

## Delivering multiple medications via backpriming

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SUPPOSE YOU'RE caring for a patient who's receiving 5% dextrose in 0.9% sodium chloride solution at 100 ml per hour, along with 600 mg of clindamycin every 8 hours and 80 mg of tobramycin every 8 hours. Piggybacking the antibiotics into the primary administration set is a common practice, but using a secondary set for each medication requires frequent connection and disconnection from the primary infusion set.

In this article, I'll explain the backpriming method of infusing both drugs with the same secondary administration set. This technique can save you valuable nursing time, reduce the patient's risk of infection (because the line is manipulated less often), and reduce the cost of infu-

sion therapy for your hospital.

### Why use backpriming?

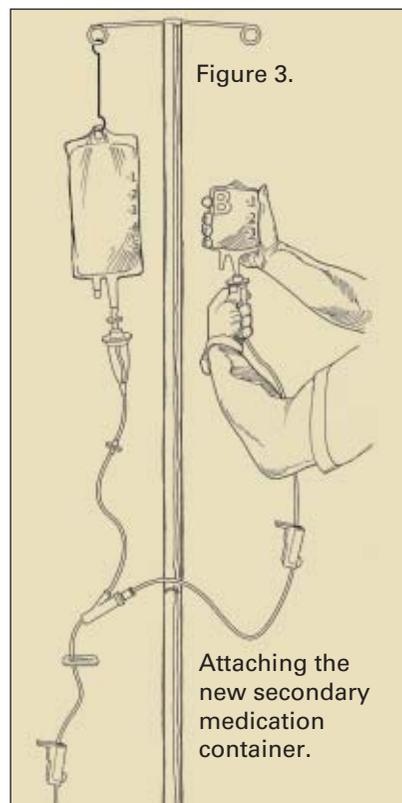
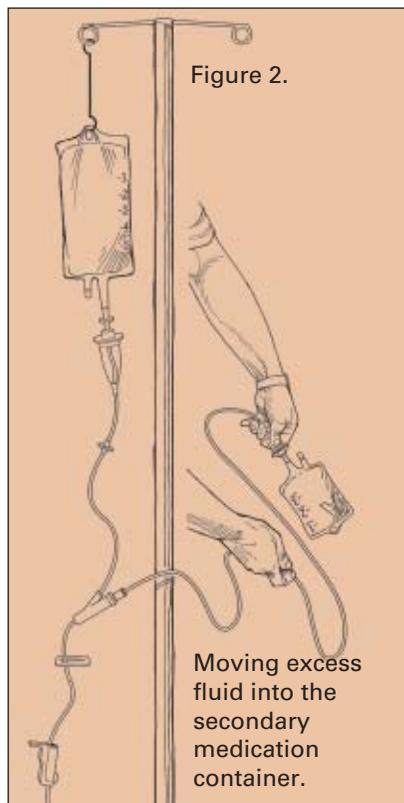
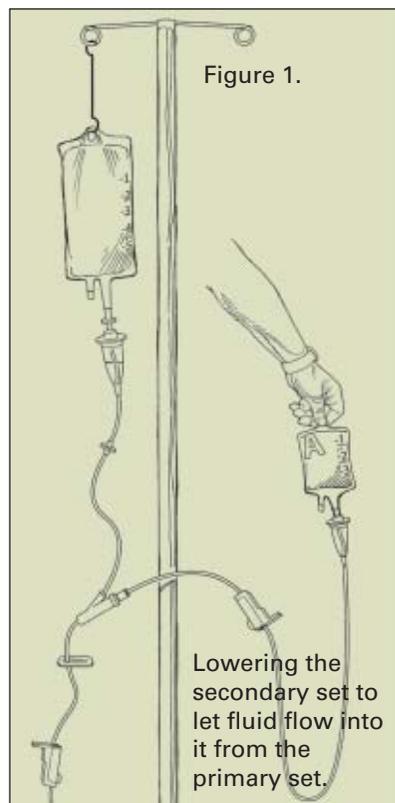
When you use the backpriming method, administration sets remain connected after you've infused a secondary medication, eliminating the need to repeatedly connect and disconnect the secondary set. Change the entire administration set no more often than every 72 hours, unless you suspect or document catheter-related infection. This complies with the Infusion Nurses Society's standards of practice for administration set change, and the Centers for Disease Control and Prevention's 2002 intravascular catheter guidelines.

Another advantage of the back-

priming method is that by reducing the number of infusion set connections and disconnections, it lowers the risk that microorganisms will be introduced into the system and cause infection.

You can't use backpriming when the primary fluid contains medication that's incompatible with the secondary set medication. For example, compatibility may be a problem if the primary fluid contains a vasopressor, heparin, aminophylline, or multivitamins. Also, if a patient in a CCU is receiving a vasopressor, backpriming would temporarily stop the infusion of a drug that's supporting the patient's blood pressure or cardiac function.

Drug compatibility depends upon



many factors, including how the drugs are given—mixed together in the same fluid container or syringe, for example, or given through an injection port. Always check recent compatibility information when giving multiple medications.

### **How to perform backpriming**

Once you've determined that backpriming is appropriate for your patient, connect a secondary infusion set to the small bag or bottle containing the first dose of medication and prime the infusion set. Clean the injection port on the primary set with alcohol and attach the secondary set to the primary set using a needleless I.V. connector. Keep these two sets connected for the life of the set, usually 72 hours.

Hang the primary fluid container from the hook provided with the secondary set and hang the medication container from the I.V. pole. Infuse the first dose of medication (in this case, clindamycin). When the infusion is complete, leave the empty container hanging and the administration sets attached.

When the second medication is due, close the roller clamp on the primary infusion set. Remove the empty medication container from the I.V. pole and lower it, letting fluid run from the primary container into the secondary tubing and medication container (Figure 1). Close the clamp on the secondary set. Invert the medication container and squeeze the drip chamber to move excess fluid into the medication container (Figure 2).

Detach the secondary medication container and attach the new medication container with the next drug dose—in the example, tobramycin (Figure 3). Suspend the new medication container from the I.V. pole, open the clamp on the secondary set, and regulate the rate using the roller clamp on the primary set.

Repeat this procedure for each dose of both antibiotics. By using one secondary administration set for both medications, you save the cost of additional sets and save time that you would have spent locating, opening, and attaching a new infusion set for each medication. **U**

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Lynn C. Hadaway is president of Hadaway Associates, Inc., in Milner, Ga. Meet Ms. Hadaway, who's speaking at the Nursing2004 Symposium in Las Vegas, Nev., April 13 to 16, 2004.

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