Venipuncture and Injection Training Arm
LF00698U
Instruction Manual

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

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

About the Simulator

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 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.

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.

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 drained, but must evaporate from the arm. Synthetic blood must NEVER be used for injections.

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

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.

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).

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.

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 clamp pressure. 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 unplug the venous system, try using a large 50 cc syringe to force fluid through the tubing.
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.

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.

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

### 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.

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Figure 1

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Figure 2

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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
- 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 Percutaneous 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 Elffacement
- LF01070U Birthstone Station
- LF01082U Cricothyrotomy
- LF01083U Tracheostomy Care
- LF01084U Sigmoidoscopic Examination
- LF01087U Central Venous Cannulation
- LF01095U Blood Pressure Arm
- LF01108U Infant Intravenous 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 Venenatech IV Trainer
- LF01174U NG Tube & Trach Skills
- LF01184U Venenatech 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 Torso
- LF03632U Child Intravenous 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 Intravenous 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

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

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