THANK YOU FOR PURCHASING

ULTRASOUND BRANCHING 3-VEIN ACCESS TRAINER WITH ARTERY

Part of the RediStik® family of vascular access training models, designed in collaboration with Texas Children's Hospital Clinicians, the Clear Ultrasound Branching 3-Vein Access Trainer with Artery is a tabletop model designed for visual, hands-on training in ultrasound-guided vascular access. Made with our Resonance™ ultrasound tissue, its transparent construction allows learners and instructors to see the internal vasculature directly, making it ideal for demonstrating vessel location, catheter placement, and needle path during training while still learning to properly manipulate and position a probe. The model features realistic anatomy, including a 5 mm bifurcated vessel with a 3 mm branch, a 3 mm vein with valve, and a non-collapsing 4 mm artery, giving users multiple landmarks for scanning and access practice.

COMPONENTS & ANATOMY

KIT INCLUDES:

- Colored tablets for blood solutions
- 10 cc syringe
- 50 cc IV bag
- IV tower for hanging the IV bag
- Storage/travel bag

NOTE: Replacement parts available at www.sawbones.com

BEFORE USE

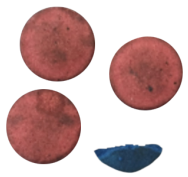
SUPPLIES NEEDED:

- 50cc IV bag, extension tubing and syringe (included with trainer)
- Approximately 30-50 mL of prepared blood solution or water for flashback simulation
- Clean water, distilled water or isopropyl alcohol for flushing after use

CREATE BLOOD SOLUTION:

Combine: 50ml water + 3 red tabs + 1/8th blue tab

(formula creates dark blood that is easy to see in catheter flash). Blood does not mold in storage.



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Priming, Draining, and Storage Instructions

CARE AND HANDLING NOTES:

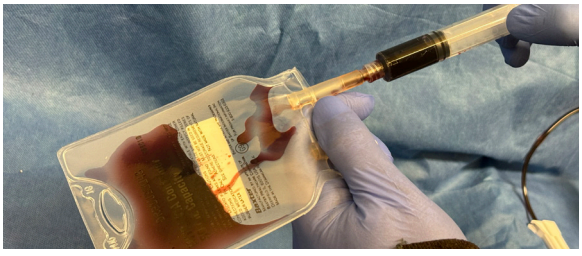
- Use 22 gauge or smaller needles/IV catheters to maximize model life.
- **DO NOT LEAVE NEEDLES** or IV Catheters in tissue for longer than needed to practice procedure. Leaving IV catheters in trainer will create tissue memory, causing leaking and void your warranty
- Ok to use alcohol, CHG and apply dressings
- OK to flush and infuse as long as IV bag open.
- For best performance, prime through the 5 mm bifurcated vessel side.
- Flush and drain the model after each use with clean water or preferably isopropyl
- Allow the model to fully drain and dry with caps removed
- Recap before storing
- Store trainer in storage/travel bag
- Do not place object on top of trainer as this will leave indention in tissue
- With proper use, the model will last up to 1,000 sticks or beyond

TIPS:

- Tissue has resealing properties once vessels are drained
- For appropriate flash without excessive leaking and ability to flush or infuse, use included IV stand. Recommended to have bag a few inches above the table. Bag height can be adjusted with included stand according to desired flashback.
- If you do not want to use IV stand for any reason, we recommend using included set up (50cc bag with extension tubing). Prime trainer by elevating bag. IMPORTANT tip is if bag is laid down on table or below trainer you must clamp the line. Clamping the line will provide several flashback experiences and air will not be sucked into trainer. If you lay bag down at level or below drainer with roller clamp open, once vein is accessed air will suck into trainer. For this process we recommend about every 3-5 accesses lift bag above trainer and open clamp for 10 seconds. This allows vessels to be pressurized again for more flashback experiences.

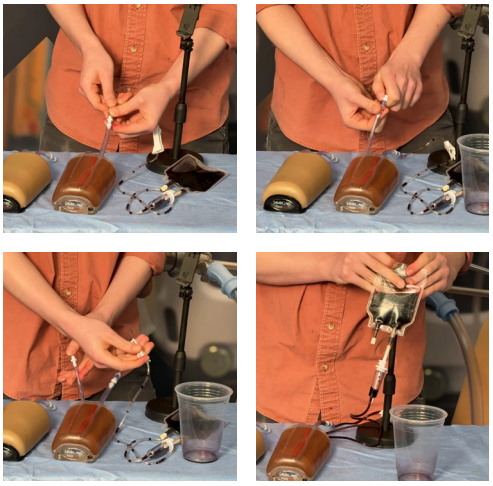
PRIMING THE MODEL

1. **Fill IV Bag with Blood Solution**
   Fill the IV bag with approximately ~30-50 mL of prepared blood solution or water and hang the bag above the model using the provided IV tower (Model will function with less fluid in bag). Ensure your IV bag's roller clamp is closed so that it doesn't leak at this time. Two options to Fill IV bag with simulation blood:
   - **a.** Add blood directly to IV bag using syringe: Puncture seal in port with extension tubing spike, remove spike and fill IV bag using syringe, next re-spike IV bag and connect IV tubing to injection cap on the end of the vein.
   - **b.** Adding blood from injection cap on vein: Connect syringe filled with blood to injection cap and push SLOWLY while IV bag is positioned below or level with the trainer: [If pushed too fast this will increase pressure in the veins and blood will seep out of previously punctured holes.]

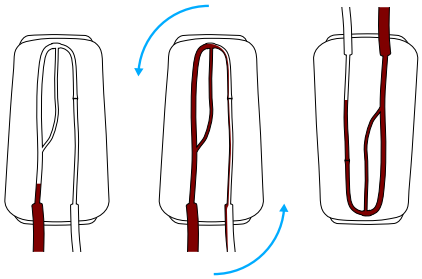


PRIMING THE MODEL

2. **Connect to the 5 mm/larger vessel side.**
   Attach the IV bag to the larger bifurcated vessel side of the model.
3. **Remove the luer cap from the 3 mm vessel side.**
   Remove or partially unscrew the luer cap on the opposite side of the model to allow air to escape during filling.
4. **Begin filling the model.**
   With the filled IV bag elevated and attached, you may now open the bag's roller clamp to allow fluid out (Make sure extension tubing where roller clamp was is open). As fluid is filling, note the elevation of your model relative to the bag will determine how it flows into the model. It is important to follow steps 5-8 in quick succession to ensure proper priming of the model and minimal spillage of the blood solution. It is expected that some fluid will be spilled in this process.



5. **Orient the model so that the vessels are facing downward**
   As fluid begins entering the model, ensure that you hold the trainer so that the tubes are facing directly downward. This will ensure that air inside the model isn't being trapped and flows out of the model
6. **Watch for fluid out of the 3 mm vessel side**
   Continue filling until fluid begins to return from the 3 mm vessel's tubing. At this point, the model is halfway filled and you will want to quickly rotate the model as described in the next step.
7. **Rotate the model so that the vessels are facing upward**
   Turn the model up so that the tubes are facing towards the sky, again, this is to ensure that the air floats up to the top and doesn't get trapped in the model. Allow fluid to fill through the remainder of the model until you see it coming out of the 3 mm vessel tubing.



8. **Cap the open side.**
   With the model now full, quickly cap the vessel while it is under pressure to ensure minimal leakage and minimal air being trapped.
9. **Scan the model to ensure proper filling**
   Use a US probe to verify there are no air bubbles trapped in the model, these will present themselves as hyperechoic artifacts in the veins. If bubbles persist, proceed to step 10

10. **If model has a bubble, connect syringe to the 3 mm vessel side**
    When a small bubble is present, it is easier to simply pull fluid out with a syringe than to continue draining excess fluid from the model. Ensure your IV bag's roller clamp is open and attached.

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Priming, Draining, and Storage Instructions

DRAINING THE MODEL AFTER USE

1. **Drop the IV bag to create negative pressure**
   With the bag's roller clamp open, drop your IV bag below the model in some way. This will create a negative pressure on the fluid inside of the model.
2. **Remove the valve cap from the 3 mm vessel side**
   Once you remove this cap, the negative pressure from the bag will pull all fluid out of the model.
3. **Remove IV bag**
   With the fluid removed from the model, close off your roller clamp and disconnect the bag

FLUSHING THE MODEL

1. **Prepare flush fluid.**
   Use water or isopropyl alcohol. Isopropyl alcohol is recommended when available.
2. **Reconnect to the 5 mm vessel side.**
   Attach a syringe filled with flush fluid to the same side used during priming.
3. **Turn the model upside down.**
   This helps flush both sides of the bifurcation more effectively.
4. **Flush the internal vasculature.**
   Continue flushing until the fluid path has been rinsed.
5. **Disconnect the syringe.**
   Remove the syringe once flushing is complete.
6. **Let the model drain fully.**
   Allow any remaining flush fluid to exit the model.

DRYING AND STORAGE

1. **Allow the model to dry completely.**
   Ensure all remaining fluid has drained before storage. Draining the model helps tissue naturally reseal.
2. **Replace all caps**
   Once dry, recap the ports to protect the model during storage.
3. **Store the model properly**
   Keep the trainer clean, capped, and stored in the provided storage/travel bag.

REPLACEMENT PARTS (WWW.SAWBONES.COM)

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Ultrasound Branching 3-Vein Access with Artery Replacement, Clear Tone