LEARNING OBJECTIVES

On completion of the chapter, the reader will be able to:

1. Define pharmacogenetics.
2. Explain how pharmacogenetics might improve disease management.
3. Describe the types of variations that commonly occur in the human genome.
4. Define metabolic phenotypes and genotypes.
5. Name the major polymorphic drug metabolizing enzymes.
6. List the molecular mechanisms of polymorphic drug metabolism.
7. Describe the possible clinical consequences of polymorphic drug metabolism.
8. Explain how polymorphisms in drug transporter genes could affect plasma concentrations of relevant substrates.
10. List examples of drugs with pharmacogenetic information in their Food and Drug Administration (FDA)-approved labeling.
11. Describe drugs developed based on an improved understanding of the molecular basis for disease.
12. Describe guidelines for the clinical implementation of pharmacogenetics.
13. Describe the major obstacles to successful gene therapy.
14. List the advantages and disadvantages of different gene delivery systems used in gene therapy.
15. Explain the potential impact of pharmacogenetics on the role of pharmacists.