

Hypertension

Zinc Regulates angiotensin and endothelin, two enzymes that directly affect blood pressure; Deficiency causes blood vessels to constrict. ^{37,38}

Copper Regulates enzymes that keep blood vessels dilating properly; Depletion causes hypertension; Supplementation trials positive. ^{34,35,36}

Magnesium Promotes dilation of blood vessels; Low intracellular levels are a well established cause of hypertension. ^{31,32,33}

Calcium Optimal calcium status reduces vasoconstriction; Particularly effective for salt-sensitive hypertension as it increases sodium excretion. ^{9,29,30}

Folate Lowers blood pressure by improving endothelial function, or the ability of blood vessels to properly dilate. ^{27,28}

Carnitine Lowers blood pressure in the same way as ACE inhibitors, a common hypertension drug which reduces angiotensin, a substance that causes arteries to constrict; Its role in fat metabolism explains this effect. ^{25,26}

Oleic Acid The benefits of olive oil for blood pressure are largely due to its high oleic acid content, which protects endothelial cells (inner lining of blood vessels) from inflammation. ^{22,23,24}

Cysteine Anti-hypertensive effects stem from its role as a potent antioxidant; Effective vasodilator. ^{20,21}

Lipoic Acid Improves vascular tone; Causes vasodilation; Works like calcium channel blocker meds; Recycles vitamins C, E and Cysteine. ^{18,19}

Glutathione Oxidative stress, which often manifests as glutathione deficiency, can induce hypertension. ^{39,40}

Biotin Pharmacological doses reduce systolic blood pressure by activating an enzyme (cGMP) that causes smooth muscle to relax. ^{1,2}

Vitamin A Suppresses the growth of vascular smooth muscle, thus keeping blood vessels (lumen) clear and wide. ^{3,4}

Vitamin B2 People with a certain gene (called MTHFR type TT) tend to respond well to B2 therapy for lowering blood pressure. ^{5,6}

Vitamin B6 Lowers homocysteine, a toxin that makes arteries stiff and raises blood pressure; Low B6 is strongly linked to hypertension. ^{6,7,8,9}

Vitamin C Improves the ability of blood vessels to react appropriately to relaxation signals; Increases nitric oxide, a powerful vasodilator. ^{9,10,11}

Vitamin D Low vitamin D is strongly linked to hypertension, possibly due to its role in calcium transport; Augments blood pressure lowering effect of calcium; Keeps blood vessels smooth and healthy. ^{9,12,13}

Vitamin E Increases nitric oxide synthase, an enzyme that causes blood vessels to dilate; Protects blood vessels from damage. ^{14,15}

Coenzyme Q10 Improves bioenergetics of blood vessel wall; Deficiency highly correlated to hypertension; Benefits of CoQ10 often not seen for several weeks. ^{9,16,17}

Additional nutrients affect blood pressure. This list is non-exhaustive.