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## Inflammation

 Template by Fullscript

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Preview

Evidence

### Evidence rating

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### Overview

Inflammation can have both positive and negative health effects. Acute inflammation works with the immune system to address infectious and non-infectious cellular damage. [\(1\)](#) However, when inflammation becomes chronic, it can seriously impact health. For example, studies have shown a correlation between chronic inflammation and all-cause, cancer, cardiovascular, and cerebrovascular mortality. [\(10\)](#) [\(12\)](#)

### Curcumin

#### Curcumin (*Curcuma longa*)

**600–1,000 mg, total per day, minimum 8–10 weeks** [\(4\)](#) [\(13\)](#)

- Curcumin decreased C-reactive protein (CRP) (-0.58 mg/l), tumor necrosis factor-alpha (TNF- $\alpha$ ) (-3.48 pg/ml), interleukin 6 (IL-6) (-1.31 pg/ml), and malondialdehyde

(MDA) (-0.33  $\mu\text{mol/l}$ ), and increased superoxide dismutase (SOD) activity (20.51  $\text{u/l}$ ) and total antioxidant capacity (TAC) (0.21  $\text{mmol/l}$ ). (3)

- In patients with various chronic diseases, curcumin decreased CRP (-3.67  $\text{mg/l}$ ) and hs-CRP concentrations. (4)
- Compared to placebo, curcumin decreased IL-6 by ~49%, TNF- $\alpha$  by ~63%, and MDA by ~38% in patients with diabetes mellitus. (13)

## Omega-3 fatty acids (EPA/DHA)

### Omega-3 fatty acids (EPA/DHA)

**2.5 g, total per day, minimum 12 weeks (7)(15)**

- In patients with various health conditions, omega-3s moderately decreased serum CRP, as well as IL-6 and TNF- $\alpha$  with a smaller effect. (5)
- Compared to placebo, omega-3 supplementation decreased total serum cortisol by 19% and IL-6 levels by 33% during a stressful event, and CRP by ~30%, IL-6 by ~22%, and TNF- $\alpha$  by ~16% in patients with chronic kidney disease undergoing hemodialysis. (7)(15)

## Probiotics

### Probiotics

**1.6  $\times 10^9$  CFU, total per day, minimum 8 weeks (8)(11)**

- Prebiotics and probiotics modulate the intestinal microbiome and decrease oxidative stress and inflammation by increasing intestinal anaerobes and maintaining the integrity of the intestinal barrier. (6)
- Compared to placebo, a multistrain synbiotic reduced TNF- $\alpha$  by ~6% and hs-CRP by ~10% in postmenopausal females with obesity and a history of hormone-receptor-positive breast cancer. (11)
- Compared to placebo, *Lactobacillus rhamnosus* GG reduced IL1-Beta and lipopolysaccharide concentrations by ~35% and ~30%, respectively, in patients with CAD. (8)

## Quercetin

### Quercetin

**$\geq 500$  mg, total per day, minimum of 8 weeks (2)(9)(14)**

- In individuals with chronic diseases, quercetin had a large effect on decreasing IL-6 and a smaller effect on decreasing serum CRP. (9)
- Quercetin decreased TNF- $\alpha$  and IL-6 in females with polycystic ovarian syndrome. (14)
- Compared to placebo, quercetin increased serum TAC by ~20% in post-myocardial infarction patients. (2)

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