



FIGURE 9-5: Liquid medication. Liquid medications are easiest for most patients to swallow and are more rapidly absorbed than are solid medications.

errors could occur. Elixirs are used less often because of the detrimental effects of alcohol, the potential for interaction with many other medications, and the development of new medication delivery systems. Elixirs should not be given to children or to anyone suffering from alcoholism or diabetes (the liver converts alcohol to sugar). Other liquid forms include the following: emulsions, which are liquid drug preparations that contain oils and fats in water; magmas, which are liquid and fine particles in water, such as Milk of Magnesia; and powders, which are finely ground forms of an active drug, sometimes given for pain relief. Goody's powder, for example, is placed on the tongue and absorbed into the bloodstream for pain relief. Other powders, such as bulk laxatives, are added to large amounts of liquid and are taken orally.

Occasionally, oral liquid medications are given as a solution. This means that the medication is evenly distributed throughout a liquid and will not separate. For this reason, solutions do not need to be shaken. The first milliliter in the bottle should contain the identical amount of medication as the last milliliter. An example is normal saline solution (NSS) used to irrigate eyes. Conversely, suspensions are medications dispersed in a liquid, but because the medication may not have been evenly distributed, it must be shaken before it is administered. Read the directions to help you tell the difference. Additionally, a suspension separates into different layers of liquid, thus indicating the misdistribution of medication. An example of a suspension that must be shaken before administration is Pepto-Bismol, which is used for stomach discomfort.

Syrups are medications added to highly sweetened liquids, and they are popular with children. Robitussin cough syrup is an example. Medications that are made more appealing to children can encourage these young patients to consume more than the recommended dose and can lead to an overdose; therefore, all medications must be removed from a child's reach.

To administer a liquid medication, a calibrated medicine cup is used. It is important to place the medicine cup on a flat surface and pour the liquid into the cup to ensure accurate dosing. The cup must be at eye level for reading the measurement. The patient may need some water after swallowing a thick or bad-tasting medication; however, if the medication is used to coat the throat, do not offer water.

If the patient is a small child or has trouble swallowing a liquid medication, the medication can be drawn up into a syringe (without a needle) and injected slowly and gently into the buccal pouch (cheek). This helps to prevent aspiration if the medication were injected directly toward the back of the throat. The infant should also be in a semireclined position, not flat on the back, for this reason.

Procedure Box 9-2 outlines the necessary equipment and steps to take to administer liquid oral medications safely.