

## Step 1: Cleaning Your Surface for VainSim



1. Before using VainSim, make sure to wipe down the surface.
2. Unpack the supplies in the kit and lay them out in front of you.

## Step 2: Preparing your Vainsim device



1. For the session, fill two separate containers with a quarter (1/4) cup of water each.
2. To prepare your practice “medication” for the session, place an empty syringe in one of the containers and pull back the plunger. Fill the syringe with 1 mL of water and set aside.
3. In the other container of water, add five drops of synthetic blood and mix until combined. Place another empty syringe in this container and pull back the plunger. Fill the syringe with 5 mL of synthetic blood and set aside.

### TROUBLESHOOTING:

\*If you ‘miss’ your VainSim vein and inadvertently infuse the VainSim skin elsewhere, the skin patch will bubble up near the syringe insert. This is called ‘infiltration’. If this occurs, pull back on the syringe to remove the water.

\*If the needle stops completely, this likely means you have pushed too far, and the needle is hitting the backing behind the device. Do not push any further.

\* Do not wipe down the VainSim surface with alcohol wipes.

\* Do not put VainSim in the washing machine.

\* Carefully place all used syringes and needles for disposal in the Sharps Container. DO NOT PLACE IN TRASH OR RECYCLE.

\* Contact your healthcare provider with any questions.

\* If you see any air bubbles in the reservoir, turn the device upside down, reservoir now at the top, and slightly pull back the syringe to remove the bubbles. You will see a slight amount of simulated blood go back into the syringe, that is okay. You will now lock your stopcock, see step below.

\* Before you remove the syringe from the VainSim device, you must lock the stopcock. To lock the stopcock, turn the handle towards the left.

### SAFETY WARNINGS:

SAFETY CAUTION: Do not apply tourniquet for more than 3 minutes. If at any time the tourniquet feels too tight, push the button on the tourniquet to release it.

\* Do not touch the needle, the open end of the butterfly tubing or the tip of the syringe.

\* Dispose your needle into the sharps container that is provided.

\* All equipment should be handled with care.



**VainSim**  
Venous Access Infusion Simulator

VainSim is designed so that you can practice as many times as you need until you feel comfortable to move on to the real infusion.

# Easy Self-Infusion Training



**VainSim**  
Venous Access Infusion Simulator

Welcome to the VainSim self-infusion training device. At this point, you have already talked to your healthcare provider about self-infusion. Learning to self-infuse with your medication is important and can help to increase your independence and confidence. VainSim helps you learn how to perform a self-infusion using a practice trainer before you infuse your medication on yourself.

It is natural to feel nervous with self-infusion training, but as you practice with VainSim, you can achieve the skills, knowledge, and confidence necessary to perform self-infusion without feeling overwhelmed.

A protective backing is behind VainSim to prevent you from hurting yourself while practicing.

## Inside your **VainSim** box, you will have:

- **VainSim** (includes reservoir at top of sleeve, stopcock at bottom of sleeve)
- **Tourniquet**
- **Two (2) 10mL syringes of simulated blood**
- **Five (5) 5mL empty syringes**
- **Five (5) 23-gauge butterfly needles**
- **Sharps container**
- **Gauze**
- **Instructions** (this document)
- **One-page flyer**
- **Terms and conditions document**



### Step 3: Prepping your VainSim Device with Simulated Blood



1. Lay the VainSim device on a cleaned surface and locate the stopcock valve with a blue knob on top.
2. Open the stopcock by turning the knob 90° to the “open” position (pictured left).
3. Take the syringe filled with synthetic blood and twist it onto the opening under the stopcock until it is tight. Do not twist the syringe on too tightly.
4. Hold the VainSim device vertically with the end that has the stopcock facing upward.
5. Slowly push the plunger on the syringe to fill the VainSim reservoir with the synthetic blood.
6. To remove any air, pull back on the syringe slightly until fluid is seen entering the syringe. Gently push the fluid back into the system, avoiding pushing the removed air in.
7. Twist the stopcock knob 90° to close the valve. This will seal the device and prevent air from getting inside.
8. Unscrew the syringe until it is removed from the stopcock and set it aside.

### Step 4: Device Placement



1. Decide which arm you would like to use to practice with. Slide the sleeve on your arm with the reservoir at the top of the sleeve (pictured left).
2. Slide the sleeve up your arm until the skin patch is just under your inner elbow. Ensure the skin patch sits atop your veins to simulate infusion fully.

### Step 5: Tourniquet Placement



1. Find the quick-release tourniquet in your kit (pictured left). Fasten the end of the tourniquet into the latch to make a loop.
2. Slide your arm through the loop and place the tourniquet 2-3 inches above the skin patch. Ensure it sits on top of the VainSim reservoir (pictured left).
3. Pull the tourniquet strap to tighten it until it feels like a firm hug or squeeze on your arm. Do NOT pull too tight.
4. You can readjust the tourniquet by unbuckling it and releasing it. Repeat these steps until the tourniquet is placed in the correct location and feels comfortable.

### Step 6: Locating Your Vein



1. With the tourniquet in place, press the middle of the skin patch with your finger and locate which vein you want to use. The skin above the vein should be slightly raised, or distended, making the vein easier to locate.

For optimal functionality, it is recommended to infuse in the middle of the device, and at least 1cm away from the top and bottom of the VainSim surface.

2. Dampen a piece of gauze with water and use it to scrub the vein you chose for 15 seconds. Next, allow the area to air dry for 15 seconds. Once you have cleaned the area, do not touch it.

**It is essential not to use alcohol on the device to avoid degrading the device surface. When you are learning how to infuse on yourself, you will use alcohol to clean your skin.**

### Step 7: Preparing your Butterfly Needle



1. Locate the syringe you filled with water in Step 2 and a butterfly needle with tubing from your VainSim kit. Carefully open the needle packaging.
2. Remove the clear cap at the end of the tubing. Twist the water-filled syringe to the end of the tubing until it is secured tightly.
3. To prime the needle, gently press down the syringe plunger so that a small amount of water exits the tip of the needle.
4. Remove the safety cap from the end of the needle with care and position the needle so that the bevel, or opening, faces up.
5. Grasp the blue “wings” of the butterfly needle with your thumb and index finger on the textured underside and pinch them together until you have a firm grip on the needle.

### Step 8: Self-Infusing with VainSim



1. Hold the needle at a 30° to 45° angle relative to the location on the skin patch you chose.
2. Puncture the skin patch quickly and confidently, reduce the angle of the needle, and advance (or “thread”) the needle further into the vein.
3. You should see a small amount of synthetic blood in the needle tubing. This is called “flashback”. If you don’t see a flashback, you missed the vein. That’s okay—try again!
4. You may also feel a “pop” when the needle enters the vein. This is due to the pressure change from the needle penetrating the vein. The resistance on the needle decreases once the needle enters the vein.
5. Once you have seen flashback in your needle tubing, push the button on top of the tourniquet to release it. Remove the tourniquet from your arm.

### Step 9 Self-Infusing and Clean Up



1. Slowly push down the syringe plunger to simulate infusing your “medication,” making sure the syringe plunger is pointing up. Infusing the medication should not feel difficult. If it does, see the troubleshooting section.
2. Halfway through the infusion, slowly pull the plunger back and look for synthetic blood to enter the tubing. After checking for this, push down on the plunger again to continue infusing until the syringe is empty.
3. Grasp the needle by the “wings” again and slowly pull it away from the skin patch. After the needle exits the device, a small amount of synthetic blood will appear on the surface. Hold a piece of gauze to this area for 10 seconds. VainSim will self-heal and be ready to use again in two minutes.
4. Dispose of the needle, tubing, and syringe in the sharps container. Be careful not to touch the tip of the needle.

### Step 10: Practice

1. Repeat these steps as often as you would like to continue building your confidence in self-infusion.
2. As you continue to practice, ensure the total volume in the system does not exceed 10 mL (or 5 “medication” infusions). You can use an empty syringe to drain fluid from the stopcock when in the open position. Try to rotate poke locations to ensure optimal functionality.
3. It is recommended to replace the VainSim device after 30 total infusions or if the device is past its 1 year expiration date on the bottom of the box.

*Congratulations!*

When you are finished practicing, make sure to remove all fluid from the device. To do so, screw an empty syringe onto the stopcock valve until tight. Open the stopcock by turning the knob 90° to the “open” position and pull back on the syringe plunger to remove all synthetic blood from the device. Once all fluid is removed, unscrew the syringe from the valve, and ensure the stopcock stays in the “open” position for storage. Store the synthetic blood elsewhere for future use. Place your empty device and materials back in the box and store the box in a room temperature location.