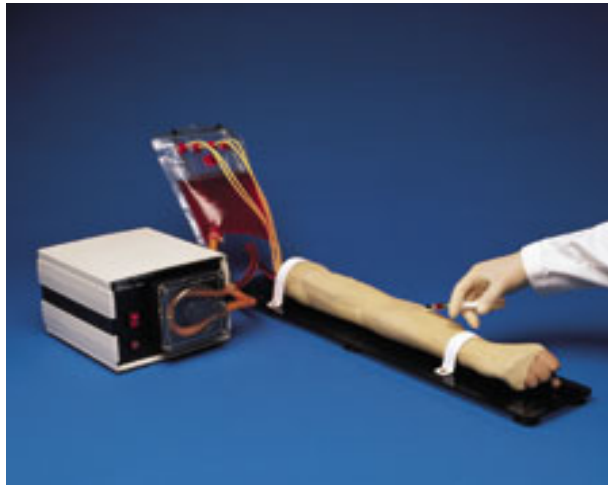


Instruction Manual

Model S402



Arterial and Venous Patient Training Arm

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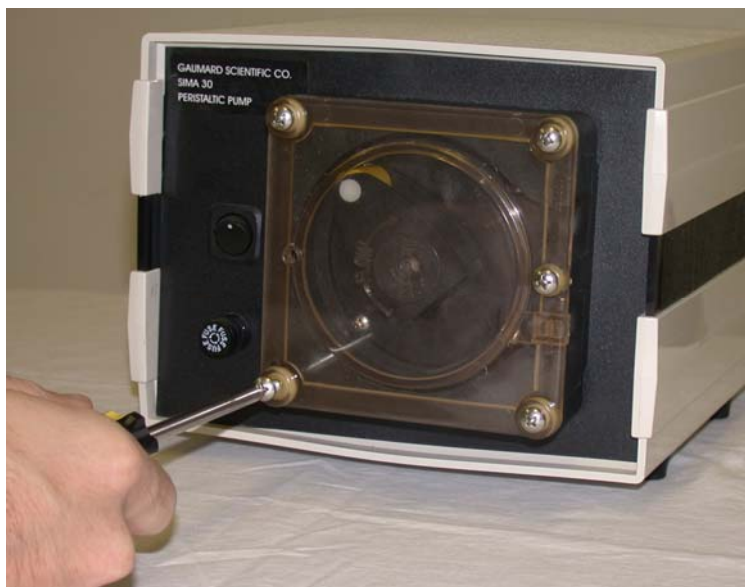
Features

- Accommodates the following procedures:
 - Venous infusion
 - IV bolus injection
 - Intramuscular injection
 - Subcutaneous injection
 - Arterial and venous blood collection
 - Arterial and venous cannulation
 - Arteriovenous anastomosis/hemodialysis
 - Incision and suturing
- Prominent venous network {cephalic, basilic, antecubital, radial, ulnar, and dorsal hand}
- Arterial vasculature {radial and brachial}
- Realistic "pop" feel as needle enters arteries and veins
- Resealing arteries, veins, and skin allowing many punctures
- Simulation of clenched fist with tourniquet (increased venous pressure)
- Simulation of collapsed veins
- Pulsatile arterial blood-flow and palpable radial pulse generated by a peristaltic pump
- Enlarged vein beside radial artery which simulates "pooling"
- Subcutaneous injection sites {volar forearm and lateral upper arm}
- Deltoid intramuscular injection site
- Incision and suturing site on upper arm (3 x 7 cm)
- Smoked Lucite™ base and metal bag stand
- Accessories:
 - Simulated blood concentrate
 - Squeeze bulb
 - "Blood" dispensing bag, filling funnel, and rubber stopper
 - Spare arm skin
 - Talcum powder
- Carrying bag

Assembly and Use

WARNING: This device is designed for 120V (60Hz) power. In countries with 240V power sources, a step-down voltage converter must be used.

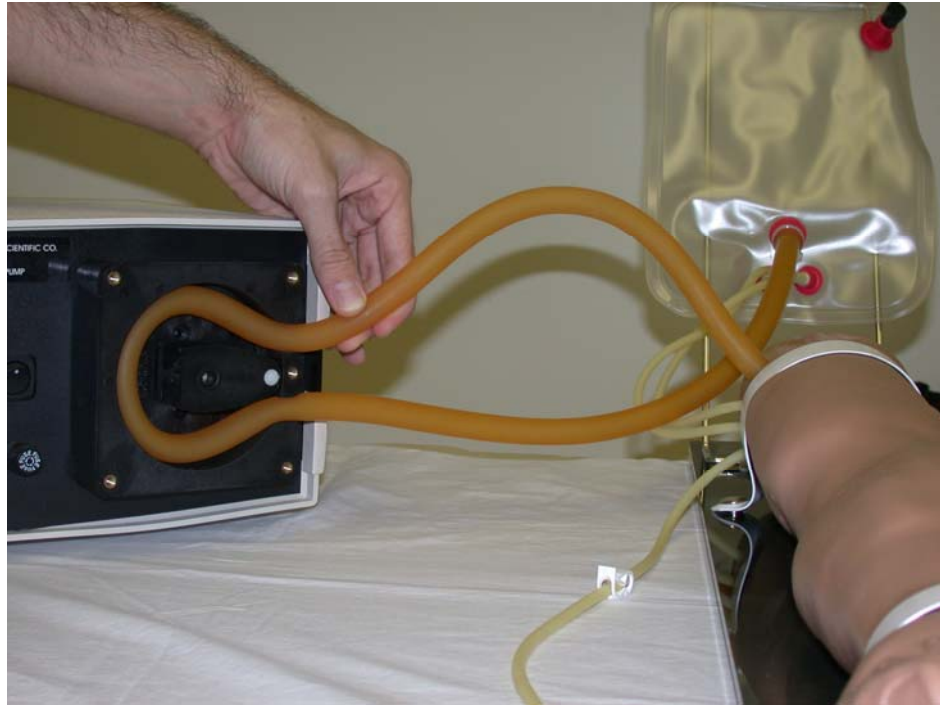
1. Detach the clear plastic faceplate from the pump by removing the 5 large Phillips-head screws on the front.



2. Notice that there is a semi-circular path that accommodates a length of tubing beneath the faceplate. Orient the rotating arm of the pump at 3 o'clock so none of that path is blocked.



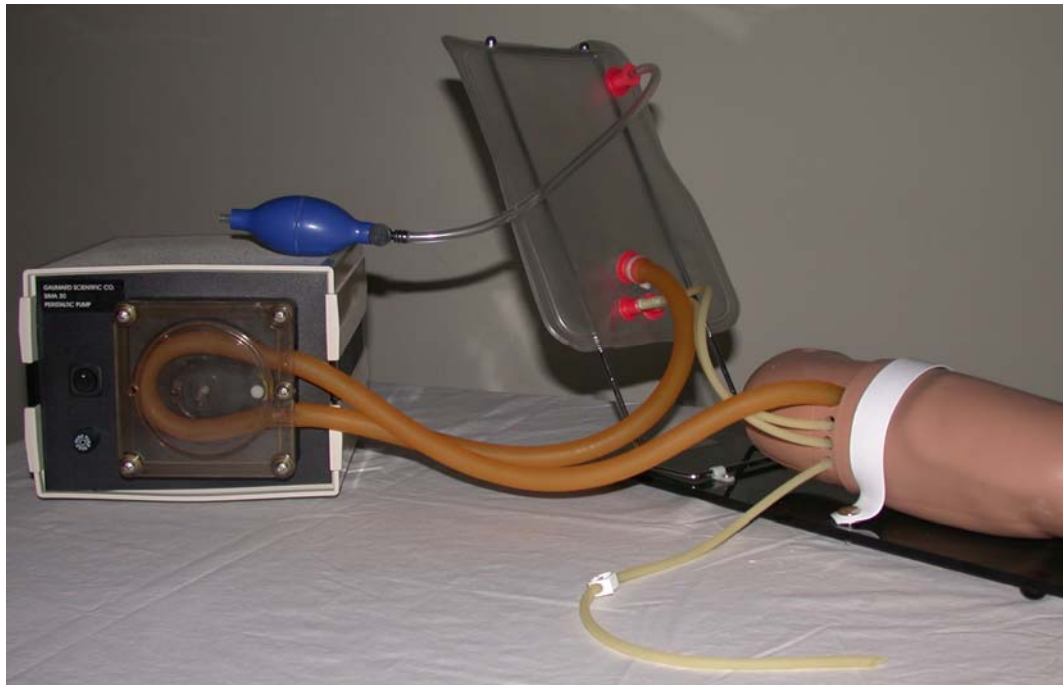
3. Insert the wide tubing into the pump, starting with the end nearer the bag at the 4 o'clock position, wrapping around clockwise, and exiting at the 2 o'clock position.



4. Replace the clear face-plate and hang the "blood" dispensing bag on the metal stand.
5. Confirm that the two segments of narrow tubing with metal fittings are attached to the two red ports at the bottom of the bag. One of these returns arterial "blood" to the bag, and the other supplies the venous system.



6. Fill the bag with water above the level of the large tube, and insert the rubber stopper to prevent leakage. (For added realism, use a solution of the provided simulated blood concentrate, instead of water.)
7. Turn on the pump to circulate fluid through the arterial side of the circulation, until bubbles have stopped rising inside the bag.
8. Open the pinch valve on the small venous drain tubing (the one without a fitting on the end). Let the end of the drain tube hang low into a reservoir of some kind. This will allow fluid to flow from the bag, filling the veins and pushing out any air.
9. When fluid without bubbles flows from the venous drain tube, close the pinch valve.
10. All air is now removed from both the arterial and venous vasculature, and the arm is ready for procedures. Running the pump will generate a pulsatile arterial pressure and flow.
11. To increase the pressure in the arteries and veins, replace the rubber stopper on the bag with the squeeze bulb fitting, and inflate the bag as desired. No increase in bag pressure simulates difficult or collapsed veins. Moderate pressure simulates prominent veins. High pressure simulates a clenched fist and tourniquet.



Care and Cautions

- This simulator is to be used as a part of an approved educational program for healthcare. It is not a substitute for traditional learning methods and should not be used for clinical decision-making.
- Use of needle sizes 22 gauge and smaller will extend the lifetime of the resealing skin and tubing.
- Do not use antiseptics containing iodine. They will stain the skin and make it brittle.
- Ball-point pens and markers will permanently stain the skin.
- Always flush the vasculature clean with water after using simulated blood.
- The outside of the arm can be cleaned by wiping with a mild solution of soap and water. After cleaning, dust with talcum powder to maintain the supple quality of the skin.
- Store the unit in a cool, dry place.
- Skin replacement:
 1. Starting from the top of the arm, remove the skin by rolling it down and over the wrist.
 2. Using talcum powder to reduce friction, slide the new skin onto the arm.
- Replacement of artery and vein tubing is available as a service from Gaumard. Contact us for details.
- Accessories available from Gaumard:
 - Simulated blood powder
 - Replacement skin
 - Replacement incision/suturing site insert
 - Replacement enlarged vein

Limited Warranty

Gaumard® Scientific Company (Gaumard) warrants that if the accompanying product proves to be defective in material or workmanship within one (1) year from the date of the original purchase, Gaumard will, at Gaumard's option, either repair or replace same without charge. This limited warranty may be enforced only by the first consumer user. All subsequent purchasers acquire the product "as is" without this limited warranty.

This warranty covers all defects in material or workmanship, except:

1. Damage resulting from accident, misuse, neglect, or from other than normal and ordinary use of the product.
2. Damage resulting from failure to clean or use the product in accordance with the instructions.
3. Damage resulting from repair or attempted repair by anyone other than Gaumard.

When repair is indicated, the user must:

1. Contact Gaumard and request service authorization
2. At the customer's expense, ship the product with a copy of the bill of sale to Gaumard.

Gaumard disclaims liability for incidental and consequential damages for breach of any express or implied warranty, including any implied warranty of merchantability, with respect to this product. This writing constitutes the entire agreement of the parties with respect to the subject matter hereof, no waiver or amendment shall be valid unless in writing signed by Gaumard.

Technical Support

Please contact us if you experience any difficulties or if your system requires repair.

toll-free in USA: (800) 882-6655
worldwide: (305) 971-3790
fax: (305) 667-6085
email: support@gaumard.com

Office hours: Monday-Friday, 8:30-4:30 EST (GMT-5)

Gaumard Scientific Company, Inc.
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Miami, FL 33196-5691

S402 Veins Installation and Repair Guide

1. Place arm on flat surface and remove the straps



2. Remove the skin cover



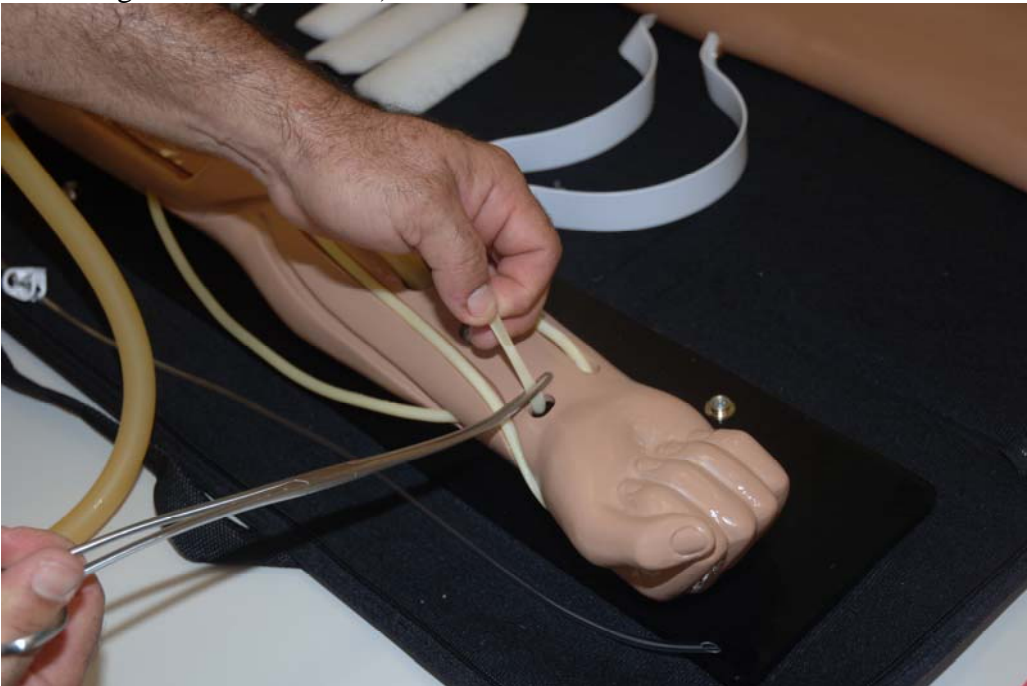


3. Remove foam from slots.

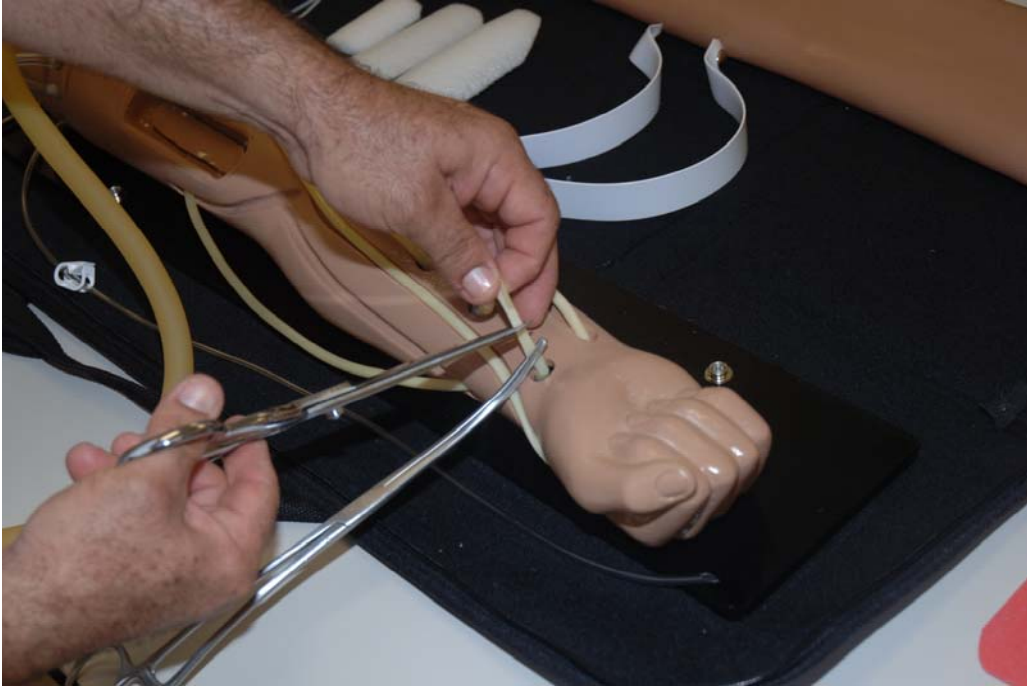




4. **Caution.** Be very careful so that once you cut the vein it does not go back into the arm. Pull on the radial vein and hold it with locking pliers (locking pliers so that the vein does not go back into the arm)



5. Use scissors to cut the vein approximately 1-2 cm away from the pliers to allow sufficient space to connect the luer fitting.



6. Connect the luer fitting making sure the vein does not slip into the arm, and then apply some glue around the vein tip to make sure the luer fitting will not disconnect.



7. Connect the replacement radial vein to the luer fitting that has been adapted to the vein. Remember that the luer fittings should be connected and then rotated to make sure they will not separate.



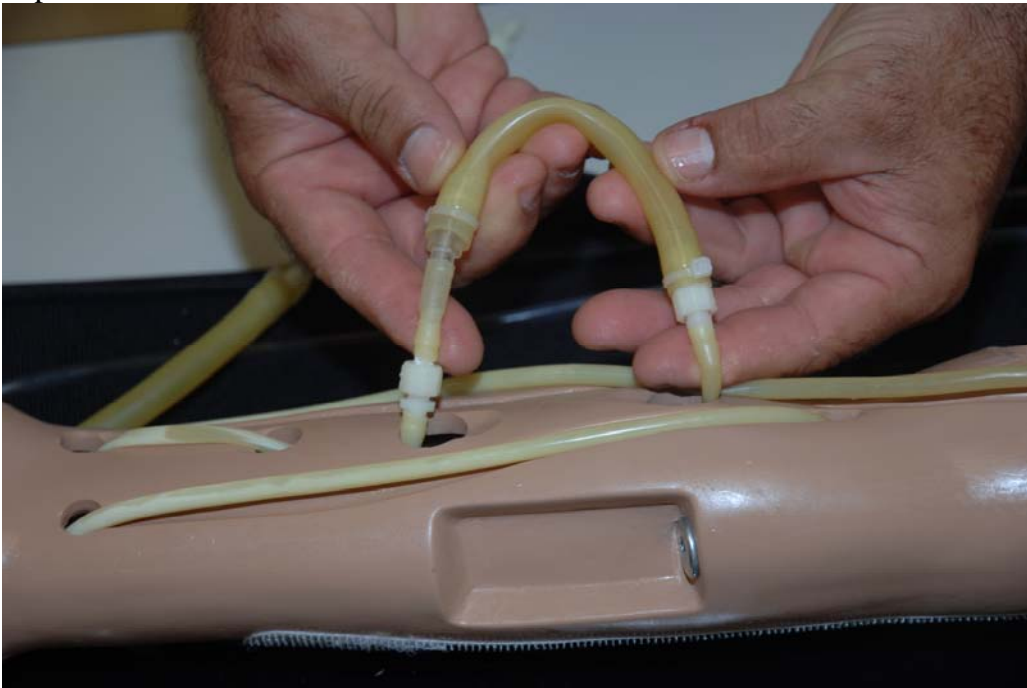
10. Using the large replacement vein (forearm vein) insert the section with the thin vein to the big hole closest to the hand and pull it out on the radial hole to connect it with the radial vein replacement section.



10. After connecting the radial vein this is how it should appear.



11. The large vein on the forearm should already be connected to the radial vein. Now insert the thin vein through the other port and using a wire or a cable grab the luer fitting to pull it out on the brachial hole.



12. Once the vein has been pulled out on the brachial hole connect this section to the brachial vein replacement section. Then on the other hole pull out the vein, hold it with the pliers and cut it. Then connect a luer fitting and glue it so it will not detach. Once this luer fitting is in place you can connect the other end of the brachial vein replacement section.



13. Place the skin cover back over the arm.



14. Insert all the foam sections and smooth the skin into final position



QUESTIONS??

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