Nasco
Life/form®

# ARTERIAL PUNCTURE ARM
# LF00995U
# INSTRUCTION MANUAL

Life/form® Products by NASCO

## 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.

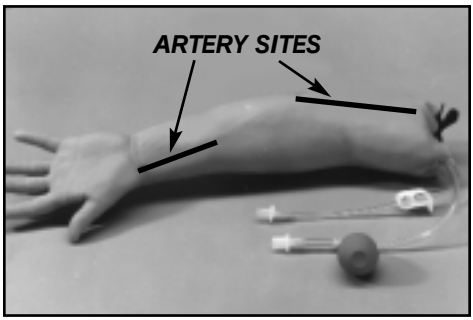


***Figure 1***

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

1. ***Life/form***® Skin and Artery Kit
2. Two 3cc Syringes with Needles
3. IV Supply Bag
4. Two Replacement Sections of Artery
5. ***Life/form***® Arterial Blood — 1 Pint

## General Instructions for Use:


***Figure 2*** ***Figure 3***

A. Prepare the Synthetic Arterial Blood:
Concentrated blood colorant is pro vided. Fill the 16 oz. container with tap water for proper dilution (Figure 2).

B. Fill the IV Supply Bag:
Pour diluted ***Life/form***® Arterial Blood into the IV bag (Figure 3). Hang the bag at 18" height. To minimize leakage in tubing, keep the elevation of the fluid bags as low as possible during operation.

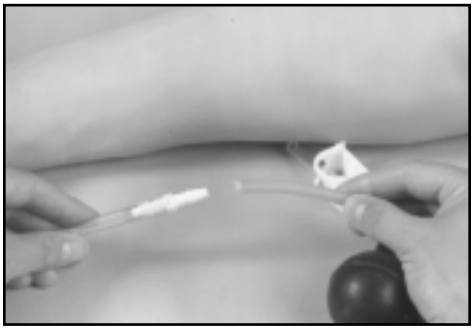

***Figure 4***

C. Connect the IV Bag to the Arm:
The IV bag is supplied with a connector to fit the end of the tubing protruding from the arm. Connect as shown. Be certain the flow control clamp on IV bag is closed (Figure 4).

D. Fill the Arterial System:

1. Hold the open tubing end over an empty container with the white pinch clamp on the arm open.
2. Squeeze the bulb and hold.

***Figure 5***

3. Open the flow control clamp on the IV bag. When the blood coming from the IV bag has passed the squeeze bulb, close the white pinch clamp on the arm (Figure 5).
4. Release the squeeze bulb, then reopen the white pinch clamp on the arm.
5. Allow the blood to continue through the system and out the open tube end until the air bubbles are gone.
6. Close the white pinch clamps on the arm and on the IV bag.

***Figure 6***

E. Ready for Use:

The arterial system is now ready for use (Figure 6). 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.

**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 (Figure 7).

***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.

***Figure 8***

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

**Care of the Simulator:**

A. 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 needles 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 pres-sure 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 swabbinginjection 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 REN Cleaner (W09919U) to remove stubborn stains from the simulator. Simply apply REN Cleaner to the soiled area and wipe clean with soft cloth or paper towels.

**B. Storing the Simulator:**

1. Disconnect the IV bag, making sure the clamp is closed. Place the tubing end in the pint bottle and open the clamp to drain.
2. Rinse the IV bag.
3. 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.

C. Repair of Tubing Punctures:

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.

Aerosol Vein and Artery Tubing Sealant (LF01099U) is includedwith 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.

D. Skin and Artery Replacement:

1. Removing the used skin and arterial tubing from the arm:
   a. Untie the lace from the base of the arm.
   b. Lubricate the EXTERIOR of the skin using baby powder.

***Figure 9***

   c. Peel the skin off carefully, turning inside out (Figure 9).

   d. Remove the foam pad at the antecubital fossa.

e. Disconnect the arterial tubing at the antecubital fossa and at the wrist.

2. Installing the new arterial tubing:

a. Slide each end of precut length of replacement tubing securely over the connectors.

b. To secure the connections, roll the O-rings over tubing after connecting to fittings.

***Figure 10***

c. Place the foam pad over the arterial tubing at the antecubital fossa (Figure 10).

d. Make sure that the white wrapped sections of tubing are over the injection areas.

***Figure 11***

3. Lubricating the new skin:

Pour lubricant into the skin and swish so all surfaces are covered (Figure 11).

4. Installing the replacement skin:

A. Slide the skin over the hand of the core. Be certain the palm of the hand and core are in the same position.

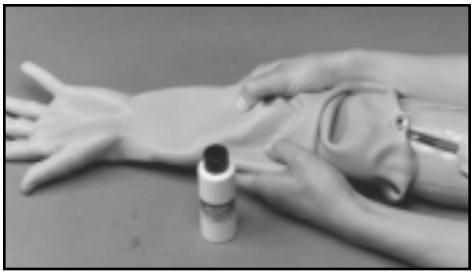

***Figure 12***

B. Grasp the skin with both hands, as illustrated (Figure 12), and slide the skin over the core until the fingers of the core approach the finger holes of the skin. (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.

***Figure 13***

C. Work the fingers into place (Figure 13).

***Figure 14***

D. Draw the skin snugly over the arm (Figure 14).

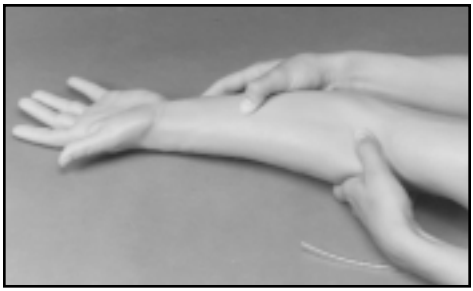

***Figure 15***

e. 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 (Figure 15).

**E. Installing the Lace:**

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

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

**Cautions:**

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

**Supplies/Replacement Parts for the Arterial Puncture Arm Simulator:**

| | |
|---|---|
| **W09919U** | REN Cleaner |
| **LF00998U** | Skin Replacement Kit with Artery Sections |
| **LF01099U** | Vein and Artery Tubing Sealant Kit |
| **LF01004U** | ***Life/form***® Arterial Blood — 1 Quart |
| **LF00985U** | ***Life/form***® Simulator Lubricant |
| **LF01059U** | Arterial Puncture Arm Artery Replacement Only |

## 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
**LF01068U** Brachial Plexus
**LF01069U** Cervical Effacement
**LF01070U** Birthing Station
**LF01082U** Cricothyrotomy
**LF01083U** Tracheostomy Care
**LF01084U** Sigmoidoscopic Examination
**LF01087U** Central Venous Cannulation
**LF01094U** Cross Sectional Anatomy — Laminated
**LF01095U** Blood Pressure Arm
**LF01108U** Intraosseous Infusion Simulator
**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
**LF03627U** Child *CRiSis*™ Replacement Lung Set
**LF03628U** Child *CRiSis*™ Replacement Stomach
**LF03629U** Child IV Arm Replacement Skin and Veins
**LF03630U** Child Arrhythmia Tutor
**LF03631U** Child Airway Management Trainer Replacement Headskin
**LF03632U** Child Intraosseous Infusion/ Femoral Access Leg on a Stand
**LF03633U** Child Airway Management Trainer with Torso
**LF03650U** *CRiSis*™ Manikin
**LF03651U** ALS Update Kit
**LF03675U** BLS Manikin — 10 Pack
**LF03676U** BLS Manikin — 5 Pack
**LF03677U** BLS Manikin — Single
**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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