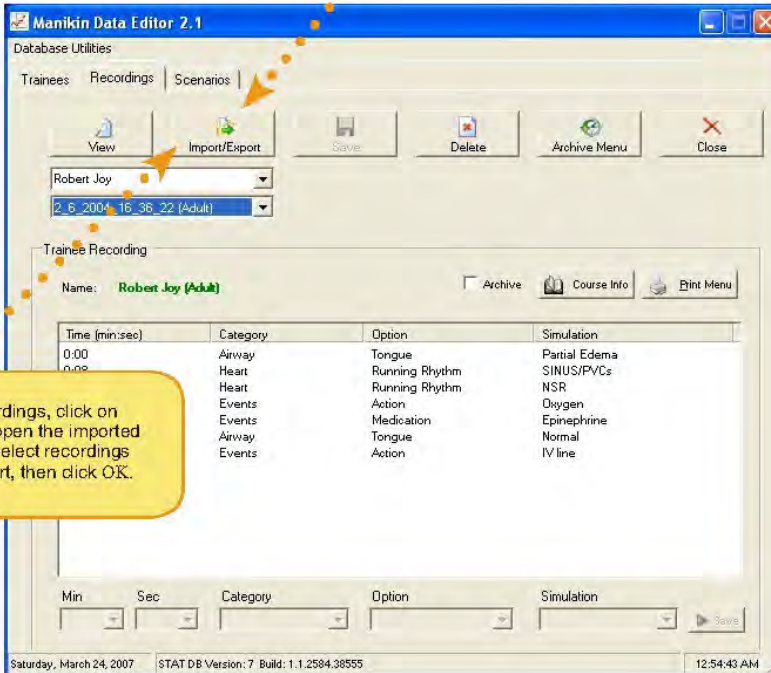
Exporting
Exporting from Manikin Data Editor (MDE), included with PDA that were supplied with Pocket PC, purchased prior to March 1, 2013.

To import and/or export files using your iPad®, refer to your iPad® user guide.

Running SMART STAT Basic

To change the default ECG rhythm on the SMART STAT Basic (Set up defibrillation adaptors; see section ECG):
1. Access the "Heart" screen (page 43)
2. Tap the "Running Rhythm"
3. Select a rhythm to change to
4. Change the default rate by tapping on the rate adjustment values

To set the "Waiting Rhythm":
1. Tap the "Waiting Rhythm" box
2. Select the rhythm for the simulator condition after a successful discharge
3. To "Convert" to the waiting rhythm, tap the "Convert" button and the button will darken. There will 90 seconds available to perform a successful defibrillation.
4. If there are no actions in 90 seconds, the rhythms will not change when a discharge is delivered, unless the instructor resets the convert button.

You can **palpate the systolic pressure or auscultate normally at the antecubital fosse speaker location. It is necessary to calibrate the Blood Pressure before using (Installing the cuff; see section Blood Pressure cuff).**

1. Pump the cuff up to a pressure of 150 mm Hg on the gauge.
2. When the pressure stabilizes at 150, use the B/P screen to select "Calibrate"(page 43). This balances the readings on the gauge with the settings on the screen.

   Options available on the B/P screen allow for:
   Auscultory Gap Settings
   Turning Off Various Pulse Points
   Turning On The Venous Blood Flow
   Setting the Amplitude of the Speaker in the Antecubital Fosse

To initiate a Tension Pneumothorax condition:
1. Go to the Lung screen
2. Choose the side to be affected and tap that box
3. Select a status
4. The simulator condition will change when the selection is tapped.
5. The air compressor will begin filling the bladder
6. Successful catheterization will discharge the air
7. To discharge the air again from the simulator, repeat steps 1 through 4.
8. To return the simulator to its default conditions select a preset.

Chest tube insertion (Fluid filling; see section Fluid Reservoirs):

1. Locate the insertion site in the mid-axillary line of the 5th intercostals space.
2. Adequately lubricate the chest tube to slide it into the insertion port.
3. Insert a chest tube into both sides of the simulator to discharge any trapped air.
4. The simulator will discharge fluid when the tube reaches a proper depth and comes into contact with a one-way valve

I/O access site is located in the manubrium. The chest site is suitable for insertion and removal practice of commercially available devices. This site is not designed for fluid transfer.

SS Basic features and how to use them:

AIRWAY: **TEETH:** The upper front teeth are made to break out. You may pull them out to inspect them. You receive two different styles: short stem and long stem. By placing the short stem teeth in the gums you make it easier to knock out the teeth during intubation. You can also use this "remove" feature to demonstrate the importance of labeling patient prosthesis when they are removed during treatment.

TONGUE EDEMA: Three settings for TONGUE EDEMA- none, partial, & complete.

LARYNGOSPASM: Three settings for TONGUE EDEMA- none, partial, & complete.

CRICOTHYROTOMY: The anatomy of the cricoid membrane area uses a section of the roll of supplied tape to seal off the airway and create a membrane through which you may pass a needle. The replacement neck skins button into the lower jawbone post and the post on the inferior end of the larynx.

Lung Function can be determined via spontaneous respirations. A basic library of emergent lung sounds, six anterior and four posterior auscultation sites reside within the intercostals spaces palpable on the chest.
The basic library of emergent lung sounds are used under license from Cardionics of Webster, TX, and are not to be used for commercial purposes outside the context of the SMART STAT Basic patient simulator program.

The SMART STAT Basic airway feature is designed to function as a human would. The SMART STAT Basic "senses" the location of the ET tube based upon the location of the tube and the volume/pressure of the air given during ventilation.
Heart & Lung Sounds Speaker Positions
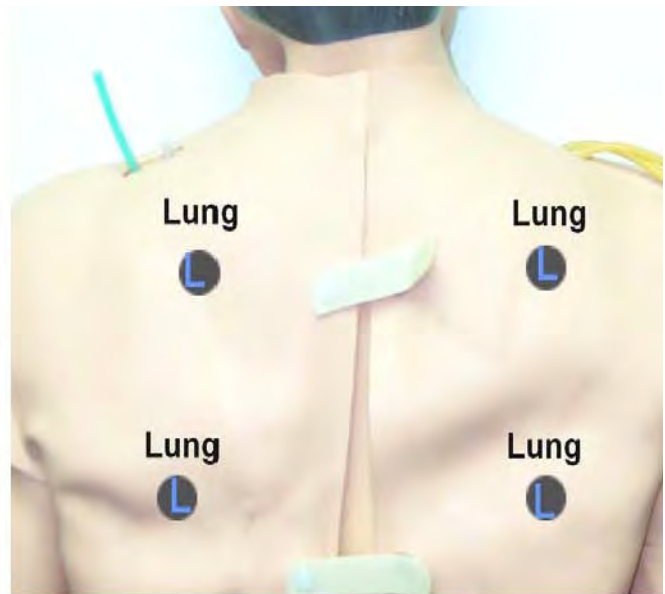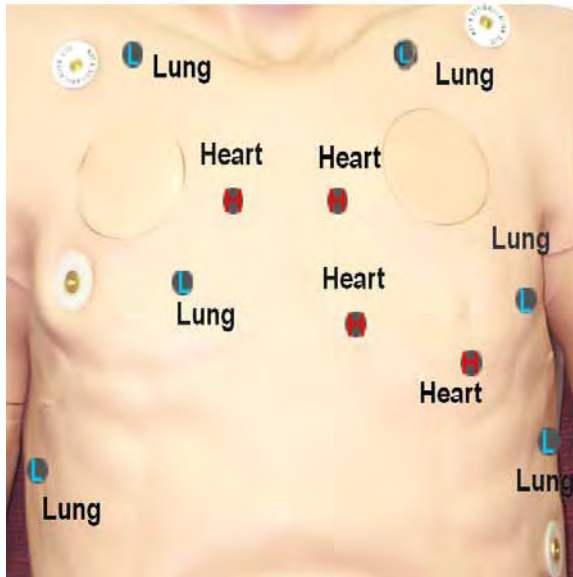
Heart: This programming contains 17 rhythms with rate variation, selection of running rhythm, and the opportunity to select a waiting rhythm to convert to after defibrillation. Install your choice of defibrillation adapters in the defibrillation sites on the chest. You may need to order a training cable to effectively use your hands free defib capability. You can then choose to convert or not to convert with the touch of the SS Basic screen. You can also pace by setting the level of capture on the appropriate SS Basic screen. Once the capture level has been set, the simulator's rhythm will be adjusted to coincide with the operation of the pacing feature on your monitor/ defibrillator.

You may also set the choice of heart sounds. There are 4 sites to auscultate. There are 4 choices: *normal, systolic murmur, diastolic murmur, and friction rub.* As in the human condition, the sounds are specific to the locations where you hear these anomalies, i.e., you will not hear the murmurs in the apex location. Refer to the accompanying chart for the locations of the sites. The amplitude of the heart sounds may also be varied to four levels.

An additional feature is the *PEA* button. Tapping the *PEA* button will cease all pulses during any rhythm.

IM injection sites are located on the deltoid and vastus lateralis (right side only) muscle groups. Medication lists (page 38) are established on the iPad® to track the practitioner's injections. You can update or alter this list on the iPad® Medications list.

CPR activities are shown on the student recording by two entries keyed in the Event log by the instructor during a student session. These entries are CPR Start and CPR Stop. There is no recording feature in this simulator. Proper compressions are rewarded with ECG artifact and carotid pulses. Ventilations via BVM will be evaluated on the chest rise associated with adequate seal and application of the BVM.

Care and Cleaning:
This patient simulator utilizes rugged construction however, when you use a patient simulator you should handle SMART STAT Basic carefully and encourage others to do the same.

Keep it clean with normal household detergents and water; do not soak any part of it. Use a damp rag or sponge to wipe it clean. Ink and fake blood products will stain and cannot be removed. Use a towel to dry off the simulator before you store it.

Removing Chest Tube Fluid:
1. Locate the insertion site in the mid-axillary line of the 5th intercostals space
2. Adequately lubricate the chest tube to slide it into the insertion port
3. Insert a chest tube into one side of the simulator
4. Rock the simulator gently from side to side to encourage fluid displacement
5. Remove the tubing
6. Complete dry the simulator and chest tube port before storing.

Removing Blood: The simulator has two metal blood ports; one is for adding fluid and port B is for removing blood.

Store your SMART STAT Basic in a supine position. Avoid standing the unit upright for storage. The case will add significant protection, but laying it on a stretcher or backboard is a good option. The best recommendation for the storage temperature range is a human-friendly environment. Hot storage area makes the simulator's skin become very pliable. Storage areas colder than 65 degrees F, will need to place the simulator in a warmer environment for fifteen to twenty minutes prior to use. Plastics become brittle in low temperatures, and can be damaged. When using the simulator outside in lower temperatures, be aware of these characteristics and handle accordingly.

Protect the simulator from extreme weather treat SMART STAT Basic like a human and remove him, cover him, or take him inside. In cold environment training it is recommended that the simulator be dressed as a normally active adult would dress.

This simulator is not intended for rescue breathing techniques involving human contaminants. If contamination occurs, use CDC type protocols and agents to ensure that the airway is free from biological agents before use or storing. To accomplish this decontamination procedure it is best to remove the head and airway from the simulator. Email our Customer Service Department, at info@simulaids.com, to obtain instructions.

Replacement Parts:
Consumable parts and prices can be obtained from a Simulaids' distributor or Customer Service. You will need your product's serial number to identify the correct parts. Find the serial number under the removable abdominal section; it will be hand written on the torso ledge that holds the abdominal section.

Simulaids manufactures a variety of moulage wounds, which can be applied to your SMART STAT to further enhance your practitioners' experience during training and proficiency sessions. Find it on the web at http://www.simulaids.com/casualty.htm.

SMART STAT Basic REPLACEMENT PARTS

Description	Item #	Included with purchase
Cricothyrotomy Replacement Skin 10 Pack	424	x
Pneumothorax Pads 4 Pack	423	x
Injection Site 4 Pack	302	x
Simulated Blood Powder	225	2
IV Replacement Skin	390	X
IV Replacement Vein Kit	367	X
Reservoir Bag	144	3
Stomach	145	X
Lungs	902	X
Teaching Overlay	SA325	X
Teeth	303	6
Manual Defibrillator Adapters	53	X
iPad®	477	X
Carry Case	PP3600	X
Membrane Tape	PP0283	X
Syringe	PP2161	X
Syringe	PP2105	X
Lubricant	PP0362	X

Trouble Shooting SMART STAT Basic Patient Simulator:

Energizing: Begin troubleshooting the patient simulator by checking the electrical supply and connection. Start with the power cord connection to be sure the product responds to energy input. Turn the simulator on with the switch on the left shoulder. If you have function with the power cord, turn the unit off and disconnect the power cord. Then install a battery leg that is charged. Turn the simulator back on. If you do not have a functional simulator at this time, your battery is either not charged or dysfunctional. Revert to the power cord for any further trouble shooting necessary.

Pneumatic features: A compressor located inside the simulator's right thigh runs the pneumatic features. If you are experiencing difficulties with pneumatic features, check the activity of the air compressor by placing your hand on the thigh. It should be vibrating slightly. Also check the fan in the knee of the right thigh to see that it is spinning. If the air compressor isn't vibrating or the fan is not running, call technical support 800-431-4310.

If the compressor and fan devices are working and the pulses, chest rise, or tongue swelling features, is not working; indications are there may be a problem with the pneumatic switches call for tech support.

If all of your pneumatic systems are working, but there aren't any ECG patterns, heart sounds or lung sounds or abdominal sounds, call tech support when you are able to identify what features do and do not work.

NO RESPONSE FROM THE AIR COMPRESSOR If it is not running, make sure that the electrical connections are tight and properly mated, (Export models, re-check the converter plug for appropriate direction, type and service). If you are using the battery leg option, detach the leg from the simulator and hook it up to the battery charger. If the green light is on, the battery is fully charged. If the red light blinks, the battery needs to continue charging before you can use it.

Remove the chest overlay, pull the hairpins and washer off both sides of the chest and clavicle area, gently lift the chest far enough to release the CPR wheel wire from the eyelet screwed into the upper chest post on the superior side of the compression spring. Then gently lift the chest enough to expose the xxx.

If all of these things are correct, you should be able to feel the compressor vibrating in the right thigh. If not, call the tech support hot line.

PULSES: If no pulses, check that the air compressor is running (you can feel the vibration in the right thigh if it is operational). If it is not running, make sure that the electrical connections are tight and properly mated. If all of these things are correct, you should be able to feel the compressor vibrating in the right thigh. If not, call the tech support hot line. If you have **very weak, or no pulses**, start at the iPad® and make sure the blood pressure is above 100 systolic, and the diastolic pressure is less. If the B/P is over 70 and the tongue inflates, then check the pulse tube connections, starting with the knee joints. Make sure the connectors are solidly attached to the tubing coming from the upper leg. If they are pulled loose they will act like a drain on the air pressure needed to drive the upper pulses. The same will hold true if the pulse lines from the arms are disconnected from the ports on the outside of the electronics box inside the chest. Another place to check for disconnections is on the femoral pulse connectors on the outside of the electronic box near the leg universals. If there are no disconnected or loosely connected tubing, and the tongue does not inflate, call the tech support hot line.

B/P ARM: If you cannot get a blood pressure, first check to make sure that the B/P tubing is attached to the sphygmomanometer, by way of the T barbed connector, and the simulator's left-shoulder, lateral port. Once that is connected, go to the iPad® controller. Access the heart screen and set the B/P volume to level four and the B/P systolic pressure above 100 mmHg. If you are still unable to take a B/P, remove the chest overlay, pull the hairpins and washer off both sides of the chest, gently lift the chest far enough to release the CPR wheel wire from the eyelet screwed in the upper chest post on the superior side of the compression spring. Then gently lift the chest enough to expose the left arm joint inside the torso. Follow the black wire exiting the arm pipe to the opposite side of the simulator and make sure it is firmly seated in the connector on the sloped area of the box that matches the black wire, white plastic, connector. If these connections are solid, disconnect the speaker plug and test the speaker wire for continuity. If that is negative, call the tech hot line. If the speaker wires have continuity, and you still don't have a B/P, call the tech hot line.

HEART AND LUNG SOUNDS: If you cannot hear either heart or lung sounds at the speaker positions, start at the iPad®. Click the PEA button and listen for sounds and check for pulses. If you have neither, click the PEA button again and check for sounds and pulses. If there is still no sound, then go to both the heart and lung screens and make sure the volume controls are set at level *four*, and check to see that the simulator is not in *VF* or *Asystole*. Listen again for sounds at the speaker sites. If you still have no sounds, unplug the simulator and plug it back in. If you still have no heart or lung sounds, use the iPad® and tap Default Presets. If you still don't have heart or lung sounds, remove the overlay from the chest, disconnect the pins from the sides and top of the chest wall, and gently raise the rib section until you can unhook the CPR wheel wire from the eyelet screwed in the upper chest post on the superior side of the compression spring. Lift the entire chest plate a little further until you can reach the electronic connections on the sloped, top, right side of the large white plastic box inside the simulator. Gently push down on each connection to determine that they are fully seated and attached. Check again for heart and lung sounds. Reassemble the unit in reverse order. If you still do not have heart or lung sounds, call the tech support hot line. If you have one set of sounds, but not the other after these steps, call the tech support hot line.

There is No Response to Rescue Ventilation When Simulator isn't spontaneously breathing: If your simulator is not spontaneously breathing, you should be able to ventilate the unit with a BVM and see the chest rise and hear lung sounds. Both of these responses to ventilation occur when sufficient pressure builds up in the airway. Make sure your seal is good around the mouth when ventilating. If the chest is not rising and the lung sounds are not present, check to see that the cricoid membrane tape is securely fastened to the anatomy under the neck skin, and that there are no holes in the membrane. Once the cric area is secured, the simulator should ventilate with both chest rise and lung sounds appropriate to ventilation skill.

If you expect the simulator to be spontaneously breathing and it is not, go to the *Lung* screen and make sure that the breathing rate is set above zero and then go to the *Heart* screen and make sure the simulator is not in *VF* or *Asystole*.

WARRANTY: Simulaids warrants this product to be free from defects in materials and/or workmanship for a period of **one** year from the date of purchase, as evidenced by the date on the invoice of the product shipment to the end user. This warranty expressly does not cover abuse, accidental or purposeful damage, or any form of modification to the product. Only products manufactured at the Simulaids plant in Saugerties, NY receive this limited warranty status. All other products, including certain electrical components sold through Simulaids, but manufactured elsewhere, are subject to the manufacturer's warranty. These warranties may differ from the Simulaids' warranty.

EXTENDED WARRANTY PROGRAM: There is an extended warranty program available to you to purchase within the first two (2) months of your purchase of SMART STAT. Obtain more information about this option through your sales representative or by calling 800-431-4310 or 845-679-2475 to speak with Customer Service, or find the information at www.simulaids.com.

RETURN POLICY: Simulaids reserves the right to either repair or replace affected parts or the entire unit, at their sole discretion, after investigating and reviewing the actual product and the damage. In most instances, a digital photo of the product in question showing the damage and sent to info@simulaids.com will help qualify a product for return to the factory. At no time will any product be accepted without proper return authorization issued by Simulaids. Please contact our Customer Service Department to arrange a return and obtain a RA number. Freight and Shipping charges are the sole responsibility of the end user. No product will be received with shipping charges due. The serial number of the simulator and the invoice number from the agency through whom the product was purchased must be provided for warranty repairs. No return authorization number will be provided without this information. Should you have any questions or wish further information on any product we manufacture, call or write our Customer Service Department. The hand written serial number of SMART STAT can be found under the abdominal section on the torso ledge.

Glossary of Terms

iPad®—the Apple® tablet used as a controller for the SMART STAT.

On-the-fly – A term used to designate the operation of the controller, to change at will, the patient simulator features.

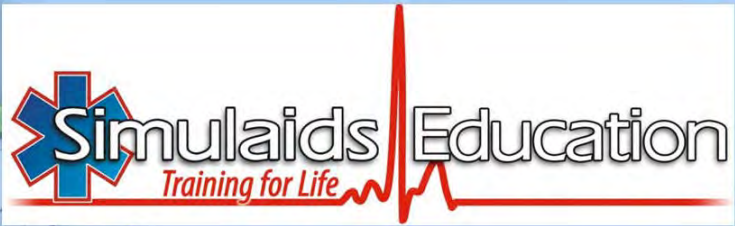**Recording** – The results of a session shown by date and time under a student's/team name.

Scenario – A list of chronological happenings that will change the physiological features of the simulator.

Session – The activity of an instructor monitoring the patient simulator during a student or team of students assesses and treats a patient.

SMART STAT – **S**cenario-based, **M**edically **A**dvanced **R**esuscitation **T**rainer in our STAT line of patient simulators.

Student List – The master file on the iPad®, that the instructor creates for any number of students to be available on the iPad® for selection during Sessions.

Simulaids Education
Training for Life

Nursing Scenarios

EMS Scenarios

PDA STAT Nursing
SCENARIO PACKAGE

Simulaids Education

1-800-431-4310

more training aids at simulaids.com

PO Box 1289 – 16 Simulaids Drive
Saugerties New York 12477 USA
800-431-4310 or 845-679-2475
info@simulaids.com – simulaids.com

Mar 2014