



**FIGURE 10-18:** Blood administration setup. To discontinue a blood transfusion, the health-care professional first clamps the line infusing blood and opens the line infusing normal saline solution, which is hung like a “Y” with the blood.

An **ampule** is a small glass container that holds only one dose of a medication in solution for injections (Fig. 10-19). The ampule is broken by placing gauze around the neck of the container, to protect the hand and to keep glass from falling into the medicine. It is best to draw the solution from the ampule into a syringe with a filtered needle (needle with a filter built into it) and then change to a different needle to inject the solution into the patient; this reduces the chance that broken glass will enter the patient.

Most injectable solutions are supplied in vials instead of ampules. **Vials** are glass or plastic containers sealed on top with rubber stoppers. This makes the inside of the container sterile because it does not have to be opened or broken. Occasionally, the vial contains powder, and fluid (e.g., bacteriostatic sodium chloride or water) is added to reconstitute (mix) the solution. Once the solution is reconstituted, the vial should be used fairly quickly, according to the drug manufacturer’s instructions, because the powder is more durable when it is stored without the fluid.

Vials are either multiple-dose or unit-dose. Multiple-dose vials contain several doses. After the first dose, the top of the stopper should be cleaned with an alcohol swab or other disinfecting swab before a needle is inserted into the vial for another dose. Multiple-dose vials should also be discarded within