

## Cod Liver Oil Manufacture

Most modern industrial cod liver oil processing takes place in Iceland and Norway, and includes the following steps:

- Alkali refining, which removes free fatty acids and some metals.
- Bleaching, which removes color substances, metals and dioxins. This is a chelation type of process that uses clay or other natural earth absorbents.
- Winterization, which removes sterins (stabilizing saturated fats).
- Deodorization, which removes pesticides, PCBs, heavy metals, etc. This process is done by molecular distillation, which keeps the oils at up to 250 degrees C for up to six hours under vacuum. The process damages the fragile unsaturated fatty acids in cod liver oil and eliminates most of the vitamin D and a considerable amount of the vitamin A.
- Addition of vitamins (usually synthetic) to meet standards or the requirements of the retailers.

Recently one U.S. manufacturer has returned to old-fashioned processing techniques, which involve fermentation and a proprietary filtering method, all at low temperatures. The resulting product retains the natural vitamins at double the levels of most industrially processed brands of cod liver oil, with an excellent ratio of vitamins A to D. High-vitamin fermented cod liver oil is available through several distributors. For further information on sources of cod liver oil, visit [www.westonaprice.org](http://www.westonaprice.org).

## How to Take Cod Liver Oil

Not on a spoon! The oiliness plus the fishy taste have turned many people off cod liver oil.

The best way to take cod liver oil is to mix it with a small amount of warm water or fresh juice. Stir and swallow quickly. Children enjoy taking this "cowboy whiskey" in a shot glass. To avoid an aftertaste, take immediately before a meal.

For babies, use an eye dropper.

You may also take cod liver oil in capsules, although this will be more expensive than taking the liquid oil.

FOR FURTHER INFORMATION  
and recommended brands visit  
[westonaprice.org/basicnutrition/cod-liver-oil-menu.html](http://westonaprice.org/basicnutrition/cod-liver-oil-menu.html)

## Myths & Truths About Cod Liver Oil

MYTH: Cod liver oil is a good source of vitamin D.

TRUTH: Not necessarily! Cod liver oil that is subject to molecular distillation loses most of its natural vitamin D. Some companies add manufactured vitamin D<sub>3</sub> back to the cod liver oil, but many do not.

MYTH: Cod liver oil contains dangerous amounts of vitamin A.

TRUTH: Vitamins A and D work together in the body. Consumption of large amounts of vitamin A can lead to symptoms of vitamin D deficiency when the diet is lacking in vitamin D. Unfortunately, many brands of cod liver oil contain very little vitamin D; studies from Europe indicate that prolonged intake of vitamin A from these brands could result in osteoporosis and other problems indicative of vitamin D deficiency. But if cod liver oil contains sufficient vitamin D, the vitamin A it contains is safe and healthy. Look for brands with at least one unit of vitamin D to ten units of vitamin A.

MYTH: The best cod liver oil has more units of vitamin D than vitamin A.

TRUTH: Natural cod liver oil contains two to ten times more vitamin A than vitamin D. Some manufacturers are removing most of the vitamin A and adding manufactured vitamin D<sub>3</sub> on the mistaken premise that the vitamin A in cod liver oil is toxic. But vitamin D with only small amounts of vitamin A can lead to health problems indicative of vitamin A deficiency.

MYTH: Cod Liver Oil contains mercury, dioxins and other toxins.

TRUTH: All modern processing techniques remove heavy metals, dioxins and other toxins, and cod liver oil is routinely tested for purity.

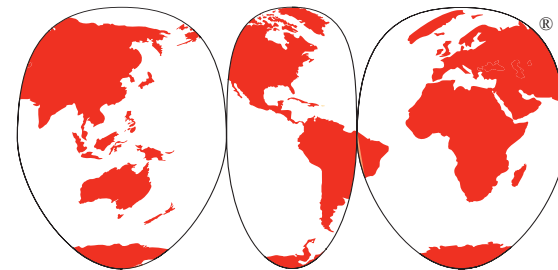
MYTH: It is better to take fish oil than cod liver oil

TRUTH: Most fish oils come from farmed fish that are processed using caustic chemicals, solvents and high temperatures. With few exceptions they contain very low amounts of vitamins A and D, and the fragile omega-3 fatty acids (EPA and DHA) are likely to be damaged by the processing.

MYTH: Cod liver oil tastes terrible.

TRUTH: Modern versions of cod liver oil do not taste very fishy, and cod liver oil is now available in many flavors and also in capsules.

## Cod Liver Oil Our Number One Superfood



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## A Short History of Cod Liver Oil

Cultures ranging from the South Seas, the Eskimos, the Scandinavians and the ancient Romans valued fish liver oils for their health-giving properties. Hippocrates first recorded the medicinal use of fish oils, and the first century naturalist, Pliny the Elder, recorded the use of dolphin liver oil as a remedy for chronic skin eruptions. In 1848, the British physician John Hughes Bennett observed that cod liver oil had been used from time immemorial by the northern fishing populations for its general medicinal and strengthening properties. For centuries before producing the oil itself, the British used the blackish residue left behind by barreled cod livers as a balm. In 1766, the Manchester Infirmary began prescribing ingestion of cod liver oil for rheumatism after a patient cured herself of the disease on two occasions by ingesting her topical treatment. The infirmary thereafter used 50-60 gallons of cod liver oil per year, and after comparing its use to that of a placebo in a number of individual patients, the physician Percival added it to the British pharmacopoeia in 1771.

Physicians used cod liver oil to treat the vitamin D deficiency disease rickets at least as far back as 1799, and by the 1820s use of cod liver oil for this purpose was widespread in Germany, Holland and the Netherlands. During the same century, its use expanded to include the treatment of eye diseases and tuberculosis. Research between 1920 and 1940 further expanded the use of cod liver oil to prevent or treat measles, industrial absenteeism, and puerperal fever, a fatal infection occurring in women just after giving birth. The advent of sulfa antibiotics and later penicillin mostly eliminated medical interest in cod liver oil as an anti-infective agent, but a number of trials conducted before 1940 provided solid evidence of its efficacy. In clinical trials, cod liver oil reduced measles mortality by more than one-half and reduced industrial absenteeism by up to two-thirds.

Today the medical establishment frowns upon cod liver oil, but many health conscious consumers are rediscovering its health-building properties.

### How Much Cod Liver Oil?

**MAINTENANCE DOSE:** A dose that gives about 10,000 IU vitamin A and at least 1000 IU vitamin D per day, supplied by about 2 teaspoons regular cod liver oil or 1 teaspoon high-vitamin fermented cod liver oil, more for periods of stress and for the elderly.

**PREGNANT AND NURSING WOMEN:** A dose that gives about 20,000 IU vitamin A and at least 2000 IU vitamin D per day.

**BABIES and CHILDREN:** A dose that gives about 5,000 IU vitamin A and at least 500 IU vitamin D per day.

**SERIOUS ILLNESS and RECOVERY FROM OPERATIONS:** Up to 90,000 IU vitamin A and at least 9,000 IU vitamin D from cod liver oil may be taken for several weeks to support healing, in the context of a nutrient-dense diet that supplies liberal amounts of vitamin K<sub>2</sub>, saturated fat, calcium and magnesium.

**NOTE:** These recommendations represent maximum dosages of vitamin A and should be reduced if you are eating foods to which vitamin A has been added, or taking supplements containing vitamin A, such as pre-natal vitamins.

### Cod Liver Oil: A Key Source of Vital Nutrients

**VITAMIN A:** Necessary for mineral metabolism, strong bones, immunity, normal growth, successful reproduction, healthy skin and good eyesight.

**VITAMIN D:** Necessary for mineral metabolism, nervous system function, insulin production, immunity and protection against depression.

**VITAMIN K<sub>2</sub>:** Found in fermented cod liver oil, is necessary for normal facial development, strong bones, healthy arteries, and optimal function of the brain and nervous system.

**VITAMIN E:** Necessary for normal reproduction and protection against free radical damage.

**DHA:** Supports optimal visual and brain function, helps resolve inflammation and supports the immune system.

#### FOR EDUCATIONAL PURPOSES

This flyer is for educational purposes only and should not be construed as medical advice. Please consult your health care practitioner to determine dosages when taking cod liver oil for therapeutic purposes.

## Cod Liver Oil Synergy

The vitamins in cod liver oil work synergistically, that is, in concert with other nutrients; in fact, taking cod liver oil in the context of a diet that is lacking these nutrients will hamper its effectiveness and may even lead to severe deficiencies of nutrients already lacking. Likewise, taking cod liver oil in the context of a diet high in processed foods containing synthetic vitamins may lead to an overdose of vitamin A and other nutrients.

**HIGH-VITAMIN BUTTER OIL:** Dr. Weston Price always gave cod liver oil with high-vitamin butter oil, made from high-vitamin Spring butter by a low-temperature centrifuge process. The result was a product particularly rich in what Dr. Price called Activator X, now thought to be vitamin K<sub>2</sub>, the animal form of vitamin K. Vitamin K<sub>2</sub> works synergistically with vitamins A and D supplied by cod liver oil. Vitamins A, D and K<sub>2</sub> together ensure efficient assimilation of the minerals and water-soluble vitamins in our diet. When consumed in liberal amounts by pregnant and nursing mothers, and by growing children, these fat-soluble vitamins ensure the development of attractive, strong bodies, freedom from tooth decay and a high immunity to disease.

**GRASS-FED BUTTER:** Butter from grass-fed cows provides vitamin K<sub>2</sub> and also saturated fats, which work synergistically with the omega-3 fatty acid DHA in cod liver oil, ensuring proper function of the brain and nervous system, and protection against inflammation.

**SATURATED FAT:** Saturated fats from lard, tallow, butter and the tropical oils ensure proper use of the omega-3 fatty acids in cod liver oil.

**CALCIUM:** Calcium from dairy products and bone broth works with vitamins A, D and K<sub>2</sub> to build strong bones and teeth.

**MAGNESIUM:** In the absence of magnesium, vitamin D will not protect against rickets. Use vitamin D-rich cod liver oil in the context of a diet rich in magnesium from green vegetables, nuts, whole grains, legumes and organ meats.