Dedicated to Delivery

Nasco

Life/form®

3 Life/form Year Warranty Simulators & Trainers

Advanced IV Hand
LF01139U & LF01146U
Instruction Manual



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

Life/form® Products by Nasco



About the Simulator

The ***Life/form***® Advanced IV 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

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



Figure 1

Internal Structure

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. ***(See 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 IV Hand.

General Instructions for Use

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





Figure 3

A. Preparing the Synthetic Blood

1. Add 1 pint of distilled water to the synthetic blood concentrate. ***(See 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). ***(See 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.
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 flashback is observed, close the clamp on IV bag A. You are now ready to set up for 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 (50 cc) 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 Nasco Cleaner (LF09919U) simply by dispensing it on the area and wiping with a soft cloth or paper towel.

Cautions

1. This synthetic blood is specially formulated to be compatible with the self-sealing veins and plastics used in manufacturing the arm.
2. 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).
3. DO NOT allow “blood” to dry on the simulator — it may stain the hand.
4. Use only 500 cc of infusion fluid, as a larger amount will also increase the pressure of the venous system, resulting in leaks.
5. DO NOT clean the simulator with solvents or corrosive material, as they will damage it.
6. The Nasco Vein Tubing Sealant Kit (LF01099U) will extend the useful life of the tubing.

Supplies/Replacement Parts for the Advanced IV Hand

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

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

LF01099U Vein Tubing Sealant Kit

LF01130U Fluid Supply Bag

LF01139U Advanced IV Hand (White Skin)

LF01140U White Replacement Skin & Veins

LF01141U Replacement Veins Only

LF01146U Advanced IV Hand (Black Skin)

LF01147U Black Replacement Skin & Veins

LF01022U Fluid Supply Stand

LF09919U Nasco Cleaner

Other Available *Life/form*® Simulators

LF00698U Adult Injectable Arm (White)
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 Fat Old Fred
LF03760U Airway Management/Cricoid Pressure Trainer
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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