



ADVANCED INJECTION HAND LF01139U & LF01146U INSTRUCTION MANUAL



Life/form® Products by NASCO



About the Simulator...

The **Life/form**[®] Advanced Injection Hand 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 or injury to a patient.

This unit is the simulation of the entire human hand from the wrist to the fingertips. Externally the skin texture is realistic to the touch and the fingertips actually have fingerprints.

Although this hand will provide you long 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 hand. 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. Replacement Skin and Vein Kits are available through NASCO (see list of supplies).

List of Components

- 3cc syringe with needle
- 12cc syringe with needle
- 2 IV bags
- Needle (butterfly)
- 2 pinch clamps
- 2 small towels
- Infusion set (butterfly)

Internal Structure



Figure 1

Internally the vascular structure (rubber tubing) includes injectable metacarpal, digital, and thumb veins. The venous system is constructed of special self-sealing rubber tubing with the lumen being the approximate size of a human vein (Figure 1). The vascular structure has an inlet tube and an outlet tube below the wrist and it is via these tubes that the venous system is filled. Thus, the techniques of blood drawing and starting intravenous infusions may be practiced on the Advanced Injection Hand.

General Instructions for Use

The Advanced Injection Hand comes with all of the supplies necessary to perform most procedures. (To perform intra-venous infusions the user must supply their own IV set and bag of solution.)



Figure 2

A. Preparing the Synthetic Blood

1. Add 1 pint of distilled water to the synthetic blood concentrate (Figure 2).
2. Hang one of the bags (bag A) approximately 28" above the level of the hand, making sure the clamp on the IV tubing is closed. Pour the blood into the bag.
3. Attach the fitting end of the IV tubing to one of the wrist tubes.

Important Note: Before completing step 4, bag B must lie at hand level or below with the cap closed.

4. With the other wrist tube attached to the empty IV bag (bag B), flush the vascular system with synthetic blood by opening the clamp of the filled IV bag (bag A). (Figure 3) Allow some blood to pass through the system until the outlet wrist tube to bag B runs free of bubbles. When the outlet tubing to bag B runs clear of bubbles, close the clamp on bag B.

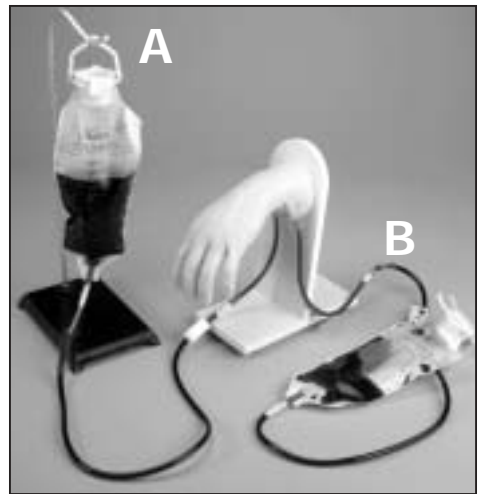


Figure 3

5. The venous system is now full of "blood" and pressurized. Be sure to leave the clamp on the inlet tubing (bag A) opened.
6. The hand is now ready to practice drawing blood. "Blood" can be drawn anywhere along the pathway of the vein (see Figure 1). Distilled water should be used to prepare the sites. Synthetic blood will actually be aspirated once the vein is properly punctured.
7. Small diameter needles (20- to 25-gauge) should be used.

B. Preparing the Hand for Intravenous Infusions

(At this point you will need to supply an IV set and bag of solution. Hook them up and have them ready.)

1. To hook up the hand, refer back to steps 1-5 in section A.
2. Insert the butterfly needle into a vein. Flashback will indicate proper insertion.
3. If a flashback is observed, close the clamp on IV bag A. You are now ready to set up for the intravenous infusion.
4. Hang the IV solution bottle and connect the IV set to the butterfly needle already in the vein. With the clamp on bag A closed, open the clamp on bag B. Proof of the proper procedure is evidenced by the flow of the infusion fluid from the solution bag. Control the flow from the solution bag by adjusting the roller clamp on the tubing of the IV set.

Causes for Failure in Function

- A. Forgotten closed clamp.
- B. Kinks in tubing of the fluid bags.
- C. Tubing pinched shut by constant pressure of clamps. Lumen remains pinched occasionally even if the clamp is 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.

- D. If these measures do not unclog the venous system, try using a large (50cc) syringe to force fluid through the tubing.

Care of Simulator

After each class use, close the clamps, disconnect bags, and return synthetic blood to storage container. Reconnect one IV bag to the system. Fill the bag with tap water and flush the venous system, allowing the open end to drain into a sink or basin. When the system runs clean, close the clamp and remove the IV bag. Excess water may be removed from the hand by raising the hand, lowering the wrist, and draining it into a sink or basin. Wash the outside of the hand with Ivory® liquid detergent and water. Always remove the pinch clamps from the wrist tubing and drain excess water from veins before storing.

Ordinary stains can be removed by washing the hand with soap and warm water. Newsprint, similar printed paper or ink will permanently stain the simulator if prolonged contact occurs. Stubborn stains may be removed with REN Cleaner (W09919U), simply by dispensing it on the area and wiping with a soft cloth or paper towel.

Other Available *Life/form*® Simulators

LF00698U	Adult Injectable Arm (White)	LF03610U	Child Airway Management Trainer Head Only
LF00856U	Female Catheterization	LF03611U	Child Defibrillation Chest Skin
LF00901U	Prostate Examination	LF03612U	Child IV Arm
LF00906U	Ostomy Care	LF03613U	Child Blood Pressure Arm
LF00929U	Surgical Bandaging	LF03614U	Child Intraosseous Infusion/ Femoral Access Leg Only
LF00957U	Enema Administration	LF03615U	Complete Child <i>CRiSis</i> ™ Update Kit
LF00958U	Pediatric Injectable Arm	LF03616U	Child <i>CRiSis</i> ™ Manikin
LF00961U	Intramuscular Injection	LF03617U	Deluxe Child <i>CRiSis</i> ™ Manikin with Arrhythmia Tutor
LF00984U	Breast Examination	LF03620U	PALS Update Kit
LF00995U	Arterial Puncture Arm	LF03621U	Infant Airway Management Trainer Head Only
LF00997U	Adult Injectable Arm (Black)	LF03622U	Intraosseous Infusion Right Leg
LF00999U	Pediatric Injectable Head	LF03623U	Infant Airway Management Trainer
LF01008U	Intradermal Injection Arm	LF03626U	Child Femoral Access Injection Pad Replacement
LF01012U	Heart Catheterization (TPN)	LF03627U	Child <i>CRiSis</i> ™ Replacement Lung Set
LF01019U	Ear Examination	LF03628U	Child <i>CRiSis</i> ™ Replacement Stomach
LF01020U	Supplementary Ear Set	LF03629U	Child IV Arm Replacement Skin and Veins
LF01025U	Male Cath-Ed I	LF03630U	Child Arrhythmia Tutor
LF01026U	Female Cath-Ed II	LF03631U	Child Airway Management Trainer Replacement Headskin
LF01027U	Peritoneal Dialysis	LF03632U	Child Intraosseous Infusion/ Femoral Access Leg on a Stand
LF01028U	Suture Practice Arm	LF03633U	Child Airway Management Trainer with Torso
LF01036U	Spinal Injection	LF03650U	<i>CRiSis</i> ™ Manikin
LF01053U	Cross-Sectional Anatomy, Torso, Head	LF03651U	ALS Update Kit
LF01054U	Cross-Sectional Anatomy, Head	LF03675U	BLS Manikin — 10 Pack
LF01062U	Pelvic, Normal & Abnormal	LF03676U	BLS Manikin — 5 Pack
LF01063U	Stump Bandaging, Upper	LF03677U	BLS Manikin — Single
LF01064U	Stump Bandaging, Lower	LF04001U	<i>GERI</i> ™ Nursing Manikin
LF01068U	Brachial Plexus	LF04020U	<i>KERI</i> ™ Nursing Manikin
LF01069U	Cervical Effacement	LF04021U	<i>KERI</i> ™ Basic Manikin
LF01070U	Birth Station	LF04022U	<i>KERI</i> ™ Advanced Manikin
LF01082U	Cricothyrotomy	LF04030U	<i>GERI</i> ™ Advanced Manikin
LF01083U	Tracheostomy Care	LF04040U	<i>GERI</i> ™ Basic Manikin
LF01084U	Sigmoidoscopic Examination		
LF01087U	Central Venous Cannulation		
LF01094U	Cross Sectional Anatomy — Laminated		
LF01095U	Blood Pressure Arm		
LF01108U	Intraosseous Infusion Simulator		
LF03000U	<i>CPARLENE</i> ® Series		
LF03601U	Adult Airway Management Trainer		
LF03602U	Adult Airway Management on Manikin		
LF03603U	Adult Airway Management Head Only		
LF03609U	Child Airway Management Trainer		

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