

Hypertension

Zinc Regulates angiotensin and endothelin, two enzymes that directly affect blood pressure; De ciency 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 bene ts 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 in ammation. ^{22,23,24}

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

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

Glutathione Oxidative stress, which often manifests as glutathione de ciency, 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; De ciency highly correlated to hypertension; Bene ts of CoQ10 often not seen for several weeks. ^{9,16,17}

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