Setup for continuous ATS with a blood compatible infusion pump

For direct reinfusion of shed autologous blood via a blood compatible infusion pump, a microemboli blood filter and non-vented, blood compatible I.V. administration set must be used. Please refer to all pump manufacturer’s Directions for Use and Warnings and Cautions prior to use.

Infusion pump setup

For priming infusion pumps, filter and I.V. set can be primed by aspirating air out of the I.V. circuit with a three-way stopcock and syringe or pre-primed with saline prior to attachment to the blood filter.

1. Clamp ATS access line.
2. Place ATS access line around hanger or patient line before spiking filter.
3. Remove spike port cap and insert blood filter.
4. Spike a non-vented blood administration I.V. set into filter.
5. Attach 3-way stopcock to patient end of I.V. set.
6. Connect 60 cc Luer-lock syringe to side port of stopcock.
7. Open free flow setting on pump and cassette.
8. Turn filter in “spike down” position.
9. Unclamp ATS access line and I.V. tubing.
10. Use 60 cc syringe to aspirate blood.
11. When drip chamber is ¼ full, turn “spike up” and continue purging air from line.
12. When completed, insert I.V. cassette into pump.
13. Purge all air prior to patient connection.
14. Set pump to desired “volume to be infused” and “ml per hour”.

Recording drainage volume during continuous reinfusion

The time and method for tracking and recording patient drainage during continuous reinfusion may vary from hospital to hospital. Please refer to your hospital’s protocol for specific guidelines pertaining to time intervals and volume thresholds for ATS. A common method of tracking patient drainage is to prescribe pump reinfusion on an hourly basis. For this technique, after microemboli blood filter and I.V. circuit has been fully primed, the infusion pump is programmed to infuse the total available blood volume in the Atrium drain during the next hour. After the initial infusion volume has been completed, the total blood volume now remaining in the collection chamber can be read directly as the amount the patient had drained over the last hour. The “total volume infused” displayed on the pump, if provided, together with the priming volume and the drainage volume currently remaining in the Atrium drain, will indicate the total volume of blood collected.
Setup for 2450 self-filling ATS blood bag

1. Close chest drain ATS access line and ATS blood bag clamp. Remove spike port cap. Insert ATS bag spike into access line. Position ATS bag below the base of the chest drain.
2. Open both clamps. Holding ATS bag below base of chest drain, bend ATS bag upward where indicated. Do not activate ATS bag prior to connecting chest drain.
3. If necessary, squeeze ATS bag to allow more blood volume into bag.
4. Close ATS access line and ATS blood bag clamps. Remove spike from ATS access line and insert into spike holder. Recap ATS access line spike port and position access line in the holder located on top of the chest drain. Keep ATS clamp fully closed at all times when not in use.

Filtered air vent

The ATS blood bag incorporates a filtered air vent with tethered plug for re-closure after use. The air vent must be open for all non-pressure infusion procedures (gravity drip, infusion pump) and must remain closed for pressure infusion (hand squeeze, pressure infuser).

ATS bag reinfusion setup

1. Prime I.V. blood administration and microemboli blood filter with sterile saline.
2. Invert ATS bag with spike port pointing upward and remove cap using sterile technique. Insert saline filter spike into ATS bag spike port. Return bag to upright position and place on standard height I.V. pole.
3. Open air vent and I.V. clamp to complete priming. All air within the I.V. circuit must be evacuated prior to patient connection. Close I.V. clamp when primed. I.V. is now ready for connection.
4. Attach primed I.V. set to patient and open clamp.

Reinfusion (gravity or pressure infuser application)

Follow all hospital protocols for administering autologous whole blood reinfusion for both gravity drip or pressure infuser application:
1. Attach distal end of fully primed I.V. set to patient and open I.V. line clamp to begin patient reinfusion.
2. For non-pressure infusion, open filtered air vent for maximum flow rate.
3. For pressure infuser application, filtered air vent must remain closed. Maximum in-line bag infuser pressure is 150 mmHg. Caution: Do not re-infuse entire blood contents completely through blood filter and I.V. set, as air emboli can result.