Nasco
Life/form®

COMPLETE CHILD CRiSis™ UPDATE KIT FOR RESUSCI® JUNIOR*

LF03615U

INSTRUCTION MANUAL

*RESUSCI® JUNIOR IS A TRADEMARK OF THE LAERDAL CORPORATION.

This product contains dry natural rubber!!

Life/form® Products by NASCO

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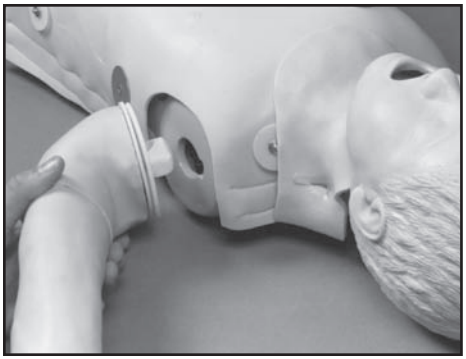


Figure 1

The Child ***CRiSis***™ Manikin is a completely modular system that lets you create a manikin to suit your needs. It is ideal for ACLS, nursing, paramedic, and EMT training. This system features a completely functional CPR manikin of a 5-year-old child with ***Life/form***® Airway Management Trainer, IV Arm, Blood Pressure Arm, Defibril-lation Chest Skin, and Intraosseous Infusion/ Femoral Access Leg.

The Child ***CRiSis***™ Manikin allows you to simulate resuscitation, along with the ability to start IVs, check and evaluate blood pressure, practice airway management skills including intubation and suction, perform defibrillation, CPR, and intraosseous infusion and femoral access.

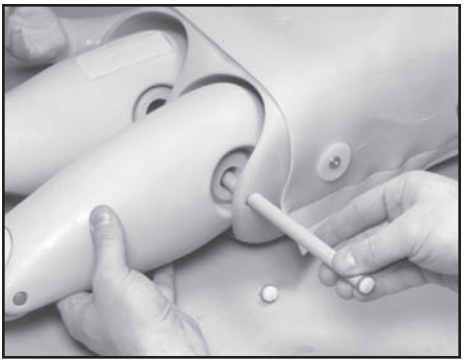


Figure 2

Assembly of your Child *CRiSis*™ Manikin:

To facilitate packing, your manikin comes with the arms and legs unattached.

To connect the arms to the torso, place each in a position such that the hand is above the head (Figure 1).

Align the arm fitting with the torso socket and plug the arm into place. Finish by rotating the arm forward so it lies along the side of the body.

To connect the legs to the torso, simply slide the waist pin (supplied) through the torso and legs (Figure 2), pinning the legs in their correct position.

Using the Manikin:

Each part of the manikin is covered under a different section of the instructions. Go to the table of contents to locate that area of the manikin you choose to set up and use. You can set up as many components as necessary to fit your training situation.

THE AIRWAY MANAGEMENT TRAINER

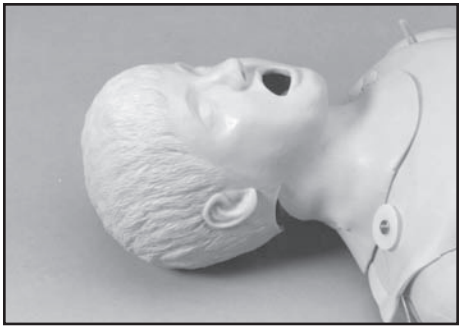


Figure 1

About the Simulator:

The ***Life/form***® Child Airway Management Trainer Head is the most realistic simulator available for the training of intubation and resuscitation skills. NASCO has taken great care to create a trainer that is anatomically correct in respect to both size and detail.

Landmarks include: nostrils, teeth, tongue, oral and nasal pharynx, larynx, epiglottis, arytenoids, false and true cords, cricoid ring, tracheal rings, trachea, esophagus, lungs, and stomach.

The ***Life/form***® Child Airway Management Trainer Head allows you to practice oral, digital, and nasal intubation, as well as CPR. Suction techniques can also be performed and evaluated. The simulator was designed to use an uncuffed endotracheal tube measuring up to 5.0 mm I.D.

List of Components:

1. Child Airway Management Trainer Head
2. Right and Left Lung Simulators
3. Stomach Simulator
4. 4 oz. Can Aerosol Lubricant
5. REN Cleaner
6. Three Nylon Hose Clamps

Lubrication:

Before using the ***Life/form***® Child Airway Management Trainer, lubricate both the oral cavity (Figure 1) and the endotracheal tube with the NASCO lubricant provided. **NOTE:** NASCO recommends the use of the provided lubricant or a similar vegetable-based lubricant for the Child Trainer. The use of a silicone or similar lubricant may seriously damage the simulator, thus voiding NASCO's warranty on the trainer.

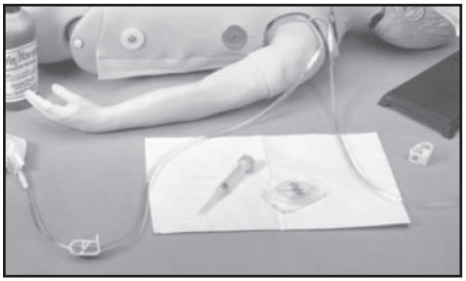
Cleaning the Face:

Normal soil can be removed from the face with mild soapy water. REN cleaner (W09919U) will remove stubborn stains. Simply apply REN to soiled area and wipe clean with a soft cloth or paper towel. **NOTE:** Avoid using cleaner around mouth area if students will be applying direct mouth-to-mouth resuscitation techniques, as the cleaner may be toxic if ingested. NEVER place the trainer on any kind of printed paper or plastic. These materials, as well as ballpoint pens, will transfer indelible stains. Do not use any cosmetics.

AVAILABLE SUPPLIES:

LF03631U Replacement Headskin with Airway
LF03627U Replacement Lungs
LF03628U Replacement Stomach
LF03608U NASCO Aerosol Lubricant
W09919U REN Cleaner

THE IV ARM



About the Simulator. . .

The ***Life/form***® Child Injectable Training Arm duplicates the human condition as closely as modern plastics technology allows – it is almost the real thing. Its care and treatment should be the same as with a patient; abuse or rough handling will damage the simulator – just as it would cause pain to a patient.

Although this arm will provide you long, trouble-free usage, the skin and veins can be readily replaced when needed. The outer skin is easily peeled off, revealing the "core" and veins, providing, literally, a brand new arm. The life of the replaceable skin and veins will be prolonged by utilizing smaller needle sizes (22-gauge or smaller). However, if instruction with larger needle sizes is required, this can be done; the skin and veins will merely need replacing sooner. The Skin and Vein Replacement Kits are available through NASCO (see list of supplies).

List of Components

1. 3 cc Syringe with Needle
2. 12 cc Syringe with Needle
3. 2 IV Bags
4. Needle (Butterfly)
5. 1 Pinch Clamp
6. Small Towel
7. Large Towel
8. Arm

Internal Structure

See Figure 1.

Internally, the vascular structure (rubber tubing) begins at the shoulder and continues under the arm, crosses the antecubital fossa forearm, makes a loop in the back of the hand, and then returns to the underarm. This venous system is constructed of special self-sealing plastic tubing, with the lumen being the approximate size of a human vein. This vascular structure has an inlet tubing and an outlet tubing at the shoulder. It is via these tubes that synthetic blood is injected and removed. Thus, the techniques of "blood" drawing and starting intravenous infusions may be practiced on the Injectable Training Arm.

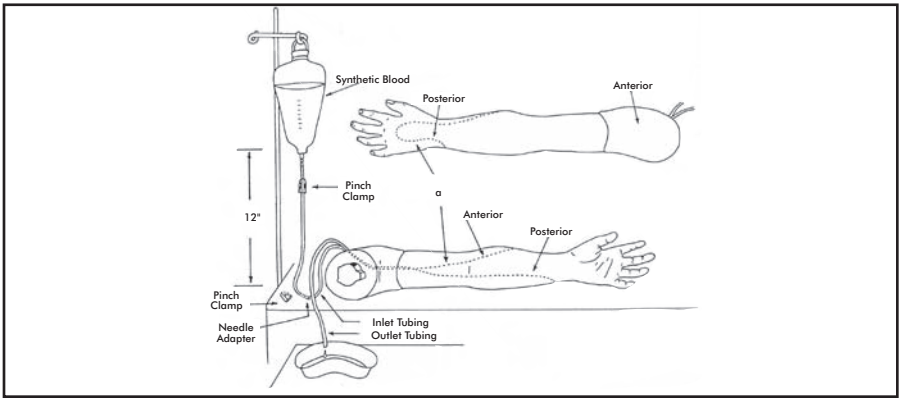


Figure 4

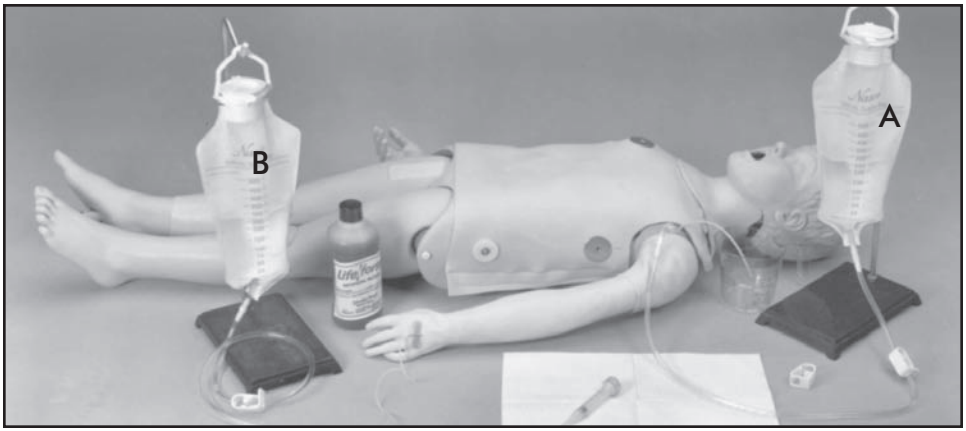


Figure 2

General Instructions for Use:

The Injectable Training Arm comes with all of the supplies necessary to perform most procedures.

A. Preparing and drawing "blood" from the arm

1. Fill pint bottle containing synthetic blood concentrate with distilled water.
2. Pour the synthetic blood into one of the bags.
3. Be sure clamp on the IV tubing is closed, and hang the bag no more than 18" above the level of the arm.
4. Attach the end of the IV tubing to one of the shoulder tubings.
5. With the other shoulder tubing in a basin or sink, gradually "flush" the vascular system with synthetic blood by slowly opening the clamp. Allow some "blood" to pass through the system until the air bubbles have been eliminated.
6. Once the system is filled, use the extra pinch clamp to close off the blood outlet tubing. The venous system is now full of "blood" and pressurized. Be sure to leave the clamp on the IV tubing opened.
7. After filling the venous system according to instructions, the arm is now ready to practice drawing blood. "Blood" can be drawn anywhere along the pathway of the vein (Figure 1). **Distilled water** should be used to prepare the sites. Synthetic blood will actually be aspirated once the vein is properly punctured.
8. Small diameter needles, 22-gauge or smaller, should be used.

B. Preparing the Arm for Intravenous Infusions

1. Close clamp at end of both IV bag tubes, then fill with water (distilled water is recommended), and hang not more than 18" above the arm (see Figure 2).
2. Appropriate intravenous infusion needles (or butterflies) should be used, and distilled water is recommended as an infusion.
3. The self-sealing simulated veins lend themselves very well to the practice of starting IV infusions, and IVs can be started anywhere along the pathway of the simulated vein. Cleanse the sites with distilled water only.

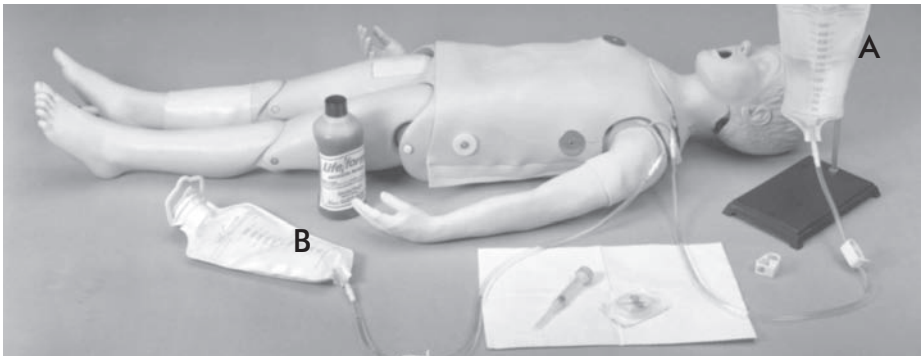


Figure 3

4. Attach adapter end of Bag A IV tubing into one of the shoulder tubing ends.
5. Place other shoulder tubing end in basin or jar, and "flush" the vascular system by opening clamp. Allow infusion (water) to pass through the system until air bubbles are eliminated. Shut off the flow at the shoulder tubing with a pinch clamp. The venous system is now full and pressurized.
6. Insert IV needle (or butterfly) in vein. "Flashback" will indicate proper insertion
7. Close clamp on IV set A and remove pinch clamp from shoulder tubing.
8. Attach latex needle adapter to IV needle (or butterfly) and Bag B IV tubing (Figure 2). Open the clamp on bag B.

Proof of proper procedure will then be evidenced by the flow of infusion fluid from the IV bag B. Control flow rate with the clamp on IV set B. This fluid can be reused. If a more realistic experience is desired with "blood" flashback instead of water when inserting butterfly into lumen of vein, use next procedure C.

C. Recommended Procedure for Simultaneous IV Infusions and Drawing Blood:

Use two IV Bag Kits:

Hook up and install as shown in Figure 3 with IV bag A and IV bag B.

1. Begin with synthetic blood in IV bag A. Open the clamps on both A and B to pressurize the system. "Flush" system by allowing "blood" to flow into container B until bubbles in tubing disappear, then regulate blood flow from bag A (using the clamp). System is now full of "blood" and pressurized. "Blood" can now be drawn anywhere along the pathway of the vein.
2. Intravenous infusion — Insert the butterfly needle into the lumen of the vein: A flashback of "blood" is proof the needle was inserted correctly. Close the clamp on the bag A tubing and disconnect it at the shoulder. Use the extra pinch clamp supplied to clamp off the loose shoulder tubing. Connect the IV tubing from bag A to the butterfly needle using the special connector supplied. Open the clamp on the bag A tubing and adjust it as desired.

   To keep the process going, when bag B fills, simply switch the positions of bags A and B and their IV lines. **NOTE:** Always regulate the flow of "blood" from the bag on the stand and be sure the clamp on the other bag is open.

Causes for Failure in Function:

A. Forgetting to open a clamp.

B. Kinks in tubing of IV sets.

C. Tubing pinched shut by constant pressure of clamps. Lumen remains pinched occasionally, even if clamp is loosened. Slide clamp to new position and manipulate tubing with fingers at pinched site to restore lumen. In heavy use, slide clamp to new position on tubing from time to time to prevent the "permanent pinch" caused by constant clamp pressure. Replace IV kit.

D. If these measures do not unclog the venous system, try using a large (50 cc) syringe to force fluid through the tubing.

E. If none of these measures work, peel back the skin (soap up arm and skin generously with Ivory liquid detergent) of the arm to the knuckles (do not remove from fingers), and examine all tubing for possible kinks. Soap up arm and skin generously with Ivory liquid detergent, and return skin over arm.

Care of Simulator:

After each class use, disconnect "blood" and flush the venous system. Return synthetic blood to the storage bottle. Remove pinch clamp and IV sets from arm. Use tap water to flush venous system and wash outside of arm with Ivory liquid detergent and water. Excess water may be removed from the arm by raising the hand, lowering the shoulder, and draining it into a sink or basin. Always remove the pinch clamp from shoulder tubing and drain excess water from veins before storing.

Ordinary stains can be removed by washing with soap and warm water. Newsprint, similar printed paper or plastic, or ballpoint pen will permanently stain the simulator if prolonged contact occurs. Stubborn stains may be removed with REN Cleaner (W09919U), simply by dispensing it on the area and wiping with a soft cloth or paper towel.

Cautions:

1. This synthetic blood is specially formulated to be compatible with the self-sealing veins and plastics used in manufacturing the arm.
2. **DO NOT** use dull or burred needles, as these will cause leaks in the system. Burred needles will cause permanent damage. Use **smaller needles** (22-gauge or smaller).
3. **DO NOT** allow "blood" to dry on simulator — it may stain the arm.
4. Use only 500 cc of infusion fluid, as a larger amount will also increase the pressure of the venous system, resulting in leaks.
5. **DO NOT** clean the simulator with solvents or corrosive material, as they will damage it.
6. **DO NOT** use for subcutaneous injection. NASCO's Intradermal Injection Simulator (LF01008U) is specially designed for intradermal injection training and practice.
7. NASCO Vein Tubing Sealant Kit (LF01099U) will extend the useful life of the tubing.

Supplies/Replacement Parts for Child Injectable Training Arm:

LF00845U ***Life/form***® Venous Blood, 1 quart

LF00846U ***Life/form***® Venous Blood, 1 gallon

LF01099U Vein Tubing Sealant Kit

LF03629U Skin and Vein Replacement Kit

W09919U REN Cleaner

General Instructions for Use:
Installing the Batteries

Take the Blood Pressure Electronic Control Unit from the box and turn it over, placing it face down onto a padded work surface. Locate the "Open" compartment on the back of the panel where the batteries are to be installed. ***(See figure 1.)*** Place your thumb or index finger on the "Open" compartment and push up.

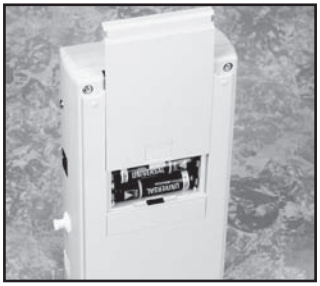


Figure 1

This will open the battery compartment. The compartment is marked as to the "+" and "–" positions of the batteries. The battery bracket is now accessible to the user.

Install 6 "AA" batteries as indicated by the orientation diagram embossed in the bottom of the bracket. It is recommended that alkaline batteries be used for increased battery life. After the batteries have been properly installed, reassemble the Blood Pressure Simulator by simply reversing the disassembly procedures. Place the unit face up on the work surface and turn it on by pressing the on/off switch on the top right of the unit. ***(See figure 2.)*** Observe the display and verify that a readable display is present, indicating proper battery installation.

Note: The control box has a battery saving feature which will turn the unit off after about 8-10 minutes if no keys are used within that period of time.

The next step is to connect the simulated arm and speaker assembly along with the sphygmomanometer cuff and gauge assembly included with the unit. First, locate the end of the pressure line

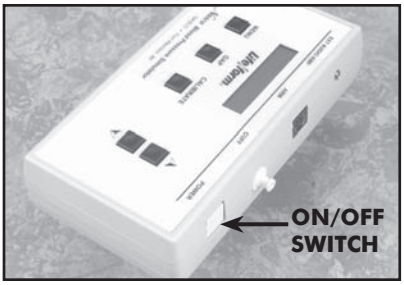


Figure 2

attached to the sphygmomanometer that has the female luer fitting attached to it. Attach this to the male luer fitting at the top of the unit marked CUFF. ***(See figure 3.)*** After the pressure line fitting has been properly installed, locate the plug that is at the end of the wire which extends from the simulated arm assembly. Insert the plug from the arm into the jack at the top of the unit marked ARM. ***(See figure 4.)*** At this point the Blood Pressure Simulator is ready for use. The unit has been factory calibrated for use with the accessories included in the kit. No further calibration adjustments should be neccessary at this time. If the unit is to be used with a sphygmomanometer other than that supplied with the unit, or if recalibration is necessary at a later date, then see the section titled "Calibration Procedures".

Figure 3

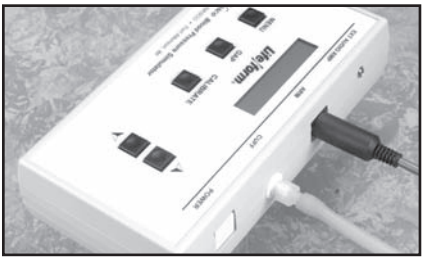


Figure 4

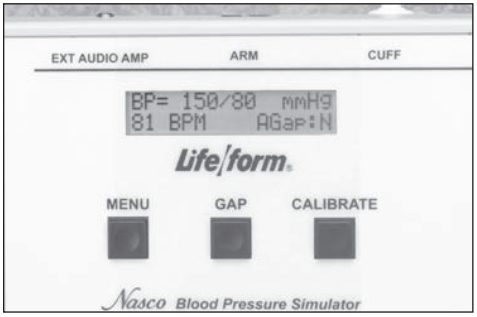


Figure 5

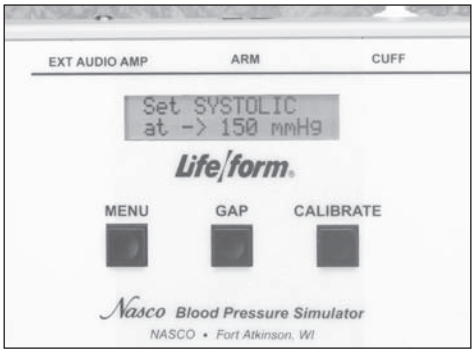


Figure 6

Figure 7

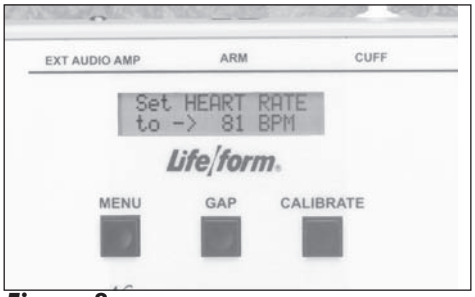


Figure 8

Familiarizing Yourself with the NASCO *Life/form*® Child Blood Pressure Simulator Control Panel

Under the display window are three buttons: Menu, Gap, and Calibrate. ***(See figure 5.)*** The systolic pressure is set by pressing the Menu key once. The pressure is adjusted up or down using the up or down arrow keys. ***(See figure 6.)*** The diastolic pressure is set by pressing the Menu key a second time. Adjust the setting up and down with the arrow up or down keys. ***(See figure 7.)*** The heart rate is set by pressing the Menu key a third time,and adjusting the rate with the arrow up and down keys. The pulse rate can be set from 0 beats per minute to 300 beats per minute. ***(See figure 8.)*** The palpation can be set to either on or pulseless. When the pulseless setting is used, the diastolic and systolic pressures will automatically be set to 0.

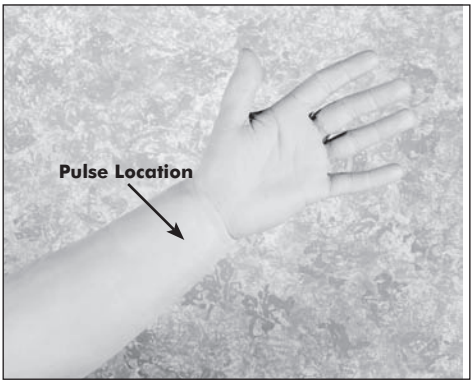


Figure 9

Palpable pulse feature

The NASCO ***Life/form***® Child Blood Pressure Simulator also incorporates a palpable pulse at the radial location. ***(See figure 9.)*** Palpations can be felt upon start-up of the unit or after blood pressure settings have been made. Press the Menu key repeatedly until "Set PALPATION" menu appears. "Pulse ON" is defaulted and enables the palpation feature. Palpations continue during inflation until the cuff pressure reaches the systolic set point, and resumes when the cuff pressure reaches the systolic set point during the deflation of the cuff.

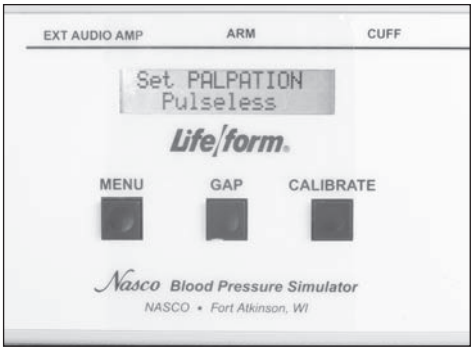


Figure 10

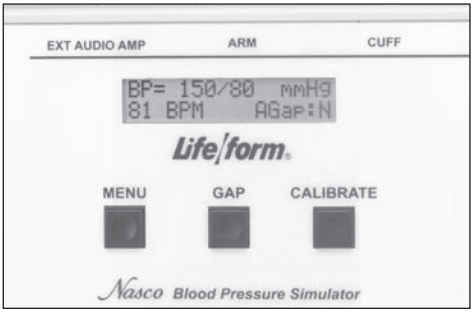


Figure 11

A pulseless condition can be simulated by switching your unit to the "pulseless" mode. Press the Menu key repeatedly until "Set PALPATION" menu appears. By pressing the down arrow at this point, palpations can be disabled causing the simulator to be pulseless. When in the "pulseless" mode, all settings are automatically reset to 0 and all blood pressure sounds are disabled.

The pulseless setting will also turn off the sounds in the arm. The pulse will always be on unless the pulseless feature is activated or if the systolic or heart rate levels are set to zero. To do this, press the Menu key four times. The down arrow key will set the pulse to pulseless. Press the arrow up key to turn the pulse back on. ***(See figure 10.)*** Located to the right of the Menu key is the auscultatory Gap key. ***(See figure 11.)*** This key is included to simulate the ausculatory gap that is sometimes present between phase 1 and phase 2 sounds in which no audible sound is noted during this portion of ausculation. This control function is included so that the trainee can become familiar with this phenomenon. Pressing the Gap key simply turns the gap function off or on. When the key is pressed, a message will briefly appear that the ausculatory gap is enabled or disabled. Also the main display will show (at the bottom right of the display) either AGap:Y (for on) or AGap:N (for off).

The arrow up and down keys also control the volume of the sounds that are present in the arm. From the main menu, press the up arrow key to increase the volume, press the down arrow key to decrease the volume. The volume levels can be adjusted from level 1 (the lowest volume) to level 7 (the highest volume).

Using the NASCO *Life/form*® Child Blood Pressure Simulator

First, verify that the pressure line tubing from the sphygmomanometer and the audio line coming from the simulated arm assembly are properly connected to the blood pressure simulator unit, as previously described in the set up procedures. Apply the sphygmomanometer cuff and gauge to the simulated arm assembly in the usual manner. Apply the stethoscope to the simulated arm also in the usual manner. Set the systolic and diastolic controls to the desired levels. Select the auscultatory gap if desired. Finally, adjust the pulse rate control to the desired setting.

To proceed with the simulated blood pressure measurement, first close the valve on the sphygmomanometer bulb tightly and begin pumping air into the cuff until the gauge reads higher than the preset systolic level chosen. Once this point is reached, loosen the valve on the bulb slightly to allow the gauge pressure reading to decrease slowly. While monitoring the arm assembly with the stethoscope, note the point on the sphygmomanometer gauge when the first Korotkoff sound is heard. This will be the systolic blood pressure. Allow the pressure in the cuff to continue to decrease until the point at which the last pulse is heard, noting the reading on the gauge. This is the diastolic blood pressure.

Compare the results of reading the systolic and diastolic blood pressures on the gauge with the respective settings on the simulator. If the readings were accurate they should compare favorably with the preset values. If the auscultatory gap had been selected, then an absence of an audible pulse would have been noticed during what would have been the phase 2 Korotkoff sound. It is this lack of an audible pulse that is considered an auscultatory gap. Note that in reality the auscultatory gap can be present in either the phase 1 or phase 2 Korotkoff sounds. If it is desired to demonstrate the sounds heard while measuring a subject's blood pressure to the trainee or group of trainees, an auxiliary blood pressure speaker amplifier system is available (SB20146U). If the auxiliary speaker is used, the speaker is plugged into the EXT AUDIO AMP jack located next to the ARM output jack at the top of the unit. Adjust the volume control to increase the output of the auxiliary speaker amplifier, and proceed with the blood pressure measurement sequence as it would normally be performed except that the stethoscope need not be used. Instead, listen to the sounds as they emanate from the speaker amplifier, noting the differences in the Korotkoff phases being presented.

The NASCO ***Life/form®*** Child Blood Pressure Simulator is programmed to demonstrate the 5 Korotkoff phases, including an auscultatory gap, which can be heard during auscultation of a subject, while measuringing the subject's blood pressure. Each is distinctly different and present for only a portion of the measurement sequence.

Low Battery Indicator

When the battery supply diminishes to a level near the point that the unit will no longer function properly, the "low batt" segment of the systolic pressure display will activate when the pressure in the sphygmomanometer cuff reaches above 20 mmHg. At this point, the batteries should be replaced as soon as possible in order to insure proper operation of the unit. Refer to the section titled "Installing the Batteries."

Calibration Procedures

To calibrate the simulator, set the unit up as described in the section titled "Using The NASCO ***Life/form®*** Child Blood Pressure Simulator." Apply the cuff to the simulated arm. Set the control box systolic pressure to 150 mmHg and set the diastolic pressure to 70 mmHg. Proceed with a simulated blood pressure measurement. Note the discrepancy in the readings between the gauge and the control box. Set the systolic "offset." **Example:** If the blood pressure reading was taken and the sounds started at 148 mmHg, then the offset is +2. If the sounds started at 152 mmHg, the offset is –2. For this example, assume that the sounds started at 148 mmHg. Press and hold the Calibration key until the systolic correction window appears. ***(See figure 12.)*** Using the arrow up key set the correction to +2. Set the diastolic offset.

Figure 12

Figure13

Example: If the blood pressure reading was taken and the sounds stopped at 72 mmHg, the offset is –2; or if the sounds stopped at 68 mmHg, the offset is +2. For this example, assume that the sounds stopped at 72 mmHg. From the systolic window, press the Menu key to change the diastolic window. ***(See figure 13.)*** With the arrow down key, set the correction to –2. Press the Menu key again and the message "CALIBRATION COMPLETE" will appear. The main menu window will be displayed.

Preparing Your Equipment for Use with the NASCO *Life/form*® Child Blood Pressure Simulator

To adapt your sphygmomanometer for use with the simulator, it is first necessary to obtain the luer fitting and the T-fitting included with the simulator, which is also available through your NASCO catalog sales office. Using a wire cutting pliers or similar instrument, carefully cut the pressure line of the sphygmomanometer about 2" from the gauge. ***(See figure 14.)***

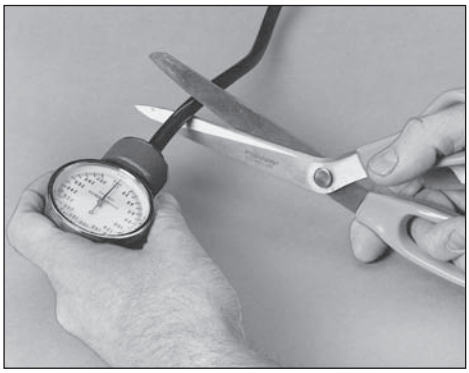


Figure14

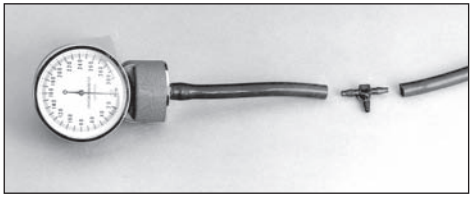


Figure 15

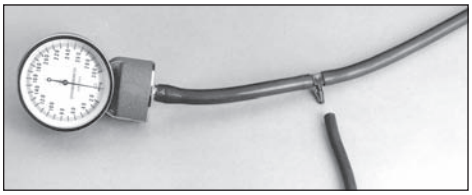


Figure 16

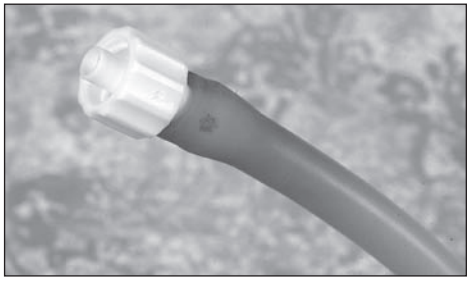


Figure 17

Take the T-fitting and insert it between the two ends of tubing that were previously cut. ***(See figure 15.)*** Assemble the portion of pressure line tubing over the remaining barbed end on the T-fitting. ***(See figure 16.)***

Lastly, take the loose end of the tubing and push the female luer fitting into it. ***(See figure 17.)*** Attach the female luer fitting to the fitting marked CUFF at the top of the unit. Once all of the necessary connections have been properly made, go to the section titled "Calibration Procedures" and calibrate the unit. When the calibration procedures have been completed, the simulator is ready for use.

Supplies/Replacement Parts for Child Blood Pressure Simulator

LF01096U Electronic Control Unit with Sphygmomanometer

SB20146U Blood Pressure Speaker System

THE DEFIBRILLATION CHEST SKIN

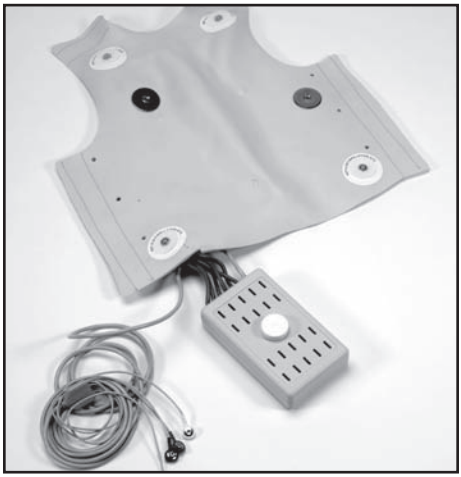


Figure 1

About The Simulator…

The ***Life/form***® Child Defibrillation Chest Skin has been designed for the Child ***CRiSis***™ manikin to enable you, the customer, to safely practice defibrillation.

The Child Defibrillation Chest Skin has been designed to absorb a maximum of 360 joules of energy**. Although capable of absorbing 360 joules, we recommend that the smallest energy level possible be used while training with the skin.

The Child Defibrillation Chest Skin will enable you to practice defibrillation using manual, semi-automatic, and automatic external defibrillators (AEDs). When using any one of these types of defibrillators in training, always follow the recommended operating procedures for that particular defibrillator.

List of Components:
(Figure 1)

1. Defibrillation Chest Skin with Load Box and Four Lead Snap Cable Connector

****NOTE**: 360 joules is the maximum energy level that NASCO recommends administering to the defibrillation chest skin. Energy levels in excess of 360 joules may cause irreparable damage to the chest skin, circuitry, and patient simulator being used — thus voiding NASCO's warranty and endangering your equipment. NASCO assumes no liability for damage or injury that may be caused by the use and/or misuse of this equipment. All normal safety precautions for defibrillation training should be followed, and energy levels should be minimized. NASCO did not design nor intend this defibrillation chest skin to be used as anything other than a training apparatus for defibrillation.

Connecting Your Patient Simulator:

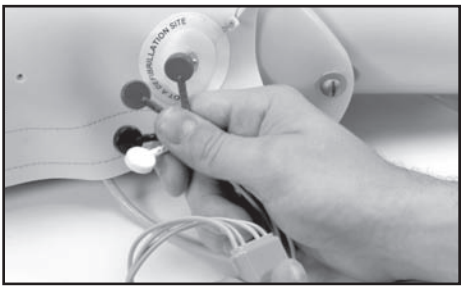


Figure 2

Connect the four lead snap cable to your patient simulator.

NASCO has designed the Child ***CRiSis***™ System to be compatible with a variety of patient simulators. This is possible via the standard four lead snap cable (Figure 2). If your patient simulator has only two output posts, the red and black leads must be connected to the patient simulator.

If you want to connect the manikin to the simulator that came with your defibrillator, it is necessary to purchase the corresponding adapters from NASCO separately, if the patient simulator doesn't have the standard snap connectors. (Please see accessories at the end of this section).

Once your manikin is connected to your patient simulator, you will be able to pick up the ECG waves either through the monitor hook-ups on the skin or through the two disks attached to the skin on the defibrillation sites.

These disks will enable you to pick up the ECG waves using either the "Quick Look" paddle option or directly through gel pads, just like on a real patient.

It is possible to use AED gel pads with the cable connectors built into the gel — the same ones you use on patients. In an effort to help you save money, NASCO offers a set of training buttons that will correspond to your particular AED unit. These buttons are sold separately, and can be used over and over again. They come as a set with the patient simulator adapters. (See accessories at the end of this section.)

Troubleshooting:

Problem: ECG wave is not being picked up from the manikin.

Solution:

1. Check your connections on the patient simulator; one or more may be disconnected.
2. Check to make sure your patient simulator is plugged in and working properly.

Problem: ECG wave is inverted.

Solution:

Recheck the position of the red and black lead snaps on the patient simulator.

NOTE: If the defibrillation chest skin is not functioning or wiring comes undone, please contact us to repair or replace the unit. Failure to do so, or unauthorized repair, may void the warranty or cause further harm or damage to you or your equipment.

Accessories For Defibrillation Chest Skin:

LF03656U Physio Control Training Pad Adapters and Patient Simulator Adapters

LF03657U Marquette Electronics Training Pad Adapters and Patient Simulator Adapters

LF03658U SpaceLabs / First Medic/ Laerdal Training Pad Adapters and Patient Simulator Adapters

LF03961U Zoll Training Cables with Adapters

LF03962U Physio Control Training Cables with Adapters

NOTE: If you need help selecting the training pad adapters that correspond to your AED unit, please feel free to call us for assistance.

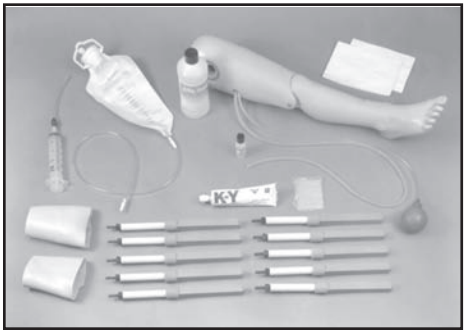


Figure 1

Figure 2

About The Simulator…

The ***Life/fform***® Child Intraosseous Infusion/Femoral Access Leg is a dramatic and exciting training aid designed to demonstrate and simulate intraosseous infusion and femoral access procedures. It enables students to learn and practice with incredible accuracy and realism, a procedure that in the past has been very difficult to simulate.

List of Components:

1. Leg
2. Femoral Access Site
3. 10 Bone Inserts
4. 2 Small White Towelettes
5. 1 60 cc Syringe
6. K-Y Jelly
7. Wax
8. 1/2 oz. Liquid Lubricant
9. 2 Leg Skins
10. 2 Mixing Bottles w/Blood Mix
11. IV Bag

General Instructions for Intraosseous Infusion Use:

1. Place the simulator on a flat surface such as a tabletop. Lay towels under the knees for support and to absorb any overflow.

2. To prepare the blood mixture, combine the red coloring, 1 full tube of K-Y Jelly, and 1 1/4 cups of tap water in the pint bottle provided (Figure 2). Shake vigorously for 30 seconds, until contents are mixed completely. After "blood" is mixed, fill the 60 cc syringe by placing the tubing end of the syringe into the bottle and drawing the "blood" up into the syringe.

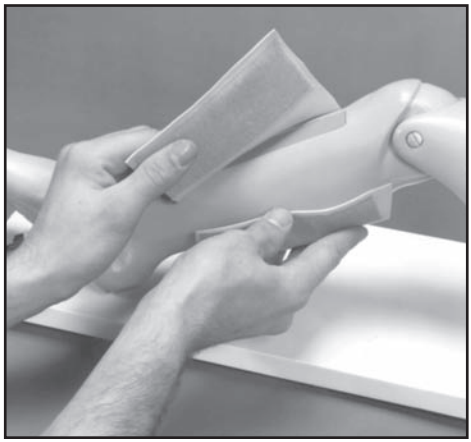


Figure 3

3. Wrap the leg skin over the lower leg and fasten it on the back side (Figure 3).

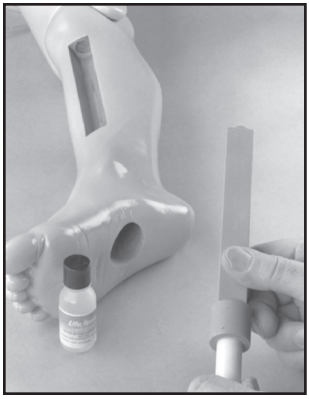


Figure 4

4. Connect the end of the tubing to the bone piece. Apply liquid lubricant to the entire bone, (Figure 4), and slide into position in the leg.

IMPORTANT

5. **Make your first needle insertion into the bone and remove the needle stylus. Proper insertion and pressure applied to the syringe will allow "blood" to flow through the tubing and fill the bone. When you observe "blood" flowing up through the needle, the bone is completely charged. Each new bone will need to be charged in this same manner. Correct subsequent insertions will produce an immediate flow of fluid through the needle. To reduce the pressure being placed on the bone, pull the plunger on the syringe back once verification of the placement has been made. This will decrease the amount of "blood" that may leak from the bone.**
6. The bones have been designed so all four sides can be punctured. To change sides, carefully remove the bone from the leg and wipe clean. Remove a small piece of wax (provided) and work with your fingers until soft. Rub the wax piece back and forth across the bone holes until they

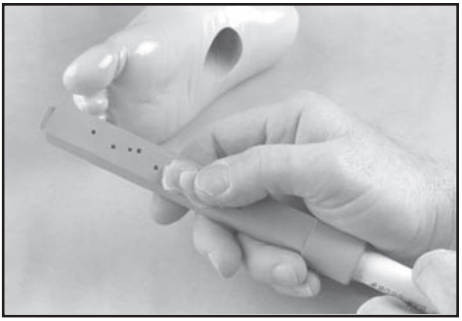


Figure 5

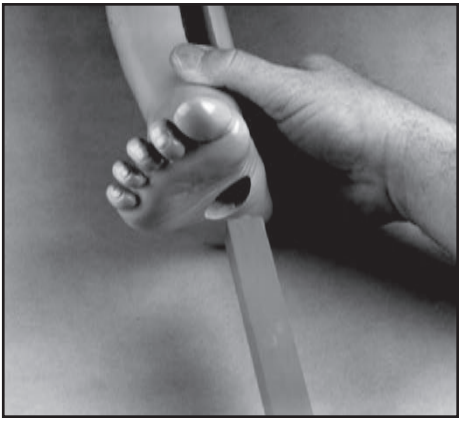


Figure 6

are sealed (Figure 5). A thin layer of wax left on the bone surface over the holes will help in sealing. Finish by applying a thin film of NASCO lubricant over the whole bone. Turn the bone 90 degrees and reinsert into the leg (Figure 6). Do this until all four sides of the bone structure have been punctured, at which time the bone can be discarded.

Special Note: The Intraosseous Infusion Leg duplicates a procedure that requires a great deal of pressure to be placed on both the simulator and the needle being used. Extreme caution should be taken to avoid pushing the needle completely through the simulator, injuring the person performing the procedure. NASCO cannot be responsible for injuries resulting from improper use of the simulator.

Clean Up Procedures:

1. Remove and discard any bones that have been charged with blood mixture.
2. Remove leg skins and use paper towels to completely wipe the simulator and remove any “blood” or lubricating agent.
3. Drain the syringe and discard any of the unused blood mixture.
4. Use clean tap water to flush and clean the syringe and tubing. Allow to dry.

General Instructions for Femoral Access Use:

1. Prepare the blood mix by filling one of the pint bottles with water and shaking until mixed. (Do not add K-Y Jelly to the femoral blood mix.)
2. Be sure the clamp on the IV bag tubing is closed and hang the bag no more than 18" above the leg. Pour the blood mix from the bottle into the IV bag.
3. Attach the fitting end of tubing to the access site tubing (Figure 7).

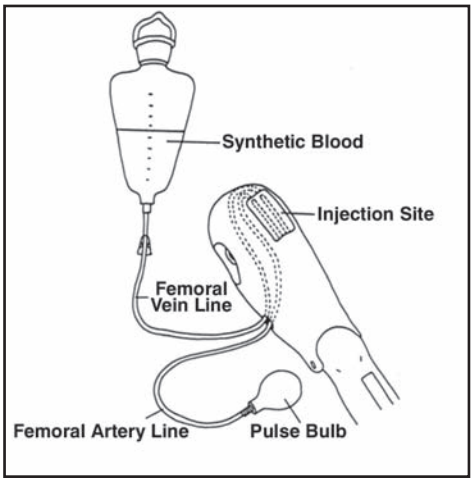


Figure 7

4. Open the clamp on the IV bag.
5. To charge the vein, make your first needle insertion in the vein and pull back on the syringe to remove air from the vein. Repeat until “blood” is withdrawn. The vein is now charged, and subsequent insertions will produce an immediate flow of “blood.”

Clean Up Procedures:

1. Close the clamp on the IV bag, pull the fitting from the femoral access tubing, and let the access tubing drain.
2. Drain the bag into the pint bottle by placing the IV bag tubing end into the bottle and opening the clamp.
3. When the bag is empty, close the bottle and flush out the IV bag with clean tap water. Let dry.

Supplies/Replacement Parts for the Intraosseous Infusion/ Femoral Access Leg:

LF03618U Intraosseous Infusion Bone Replacement Kit

LF03619U Intraosseous Infusion Left and Right Leg Skin Replacements

LF01111U Intraosseous Infusion Blood Replacement Kit

LF03626U Femoral Access Site Replacement Kit

LF00845U ***Life/Form***® Venous Blood, 1 quart (Femoral Access)

LF00846U ***Life/Form***® Venous Blood, 1 gallon (Femoral Access)

Other Available Life/form® Simulators

LF00698U Adult Injectable Arm (White)
LF00856U Female Catheterization
LF00901U Prostate Examination
LF00906U Ostomy Care
LF00929U Surgical Bandaging
LF00957U Enema Administration
LF00958U Pediatric Injectable Arm
LF00961U Intramuscular Injection
LF00984U Breast Examination
LF00995U Arterial Puncture Arm
LF00997U Adult Injectable Arm (Black)
LF00999U Pediatric Injectable Head
LF01008U Intradermal Injection Arm
LF01012U Heart Catheterization (TPN)
LF01019U Ear Examination
LF01020U Supplementary Ear Set
LF01025U Male Cath-Ed I
LF01026U Female Cath-Ed II
LF01027U Peritoneal Dialysis
LF01028U Suture Practice Arm
LF01036U Spinal Injection
LF01053U Cross-Sectional Anatomy, Torso, Head
LF01054U Cross-Sectional Anatomy, Head
LF01062U Pelvic, Normal & Abnormal
LF01063U Stump Bandaging, Upper
LF01064U Stump Bandaging, Lower
LF01069U Cervical Effacement
LF01070U Birthing Station
LF01082U Cricothyrotomy
LF01083U Tracheostomy Care
LF01084U Sigmoidoscopic Examination
LF01087U Central Venous Cannulation
LF01095U Blood Pressure Arm
LF01108U Intraosseous Infusion Simulator
LF01142U Auscultation Trainer
LF01162U Venatech IV Trainer
LF03000U **CPARLENE®** Series
LF03601U Adult Airway Management Trainer
LF03602U Adult Airway Management on Manikin
LF03603U Adult Airway Management Head Only
LF03609U Child Airway Management Trainer
LF03610U Child Airway Management Trainer Head Only
LF03611U Child Defibrillation Chest Skin
LF03612U Child IV Arm
LF03613U Child Blood Pressure Arm
LF03614U Child Intraosseous Infusion/ Femoral Access Leg Only
LF03615U Complete Child ***CRiSis™*** Update Kit
LF03616U Child ***CRiSis™*** Manikin
LF03617U Deluxe Child ***CRiSis™*** Manikin with Arrhythmia Tutor
LF03620U PALS Update Kit
LF03621U Infant Airway Management Trainer Head Only
LF03622U Intraosseous Infusion Right Leg
LF03623U Infant Airway Management Trainer
LF03626U Child Femoral Access Injection Pad Replacement
LF03632U Child Intraosseous Infusion/ Femoral Access Leg on a Stand
LF03633U Child Airway Management Trainer with Torso
LF03693U **Basic Buddy** CPR Manikin
LF03699U "Airway Larry" Airway Management Trainer
LF03720U **Baby Buddy** Infant CPR Manikin
LF03953U ***CRiSis™*** Manikin
LF03955U Deluxe ***CRiSis™*** Manikin
LF04001U ***GERi™*** Nursing Manikin
LF04020U ***KERi™*** Nursing Manikin
LF04021U ***KERi™*** Basic Manikin
LF04022U ***KERi™*** Advanced Manikin
LF04030U ***GERi™*** Advanced Manikin
LF04040U ***GERi™*** Basic Manikin

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