1. **How do air-eliminating filters work?**

   Air eliminating filters are used in infusion sets for the dual purpose of filtering particulates and eliminating bubbles. Filters are comprised of a housing with a vented side, separated from the patient side by a 0.2 or 1.2 micron filter membrane. Fluid enters the upstream inlet and fills the vented side first, then passes through the filter to the patient side. Air can pass out though the vents, but once the filter membrane is wet, it will not allow air to pass through to the patient side.

2. **What is the proper technique for priming the in-line filter?**

   1. Close roller clamp.
   2. Spike solution container and hang.
   3. Squeeze and release middle of drip chamber until approximately $\frac{2}{3}$ full. Open vent cap on spike after filling drip chamber if container requires venting.
   4. Open roller clamp to prime. **DO NOT INVERT FILTER.**
      Close roller clamp.
   5. If there is a clamp below the filter, close it after priming.
   6. Attach the set to the patient's IV access port, then open clamp(s).

3. **How can I safely transport a primed set to avoid leakage and maintain the prime?**

   - Always place a sterile end cap on the set. (Model # 70804 or #70200)
   - When there is a clamp, close the clamp distal to the filter.
4. What are the most likely causes of blood backing up or back-siphoning?
   - Not closing the clamp below the filter (or not placing a sterile end cap on the set if there is no clamp) to maintain the prime
   - Placing the filter higher than the level of the patient during the infusion will cause a loss of prime and then lowering it below the patient will cause the back-siphoning.

5. How can one eliminate this emptying of the filter and, as a consequence, the back-filling with blood?
   
   Always maintain the position of a properly primed filter at or below the patient’s mid-axillary level (or IV site). This position prevents the filter from back-siphoning.