



# Dr Georges MOUTON MD

Functional Medicine

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Title

Created

### THE IMPORTANCE OF CAROTENOIDS FOR HUMAN HEALTH

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#### Carotenoids in human nutrition and health.

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#### Abstract

Carotenoids are naturally occurring pigments found in most fruits and vegetables, plants, algae, and photosynthetic bacteria. Humans cannot synthesize carotenoids and must ingest them in food or via supplementation. Carotenoids have a range of functions in human health. They primarily exert antioxidant effects, but individual carotenoids may also act through other mechanisms; for example,  $\beta$ -carotene has a pro-vitamin A function, while lutein/zeaxanthin constitute macular pigment in the eye. The benefit of lutein in reducing progression of age-related macular eye disease and cataracts is strengthening; an intake recommendation would help to generate awareness in the general population to have an adequate intake of lutein rich foods. There is evidence that carotenoids, in addition to beneficial effects on eye health, also produce improvements in cognitive function and cardiovascular health, and may help to prevent some types of cancer. Despite the evidence for the health benefits of carotenoids, large population-based supplementation studies have produced mixed results for some of the carotenoids. To establish and confirm the health benefits of the different carotenoids more research, including clinical studies, is needed.

**KEYWORDS:** AMD; AREDS; ATBC; Age-Related Eye Disease Study; CARET; CI; CS; Cancer prevention; Carotenoids; Cognitive function; Eye health; GT; HDL; HR; Healthy ageing; L; LDL; Linxian; Linxian General Population Trial; MPOD; Macular Pigment Optical Density; OR; PHS; PL; PP; PRT; Physicians' Health Study; RR; SD; TICS; Telephone Interview Cognitive Status; Z; age-related macular degeneration; confidence interval; contrast sensitivity; glare tolerance; hazard ratio; high-density lipoprotein; low-density lipoprotein; lutein; odds ratio; photophobia; photostress recovery; placebo; relative risk; standard deviation; zeaxanthin;  $\alpha$ -Tocopherol,  $\beta$ -Carotene Cancer Prevention Study;  $\beta$ -Carotene And Retinol Efficacy Trial

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*"Carotenoids are naturally occurring pigments found in most fruits and vegetables, plants, algae, and photosynthetic bacteria. Humans cannot synthesize carotenoids and must ingest them in food or via supplements. Carotenoids have a range of functions in human health. They primarily exert antioxidant effects, but individual carotenoids may also act through other mechanisms."*

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