

# Coenzyme Q10

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GPs have questioned the benefit of co-administration of coenzyme Q10 with statins to reduce the associated myalgia/myopathy. Where does the evidence lie?

**SOME AVAILABLE BRANDS:** Blackmores, BioBalance, BioOrganics, Clinicians, Good Health, MICROgenics, Nutra-Life, Radiance, SANDERSON, Solgar, Swanson Ultra, Thompson's.

**ACTIVE CONSTITUENTS:** Coenzyme Q10 is also known as: CoQ10, Q10, vitamin Q10, Ubiquinone, Ubidecarenone, Mitoquinone, Andelir, Heartcin, Neuquinone, Taidecanone and 2, 3 dimethoxy-5 methyl-6-decaprenyl benzoquinone.

**MANUFACTURER CLAIMS:** Promoting heart health, increasing energy levels, enhancing the immune system, supporting healthy gums, providing antioxidant activity and decreasing side effects associated with certain prescription drugs. Periodontal gum disease, allergies, bronchial asthma, chronic microbial infections and low sperm motility are all indications. Supplementation for women with breast cancer is claimed to shrink tumours, reduce pain and cause partial remission in some individuals. Coenzyme Q10 is also a potential treatment for neurodegenerative disorders such as Parkinson's, ALS and Alzheimer's.

**EVIDENCE FOR EFFICACY:** Along with other agents, coenzyme Q10 appears in 26 Cochrane Database Systematic Reviews (CDSR) covering a range of indications including: neurological, cardiovascular, muscular soreness and at-

rophy, fertility and cancer-related fatigue and disease associated with mitochondrial function. Full systematic reviews specific to coenzyme Q10 include primary hypertension (2009), heart failure (2010) and Parkinson's disease (2012). A CDSR review of the concomitant use of coenzyme Q10 and statins to reduce associated myalgia/myopathy has not been undertaken. A systematic review published in the *Journal of the American College of Cardiology (JACC)* suggests there is little evidence to support the routine use of coenzyme Q10 in conjunction with statins for statin-associated myopathy. The authors suggest it is possible to hypothesise about the benefits of coenzyme Q10 at a molecular level; however, large clinical studies are required to allow robust systematic review.

**ADVERSE EFFECTS:** No serious adverse events reported in high doses (up to 900 mg/day) in a short-term study in healthy volunteers. Adverse effects include nausea, upper abdominal pain, rashes, dizziness, sensitivity to light, irritability, fatigue, headache, heartburn. In doses over 100 mg taken in the evening, coenzyme Q10 may cause mild insomnia. Changes in haematological, biochemical and urinalysis parameters have occurred but are not deemed clinically significant.

**CONTRAINDICATIONS:** Limited information available. Pregnant or lactating women.

**PRECAUTIONS:** Limited information available. Allergy to coenzyme Q10 or excipients.

## Summary Message

There are no Cochrane Database Systematic Reviews (CDSR) reporting the clinical efficacy of coenzyme Q10 in statin-associated myopathy. Coenzyme Q10 is generally well tolerated. A systematic review suggests that rather than hypothesising about potential clinical benefits, large clinical studies are required to allow robust systematic review. Further, there is insufficient evidence to recommend the routine administration of concomitant coenzyme Q10 for prevention of statin-associated myopathy.

**DRUG INTERACTIONS:** Theoretically, chemotherapy and radiotherapy. Warfarin, due to the effect of coenzyme Q10 on clotting and bleeding. Natural levels of coenzyme Q10 may possibly be depleted when taking statins, anti-diabetic agents and beta blockers.

## Key references

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