

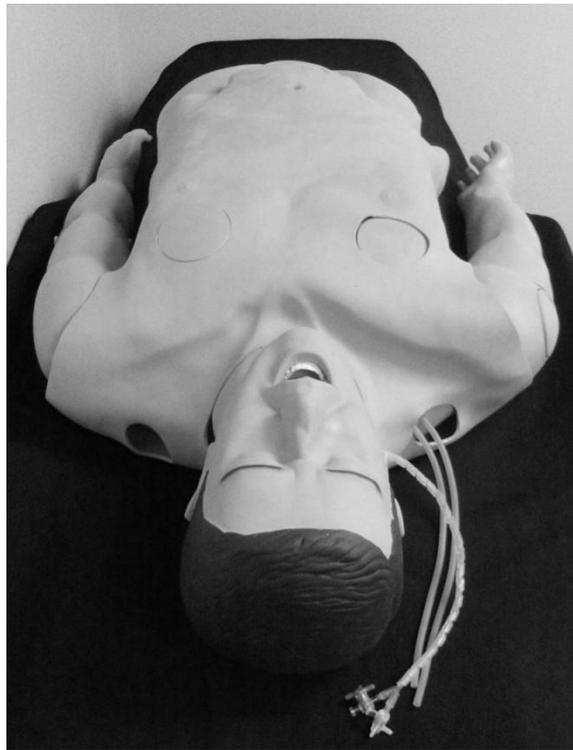


Instructions for Use Item #315, 317  
PHTLS by Simulaids  
Warning Contains Latex!





Accessory Pack with the PHTLS Manikin  
(Manubrium I/O inserts package of 10 not shown)



View from the head of the PHTLS item 315

Instructions for Use  
Item #315, 317; PHTLS by Simulaids  
Warning Contains Latex!

**INTENDED USE:** The PHTLS Simulator is intended to be used in training drills associated with treating survivable patients who have suffered chest trauma. Airway management with complications, IV therapy (right arm), chest compressions, manubrium I/O catheter insertion, pneumothorax decompression (bilateral) and chest tube insertion (bilateral) can be administered to this manikin. The PHTLS Full Body unit weighs 140 pounds (63.6 kgms.)

There are no electrical parts.

Clean the manikin after every training exercise using local disease control protocols to eliminate biological contamination. This device is **NOT** intended for rescue breathing. Bag valve mask (BVM), intubation and other advanced airway adjuncts used for ventilations ensures the manikin will not be contaminated and it will not be necessary to disassemble airway features. Moisture left behind will encourage biological growth. The manikin must be decontaminated and dried, interiorly and exteriorly, before storing. It is recommended that the inside of the torso be exposed and wiped down with a dry cloth to ensure elimination of moisture that may have collected during use or cleaning. Full body models with extremities are subject to air drying and exterior wipe down only. The intubation head, IV arm and chest tube insertion sites are exceptions and the instructions for cleaning these are noted within the booklet on later pages.

Store the manikin in a cool, dark, and dry location to prevent contamination and deformation of parts.

**WARNING:** Latex tubing is used as IV veins and this tubing exits the manikin's upper right shoulder.

**ASSEMBLY:** The PHTLS Torso (315) comes to you with no assembly needed. The (317) full body model lower legs attach with a simple bolt through the knee joint. Position the right lower leg below the right thigh and slip the joint close enough together to insert the bolt through the knee joint. Use the same process for the left leg.

Attach the black pneumatic foot pump by inserting the white tip of the tubing to the manikin's left shoulder port. Step on the foot pump five to six times to inflate the interior bladder. After the air pressure has been initiated, the student will receive an audible release of air when the catheter punctures the skin and reaches a depth sufficient to make contact with the chest valve. To do this exercise again, re-inflate the air reservoir.

# FEATURES

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## INTUBATION HEAD



Proper procedures will ensure the long life of this intubation head. Before attempting to intubate, be sure to lubricate the endotracheal tube with a vegetable-oil-based spray. This manikin will accommodate commonly used oral, esophageal, and tracheal airways now used in the field.

**Tongue and Larynx:** The tubing exiting near the right earlobe controls the tongue and larynx through pneumatic pressure. To swell the tongue install the 20cc syringe on the yellow port and inject ten to twenty cc's of air.

1. Position the yellow pointer so that the 180-degree portion is in line with the tubing and the short stem is to the left (opposite the exhaust port on the valve).
2. Push the air out of the syringe to inflate the tongue. In order to keep the tongue inflated, close the yellow valve by turning the yellow piece so that the short stem points toward the syringe.
3. To release the air and deflate the tongue, rotate the yellow piece counter-clockwise and the air will exhaust

When the valve is in the correct position, the syringe can be removed without loss of air pressure (fig 1).



Fig 1

To spasm the larynx install the small (10cc) syringe on the red port.

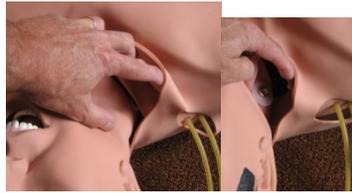
**CAUTION** When closing the vocal cords, use only ten CCs of air. Any more than that and the unit will rupture, requiring shipment of the manikin back to the factory for repair

**TEETH:** Two sizes of upper teeth sets are supplied. One set has longer posts to simulate stronger, younger teeth and the other set has shorter posts simulating fragile older teeth. Select the appropriate set for your training and install them in the upper gum. Use the variation to challenge student proficiency.

The upper teeth are made to detach when improper technique is applied by leveraging the laryngoscope on the teeth. They will fall into the airway, so take precautions not to put pressure on them. If they fall into the airway, extract them from the oral cavity with forceps. Additional teeth can be purchased.

**REMOVAL OF HEAD:** The head can be removed for access to the tracheal and esophageal connectors, but should only be done for decontamination of biologicals if rescue breathing has inadvertently been applied.

1. Gently displace both sides of the neck until you can access the snaps that hold the neck on the torso.



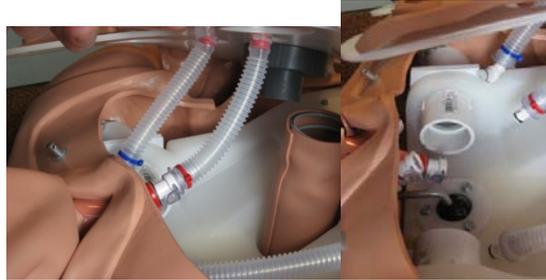
2. Release the snaps.
3. Remove the chest skin and abdominal section (disconnect the stomach bag for convenience).



4. Release the four clevis pins and washers from the sides and top of the rib cage, and remove the rib cage.



5. As soon as possible, release the quick-connect adapters of the esophageal and lung tubing by depressing the grey push tab and pulling the tubing connector apart.



6. Access the three screws that hold the head in place on the white PE plastic torso box and remove the screws. The head should be free to be removed. Reverse these steps to re-install the head after cleaning and drying.

**CLEANING AND DISINFECTING THE HEAD:** Use standard disease-control, water-soluble liquids applicable in your location for disinfecting. None of these products will damage the manikin's parts. Apply the liquids to the oral pharyngeal and nasopharyngeal airways so that the fluid completely contacts the inner surfaces of the airway passages, including the bronchus and the esophagus. Leave the fluids in contact with the parts as long as the protocols dictate.

Do not rinse these fluids after sufficient exposure time to the parts, but swab the inside and outside of the parts to dry them. A light application of hot air from a hand held hair dryer will assist in drying hard to reach spots. Do not overheat the plastic.

#### IV ARM WARNING CONTAINS LATEX



1. Make sure both reservoir bag tubing shut off clamps are closed.
2. Put a drop of either dish detergent or surgical lubricant onto the tip of each connector on the tubes and connect to the tubes at the shoulder area. To avoid leakage, make sure the serrated edges of the supply tubes are pushed in far enough to affect a seal on the smooth portion of the tip.
3. To remove any kinks from the reservoir assemblies, dip tubing into hot water for approximately 15 to 20 seconds and cool before using.
4. Fill one reservoir bag with simulated blood or colored water.

5. Elevate the filled reservoir bag and open the shut off clamps of both reservoirs. Gravity will circulate the simulated blood through the venous network and into the second reservoir bag. You may have to vent the lower bag to induce flow.
6. When the elevated reservoir is empty, reverse with the lower one now filled with fluid.
7. Leaving the shut off clamp closed on the lower bag will allow you to attain a flash in the catheter. The higher the bag of blood is hung, the more pressure is created to attain a flash.

**NOTE:** Simulated blood, which accumulates under the skin, in the veins or in reservoirs, should be removed by washing in warm tap water after each use. Fill a reservoir with warm water and allow circulation through the venous network to wash out the veins. Remove the arm skin by sliding it down off from the arm. Clean the IV vein channels and the vein tubing to prevent the accumulation of dried blood.

### **REPLACING IV VEINS:**

1. Pull the skin down off the arm.
2. Replace one section of tubing at a time. Remove the section of tubing that needs to be replaced by cutting the tubing on each side of the affected area. Leave at least 1" of veins extending to ensure there is enough material left to install the butt connectors.
3. Insert one of the butt connectors into each end of the extended tubing you just cut.
4. Cut a new piece of tubing from the kit. Make it the same length as the piece of tubing you just cut from the IV unit.
5. Install the new vein section by lubricating the butt connectors and sliding the new vein all the way over the connectors. To prevent leaking be sure that the tubing is applied all the way onto the connectors. Repeat steps 2 through 5 for each area of veins that will be replaced.
6. Replace the skin.

### **REPLACING SKIN:**

1. Remove the used skin.
2. Sprinkle talcum powder from enclosed packet into the interior of new skin.
3. Shake out the excess powder and slide the new skin over the hand; pulling it into place over the arm.
4. Palpate the veins to make sure they are positioned in the arm and hand channels.

**MANUBRIUM I/O:** This feature is designed to be used with the PYNG FAST1™ training tool. Placing the target from the FAST1™ kit over the clavicular notch will allow the target hole to reside over the manikin's feature. Installation of the catheter according to PYNG instructions with the device will occur when appropriately applied.

The disc plugged into the chest is removable and replaceable. The numbers of times a stick can be made before having to replace the disc varies according to how precise the location of the catheter sticks are.

Replacement discs are available in a package of 10.

## **INTRAMUSCULAR INJECTION SITE**



Install one of the enclosed IM sites in the deltoid area of the IV right arm. The foam insert can be removed, squeezed, and dried many times before being replaced.

Thorough drying of the foam before storage is necessary to limit biological growth in the foam. The IM pad replacements are available in a package of four.

**CRICOTHYROTOMY:** The factory installs the first cricoid membrane (a piece of clear tape). To replace the membrane, cover the cricoid hole of the manikin's larynx with a piece of the enclosed roll of tape. It is important to have this sealed air tight so the lungs inflate during ventilations. If the tape does not seal the cricoid area, the lungs may not fully inflate.

Install the cricoid overlay with the elevated surface toward the chin. Attach by pressing the punched hole in the overlay over the white nylon post attached to the bottom of the mandible. Install the lower flat surface of the overlay over the white nylon post located on the bottom of the cricoid. With the insert in place and the tape over the membrane area, the exercise for cricothyrotomy can be accomplished.

Replacement skins are available in a package of 10.

**PNEUMOTHORAX:** The rib cage contains two separate locations for reducing tension pneumothorax. They reside in bilateral positions in the mid-clavicular line at the 5<sup>th</sup> intercostals space. Previous directions on page 4 explain how to add air pressure.

Inserting a catheter through the pneumothorax pad and to a depth sufficient to push the disc mechanism at the base will release the air pressure with an audible whoosh.

Replacement of the pneumothorax pads requires that you pull the old pad off from the posts holding it to the chest and inserting another pad in the same position. The smaller round surface is the top side and will fit flush in the hole in the chest overlay when positioned correctly.

The replacement pneumothorax pads come in a package of 4.

**CLEANING AND STORAGE:** Normal cleaning of the manikin vinyl body parts can be accomplished with any household, water-based, liquid cleaner. Fluid within the manikin must be drained thoroughly and fluid supply bags must be detached and emptied before storing the manikin. To avoid clogged lines within the IV arm it is recommended that you flush IV lines with water before storing the manikin. Use appropriate disease center protocols to ensure decontamination of these spaces where moisture is likely to remain.

It is recommended that the manikin be stored in a supine position to preserve the shape of the molded parts. Storing the manikin in temperatures above the human comfort level softens the skin. Any pressure remaining against the manikin when cooler temperatures prevail will result in deformities. Re-warming the skin and eliminating the pressure will allow the skin to revert to its normal appearance as it cools.

**REPLACEMENT PARTS:**

Injection Site Disk (4 pack) #302

IV Replacement Arm Skin #390

IV Replacement Vein #367

Simulated Blood Powder #225

Reservoir Bags #144

I/O Manubrium discs (10 Pack) #413

Cric Neck replacement skins (10 Pack) #426

Pneumothorax Pads (4 Pack) #423

**OPTIONAL PHTLS MOULAGE KIT:** Augment the realism of your training sessions with the Optional PHTLS Casualty Simulation Kit (No. 665) from Simulaids. This wound kit contains typical trauma injury representations associated with the head and chest. The detailed list follows.

<u>Component</u>	<u>Description</u>		
PP0503	Skin Tite & Thi-vex Kit adhesive	714	Shotgun Wound
225	Blood Powder	715	Intermediate Wound "flake"
226	Coagulant Blood 4 Oz.	716	Intermediate Wound Round
232	Spirit Gum 1 Oz W/brush adhesive	721	Close Shotgun Wound
603	Open Rib Fracture	723	Contact Shotgun Wound
607	Open Humorous Fracture	724	Screwdriver Wound
608	Exposed Denture Avulsion	727	Single Edge Wound
609	Open Skull Fracture	730	Double Edge Wound
613	Burned Face	731	Bunny Ears
654	Large Road Rash	732	Contact Wound
6724	Burn Chest 2 & 3 Degree	733	Small Exit Wound
6727	Broken Clavicle with contusion	735	Contact Hand Gun Wound
6808	Abdominal with protruding intestines	736	Ice Pick Wound



**WARRANTY:** Simulaids warrants their products to be free from defects in materials and/or workmanship for a period of three years from the date of purchase, as evidenced by the invoice date of the product shipment to the end user. This warranty expressly does not cover abuse, accidental or purposeful damage, or any form of modification to the product. This warranty does not cover moulage products. Only products manufactured at the Simulaids plant in Saugerties, NY receive this limited warranty status. All other products sold through Simulaids, but manufactured elsewhere, are subject to the warranties supplied by the product manufacturer. These warranties may differ from the Simulaids' warranty. Simulaids reserves the right to either repair or replace affected parts or the entire unit, at their sole discretion, after investigating and reviewing the actual product and the damage. In most instances, a digital photo of the product in question showing the damage will help qualify a product for return to the factory.

**RETURN POLICY:** At no time will any product be accepted without proper return authorization. Please contact Customer Service to arrange a return. Freight and Shipping charges are the sole responsibility of the end user. No product will be received with shipping charges due. Serial number of the manikin and the invoice number must be provided for warranty repairs. Should you have any questions or wish further information on any product call or write our Customer Service Department.



 **Simulaids**



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