Dedicated to Delivery

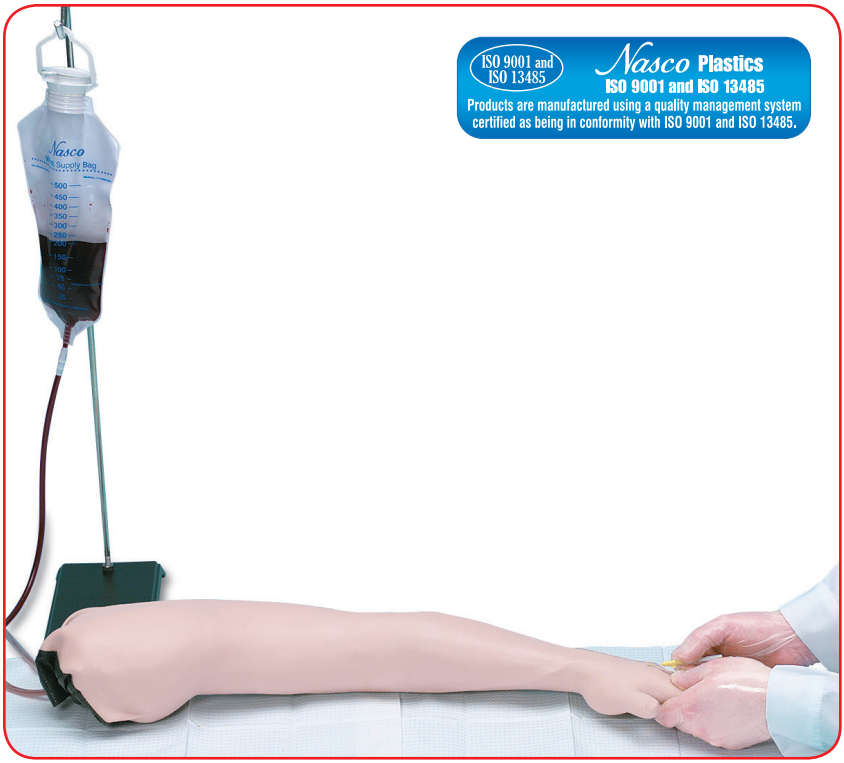
Nasco

Life/form®

Life/form®

5 Year Warranty

Venipuncture and Injection Training Arm LF00698U Instruction Manual



WARNING: This product contains dry natural rubber.
Do not remove film from tubing.

Life/form® *Products by Nasco*

About the Simulator

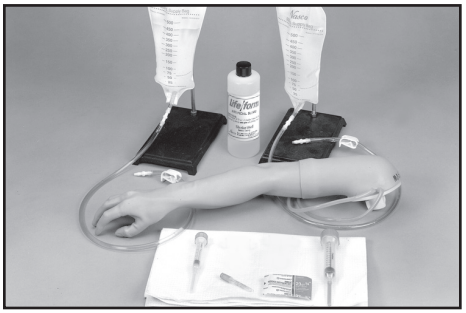


Figure 1

The ***Life/form***® Venipuncture and Injection Training Arm Simulator 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. ***(See figure 1.)***

Although this arm will provide years of 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 (such as 20- to 25-gauge). However, if instruction with larger needle sizes is required, this can be done; the skin and veins will merely need to be replaced sooner. The Skin and Vein Kits are available through Nasco (see page 4 for list of supplies).

List of Components

- 3 cc syringe with needle
- 12 cc syringe with needle
- 2 IV bags
- Butterfly needle
- Pinch clamp
- 2 small towels
- Butterfly infusion set

Internal Structure

Internally, the vascular structure (rubber tubing) begins at the shoulder and

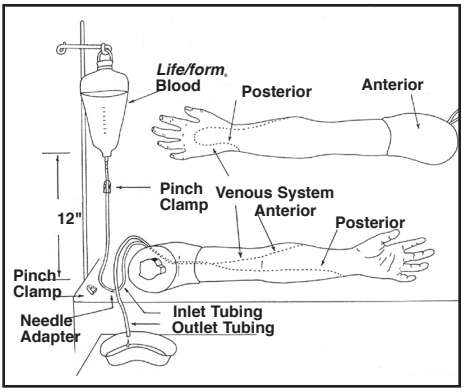


Figure 2

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 plastic tubing, with the lumen being the approximate size of a human vein. This vascular structure has inlet tubing and outlet tubing at the shoulder. ***(See figure 2.)*** It is via these tubes that synthetic blood is injected and removed, thus allowing practice in the techniques of blood drawing and starting intravenous infusions.

Figure 3

General Instructions for Use

A. Preparing the Synthetic Blood

1. Fill the pint bottle containing synthetic blood concentrate with distilled water. ***(See figure 3.)***
2. Pour the synthetic blood into one of the bags. ***(See figure 4.)***

3. Be sure the 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.

Figure 4

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 one of the pinch clamps 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 open.

7. After filling the venous system according to instructions, the arm is now ready for you to practice drawing "blood." "Blood" can be drawn anywhere along the pathway of the vein. *Distilled water*, rather than alcohol, should be used to prepare the sites. Synthetic blood will actually be aspirated once the vein is properly punctured.

8. Small diameter needles (20- to 25-gauge) should be used.

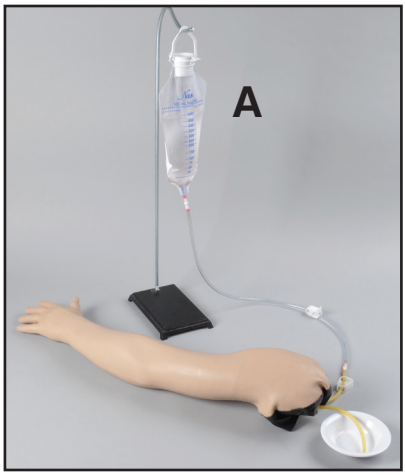


Figure 5

B. Preparing the Arm for Intravenous Infusions

1. Close the clamp at the end of IV bag A tube, then fill with water (distilled water is recommended), and hang not more than 18" above the arm. ***(See figure 5.)***

2. Appropriate intravenous infusion needles (or butterflies) should be used. Distilled water is recommended as an infusion.

3. IVs can be started anywhere along the pathway of the simulated vein. Cleanse the sites with distilled water only.

4. Attach the adapter end of the IV tubing into one of the shoulder tubing ends.

5. Place the other shoulder tubing end in a basin or jar, and "flush" the vascular system by opening the clamp. Allow infusion (water) to pass through the system until air bubbles are eliminated. Shut off the flow with a pinch clamp. The venous system is now full and pressurized.

6. Insert an IV needle or butterfly in the vein. "Flashback" will indicate proper insertion.

7. Close the clamp on IV bag A tube and remove pinch clamp from shoulder tubing.

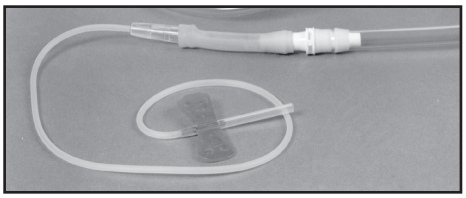


Figure 6

8. Attach latex needle adapter to IV needle and IV tubing. ***(See figure 6.)*** Proof of proper procedure will then be evidenced by the flow of infusion fluid from IV bag B. Control flow rate with clamp on IV set B. This fluid can be used over. If more realistic experience is desired with "blood flashback" instead of water when inserting butterfly into lumen of vein, use procedure C (next).

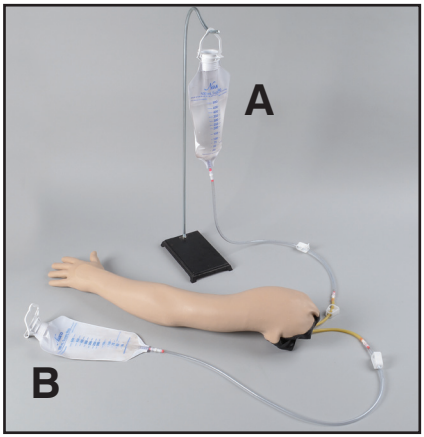


Figure 7

C. Recommended Procedure for Simultaneous IV Infusions and Drawing Blood

Using two IV bag kits, hook up and install with IV bag A and IV bag B. ***(See figure 7.)*** Remove air vent from bag B.

1. Begin with synthetic blood in IV bag A. Open clamp on both A and B to pressurize system. "Flush" system by allowing "blood" to flow into container B until bubbles in tubing disappear, then regulate "blood" flow from bag A (using 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 butterfly into lumen of vein. Proof of correct insertion is evidenced by flashback of "blood." Insert end of IV tubing into butterfly. Adjust flow to desirable rate with clamp. With this arrangement, IV bag B, when full, may be easily switched with A.
   NOTE: Always regulate flow of "blood" from the raised bag, and open the other clamp.

D. Intramuscular Injections

The procedure for administering intramuscular injections can be practiced in the area of the deltoid. Prep the site with distilled water only. These injections can be done utilizing the appropriate needle and syringe. ½ cc of distilled water may be injected, however, we recommend utilizing air as injectant since the distilled water cannot be drained, but must evaporate from the arm. Synthetic blood must **NEVER** be used for injections.

Troubleshooting

If "blood" cannot be aspirated during the blood drawing procedure:

1. The clamp is not opened.
2. There are kinks in the tubing of IV sets.
3. Tubing has been pinched shut by constant pressure of pinch clamps. Lumen remains pinched occasionally even if pinch clamps are loosened. Slide clamp to new position and, with fingers, manipulate tubing 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.
4. If these measures do not unclog the venous system, try using a large 50 cc syringe to force fluid through the tubing.

5. If none of these measures work, peel back the skin 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, then 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 clamps and IV sets from arm. Use tap water to flush the venous system, and wash the outside of the 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 clamps from shoulder tubing and drain excess water from veins before storing.

Cautions

1. This synthetic blood is specially formulated to be compatible with the self-sealing veins and plastics used in manufacturing the arm.

2. **NEVER** use synthetic blood for intramuscular injection.

3. **DO NOT** use dull or burred needles, as these will cause leaks in the system. Burred needles will cause permanent damage. Use **smaller needles** (20- to 25-gauge).

4. **DO NOT** allow "blood" to dry on the simulator — it may stain the skin.

5. Use only 500 cc of infusion fluid, as a larger amount will also increase the pressure of the venous system, resulting in leaks.

6. **DO NOT** clean the simulator with solvents or corrosive material, as they will damage it.

7. **DO NOT** use for subcutaneous injection. Nasco's Intradermal Injection Simulator (LF01008U) is specially designed for intradermal injection training and practice.

8. Nasco Vein Tubing Sealant Kit (LF01099U) will extend the life of the tubing.

Supplies/Replacement Parts for Injectable Training Arm

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

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

LF01099U Vein Tubing Sealant Kit

LF00966U Light Skin and Vein Replacement Kit

LF00967U Dark Skin and Vein Replacement Kit

LF09919U Nasco Cleaner

Other Available Life/form® Simulators

LF00698U Adult Injectable Arm (Light)
LF00855U Male Catheterization
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
LF00999U Pediatric Injectable Head
LF01005U First Aid Arm
LF01008U Intradermal Injection Arm
LF01012U Heart Catheterization (TPN)
LF01019U Ear Examination
LF01027U Peritoneal Dialysis
LF01028U Suture Practice Arm
LF01034U Suture Practice Leg
LF01036U Spinal Injection
LF01037U Hemodialysis Practice Arm
LF01038U Episiotomy Suturing Set
LF01042U Suture Kit
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 Infant Intraosseous Infusion
LF01121U Advanced IV Arm
LF01131U Venipuncture and Injection Arm
LF01139U Advanced IV Hand
LF01142U Auscultation Trainer
LF01143U Testicular Exam
LF01152U Male & Female Catheter
LF01155U Advanced CPR Dog
LF01162U Venatech IV Trainer
LF01174U NG Tube & Trach Skills
LF01184U Venatech IM & Sub Q
LF01193U Special Needs Baby
LF03000U **CPARLENE®** Series
LF03601U Adult Airway Management Trainer with Stand
LF03602U Adult Airway Management Manikin
LF03609U Child Airway Management Trainer with Stand
LF03616U Child ***CRiSis™*** Manikin
LF03617U Deluxe Child ***CRiSis™*** Manikin with Arrhythmia Tutor
LF03620U PALS Update Kit
LF03623U Infant Airway Management Trainer with Stand
LF03632U Child Intraosseous Infusion/ Femoral Access Leg on a Stand
LF03633U Child Airway Management Trainer Torso
LF03693U **Basic Buddy®** CPR Manikin
LF03699U "Airway Larry" Airway Management Trainer
LF03709U Infant ***CRiSis™*** Manikin
LF03720U **Baby Buddy™** Infant CPR Manikin
LF03750U Bariatric CPR Manikin
LF03770U Chest Tube
LF03953U ***CRiSis™*** Manikin, Complete
LF03955U Deluxe ***CRiSis™*** Manikin
LF03956U Deluxe "Plus" ***CRiSis™*** Manikin
LF03965U Adult ***CRiSis™*** Auscultation Manikin
LF03966U Adult ***CRiSis™*** Auscultation Manikin with ECG Simulator
LF04000U ***GERi™/KERi™*** Manikin Series
LF04200U Adult Sternal Intraosseous Infusion
LF06001U CPR Prompt® Adult/Child Manikin
LF06012U CPR Prompt® Infant Manikin
LF06200U CPR Prompt® Keychain Rescue Aid
LF06204U CPR Prompt® Rescue and Practice Aid

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