



Arterial Puncture Arm

LF00995U

INSTRUCTION MANUAL

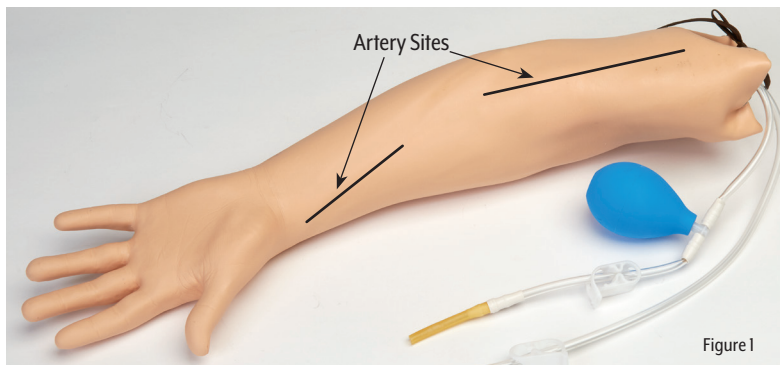


WARNING: Products may contain dry natural rubber.

5-Year Warranty

ABOUT THE SIMULATOR

The **Life/form®** Arterial Puncture Arm Simulator is the most realistic training simulator possible for demonstrating and practicing arterial injections. Visual as well as tactile realism is designed into this training aid to allow students to develop the skills necessary to learn how to draw arterial blood samples.



Both radial and brachial arterial punctures can be practiced. The arterial system provides pulsation to allow proper practice in locating arteries. (See figure 1.)

Great effort has been put into the development and design of this medical simulator to provide maximum realism and durability. Careful selection of synthetic tubing has been made to provide the most realistic sensation of puncture possible while still maintaining durability for long life. With proper care, your **Life/form®** Arterial Puncture Arm Simulator will provide years of valuable service. Please review the instructions carefully.

LIST OF COMPONENTS

- **Life/form®** Skin and Artery Kit
- Two 3 cc Syringes with Needles
- Fluid Supply Bag
- Two Replacement Sections of Artery
- Tubing Sealant
- Lubricant
- **Life/form®** Arterial Blood — 1 Pint
- Carry Case (not pictured)



GENERAL INSTRUCTIONS FOR USE

- Prepare the Synthetic Arterial Blood Concentrated Blood Colorant, provided. Fill the 16-oz. container with tap water for proper dilution.
- Close the clamp on the fluid supply bag.
- Pour diluted **Life/form®** Arterial Blood into the fluid supply bag. Hang the bag at 18" height. To minimize leakage in tubing, keep the elevation of the fluid bags as low as possible during operation.
- Connect the fluid supply bag to the arm with the supplied connector to fit the end of the tubing protruding from the arm (fluid supply stand shown is sold separately). Connect as shown. (See figure 2.)

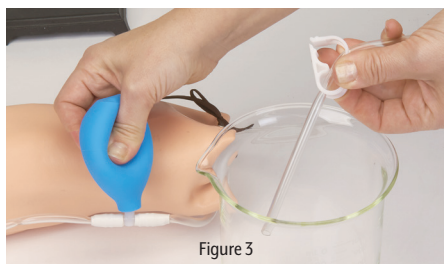


Figure 3

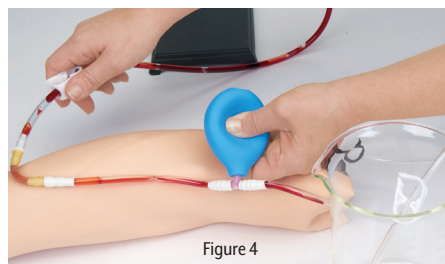


Figure 4



Figure 5



Figure 6

FILL THE ARTERIAL SYSTEM

- A.** Hold the open tubing end over an empty container (beaker shown, not included) with the white pinch clamp on the arm open.
- B.** Squeeze the bulb and hold (See figure 3.).
- C.** Open the flow control clamp on the fluid supply bag. When the blood coming from the fluid supply bag has passed the squeeze bulb, close the white pinch clamp on the arm. (See figure 4.)
- D.** Release the squeeze bulb, then reopen the white pinch clamp on the arm (See figure 5.).
- E.** Allow the blood to continue through the system and out the open tube end until the air bubbles are gone.
- F.** Close the white pinch clamps on the arm and on the fluid supply bag (See figure 6.).

READY FOR USE

The arterial system is now ready for use. A series of contractions of the squeeze bulb will create a pulse. With a little practice, a very realistic pulse will be prominent at both the radial and brachial sites.

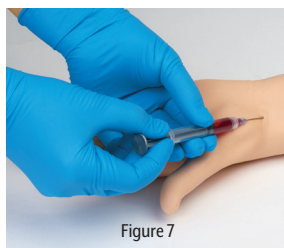


Figure 7

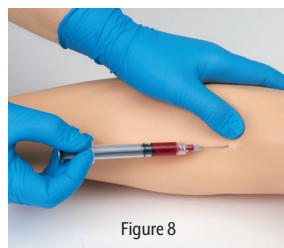


Figure 8

PROCEDURES THAT CAN BE PERFORMED ON THIS SIMULATOR

A. Radial Arterial Puncture

The artery is superficial and easily palpated. Confirmation of arterial blood is done as in actual practice by checking color and pulsing in the syringe. (See figure 7.)

B. Brachial Arterial Puncture

The simulated artery in the training arm is NOT superficial. The simulated artery in the training arm is approximately 1.5 cm below the surface. By aiming the needle directly at the strongest pulsation, a student should successfully penetrate the artery.

Confirmation of needle placement by the color of blood and pulsation in the syringe should be encouraged. (See figure 8.)

CARE OF THE SIMULATOR

GENERAL CARE AND USE OF THE ARM

The usable life of the skin and tubing will vary depending on such factors as the size of the needles used, distribution of the punctures, and the general care and use of the arm. Below are some suggestions for use and care of the **Life/form®** Arterial Puncture Arm Simulator which will help prolong the useful life of the skin and simulated arteries.

1. Needles

A hypodermic needle is actually a very small cutting tool. Puncturing the skin and artery with needles forms slits or cuts which will eventually lead to deterioration. The larger the needle, the larger the cut made in the skin and tubing. Use of 22-gauge or smaller needle is recommended. Always use sharp needles; dull or blunt needles cause unnecessary damage.

2. Distribution of Punctures

If the injections can be distributed along the length of the injection sites without deviation from acceptable practice, the product will last longer.

3. Height of the IV Bag

Fluid pressure increases as the height of the bag increases. A height of 18" above the arm provides a realistic "flashback." Elevating the bag higher raises the pressure and will cause additional leakage through previous puncture holes.

4. IV Solutions

Use only water or **Life/form®** Arterial Blood. Use of other solutions may block the tubing.

5. Site Preparation

Clean water is recommended for swabbing injection sites and will help lubricate the skin surface to minimize damage from punctures. Alcohol, iodine, or other antiseptics are not recommended, as they will stain the skin permanently.

6. Cleaning

Use a mild solution of Ivory® liquid detergent and water to clean the surface of the skin. Use Nasco Cleaner (LF09919U) to remove stubborn stains from the simulator. Simply apply to the soiled area and wipe clean with soft cloth or paper towels.

STORING THE SIMULATOR

1. Disconnect the fluid supply bag, making sure the clamp is closed. Place the tubing end in the pint bottle and open the clamp to drain; rinse bag.
2. Open the pinch clamp and drain the arm. Tip the hand up until the fluid is removed. Always flush the tubing with water after use. Rinse the exterior with water and dry it with a soft cloth or paper towel. Place the arm in the storage bag. Store the arm in the carrying case.

REPAIR OF TUBING PUNCTURES

1. Due to the thin wall of the tubing and the pressure of the pulsation of the arterial system, leakage is likely after repeated punctures. Additional replacement latex tubing sections are included with the simulator to renew the arterial system. Refer to the instructions for skin replacement.
2. Tubing Sealant (LF01099U) is included with the product and will significantly reduce leakage of tubing when applied regularly. Always flush the tubing with water before attempting the sealing procedure. See the instructions on the container.

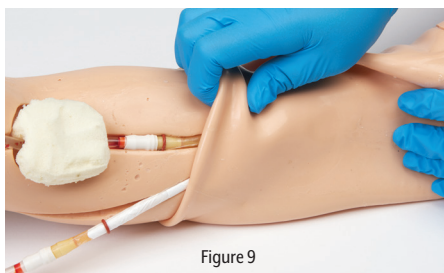


Figure 9

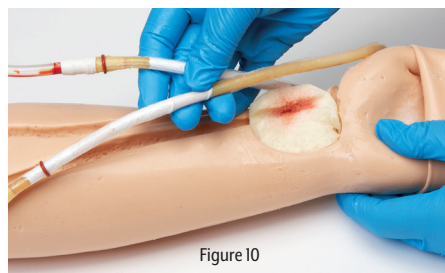


Figure 10



Figure 11

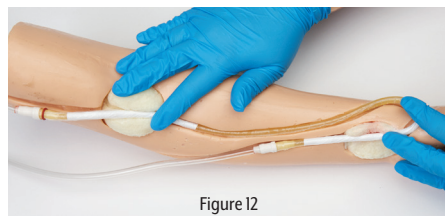


Figure 12

SKIN AND ARTERY REPLACEMENT

1. Removing the used skin and arterial tubing from the arm
2. Untie the lace from the base of the arm.
3. Lubricate the EXTERIOR of the skin using baby powder.
4. Peel the skin off carefully, turning inside out. (See figure 9.)
5. Remove the foam pad at the antecubital fossa. (See figure 10.)
6. Disconnect the arterial tubing at the antecubital fossa and at the wrist.

INSTALLING THE NEW ARTERIAL TUBING

1. Slide each end of precut length of replacement tubing securely over the connectors.
2. To secure the connections, roll the O-rings over tubing after connecting to fittings. (See figure 11.)
3. Place the foam pad over the arterial tubing at the antecubital fossa.
4. The white wrapped sections of tubing should be over the injection areas. (See figure 12.)



Figure 13



Figure 14

LUBRICATING THE NEW SKIN

Pour lubricant into the skin and swish so all surfaces are covered.

INSTALLING THE REPLACEMENT SKIN

1. Slide the skin over the hand of the core. Be certain the palm of the hand and core are in the same position.
2. Grasp the skin with both hands, as illustrated, and slide the skin over the core until the fingers of the core approach the finger holes of the skin. (See figure 13.) (During this step, be certain the tubing remains in the proper channels.)
CAUTION: Excessive pulling on the end of the skin may stretch or tear material.
3. Work the fingers into place. (See figure 14.)

4. Draw the skin snugly over the arm.
5. Check the tubing position. If the tubing has slipped from the channel, it can usually be pushed back in place by working it with the fingertips from the outside of the skin.

INSTALLING THE LACE

1. Thread the lace through the supplied eyelets and tie it securely. (See figure 15.)
2. Rinse the excess lubricant from the exterior of the arm with warm water.

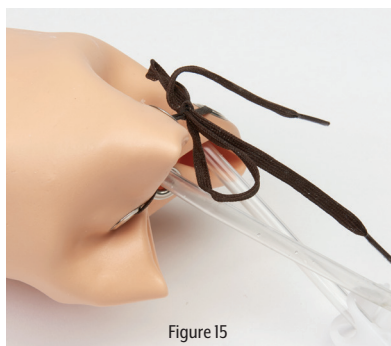


Figure 15

The **Life/form®** Arterial Puncture Arm Simulator is now fully renewed and ready for use.

CAUTIONS:

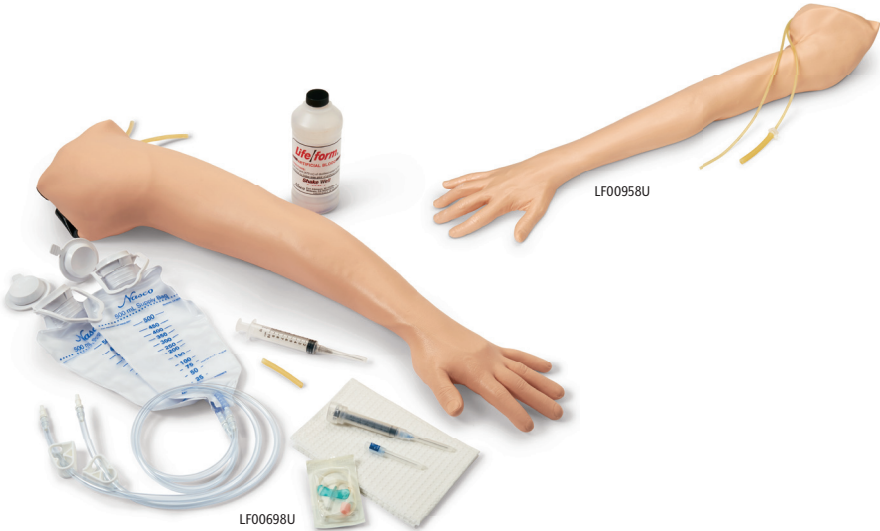
Solvents or corrosive materials will damage the simulator. Never place the simulator on any kind of printed paper or plastic. These materials will transfer an indelible stain. Ball-point pens will also make an indelible stain.

SUPPLIES/REPLACEMENT PARTS FOR THE ARTERIAL PUNCTURE ARM SIMULATOR

LF09919U	Nasco Cleaner
LF00998U	Skin Replacement Kit with Artery Sections
LF01099U	Tubing Sealant
LF01004U	Life/form® Arterial Blood — 1 Quart
LF00985U	Life/form® Lubricant Kit
LF01059U	Arterial Puncture Arm Artery Replacement Only

Other Available **Life/form** Simulators

- LF00698U Adult Injectible Training Arm (Light)
- LF00997U Adult Injectible Training Arm (Dark)
- LF00958U Pediatric Injectible Arm
- LF01121U Advanced IV Arm
- LF01131U Venipuncture and Injection Arm



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