Welcome to the S270

Blood Pressure Arm

Instruction Manual

Gaumard®
Simulators for Health Care Education

The simulator is to be used as part of an approved educational program for healthcare. It is not a substitute for traditional learning methods and should not be used for clinical decision-making

Instruction Manual
for Gaumard® S270
Revised February 2010

www.gaumard.com

PLEASE READ THE FOLLOWING INSTRUCTIONS PRIOR TO COMMENCING TRAINING EXERCISES ON YOUR NEW SIMULATOR.

HANDLE YOUR SIMULATOR IN THE SAME MANNER AS YOU WOULD HANDLE YOUR PATIENT – WITH CARE AND CONSIDERATION.

SHOULD YOU HAVE ANY QUESTIONS AFTER READING THIS INSTRUCTION MANUAL, CALL OR E-MAIL OUR CUSTOMER SERVICE DEPARTMENT.

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I. Introduction

A. Description

The **Gaumard® S270** Blood Pressure Arm includes a full-size adult **left** arm.

This is a versatile training tool developed to assist health professionals teach the processes and skills required to perform blood pressure auscultation procedures and techniques.

The Blood Pressure Training System features the following:

1. Blood Pressure Arm attaches to selected Gaumard® manikins.
2. Programmable, palpable radial pulse when cuff pressure is less than the selected systolic blood pressure
3. Korotkoff sounds K1 through K4 (K5 is silence) audible between systolic and diastolic pressures.
4. Korotkoff sounds are automatically silenced if auscultation gap is selected
5. Korotkoff sounds are automatically adjusted depending upon selected heart rate and the rate of cuff deflation.
6. Conventional stethoscope to Auscultate Korotkoff sounds in the antecubital area
7. Conventional sphygmomanometer with tubing assembly.
8. Programmable Blood Pressure Auscultation Tutor
    a. Adjustable systolic and diastolic pressures
    b. Adjustable auscultation gap
    c. Adjustable pulse rate
    d. Display tracks cuff pressure
    e. Three point calibration control (000/128/256)
9. International power supply 100 to 240 VAC
10. Soft carrying bag
11. Instruction Manual.

B. Inventory

The S270 includes the following:

Item #	Quantity	Description
1	1	BP arm with internal speaker and mounted pulse
2	1	BP Cuff Kit (BP Cuff with Pressure tube & Luer connector, Stethoscope and Carrying Bag)
3	1	International Power Supply 110 to 240 VAC (power cord for 110 or 240 VAC)
4	1	Blood Pressure Auscultation Tutor (Blue Box)
5	1	Soft Carrying Bag for Arm
6	1	Instruction Manual

II. Instructions for Use

A. Assembly of Simulator

1. Unpack the system and place the blood pressure arm on a flat clean surface. Access to electrical power is required.

2. Connect the electrical cable leading from the blood pressure arm to the BP Auscultation Tutor, being careful **not** to damage the four small pins found within the cable connector.

3. Connect the international power supply to the Tutor. You may have to supply a mechanical adaptor to access the wall outlet in your area.

4. Connect the long, clear tube extending from the sphygmomanometer assembly to the BP Tutor.

5. Wrap the blood pressure cuff around the arm midway between the deltoid and elbow.

6. Turn the power switch ON. **Do not press "Calibrate"**. Note that you will hear a beating pulse at the wrist. Locate the radial artery, depress the pulse slightly and note that the pulsing sound is much softer.

7. The BP Tutor normally remembers the previous settings. At Gaumard®, we use the following settings designed to simulate a hypertensive patient having an auscultation gap. The challenge for the student is to recognize that the systolic is 150 **not** 120. The 150 may suggest hypertension while the 120 would be incorrectly interpreted as normal.

Systolic	150
Diastolic	90
Upper auscultation gap	140
Lower auscultation gap	120
Pulse	70

B. Calibration

1. Calibration is not normally required. In the event the Instructor concludes that calibration is necessary, proceed as follows;

2. Assemble the system and turn the Tutor ON. The screen in the upper right hand of the Tutor will display “000”.

3. Press “Calibrate, Start” and the display will show “CAL 000”.

4. Press “Calibrate, Start” again and the display will show “CAL 128”.

5. Inflate the blood pressure cuff to read 128 on the dial of the sphygmomanometer.

6. Press “Calibrate, Start” and the display will show “CAL 256”.

7. Now inflate the blood pressure cuff to read 256 and press “Calibrate, Start” again.

8. At this time, the BP Tutor will display the reading on the sphygmomanometer. Lower the cuff pressure to zero and watch the display track the sphygmomanometer.

It is not necessary to re-calibrate the Tutor when it is restarted.

C. Changing Factory Settings

The Blood Pressure Auscultation Tutor comes with pre-installed factory settings.

- Systolic 150
- Diastolic 90
- Auscultation Gap
  - Upper auscultation gap 140
  - Lower auscultation gap 120

1. This BP arm features an auscultation gap. This gap is slightly below the systolic pressure in some patients. No audible Korotkoff sounds are heard even though the radial pulse is present
2. If you wish to disable this feature, RESET the upper and lower auscultation gap limits to ZERO.
3. Korotkoff sounds will then be heard between the selected systolic and diastolic pressures.

- Pulse 70

To change previously selected values, proceed as follows:

1. Turn the Tutor **ON** and observe the previously selected values.

2. Press Systolic and observe the value. If you agree, press Systolic again and that number is locked in. To increase or decrease the Systolic pressure, press the UP or DOWN red arrows. When the desired value is reached, press Systolic once more and the new value is locked in.

3. Proceed with Diastolic, Upper auscultation gap, lower auscultation gap, and heart Rate in the same manner. Once selected, each value will disappear so the student cannot see them.

D. Blood Pressure Training

1. Instruct the student to take the blood pressure by installing the BP cuff and place the bell of the stethoscope over the speaker concealed in the antecubital region of the arm near the elbow. The instructor may wish to press on the radial pulse so it is not easily heard by the student through the stethoscope.

2. Instruct the student to pump up the cuff until he/she can no longer feel a radial pulse. Go about 10 mm further. Now slowly release the cuff pressure until the first Korotkoff sound is heard indicating the Systolic pressure. Decrease the cuff pressure and hear K2, K3, and K4. The K5 sound is silence.

If an Auscultation gap was programmed, the student will **not** hear the Korotkoff sounds between the **upper** and **lower** limits.

3. Ask the student to record the Systolic pressure, the Diastolic pressure, the limits of the Auscultation gap (if any) as well as the pulse rate. Compare the values recorded by the Student with those originally selected in order to determine a pass or fail status.

E. Common Failures

In case your simulator is not working properly check the following:

1. Ensure mini dim connector is plugged into the Blood Pressure Auscultation Tutor. Check that internal pins on the connector are not bent or broken.

2. If the calibration feature was initiated, simulator will not exit this mode until calibration is completed. Calibrate using instructions in Section II Part B.

3. Attempting to calibrate simulator without changing values with the Blood Pressure Cuff, will cause values to change randomly. Calibrate using instructions in Section II Part B.

III. Caution, Care and Maintenance

- The simulator is to be used as part of an approved educational program for healthcare. It is not a substitute for traditional learning methods and should not be used for clinical decision-making.

- This simulator is constructed of material that approximates skin texture. Therefore, in handling the model, use the same gently techniques as you would in working with a patient.

- Clean the skin after every training session. The skin of the manikin may be cleaned with a mild detergent, or with soap and water.
  √ Do not clean with harsh abrasives.
  √ After cleaning and drying the arm, lightly dust it with talcum powder. This will keep the training arm supple and easy to use. Note: Dust the inside and outside of the vinyl skin lightly with talcum powder for ease in assembly.

- Do not use alcohol, acetone, Betadine® or any other antiseptic which contains iodine in this or any Gaumard® simulator. These products could damage or stain the skin of the simulator

- Do not write on the skin with any type of marker or pen. Ball point pens, ink and markers will permanently stain the skin.

- Do not wrap the manikin or any Gaumard® product in newsprint as it will permanently stain the skin.

- Do not stack or keep heavy materials on top of the box and/or bag.

- Improper storage may damage the manikin – keep it stored in the box and/or bag provided.

- Store the unit in a cool, dry place.

IV. Consumables and Replacement Parts

Contact Gaumard® Scientific for prices.

Consumables

Arm Skins
(270.008)
Set of Two

Synthetic Blood Concentrate
(270.009)
One

Replacement Parts

Blood Pressure Auscultation Tutor
(270.001)
One

Blood Pressure Cuff Kit
(270.002)
BP Cuff with Pressure tube & Luer Connector, Stethoscope and Carrying Bag

Soft Carrying Bag for Arm
(270.003)
One

Carrying Bag for Blood Pressure Auscultation Tutor
(270.004)
One

Power Supply 100-240 VAC, power cord 110 or 220 VAC
(270.005)
One

Power Cord 110V
(270.006)
One

Power Cord 220V
(410.100.007)
One

V. Contact Us

If you have read this Instruction Manual and still require assistance, it's easy to reach us.

E-mail: sima@gaumard.com
Online catalog at www.gaumard.com

Phone
toll-free in the USA: 800.882.6655
worldwide: 305. 971.3790
fax 305.667.6085

Note: Before contacting Gaumard® **you must**:

1. Have the manikin's Serial Number if applicable and/or model number
2. Be next to the simulator if troubleshooting is needed.

Fax (305) 667-6085

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