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From Dietary Cholesterol to Blood Cholesterol

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Cholesterol is indispensable for a proper functionality of human cells. A high blood cholesterol concentration is associated with development of cardiovascular disease. Dietary cholesterol intake and endogenous synthesis are the input fluxes of the whole body cholesterol pool. In the liver, cholesterol homeostasis is controlled via regulation of a large set of interactive fluxes: lipoprotein metabolism, cholesterol synthesis, bile acid formation and biliary cholesterol secretion. The small intestine determines the degree of absorption of cholesterol and the secretion of cholesterol-containing chylomicron particles. Many of these processes as well as the role of the food matrix in dietary cholesterol handling are only partially understood. Dietary means of lowering blood cholesterol involves extreme low cholesterol intake and increased intake of fiber and phytosterols. However, these processes initiate increased cholesterol synthesis. Pharmacological cholesterol lowering is essential to reduce the risk for cardiovascular disease.

