

8 Tablets

OBJECTIVES

After reading this chapter, the student will be able to:

1. Differentiate between the various types of tablet dosage forms
2. Compare and contrast advantages and disadvantages of the various types of tablet dosage forms
3. List categories of ingredients, with examples, which are employed in the manufacture of compressed tablets
4. State quality standards and USP compendial requirements for tablets
5. Define and differentiate weight variation from content uniformity
6. Describe appropriate techniques for inspecting, packaging, and storing tablets

Tablets are solid dosage forms usually prepared with the aid of suitable pharmaceutical excipients. They may vary in size, shape, weight, hardness, thickness, disintegration, and dissolution characteristics and in other aspects, depending on their intended use and method of manufacture. Most tablets are used in the oral administration of drugs. Many of these are prepared with colorants and coatings of various types. Other tablets, such as those administered sublingually, buccally, or vaginally, are prepared to have features most applicable to their particular route of administration.

Tablets are prepared primarily by compression, with a limited number prepared by molding. Compressed tablets are manufactured with tablet machines capable of exerting great pressure in compacting the powdered or granulated material (Fig. 8.1A and B). Their shape and dimensions are determined by the use of various shaped punches and dies (Fig. 8.2). Molded tablets are prepared on a large scale by tablet machinery or on a small scale by manually forcing dampened powder material into a mold from which the formed tablet is then ejected and allowed to dry.

Some tablets are *scored*, or grooved, which allows them to be easily broken into two or more parts. This enables the patient to swallow smaller portions as may be desired, or when prescribed, it allows the tablet to be taken in reduced or divided dosage. Some tablets that are not scored are not intended to be broken or cut by the patient since they may have special coatings and/or drug-release features that would be compromised by altering the tablet's physical integrity.

TYPES OF TABLETS

The various types of tablets are described as follows.

Compressed Tablets

In addition to the medicinal agent or agents, compressed tablets usually contain a number of pharmaceutical excipients, including the following:

Diluents or fillers, which add the necessary bulk to a formulation to prepare tablets of the desired size