INFLAMMATION

Selenium
Subclinical deficiency negatively alters genes that regulate the inflammatory response; Deficiency promotes vascular inflammation.[37,38]

Manganese
Cofactor to the powerful antioxidant superoxide dismutase that fights inflammation within cells.[1,2]

Magnesium
Deficiency activates pro-inflammatory chemicals called cytokines; Deficiency will also kick start a damaging immune response by activating cells called leukocytes and macrophages.[3,4,5]

Glutathione
Repairs damage to cells caused by inflammation; Regulates the production of pro-inflammatory cytokines; Recycles vitamins C and E.[6,7]

Cysteine
Protects organs such as blood vessels, brain and liver from inflammatory damage; Precursor to glutathione production; Supplementation with N-acetyl cysteine raises glutathione.[8,9]

Vitamin C
Low vitamin C linked to inflammation; Inversely related to C-reactive protein (CRP), a marker for systemic inflammation; Increases glutathione.[10,11,12]

Vitamin D
Potent modulator of inflammation; Helps turn off chronic inflammatory responses; Inhibits pro-inflammatory cytokine production.[13,14]

Vitamin E
Limits destructive cell behavior caused by inflammatory enzymes gone wild; Reduces damage from tumor necrosis factor alpha (TNF-α); Deficiency predisposes a person to inflammation-related diseases.[15,16]

Lipoic Acid
Neutralizes free radicals caused by uncontrolled inflammation in both water and lipid phases of the cell; Protects endothelial cells from inflammation; Regenerates other antioxidants such as vitamin E, C and glutathione.[17,18]

Glutamine
Decreases cytokine production; Invokes an anti-inflammatory response; Precursor to glutathione.[19,20]

Coenzyme Q10
Decreases several inflammatory markers (CRP and IL-6) in supplementation trials; Affects genes that control response to inflammatory stress.[21,22,23]

Vitamin B6
Low B6 status is linked to high levels of CRP and systemic inflammation.[24,25]

Vitamin B2
Riboflavin (B2) helps minimize pain associated with inflammation; Detoxifies homocysteine, an amino acid that indirectly causes inflammation in various tissues.[26,27]

Vitamin A
Regulates the cellular immune response to inflammatory signals; Deficiency increases the severity of chronic inflammation; Zinc depletion lowers vitamin A status.[28,29,30]

Zinc
Inflammation raises demand for zinc; Pro-inflammatory chemicals (cytokines) dose dependently decrease in response to zinc repletion.[31,32,33]

Copper
Deficiency lowers enzyme activity (such as superoxide dismutase) that fights inflammation; Lowers damaging isoprostanes, a by-product of inflammation.[34,35,36]

Additional nutrients affect inflammation. This list is non-exhaustive.

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