

## **Effect of vitamin E, vitamin C and beta-carotene on LDL oxidation and atherosclerosis.**

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**OBJECTIVE:** The oxidative modification of low density lipoprotein (LDL) may be an early step in atherogenesis. Furthermore, evidence of oxidized LDL has been found in vivo. The most persuasive evidence shows that supplementation of some animal models with antioxidants slows atherosclerosis. The purpose of this review is to examine the roles that vitamin E, vitamin C and beta-carotene may play in reducing LDL oxidation. **DATA SOURCES:** English language articles published since 1980, particularly from groups active in this field of research. **STUDY SELECTION:** In vitro, animal, and human studies on antioxidants, LDL oxidation, and atherosclerosis were selected. **DATA SYNTHESIS:** Vitamin E has shown the most consistent effects with regard to LDL oxidation. Beta-carotene appears to have only a mild or no effect on oxidizability. Ascorbate, although it is not lipophilic, can also reduce LDL oxidative susceptibility. **CONCLUSIONS:** LDL oxidizability can be reduced by antioxidant nutrients. However, more research is needed to establish their utility in the prevention of coronary artery disease.

Publication Types:

- Review
- Review, Tutorial

MeSH Terms:

- Animals
- Antioxidants\*
- Ascorbic Acid/physiology\*
- Carotenoids/physiology\*
- Coronary Arteriosclerosis/metabolism\*
- Humans
- Lipoproteins, LDL/metabolism\*
- Oxidation-Reduction
- Vitamin E/physiology\*
- beta Carotene

Substances:

- Antioxidants
- Lipoproteins, LDL
- Vitamin E
- Carotenoids
- Ascorbic Acid
- beta Carotene

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