

Cleaning and Drying Life/form® IV arms

Note: DO NOT use chlorine bleach (sodium hypochlorite) of any concentration to clean the IV arms!

Sodium hypochlorite solutions used as antifungal or disinfection agents must be above 1000ppm concentration. Solutions above 500ppm can cause damage to metals, alloys, and some thermoplastics. Bleach can splash onto clothing and other items. Although chlorine bleach is an antifungal agent, it is **not** a cleaning agent and **will not** remove mold already present.

The tubing in the IV arms is made from a non-vulcanized natural rubber latex. In the presence of standing water, the latex breaks down. Shown at the left, below is a new latex vein. The interior surface of this vein is smooth and open. At the right, below is an old vein that has been stored without drying. The interior has broken down into a rough surface which can hold onto blockages. Broken down latex veins are weaker, less elastic, and can collapse.



This is the reason that IV arms should be rinsed with warm water then dried with compressed air. If you are using a small air compressor, use a water trap to remove liquid water drops from the compressed air. The following pages contain detailed instruction on cleaning and drying IV arms.

1. Remove arm from case. Discard any garbage that has accumulated in the case. Clean case as necessary with a wet cloth; use dishwashing detergent, if necessary, to remove any dirt. If detergent is used, wipe with a fresh, wet cloth to remove detergent. Leave case open to dry.
2. Examine the outside of the arm. Note any damage to the skin; if extensive damage is seen (e.g. cuts, breaks, stains), label arm and give it to a technologist. Remove any dressings still on the arm. Use Goo-Gone® and a Wypall® (a lint-free disposable towel) to clean any adhesive remaining. Clean off any simulated blood stains by wiping with a wet Wypall® or cloth.
3. Examine the shoulder end of the arm for any simulated blood seepage. If simulated blood is present in the shoulder, it should be washed in the following manner. Run warm water into the open end (up) of the shoulder as shown in the photo (top right). Flip arm over so the open end is down over the sink and squeeze the foam in the shoulder to release any water (bottom right). Repeat this procedure until the water runs either clear or a very, very light pink. Squeeze the shoulder, then leave with the open end down, over the sink, to drain and dry at least 24 hours. **Attach a note to the arm indicating this! DO NOT pack wet arms back into the case; arms must be completely dry before being packed and returned to storage.**



To clean and dry the veins in the arm use the following procedure:

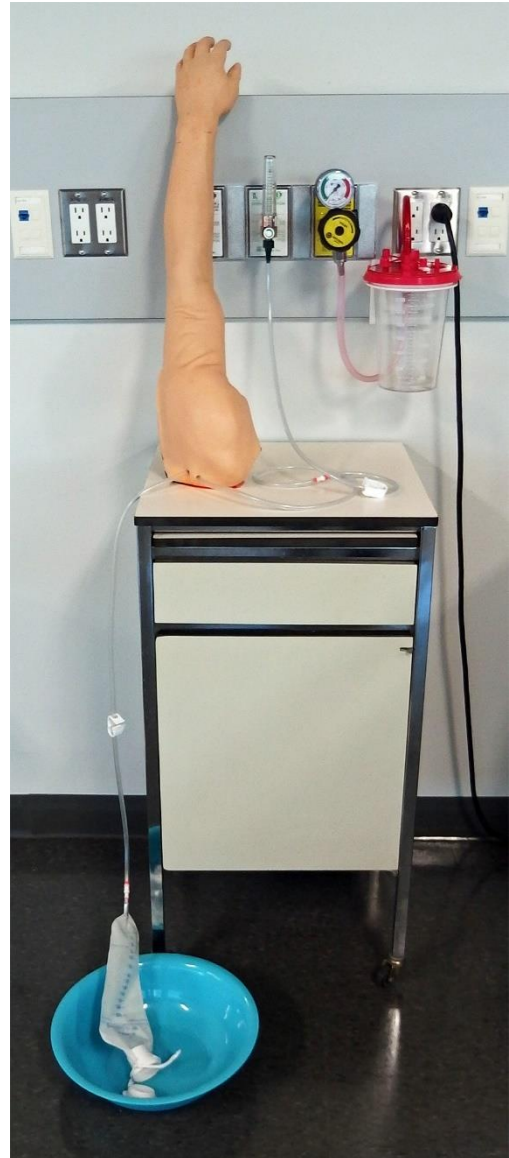
1. Place the arm, as shown in the photograph right, hand up shoulder down on a table next to a compressed air supply in one of the labs.
2. On the floor place a large bowl or other suitable container to catch any water that may be in the arm. Open the cap of **one** of the supply bags attached to the tubing on the arm and place in the bowl as shown in the photo below.



3. Open the clamps that are on the tubing; there should be two of these (photo below). Make sure the clamps are **fully open** and the tubing is not kinked or otherwise blocked.



4. Remove the tubing from the other supply bag by gently pulling on the connector and rotating. It should separate easily as shown (photo far right). Take this supply bag to the sink and rinse until clean. Leave the cap open so the interior of the bag can dry.
5. Connect the tubing to the Christmas tree on the compressed air supply. Push onto the Christmas tree with enough force to prevent the tubing from disconnecting (photo near right) when the air is flowing but not enough force to distort or damage the tubing. You should now have an open circuit from the air supply to the bowl on the floor.
6. **Check what you have done so far.**



7. **SLOWLY** open the compressed air supply:
 - a) If you hear any **loud**, sharp cracks or pops or see the arm skin distorting **STOP**; turn off the air, disconnect arm from the Christmas tree, reattach the supply bag, label arm, and give to a technologist.
 - b) Otherwise, continue opening the valve until you have a flow of 2L to 4L per minute of air flowing through the vein tubing.
8. You may hear a bubbling sound and see water flowing out of the supply bag in the bowl. If the water is clear allow the process to continue and go to step 9. If the water is red or has particles in it, do the following:
 - a) Turn off the air and disconnect the tubing from the compressed air supply.
 - b) Using a 60mL catheter tip syringe, inject 50mL of clean water (tap water is okay) into the tubing and reconnect to the compressed air supply.
 - c) **SLOWLY** open the compressed air supply.
 - d) If red or dirty water is still coming out, repeat the preceding steps beginning with a) until the water coming out of the arm is clean/clear.
9. Leave air supply on for at least 30 minutes or until you hear no bubbling sounds or see any more water coming out.
10. Rinse lower supply bag (in bowl) with clean water and drain. Wipe the outside of the bag dry and leave open.
11. Turn off air and disconnect tubing from the compressed air supply.
12. Using a 60mL catheter tip syringe, inject 50mL of 99% isopropyl alcohol into the tubing.
13. Reconnect the air supply and **SLOWLY** open valve until you have a flow of 2L to 4L per minute.
14. Allow air to run for 5 minutes.
15. Shut off air and disconnect tubing from Christmas tree. Reconnect clean supply bag. Squeeze air out of and close cap on both supply bags.
16. Place arm back in clean case and return to inventory.