

DYSLIPIDEMIA

Manganese

Cofactor to an antioxidant (superoxide dismutase) that repairs damage to blood vessels caused by oxidized LDL (low density lipoprotein).^{1,2}

Magnesium

Deficiency causes pro-atherogenic (heart-disease causing) changes in lipoprotein metabolism; Protects LDL (low density lipoprotein) from being oxidized.^{3,4}

Vitamin C

Protects LDL from oxidation, thus making it less “sticky” and prone to atherosclerosis (clogging of arteries); Prevents white blood cells (monocytes) and oxidized LDL from sticking to blood vessel wall; Lowers Lp(a) in some people.^{5,6,7}

Vitamin D

Suppresses foam cell formation thus reducing risk of lipid-related arterial blockages; Deficiency linked to dyslipidemia.^{8,9}

Vitamin B3

Niacin (B3) effectively lowers the highly atherogenic Lp(a) by decreasing its rate of synthesis in the liver.^{10,11}

Vitamin B5

Favorably alters low density lipoprotein metabolism and reduces triglycerides; Full benefit of lipid lowering effects may not be seen for up to four months.^{12,13}

Carnitine

In supplementation trials, carnitine lowers triglycerides, oxidized LDL and the atherogenic Lp(a); This effect is likely due to its role in transporting fatty acids into cells so they can be used as fuel.^{14,15,16}

Lipoic Acid

Improves lipid profile by reducing small, dense LDL (dangerous type); Protects vascular lining from oxidized cholesterol.^{17,18}

Additional nutrients affect lipid metabolism. This list is non-exhaustive.

Inositol

Decreases small, dense LDL especially in patients with metabolic syndrome; Lowers triglycerides.^{19,20,21}

Choline

Regulates HDL metabolism; Part of the enzyme lecithin-cholesterol acyltransferase that has a major impact on lipoprotein metabolism.^{22,23}

Chromium

Specifically improves the dyslipidemia that accompanies insulin resistance; May increase HDL; Synergistic effect with niacin (B3) for dyslipidemia.^{24,25,26}

Coenzyme Q10

It is well established that statins, often prescribed for dyslipidemia, deplete CoQ10; Lowers Lp(a) and improves efficacy of some dyslipidemia meds.^{27,28}

Copper

Several copper-dependent enzymes affect lipoprotein metabolism; Deficiency contributes to fatty buildup in arteries caused by dyslipidemia.^{29,30,31}

Selenium

Prevents post-prandial (after a meal) changes in lipoproteins that make them susceptible to oxidation and thus harmful.^{32,33}

Zinc

Suboptimal zinc raises dangerous lipoproteins that promote vascular inflammation and arterial plaque formation; Cellular zinc controls the gene that makes heart-protective HDL (high density lipoprotein).^{34,35,36}

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