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How to read a supplement label

Dietary supplements are regulated by the U.S. Food and Drug Administration (FDA), and all labels must follow a consistent format to make it easier for consumers to understand supplements. There are some tricks to understanding dietary supplement labels well, so be sure to pay attention to the following points when you're evaluating your supplements.

01 **Recommended use:** the brand's suggested use instructions for the supplement

02 **Claims:** a supplement may include a health claim, nutrient content claim, and/or a structure/function claim

03 **FDA disclaimer:** the disclaimer is included when certain claims are made on the product label

04 **Advisory statements**

05 **Actual size of the supplement**

06 **Storage recommendations**

Required by the FDA

07 **Statement of identity:** the identity of the product and name of the dietary supplement

08 **Formula information**

09 **Net quantity of contents statement:** the amount of the dietary supplement in the product

Required by the FDA

10 **Supplement Facts:** panel indicating ingredients and nutrition facts for the product

11 **Serving size:** the serving size, and sometimes the number of servings per container, will be included to help you compare more easily between products

12 **Percent Daily Value:** this value is established according to a 2,000 calorie diet. Ingredients that are not considered essential in the diet will not have an established daily value

13 **Certification logos:** seals that identify the product meets certain quality standards

14 **Ingredient list:** all compounds used to manufacture the supplement listed in order by weight; this includes excipients, binders, and fillers

15 **Allergen information:** eight major food allergens (i.e., eggs, fish, milk, peanuts, shellfish, soybeans, tree nuts, and wheat) must be identified on the label when present

16 **Business information:** the name and location of the manufacturer, packer, or distributor

Required by the FDA

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This handout was developed and medically reviewed by Fullscript's Integrative Medical Advisory team.
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Vitamin K supplementation

Vitamin K is a fat-soluble vitamin that plays an important role in the functioning of various proteins within the body. These proteins are involved in essential activities including blood clotting, bone growth, and cardiovascular health. Most North Americans consume adequate vitamin K; however, individuals at risk for certain conditions, such as cardiovascular disease and osteoporosis, may benefit from consuming more of this nutrient.

Types of vitamin K

Vitamin K has two main types: K1 and K2. Vitamin K2 is mainly produced by bacterial fermentation, making fermented foods, such as blue cheese and sauerkraut, good dietary sources. Vitamin K1, however, is a product of photosynthesis and can be found in many foods, particularly green leafy vegetables.

Vitamin K1, also known as phylloquinone, is a single compound, while vitamin K2 includes several compounds called menaquinones (MKs). MKs are often classified individually as MK-4 through MK-13, according to their molecular structure. Compared to other forms, MK-4, MK-7, MK-8, MK-9, and MK-10 are the main types of vitamin K2 consumed in the human diet. However, MK-4, MK-7, and MK-9 are the main menaquinones used in research. Up to 90% of dietary vitamin K is K1, but research suggests that consuming more vitamin K2 may provide benefits beyond its essential functions.

Type of vitamin K	Main functions	Dietary sources
Vitamin K1, phylloquinone	Blood clotting	Green leafy vegetables, plant oils
Vitamin K2, menaquinone-4 (MK-4)	Bone density, calcium transport	Animal foods (e.g., eggs, lard, meat, fish)
Vitamin K2, menaquinone-7 (MK-7)	Bone density, calcium transport	Fermented foods (e.g., kefir, natto, sauerkraut)
Vitamin K2, menaquinone-9 (MK-9)	Bone density, calcium transport	Fermented cheese (e.g., gouda, swiss)

Health benefits of vitamin K

Historically, it was believed that vitamin K was solely involved in blood clotting; however, current evidence suggests that vitamin K-dependent proteins are involved in a variety of metabolic processes, including:

- Bone development
- Brain function
- Blood coagulation (clotting)
- Calcium transport
- Liver function
- Kidney function
- Pancreatic function

In addition to its various functions, vitamin K may also exert antioxidant and anti-inflammatory effects. Research indicates that vitamin K, especially K2, may be useful for certain chronic diseases. A regular intake of vitamin K2 is associated with a variety of health-promoting benefits, including:

- Cardioprotection
- Improved bone strength
- Improved insulin sensitivity

Individuals with (or at risk for) the following conditions may particularly benefit from consuming adequate vitamin K:

- Cardiovascular disease
- Chronic kidney disease
- Liver cancer
- Liver disease
- Osteoporosis
- Type 2 diabetes

Vitamin K in the body

Vitamin K is absorbed in the intestines and transported throughout the body. As a fat soluble vitamin, vitamin K is mainly stored in the liver and fatty tissues. Consuming vitamin K with a healthy fat source, such as avocado, may help improve its absorption. Vitamin K1 and MK-7 appear to be the best-absorbed forms of vitamin K.

Special considerations

Most individuals meet daily vitamin K recommendations from dietary K1, and dangerous levels of vitamin K deficiency are not typically observed in North America. However, some people may still benefit from increased vitamin K intake.

Gastrointestinal conditions such as cystic fibrosis, ulcerative colitis, and short bowel syndrome can cause malabsorption, which may lead to low vitamin K levels. As a result, a high vitamin K diet or vitamin K supplements may be necessary to reach nutritional goals.

The following populations may also have increased vitamin K needs. If you think you may need to consume more vitamin K, consult with your integrative healthcare practitioner.

Infants

Infants commonly develop vitamin K deficiency within the first few weeks of life. A combination of factors may contribute to low levels of vitamin K in newborns including liver immaturity and low vitamin K content in breast milk. Worldwide, infants receive a shot of vitamin K1 at birth in order to prevent vitamin K deficiency-related bleeding, which can be fatal.

Children

Osteocalcin, a vitamin K-dependent bone growth protein, is one of the most abundant proteins in the human body. During childhood, this protein reaches peak levels in order to strengthen bones. To support this, vitamin K recommendations for children are higher than those for adults.

Elderly

The risk of developing health complications, such as cardiovascular disease and osteoarthritis, increases with age. Oftentimes, in order to reduce the risk of health complications, aging individuals require higher nutrient levels. However, aging individuals also often eat less food than adults and are less capable of absorbing nutrients in the gastrointestinal tract. Trends indicate that vitamin K intake declines with age, with only one-third of males over 70 years old meeting recommendations. Increasing vitamin K intake may be of particular importance in older individuals.

Potential adverse effects

Most studies using vitamin K supplements report no serious adverse effects; however, some individuals indicate experiencing gastrointestinal side effects. Vitamin K may have serious interactions with certain medications, so it's important to communicate with your healthcare provider before adding vitamin K supplements to your regimen or making changes to your diet. The following medications may impact vitamin K status and lead to health complications:

- Antibiotics
- Anticoagulants (i.e., warfarin, Coumadin)
- Bile acid sequestrants (i.e., cholestyramine, colestipol)
- Orlistat

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CoQ_{10} 300mg

ORTHO MOLECULAR PRODUCTS®
Because Efficacy Matters®

CLINICAL APPLICATIONS

- *Enhances Cellular Energy Production and Physical Performance*
- *Supports Cardiovascular Health*
- *Boosts Antioxidant Activity*
- *Supports Blood Sugar Balance Already Within Normal Levels*
- *Promotes Neurological Health*

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CARDIOVASCULAR HEALTH

What is CoQ_{10}?

Coenzyme Q_{10} (CoQ_{10}), also known as ubiquinone, is a proenzyme produced naturally within the body. CoQ_{10} plays a critical role in energy (ATP) production and is one of the most powerful known lipid-soluble antioxidants, protecting cells, organs and tissues from damage caused by oxidative stress and free radicals. CoQ_{10} inhibits protein and lipid oxidation and protects mitochondrial DNA from oxidative damage. This CoQ_{10} 300mg formulation is highly concentrated for those that need to quickly and effectively increase levels of CoQ_{10}. CoQ_{10}300mg is delivered in a proprietary oil-based formulation and includes natural vitamin E for enhanced absorption and maximum stability.

Overview

CoQ_{10} is a lipid-soluble antioxidant found in every cell in the body. CoQ_{10} is abundant in the mitochondrial membrane and plays an important role in the synthesis of adenosine triphosphate (ATP), a molecule of chemical energy upon which all cellular functions depend. The synthesis of ATP within the mitochondria is a multi-step series of biochemical reactions called the electron transport chain. As a coenzyme, CoQ_{10} is required for several enzymatic reactions required to produce cellular energy and to protect the body against free radicals produced during this process. To maintain energy production, mitochondrial CoQ_{10} is continuously recycled from ubiquinone, its ATP production state, to ubiquinol, its antioxidant state. After the age of 35 to 40 years, endogenous synthesis of CoQ_{10} begins to decline.[1]

CoQ_{10}, an essential component of cellular energy production, has been shown to extend cell life and benefit high-energy systems, namely the cardiovascular, neurological, and immune systems. Supplementation with a highly concentrated, oil-based CoQ_{10} enables faster recovery of CoQ_{10} levels for those that have increased CoQ_{10} requirements including: those with drug-induced depletion, increasing age, or increased tissue demands. The safety of CoQ_{10} at high doses has been tested in a double-blind, placebo-controlled study.[2] The findings in this study showed that CoQ_{10} was well tolerated and safe at a high intake (900 mg/day).[2]

CoQ_{10} Depletion†

The body's ability to produce and metabolize CoQ_{10} has been reported to decrease with age. CoQ_{10} deficiency may be caused by insufficient dietary intake of CoQ_{10}, impairment in CoQ_{10} production, drug-induced CoQ_{10} depletion, gene mutations, and oxidative stress. HMG-CoA reductase is an enzyme required for the synthesis of cholesterol and CoQ_{10}. Cholesterol lowering medications inhibit this enzyme in order to reduce cholesterol synthesis, but may also simultaneously deplete CoQ_{10} status. Thirteen controlled studies conducted between 1990-2004 demonstrated significant CoQ_{10} depletion, secondary to use of statin medications used to lower cholesterol levels.[3] These studies demonstrated a range of 19-54% decrease in CoQ_{10} levels in patients on statin therapy. In the event of CoQ_{10} depletion, supplementation can improve CoQ_{10} status and help maintain optimal levels in the body.

Antioxidant Protection†

Oxidative stress is a condition that occurs when there is an imbalance between free radicals and the antioxidants required to neutralize them, leading to oxidative damage in the body. The extent of oxidative stress depends on the rate of free

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eFFICACY the power of e

radical generation, the level of antioxidant reserves and the rate of repair of cellular and tissue damage. This process has a significant impact on the body's aging process. In its role in electron transport, CoQ_{10} continuously goes through an oxidation-reduction cycle in order to neutralize free radicals and provide significant protection against toxic oxidative reactions in the body.

Cardiovascular Health†

CoQ_{10} is important for all energy-dependent processes, and is especially helpful in strengthening contraction of the heart muscle. CoQ_{10} is also important for protection against free radical damage to the arterial vessels. In a double-blind, cross-over trial 19 patients received 100 mg CoQ_{10}/day or placebo for 12 weeks. Compared with placebo, patients receiving CoQ_{10} demonstrated significant support of cardiac function and increased tolerance for physical activity.[4] In another study, 109 patients received an average dose of 225 mg of CoQ_{10} per day. After a mean treatment period of 4.4 months, CoQ_{10} helped in maintaining healthy blood pressure levels in more than half of the patients.[5] CoQ_{10} has been shown to be a preventive factor in reducing low-density lipoprotein (LDL) oxidation- a major factor for supporting healthy cholesterol levels.[6]

Blood Sugar Balance†

The electron transport chain, a biochemical pathway in which CoQ_{10} plays a major role, significantly impacts carbohydrate metabolism. CoQ_{10} has been shown to support blood sugar balance already within normal levels.[7] In one study, 39 subjects received 120mg of a CoQ_{10} analog for 2-18 weeks. Fasting blood sugar levels were maintained in the normal range, along with a 30% decrease of ketone bodies in 59% of patients- an indicator of healthy blood sugar metabolism.[8]

Neurological Health†

Neurons are characterized by high rates of metabolic activity and the need to respond quickly to energy demanding fluctuations in the brain. Mitochondrial alterations, leading to reduced ATP production, can promote neuronal dysfunction and degeneration via increased production of reactive oxygen species in the central nervous system. As an effective carrier with strong antioxidant properties, CoQ_{10} has been shown to promote neurological health.[9]

Directions

1 soft gel capsule per day or as recommended by your health care professional.

Does Not Contain

Gluten, artificial colors or flavors.

Supplement Facts V1

Serving Size 1 Soft Gel Capsule
Servings Per Container 30 & 60

1 soft gel capsule contains	Amount Per Serving	% Daily Value
Vitamin E (from 30 IU as d-Alpha Tocopherol)	20 mg	133%
CoEnzyme Q10	300 mg	*

* Daily Value not established

ID# 134030 30 Soft Gel Capsules
ID# 134060 60 Soft Gel Capsules

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LT-PDN-070-A

Creating an **optimal sleep environment**

Limit light exposure

Use curtains or blinds to block exterior light, and unplug light-emitting devices.

Keep electronics out of the bedroom

Keep your phone out of reach, and don't keep a TV in your bedroom.

Set your thermostat to a comfortable temperature

68 to 72°F (20 to 22°C) is believed to be the most ideal temperature range for sleep.

Eliminate unwanted noises

Keep windows closed, and use ear plugs to avoid exposure to noise.

Opt for a medium-firm mattress

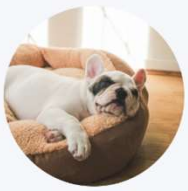
Studies show that a medium-firm mattress is the best option for promoting sleep quality and comfort.

Choose the right pillow for you

The type of pillow that's right for you largely depends on your personal preferences and sleep position.

Consider essential oils

Add a few drops of a relaxing essential oil such as lavender or chamomile to a diffuser.



Encourage pets to sleep in their own beds

Bed sharing with pets can disrupt the quality of your sleep.

Magnesium-rich food sources

Pumpkin seeds
138% DV per 100 g

Cashews
73% DV per 100 g

Avocado
7% DV per 100 g

Almonds
69% DV per 100 g

Banana
7% DV per 100 g

Buckwheat
58% DV per 100 g

Black beans
16% DV per 100 g

Dark chocolate (70 to 85%)
57% DV per 100 g

Spinach
20% DV per 100 g

Peanuts
44% DV per 100 g