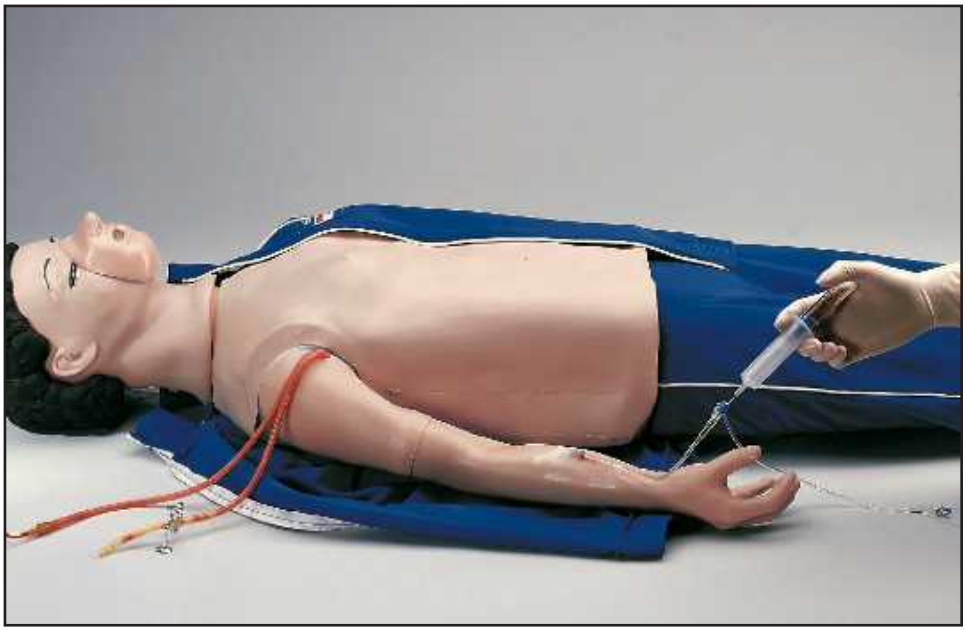
Nasco
Life/form®

CPARLENE®
INJECTABLE TRAINING ARM
LF03214
INSTRUCTION MANUAL



Life/form® Products by NASCO

Figure 1

NASCO *Life/form*® Injectable Training Arm

About the Simulator…

The ***Life/form***® Injectable Training Arm Simulator (Figure 1) 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 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 9 for list of supplies).

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 (Figure 2) is constructed of special plastic tubing

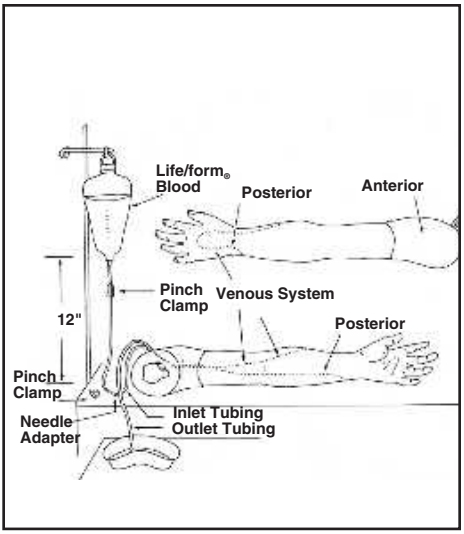


Figure 2

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 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 (Figure 3).
2. Pour the synthetic blood into one of the bags (Figure 4).

Figure 3

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 aspirated once the vein is properly punctured.
8. Small diameter needles (20- to 25-gauge) should be used.

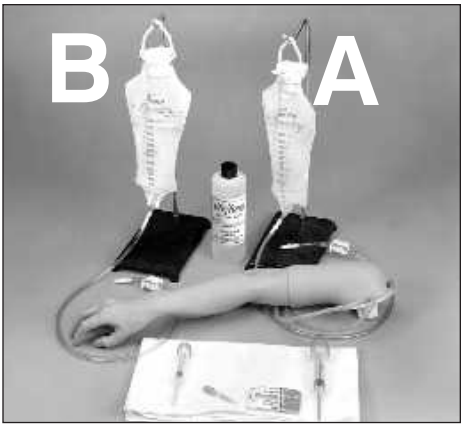


Figure 5

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 (Figure 5).
2. Appropriate intravenous infusion needles (or butterflies) should be used, and 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.

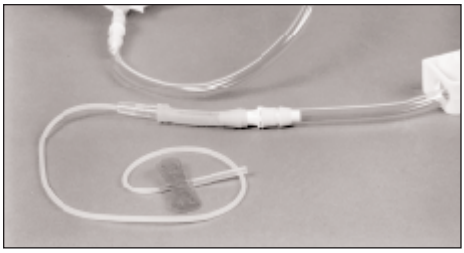


Figure 6

8. Attach latex needle adapter to IV needle and IV tubing (Figure 6). Proof of proper procedure will then be evidenced by the flow of infusion fluid from the 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 next procedure C.

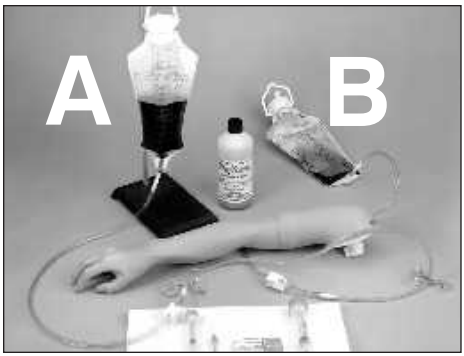


Figure 7

C. Recommended Procedure for Simultaneous IV Infusions and Drawing Blood

Using two IV bag kits, hook up and install (Figure 7) with IV bag A and IV bag B. 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 the 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. 1/2 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 50cc syringe to force fluid through the tubing.

5. 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 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 500cc 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
LF03215U	Skin and Vein Replacement Kit
W09199U	REN Cleaner

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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