

## **Nursing Baby VitalSim™**



**Laerdal™**  
*helping save lives*



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## Table of Contents

Warranty	4
Laerdal Recommends	5
Items Included	6
Skills Taught	6
Anterior Fontanelle Variables	7
Airway Management	7
Tracheostomy Plug	7
Tracheostomy Care & Suctioning	7
NG Tube Insertion	8
Lungs	8
IV Arm	9
IV Arm Skin & Replacement	9
IV Leg	10
Skin and Vein Replacement	10
Intraosseous Leg	10
IO Leg Puncture	11
IO Leg Infusion	11
Instructions for IO Infusion	11
IO Leg Replacement	11
Vocal Sounds and Auscultation of	
Heart, Breath and Bowel Sounds	12
Genitalia	12
Urinary Catheterization and	
Suppository Insertion	13
Troubleshooting	13
Care and Maintenance	14
Replacement Parts	15

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## **Warranty**

Laerdal Medical warrants to the purchaser that its products are free from defects in material and workmanship for a period of one (1) year from the date of purchase by the original user. During the designated one (1) year period, Laerdal Medical will, upon receipt of a product found to be defective due to materials or workmanship from the purchaser and notification in writing of the defect, at its option repair or replace any parts found to be defective or the entire product. Warranty period does not renew with replacement or repair of original product.

Products found to be defective and notification of defects may also be sent to the authorized Laerdal Medical dealer from whom the product was purchased. All postage, shipping or handling charges shall be the sole responsibility of the purchaser.

Laerdal Medical is responsible for the effects of safety, reliability and performance of its product(s) only if:

- service, repair, readjustment or modification is carried out by Laerdal Medical or persons authorized by Laerdal Medical.
- the electrical installation of the room where the product is used complies with pertinent equipment requirements.
- the product is used in the proper manner in strict compliance with its Directions for Use.

Laerdal Medical shall not be liable under this warranty for incidental or consequential damages, or in the event any unauthorized repairs or modifications have been made or attempted, or when the product, or any part thereof, has been damaged by accident, misuse or abuse. This warranty does not cover batteries, fuses, normal wear and tear, excessive use, staining, discoloration or other cosmetic irregularity which does not impede or degrade product performance.

Some states in the USA do not allow the exclusion or limitation of incidental or consequential damages, so those limitations or exclusions may not apply to you.

There are no other express or implied warranties, whether of merchantability, fitness or purpose, or otherwise, on the product, its parts and accessories.

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The Nursing Baby VitalSim™ is a full-size infant manikin that realistically simulates a 6-month old patient. It is specifically designed for training professionals in the practice of basic and advanced nursing techniques.

The manufacturing quality of this simulator should provide many sessions of training when reasonable care and maintenance are practiced.

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**Laerdal Recommends:**

Endotracheal intubation – 3.5 ID

Intubation - straight laryngoscope blade - #1

Tracheostomy tube – 3.5 PED

Nasogastric tube/feeding tube – 8 French

IV Injections – 22 Gauge or smaller

Nasal and oral suctioning – 8 French

Urinary catheterization – 8 French Foley catheter

Intraosseous infusion - Jamshidi® needle – 16 gauge

Gastrostomy feeding tube – 18 French

Ileostomy bag – vendor specific

## **Items Included:**

- (1) Full Body Infant Manikin
- (1) VitalSim Control Unit
- (1) Male Genitalia
- (1) Female Genitalia
- (1) Baby Pants
- (3) Simulated Rectal Suppositories
- (1) Manikin Lubricant
- (1) Tool Kit
- (1) Carrying Case
- (1) Baby Pants
- (1) Connector Cable

*(Simulated blood concentrate is available for purchase.)*

## **Skills Taught:**

- General infant assessment
- Bag/Valve Mask
- Trach care and suctioning
- Oral/Nasal suctioning
- NG tube insertion
- OG tube insertion
- Lavage/Gavage
- Intraosseous puncture and infusion
- Intramuscular injection site identification
- Urinary catheterization
- Rectal suppository insertion
- Ostomy care
- Gastrostomy tube care and feeding
- Auscultation of normal and abnormal heart, breath and bowel sounds
- Oral intubation
- Nasal intubation
- Digital intubation
- Oropharyngeal airway insertion
- Nasopharyngeal airway insertion
- Vocal sound identification

### **Anterior Fontanelle Variables -**

The black pulse bulb allows for controlling pressure in fontanelle area to simulate normal, bulging, and depressed fontanelles.

1. To create normal or bulging fontanelles:
  - a) Turn silver knob on black pulse bulb clockwise to finger tight.
  - b) Squeeze black bulb until desired fontanelle state is achieved.
2. To create depressed fontanelles:
  - a) Turn silver knob on black pulse bulb counter clockwise to loosen.
  - b) Allow air to release.

### **Airway Management -**

Spray pharynx, nostrils and all intubation devices with a liberal amount of manikin lubricant.  
(Liquid soap may be used instead.)

### **Tracheostomy Plug -**

The tracheostomy plug may be removed by grasping firmly, then lifting up and then out. To replace, press into hole.

### **Tracheostomy Care & Suctioning -**

1. Mix solution of 1/2 cup mild liquid detergent and 1/2 cup water.
2. Move the ribcage with speakers, by flipping it over the manikin's face. (Photo 1)

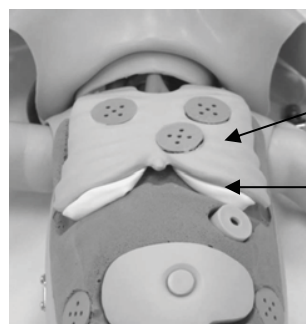
#### **Laerdal**

#### **Recommends:**

Endotracheal tube  
size – 3.5 ID

Straight laryngoscope  
blade – size #1

Tracheostomy tube  
size – 3.5 PED



**Rig Cage with  
Speakers**

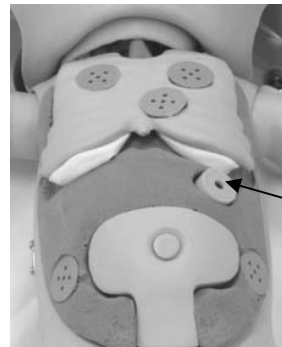
**Lungs**

**Photo 1**

3. Remove the white lung bags.
4. Pour the mixture into the simulated lungs, enough for suction catheter to pick up solution.
5. Reattach lungs to bronchial tubes.

The consistency of the solution approximates the mucus normally suctioned in a tracheostomy patient.

**Drain and air-dry lungs immediately after use.**



**Drain Plug**

**Photo 2**

## **NG Tube Insertion -**

### **I. Filling stomach reservoir for NG Tube insertion:**

- a. Remove chest skin from torso by detaching straps on back of manikin.
- b. Place infant in supine position.
- c. Remove drain plug from stomach reservoir. (Photo 2)
- d. Use a syringe to fill reservoir with approximately 50cc of water.
- e. Replace drain plug.
- f. Replace chest skin, being sure to secure straps.

#### **Laerdal**

#### **Recommends:**

NG feeding tube – 8 French

### **2. Emptying stomach after NG Tube insertion -**

- a. Remove chest skin from torso by detaching straps on back of manikin.
- b. Place infant in supine position.
- c. Remove drain plug from the stomach reservoir.
- d. Allow fluid to drain by tilting infant or aspirate fluid with a syringe.
- e. Allow to air dry before reassembly.

## **Lungs -**

Lungs may be detached from the bronchial tubes by removing bands and pulling them off. To replace, reverse the procedure. Spreading the bands with forceps and slipping them over the “Y” connector may aid in reconnecting the lungs.

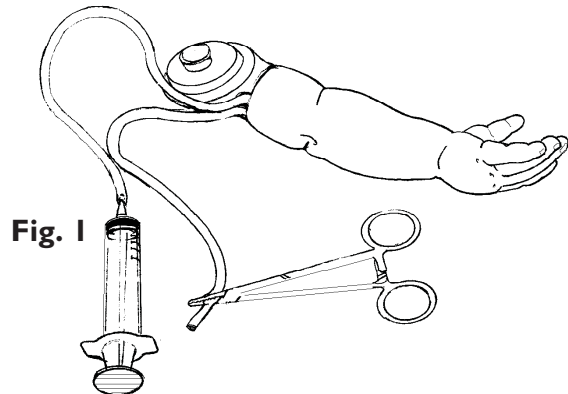


#### **IV Arm -**

1. Fill a 12cc syringe with colored fluid.
2. Attach fluid filled syringe to one of the veins.
3. Slowly inject fluid, allowing it to flow through arm and out other vein.
4. Clamp vein through which fluid is flowing using hemostats or a similar device. (Figure 1)
5. IV arm is now ready to practice venipuncture.

**Laerdal**  
**Recommends:**

Use nothing larger than a 22-gauge needle for IV or intramuscular injections. This will extend the life of the skin.



#### **IV Arm Skin and Vein Replacement -**

1. Unscrew IV arm from torso.
2. Slide used skin off arm mandrel.
3. Remove tubing from track in mandrel.
4. Rinse and dry vein grooves well and swab with alcohol. Be sure to remove any excess glue.
5. Place new veins along grooves, spot gluing as needed. We recommend a fast-drying glue.
6. Insert tubing through holes in new skin.
7. Slide new arm skin onto mandrel. Dusting mandrel with talcum powder will aid in this.
8. Reattach arm to torso.

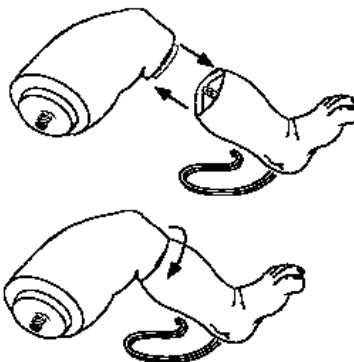
#### **IV Leg -**

1. Fill a 12cc syringe with colored fluid.
2. Attach fluid filled syringe to one of the veins.
3. Slowly inject fluid, allowing it to flow through leg and out other vein.
4. Clamp the vein through which fluid is flowing using hemostats or a similar device.

The IV leg is now ready to practice venipuncture.

#### **Skin and Vein Replacement -**

1. Unscrew IV leg from torso. (Figure 2)
2. Slide used skin off leg mandrel.
3. Remove tubing from track in mandrel.
4. Rinse and dry vein grooves well and swab with alcohol. Remove any excess glue.
5. Place new veins along grooves, spot gluing as needed. A fast-drying glue is recommended.
6. Insert tubing through holes in new skin.



**Fig. 2**

7. Slide new leg skin onto mandrel. Dusting mandrel with talcum powder will aid in this.
8. Turn foot using a clockwise motion onto upper leg until desired position is achieved.
9. Reattach leg.

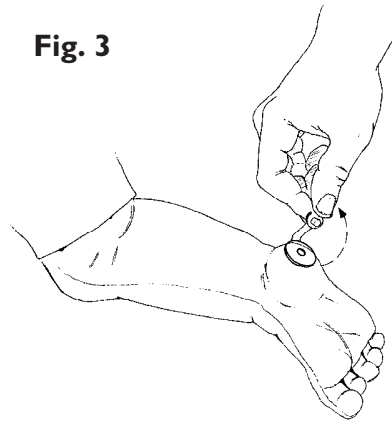
#### **Intraosseous Leg -**

The Infant IO Leg is designed for perfecting skills required for successful intraosseous puncture and infusion. Anatomy of the IO leg includes anatomical landmarks at the tibial tuberosity and medial malleolus.

### **IO Leg Puncture -**

1. Unplug drain in heel of right foot. (Figure 3)
2. Using a syringe, fill leg with approximately 300cc's of fluid. (Simulated blood is available for purchase).
3. Reinsert plug.

**Fig. 3**



The IO Leg is now ready to practice intraosseous puncture.

### **IO Leg Infusion -**

Equipment needed for IO infusion:

- IV bag
- IV administration set
- Simulated blood concentrate (not included)
- 35cc syringe
- Jamshidi Needle

#### **Laerdal Recommends**

Use Jamshidi® needle  
– 16 gauge for IO  
infusions.

### **Instructions for IO Infusion -**

1. Attach tubing connector to IV bag.
2. Turn leg upside down.
3. Remove plug from heel. (Figure 3)
4. With a syringe, fill the bone with approximately 120 cc of simulated blood.
5. Attach tubing and reservoir bag.
6. Close off tubing that runs into reservoir bag so simulated blood will remain in the bone for aspiration. (Use valve to open or close line as needed in order to relieve pressure build up as fluids are being infused).
7. When reservoir bag is filled, discontinue infusion and replace with empty bag. (This will help decrease the amount of fluid in the leg and minimize leakage).

### **IO Leg Replacement -**

1. Remove lower leg and foot by unscrewing bolts at the knee.
2. Replace used ID mandrel with new mandrel
3. Slide new IO skin onto mandrel (applying talcum powder will aid in this).
4. Reattach using the existing bolts.

## Vocal Sounds and Auscultation of heart, breath and bowel sounds:

Connect Nursing Baby to VitalSim Unit, via cable located on right side of manikin. (Photo 3)

## See VitalSim DFU for complete Heart, Breath and Bowel Sound Auscultation



Photo 3

## Genitalia-

Both male and female genitalia have been provided for urinary catheterization and enema training procedures.

To Assemble

1. Remove chest skin from torso by detaching straps on back of manikin.
2. Remove pelvic pin (Photo 4) to release urinary reservoir. **NOTE: Pelvic Pin must be replaced.**

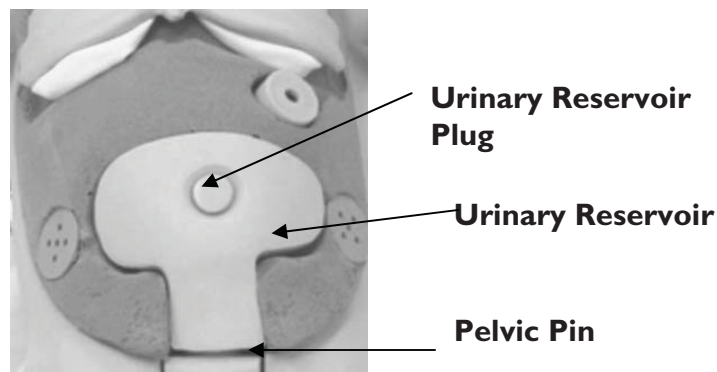


Photo 4

3. Attach genitalia by sliding clear tube on genitalia into flesh colored tube attached to the reservoir.
4. Replace connected reservoir and genitalia into abdomen, making sure genitalia is sliding properly into track.
5. Replace pelvic pin.
6. Replace chest skin, reattaching straps at back of manikin.

**Pelvic Support Pin must be replaced.**  
Failure to replace will result in pelvic spread.

If this occurs, the genitalia will no longer  
fit properly in manikin.

## Urinary Catheterization and Suppository Insertion -

1. To fill urinary reservoir, remove chest skin from torso by detaching straps on back of manikin.
2. Remove urinary reservoir (Photo 4) and genitalia from torso.
3. Using a syringe, fill reservoir to capacity and replace plug.
4. Replace chest skin, being sure to secure straps.

### **Laerdal** **Recommends**

Lubricate catheter and suppository with manikin lubricant or full strength liquid soap for easier insertion.

### **Laerdal** **Recommends**

A size 8 French Foley catheter is suggested for urethral catheterization.

***The anal opening is for suppository insertion only.***

## **Troubleshooting:**

### **What to do if there is difficulty in inserting urinary catheter?**

For best results, catheters should be well lubricated with manikin lubricant or full strength liquid soap prior to using. After several uses, the catheter may tend to “hang” when the water has washed away the lubricant, causing friction and

binding. If this occurs, generously lubricate a hard catheter and insert it into the urethra several times.

### **What to do if there is difficulty in removing urinary catheter?**

If catheter hangs somewhat during removal, work it with an “in and out” motion for a moment. Use warm water in reservoir when possible to keep manikin lubricant or soap from clogging catheters. Make sure reservoir is well drained of all water before disconnecting valve.

### **Care and Maintenance:**

1. Do not submerge manikin parts in cleaning fluids.
2. Use only on clean surface. Avoid felt tipped markers, ink pens, acetone, iodine or other staining products and avoid placing the manikin on newsprint or inked lines of any kind.
3. To ensure longevity, each manikin should be cleaned after each training session and a general inspection should be conducted regularly.
4. Modules and all other parts should be drained and air-dried thoroughly before storage and disinfected when needed.
5. Articulating parts will benefit from a light application of talcum powder prior to training sessions.
6. Store properly between teaching sessions.



#### **Cautions and Warnings**

This product contains **Natural Rubber** latex which may cause allergic reactions when in contact with humans.

### **Replacement Parts:**

<u>Product Number:</u>	<u>Description:</u>
365-02250	Lung Bags (2)
365-02350	Band, Lung Retainers (4)
365-00850	IV Arm Mandrel Assembly
365-00650	Kit, Sleeve/Vein IV Arm
365-01050	IV Leg Mandrel Assembly
365-00550	Kit, Sleeve/Vein IV Leg
365-01250	IO Leg Mandrel Assembly
365-00450	IO Leg Sleeve
365-01450	Infant Female Genitalia Assembly
365-01350	Infant Male Genitalia Assembly
240-01250	Baby Pants
365-02450	Tool Kit
300-00650	Manikin Lubricant
200-10001	VitalSim Unit
231-01350	Cable, 10 Ft. VitalSim Trainer to Manikin
365-02550	Carry Case

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