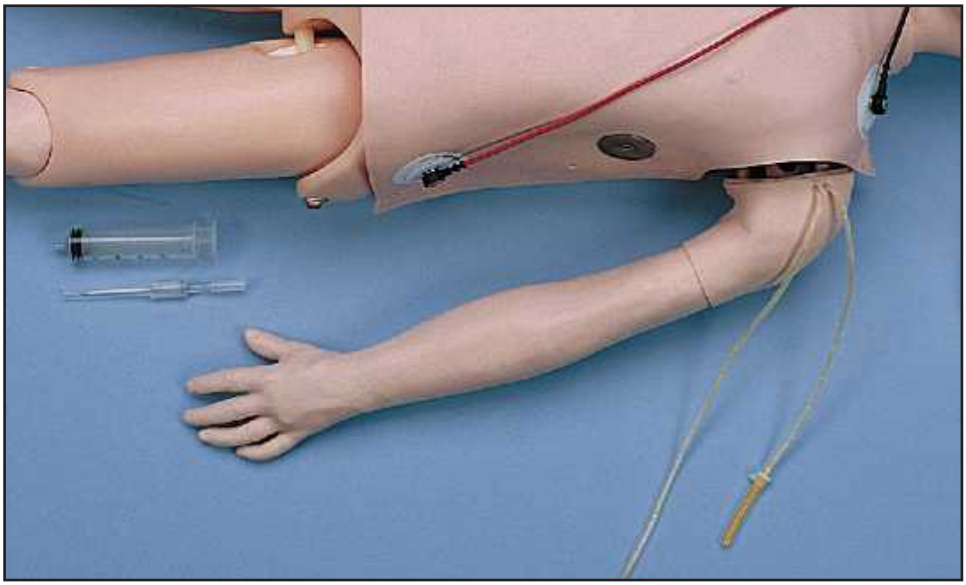
Nasco
Life/form®

# CHILD CRiSis™ INJECTABLE TRAINING ARM LF03612U INSTRUCTION MANUAL



**Warning this product contains dry, natural rubber.**

Life/form® Products by NASCO

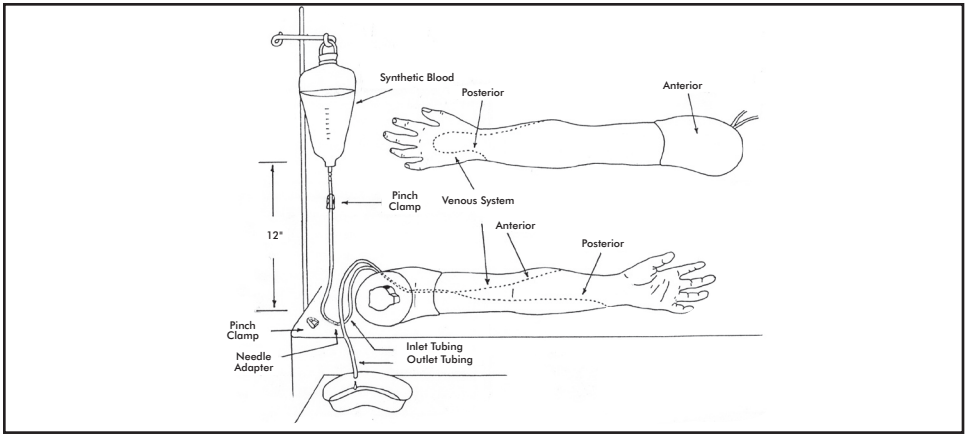



**Figure 1**

## About the Simulator. . .

The ***Life/form***® Child Injectable Training Arm 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 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 arm. The life of the replaceable skin and veins will be prolonged by utilizing smaller needle sizes (22-gauge or smaller). However, if instruction with larger needle sizes is required, this can be done; the skin and veins will merely need replacing sooner. The Skin and Vein Kits are available through NASCO (see list of supplies).

## List of Components:

1. 3 cc Syringe with Needle
2. 12 cc Syringe with Needle
3. 2 IV Bags
4. Needle (Butterfly)
5. 3 Pinch Clamps
6. Small Towel
7. Arm
8. Case
9. Mixing bottle with blood mix

## Internal Structure:

See Figure 1.

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 self-sealing plastic tubing 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 and it is via these tubes that synthetic blood is injected and removed. Thus, the techniques of blood drawing and starting intravenous infusions may be practiced on the Injectable Training Arm.

## General Instructions for Use:

The Injectable Training Arm comes with all of the supplies necessary to perform most procedures.

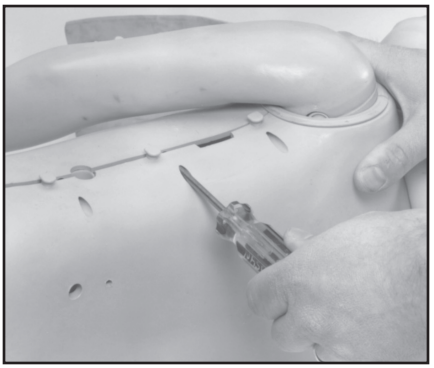


**Figure 2**

**A. Attaching the Arm to Your Resusci® Junior* Manikin:**

1. Remove the existing arm by removing the six screws in the body on both sides of the shoulder (Figure 2).

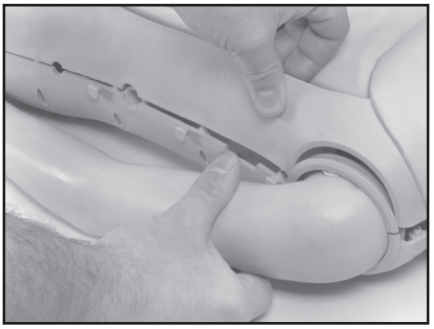


**Figure 3**

2. Spread the body halves at this point and pull the arm and retaining ring out (Figure 3).
3. Pull the retaining ring apart and remove it from the arm.
4. Reassemble the retaining ring through the hole in the shoulder assembly of the Child Injectable Training Arm (Figure 4).

**Figure 4**

5. Reinsert the arm into the body and replace the six screws.

**NOTE:** If this arm is a replacement for the ***Life/form***® Child ***CRiSis***™ Manikin, simply remove the old arm by rotating it above the head and pulling out at the shoulder. Install the new arm by reversing this procedure.

**B. Preparing and Drawing "Blood" from the Arm:**

1. Fill pint bottle containing synthetic blood concentrate with distilled water.
2. Pour the synthetic blood into one of the bags.
3. Be sure 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 the extra pinch clamp 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 opened.

***RESUSCI® JUNIOR IS A TRADEMARK OF THE LAERDAL CORPORATION.**

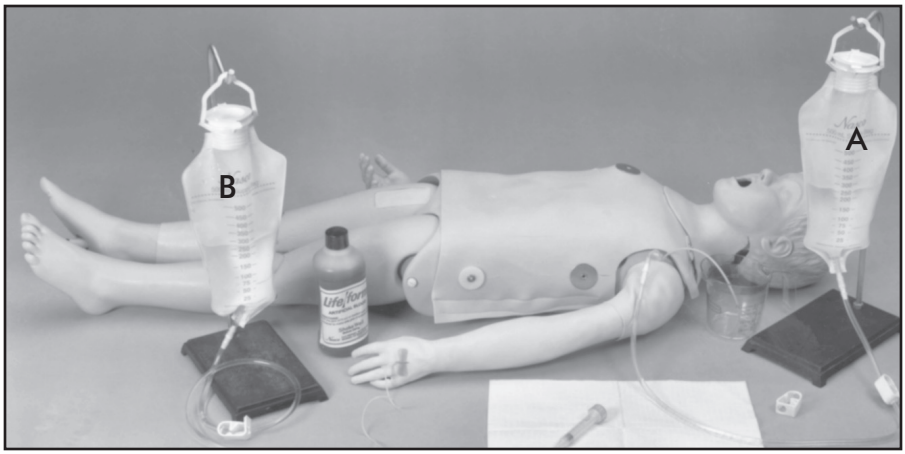



**Figure 5**

7. After filling the venous system according to instructions, the arm is now ready to practice drawing blood. Blood can be drawn anywhere along the pathway of the vein (Figure 1). **Distilled water** should be used to prepare the sites. Synthetic blood will actually be aspirated once the vein is properly punctured.
8. Small diameter needles (22-gauge or smaller) should be used.

**C. Preparing the Arm for Intravenous Infusions:**

1. Close the clamps at end of both IV bag tubes, 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. The self-sealing simulated veins lend themselves very well to the practice of starting IV infusions, and IVs can be started anywhere along the pathway of the simulated vein. Cleanse the sites with distilled water only.
4. Attach adapter end of Bag A IV tubing into one of the shoulder tubing ends.
5. Place the other shoulder tubing end in 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 at the shoulder tubing with a pinch clamp. The venous system is now full and pressurized.
6. Insert IV needle (or butterfly) in vein. "Flashback" will indicate proper insertion.
7. Close clamp on IV set A and remove pinch clamp from shoulder tubing.
8. Attach latex needle adapter to IV needle (or butterfly) and Bag B IV tubing (Figure 5). Open the clamp on Bag B.

Proof of proper procedure will then be evidenced by the flow of infusion fluid from the IV bag B. Control flow rate with the clamp on IV set B. This fluid can be used over. If a more realistic experience is desired with "blood flashback" instead of water when inserting butterfly into lumen of vein, use next procedure D.

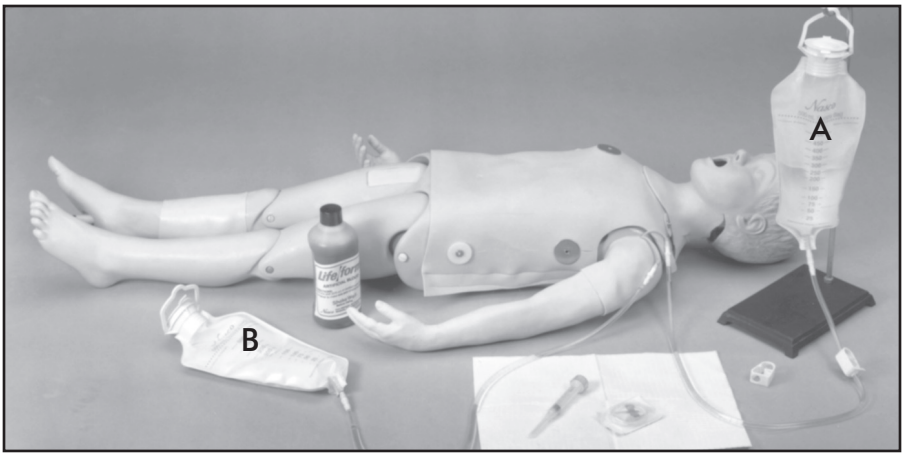



**Figure 6**

**D. Recommended Procedure for Simultaneous IV Infusions and Drawing Blood:**

Use two IV Bag Kits:

Hook up and install as shown in Figure 6 with IV bag A and IV bag B.

1. Begin with synthetic blood in IV bag A. Open the clamp on both A and B to pressurize the system. "Flush" system by allowing "blood" to flow into container B until bubbles in tubing disappear, then regulate blood flow from bag A (using the 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 the butterfly needle into the lumen of the vein: A flashback of "blood" is proof the needle was inserted correctly. Close the clamp on the bag A tubing and disconnect it at the shoulder. Use the extra pinch clamp supplied to clamp off loose shoulder tubing. Connect the IV tubing from bag A to the butterfly needle using the special connector supplied. Open the clamp on the bag A tubing and adjust it as desired. If bag B fills, to keep the process going simply switch the positions of bags A and B and their IV lines **NOTE:** Always regulate the flow of "blood" from the bag on the stand and be sure the clamp on the other bag is open.

## Causes for Failure in Function:

A. Forgetting to open a clamp.
B. Kinks in tubing of IV sets.
C. Tubing pinched shut by constant pressure of clamps. Lumen remains pinched occasionally even if 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. Replace IV kit.
D. If these measures do not unclog the venous system, try using a large (50 cc) syringe to force fluid through the tubing.
E. 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 venous system and wash outside of 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 clamp from shoulder tubing and drain excess water from veins before storing.

Ordinary stains can be removed by washing with soap and warm water. Newsprint, similar printed paper, plastic, or ballpoint pen 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.

## 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 (22-gauge or smaller).
3. **DO NOT** allow "blood" to dry on simulator – it may stain the arm.
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. **DO NOT** use for subcutaneous injection. NASCO's Intradermal Injection Simulator (LF01008U) is specially designed for intradermal injection training and practice.
7. NASCO Vein Tubing Sealant Kit (LF05126U) will extend the useful life of the tubing.

## Supplies/Replacement Parts for Child Injectable Training Arm:

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

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

**LF01099U** Vein Tubing Sealant Kit

**LF03629U** Skin and Vein Replacement Kit

**W09919U** 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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