

Nasco **Life/form**[®]

**Infant IV Leg
LF03636U
Instruction Manual**



ISO 9001 and
ISO 13485

Nasco Plastics
ISO 9001 and ISO 13485

Products are manufactured using a quality management system certified as being in conformity with ISO 9001 and ISO 13485.

Life/form[®]
5
Year
Warranty

Products by Nasco

About the Simulator

The **Life/form**® Infant IV Leg Simulator is an exciting training aid for practicing and demonstrating intravenous puncture of the newborn. Visual, as well as tactile, realism has been designed into this training aid to provide students with the most realistic training possible in developing skills for infant venipuncture. A special, extremely thin synthetic skin is paired with rubber tubing with a small lumen and thin walls to make the **Life/form**® IV Leg Simulator the most realistic means of training medical personnel available.

With proper care, this **Life/form**® Simulator will provide years of reliable service. Please read the instructions carefully.

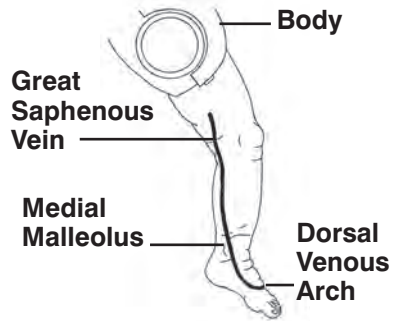
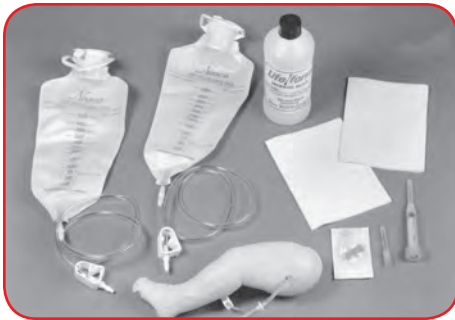


Figure 1

List of Components

- **Life/form**® Infant IV Leg
- 3 cc Syringe
- **Life/form**® Blood — 1 Pint
- 2 IV Bags with Clamps
- Pinch Clamp
- Winged Infusion Set
- 22-gauge needle
- 2 Towels

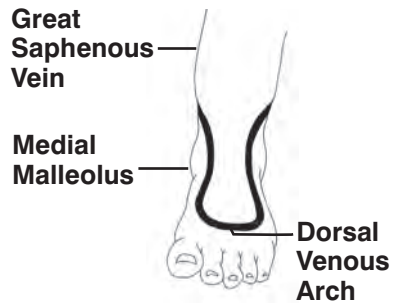


Figure 2

Internal Structure

The figures on this page show the position of the tubing embedded within the leg to simulate veins. (**See figures 1 & 2.**) The tubing is superficial in its full length, offering a selection of injection sites. Careful palpation will allow the student to locate the veins.

Set Up

The **Life/form**® Infant IV Leg has been designed to replace the standard leg on the **Life/form**® Infant manikins.



Figure 3



Figure 4

General Instructions for Use

A. Preparing the Synthetic Blood

Concentrated blood colorant is provided. Fill the pint container with distilled water for the proper dilution. (See figure 3.)

B. Filling the IV Supply Bag

Be certain the clamp on the IV bag is closed before filling. Pour the diluted **Life/form**® blood into the IV bag. (See figure 4.) Hang the bag at an 18" height. (Fluid supply stands shown are sold separately, LF01022U.)

C. Connecting the Leg to the IV Supply Bag

The leg is supplied with a special connector that fits the leg tubing and IV tubing. Insert the IV tubing into the tubing coming from the leg as shown. (See figure 5.)



Figure 5

D. Filling the Venous System

1. Slide the pinch clamp over the free tubing end and place the tubing end over a container.
2. Open the IV bag clamp and allow **Life/form**® blood to flow through the system until a steady stream exits without bubbles through the open tubing end. (See figure 6.) (Dish shown is not included.)
3. Close the pinch clamp on the open tubing end.



Figure 6



Figure 7

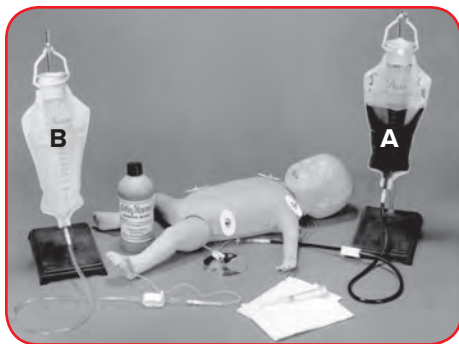


Figure 8



Figure 9

E. Performing Venipuncture

The **Life/form**® Infant IV Leg Simulator is now pressurized and ready for venipuncture practice. (See figure 7.) Venous pressure is altered by varying the height of the IV bag. A height of 18" is a good starting point. Excessive height may cause leakage through previous puncture sites. Needle sizes should be kept as small as possible to minimize damage to the leg skin and tubing. Refer to page 3 for identification of vein sites.

F. Preparing the Leg for Intravenous Infusions

1. Hang both IV bags (not more than 18" high) and close the clamps at the ends of both IV bags. Fill bag A with synthetic blood and bag B with distilled water (infusion). (See figure 8.) (Fluid supply stands shown are sold separately, LF01022U.)
2. Appropriate intravenous infusion needles (or butterflies) should be used.
3. The self-sealing simulated veins lend themselves very well to the practice of starting IV infusions, and IVs can be started where indicated. (See figures 1 & 2.) Cleanse the sites with distilled water only.
4. Attach the adapter end of the bag A IV tubing into the leg tubing connector.
5. Place the other leg tubing end in a basin or jar, and "flush" the vascular system by opening the clamp. Allow the infusion to pass through the system until air bubbles are eliminated. Shut off the flow at the leg tubing with a pinch clamp.
6. Insert an IV needle (or butterfly) into the vein. "Flashback" will indicate a proper insertion.
7. Close the clamp on IV bag A and remove the pinch clamp from leg tubing at the basin.
8. Attach the latex needle adapter to the IV needle (or butterfly) and bag B IV tubing. Open the clamp on bag B. (See figure 9.) This figure shows only the correct attachment of the latex needle adapter. During the actual procedure, the butterfly needle would have already been inserted into the vein at this point.) Proof of proper procedure will then be evidenced by the flow of infusion fluid from IV bag B. Control the flow rate with the clamp on IV bag B. This fluid can be reused.

G. Recommended Procedures for Simultaneous “Blood” Drawing and IV Infusions

Use two IV bag kits. Hook up and install IV bag A as shown. (See figure 10.)

1. Drawing “Blood” — Begin with synthetic blood (or distilled water) in bag A. Do not hang bag A more than 18" over the level of the simulator. “Flush” the system by allowing fluid to flow into a collection dish until all the bubbles in the tubing are gone. Close the mini clamp on the tubing running to the dish. The system is now full of “blood” and pressurized. “Blood” can now be drawn anywhere along the pathway of the vein.

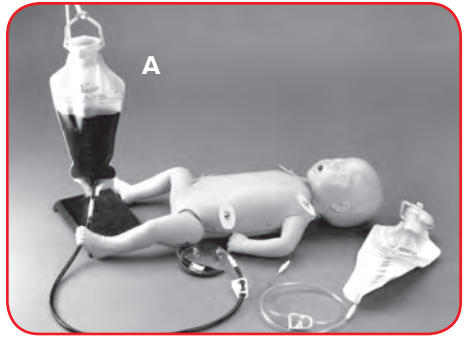


Figure 10

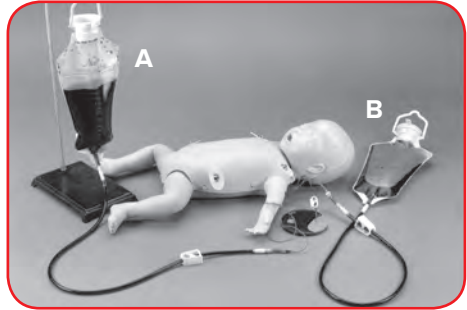


Figure 11

2. Intravenous Infusion — Insert the butterfly into the lumen of the vein. Proof of a correct insertion is evidenced by a flashback of “blood.” Now close the clamp on bag A, remove it, and reattach it to the butterfly using the 2" latex adapter. Take bag B (empty), attach it where bag A had been connected, and lay it by the simulator, making sure the mini clamp is closed.

Now, open both bag clamps and adjust the infusion rate with the clamp on bag A. Should bag B fill, simply close the clamps on both bags, unhook them (be aware of some leakage), and switch each to the other's position. (See figure 11.) Hook them up and open both clamps. Bag B is now the supply bag. This switch can be done as often as desired. **Note:** Always regulate the flow of “blood” from the bag on the stand, and open the other bag clamp. To draw “blood” again, simply close the clamp on the bag that is lying down.

Causes for Failure in Function

During the procedure of drawing “blood,” if “blood” cannot be aspirated:

- A. The clamp on the IV tubing of the infusion bag may not be opened.
- B. Air could be trapped in the venous system. Simply flush the system slowly, draining some “blood” or distilled water, whichever you are using, until all air bubbles are eliminated.
- C. If these measures do not unclog the venous system, try using a large (50 cc) syringe to force fluid through the tubing.

- D. If none of these measures work, peel off the skin to the ankle. DO NOT REMOVE IT FROM THE TOES. Examine all the tubing for possible kinks. Generously cover the inside of the leg with baby powder and pull the skin back over the leg core.

Care of the Simulator

This training simulator has been designed to provide the greatest possible durability and lowest maintenance while not compromising the realism of use. The following are some suggestions for helping you yield the maximum life from this unique simulator.

A. Before Storing the Leg

1. Disconnect the IV bag and pour the fluid back into the container.
2. Rinse the IV bag. Leave cap open to air dry.
3. Drain the leg. Open the pinch clamp and tip the leg up until the fluid is removed. Flush the leg with water. Rinse off the exterior of the leg and dry. Return the leg to storage.

B. Needles

Hypodermic needles are actually small cutting tools. Puncturing the skin and vein with needles results in small cuts or slits, which will eventually lead to deterioration. The larger the needles, the larger the cuts made in the skin, and the shorter the life of the simulator. It is recommended that 22-gauge or smaller needles be used. Always use sharp needles. Dull or bent needles cause excessive tearing.

C. Distribution of Punctures

The vein is in contact with the skin from the point it enters the leg to the point of exit. If the injections are distributed along the length of the vein, without deviation from acceptable practice, the product will last longer.

D. Tubing Sealant

A Vein Tubing Sealant Kit (LF01099U) has been developed for use with **Life/form**® Injectable Simulators. It will effectively seal punctures in the tubing.

E. Skin Replacement

After prolonged use for injections, the skin and veins on your training leg will show track marks and need replacing with the Infant IV Leg Replacement Skin/Veins.

Supplies/Replacement Parts

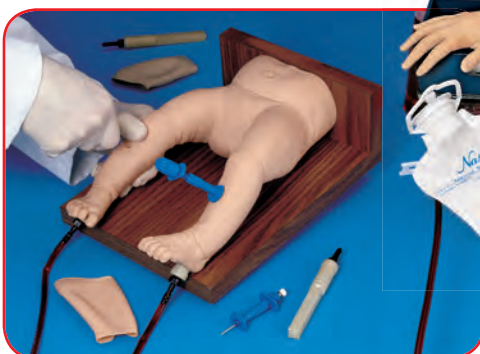
LF00845U	Life/form ® Blood — 1 Quart
LF00846U	Life/form ® Blood — 1 Gallon
LF01022U	Fluid Supply Stand
LF01130U	Fluid Supply Bag
LF03639U	Infant IV Leg Replacement Skin/Veins
LF03640U	Infant IV Leg Replacement Veins
LF01099U	Vein Tubing Sealant Kit
LF09919U	Nasco Cleaner

Other Available *Life/form*® Simulators

- LF00958U** Pediatric Injectable Arm
- LF00999U** Pediatric Head
- LF01108U** Infant Intraosseous Infusion
- LF03609U** Child Airway Management Trainer with Stand
- LF03616U** Child **CRiSis**™ Manikin
- LF03617U** Deluxe Child **CRiSis**™ Manikin with Arrhythmia Tutor
- LF03623U** Infant Airway Management Trainer with Stand
- LF03632U** Child Intraosseous Infusion/Femoral Access Leg on a Stand
- LF03633U** Child Airway Management Trainer Torso
- LF03709U** Infant **CRiSis**™ Manikin
- LF03720U** **Baby Buddy**™ Infant CPR Manikin
- LF06001U** CPR Prompt® Adult/Child Manikin
- LF06012U** CPR Prompt® Infant Manikin



LF00999U



LF01108U



LF00958U

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