

# Coenzyme Q10

Co-enzyme Q10 (CoQ10) is a nutritional agent that might play a preventative role in [migraine](#).

A meta-analysis aimed to investigate the effects of CoQ10 as a supplemental agent in migraine.

[Web of Science](#), [PubMed](#) and [Cochrane Library](#) were searched for potential articles that assessed the effects of CoQ10 on migraine. Data were extracted by two independent reviewers and analyzed with Revman 5.2 software.

Zeng et al. included 5 studies with 346 patients (120 pediatric and 226 adult subjects) in the meta-analysis. CoQ10 was comparable with placebo with respect to migraine attacks/month ( $P = 0.08$ ) and migraine severity/day ( $P = 0.08$ ). However, CoQ10 was more effective than placebo in reducing migraine days/month ( $P < 0.00001$ ) and migraine duration ( $P = 0.009$ ).

This is the first study to demonstrate the effects of CoQ10 supplementation on migraine. The results support the use of CoQ10 as a potent therapeutic agent with respect to migraine duration and migraine days per month. Nonetheless, more studies are needed to support the conclusions <sup>1)</sup>.

## Publications

1: Bosch AM, Kamsteeg EJ, Rodenburg RJ, van Deutekom AW, Buis DR, Engelen M, Cobben JM. Coenzyme Q10 deficiency due to a COQ4 gene defect causes childhood-onset spinocerebellar ataxia and stroke-like episodes. *Mol Genet Metab Rep*. 2018 Sep 13;17:19-21. doi: 10.1016/j.ymgmr.2018.09.002. eCollection 2018 Dec. PubMed PMID: 30225196; PubMed Central PMCID: PMC6138878.

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3: Pehlivanlı F, Aydın O, Karaca G, Aydın G, Devrim T, Bulut H, Bakar B, Daphan ÇE. Healing of Ischemic Colon Anastomosis in Rats Could Be Provided by Administering Dexpanthenol or Coenzyme Q10. *J Clin Med*. 2018 Jun 25;7(7). pii: E161. doi: 10.3390/jcm7070161. PubMed PMID: 29941836; PubMed Central PMCID: PMC6069384.

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5: Cornelius N, Wardman JH, Hargreaves IP, Neergheen V, Bie AS, Tümer Z, Nielsen JE, Nielsen TT. Evidence of oxidative stress and mitochondrial dysfunction in spinocerebellar ataxia type 2 (SCA2) patient fibroblasts: Effect of coenzyme Q10 supplementation on these parameters. *Mitochondrion*. 2017 May;34:103-114. doi: 10.1016/j.mito.2017.03.001. Epub 2017 Mar 3. PubMed PMID: 28263872.

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7: Schottlaender LV, Bettencourt C, Kiely AP, Chalasani A, Neergheen V, Holton JL, Hargreaves I, Houlden H. Coenzyme Q10 Levels Are Decreased in the Cerebellum of Multiple-System Atrophy Patients. *PLoS One*. 2016 Feb 19;11(2):e0149557. doi: 10.1371/journal.pone.0149557. eCollection 2016. PubMed PMID: 26894433; PubMed Central PMCID: PMC4760984.

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