

CHAPTER 5

LIPIDS

OVERVIEW

This chapter describes the four classes of lipids: fatty acids, triglycerides, phospholipids, and sterols. The basic structure of fatty acids is described and essential fatty acids are discussed, including dietary recommendations and food sources. Current research related to omega-3 fatty acids is emphasized. Structure, functions, and roles in the body are part of the triglyceride presentation. The roles of phospholipids and sterols, particularly cholesterol, are mentioned. A detailed description of where fat is found in foods is presented including how to find hidden fats and how fat replacements are used. A general explanation of fat digestion and absorption is provided. Lipid transport is discussed including Chylomicrons, and High-, Low-, and Very low-density lipoproteins. The Looking Further section illustrates the roles fat, cholesterol, and lipoproteins play in the development or prevention of cardiovascular disease. Recommendations for fat intake are outlined including those from the American Heart Association, the National Cholesterol Education Program and the Food and Nutrition Board. Dietary sources of total fat and various fatty acids are discussed. Brief additional discussions include the contribution of fat to satiety, flavor and texture of foods, fat rancidity and medical interventions to lower blood lipids