Chapter 11:

LEARNING OBJECTIVES

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

1. Describe the prevalence of lipid abnormalities (total cholesterol, low-density lipoprotein [LDL] cholesterol, and high-density lipoprotein [HDL] cholesterol) in the United States and trends in lipid concentrations over time and among various racial groups.

2. Describe how dietary fat and endogenous lipoprotein metabolism are interrelated and the major metabolic pathways for lipoprotein and apolipoprotein synthesis and catabolism.

3. Outline the pathogenesis of atherosclerotic plaque formation focusing on the roles of adhesion molecules, cytokines, LDL, oxidized LDL, HDL and the triglyceride-rich particles, and very-low-density lipoprotein (VLDL).

4. List the major lipoprotein disorders associated with abnormalities of chylomicrons, VLDL, LDL, and HDL and relate them to the risk of cardiovascular disease.

5. Describe the role of lipoprotein analysis in the initial evaluation and long-term management of patients with lipid disorders, and list the major modifiable and nonmodifiable risk factors for coronary heart disease (CAD).

6. Outline the components of appropriate therapeutic lifestyle changes (TLCs).

7. List the amounts of macronutrients recommended in the TLC diet.

8. Describe the mechanism of action, effects on lipids and lipoproteins, starting and maintenance doses, adverse effects, drug interactions, and relative costs of bile acid resins, fibric acid derivatives, niacin, ezetimibe, and statins.

9. Match the lipid-lowering drugs with specific lipid disorders such as hypercholesterolemia, combined hyperlipidemia, and hypertriglyceridemia to maximize the changes in lipids and lipoproteins.

10. Describe when combination pharmacotherapy for hyperlipidemia is most appropriate.

11. Describe the patient characteristics that make pharmacotherapy cost-effective in hyperlipidemia.

12. List the major primary prevention and secondary intervention clinical trials and describe the outcome for the major end point in each.

13. Develop a plan for evaluating therapeutic outcomes and monitoring drug therapy in the management of hyperlipidemia.