

fever, but the vast majority of families in one study could not measure a 5 ml dose within 0.5 ml ([Sobhani, Christopherson, Ambrose, et al, 2008](#)). Measures less than 1 tsp are impossible to determine accurately with a medicine cup.

The teaspoon is also an inaccurate measuring device and is subject to error. Teaspoons vary greatly in capacity, and different persons using the same spoon will pour different amounts. Therefore, measure a drug ordered in teaspoons in milliliters; the established standard is 5 ml/tsp. A convenient hollow-handled medicine spoon is available to accurately measure and administer the drug. Household measuring spoons can also be used when other devices are not available.

Another unreliable device for measuring liquids is the dropper, which varies to a greater extent than the teaspoon or measuring cup. The volume of a drop varies according to the viscosity (thickness) of the liquid measured ([Peacock, Parnapy, Raynor, et al, 2010](#)). Viscous fluids produce much larger drops than thin liquids. Many medications are supplied with caps or droppers designed for measuring each specific preparation. These are accurate when used to measure that specific medication but are not reliable for measuring other liquids. Emptying dropper contents into a medicine cup invites additional error. Because some of the liquid clings to the sides of the cup, a significant amount of the drug can be lost.

Young children and some older children have difficulty swallowing tablets or pills. Because a number of drugs are not available in pediatric preparations, tablets need to be crushed before being given to these children. Commercial devices\* are available, or simple methods can be used for crushing tablets. Not all drugs can be crushed (e.g., medication with an enteric or protective coating or formulated for slow release).

The nurse can teach children who must take solid oral medication for an extended period to swallow tablets or capsules. Training sessions include using verbal instruction, demonstration, reinforcement for swallowing progressively larger candy or capsules, no attention for inappropriate behavior, and gradual withdrawal of guidance after children can swallow their medication.

Because pediatric doses often require dividing adult preparations