Individuals with high triglyceride levels remain at high risk for premature cardiovascular disease despite reductions in low-density lipoprotein cholesterol levels. This review discusses the causes of hypertriglyceridemia (HTG) and its association with atherosclerosis. Non-pharmacologic and pharmacologic means of correcting HTG are presented. The results of the major randomized trials of fibrates, omega-3 polyunsaturated fatty acids, and nicotinic acid are reviewed to assess the efficacy, safety, and impact of treatment on cardiovascular outcomes. The first data from clinical trials of new drugs for the treatment of HTG are reported.