Cod Liver Oil

url: https://medlineplus.gov/druginfo/natural/1040.html  
  
  
Cod Liver Oil  
What is it?  
Cod liver oil can be obtained from eating fresh cod liver or by taking supplements. It is a source of vitamins A and D and a fat called omega-3.  
  
Cod liver oil contains certain "fatty acids" that prevent the blood from clotting easily. These fatty acids also reduce pain and swelling.  
  
Cod liver oil is used for heart health, depression, arthritis, and many other conditions, but there is no good scientific evidence to support these uses.  
  
  
  
How effective is it?  
Natural Medicines Comprehensive Database rates effectiveness based on scientific evidence according to the following scale: Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.The effectiveness ratings for COD LIVER OIL are as follows:Possibly ineffective for...  
Coronavirus disease 2019 (COVID-19). Taking cod liver oil by mouth does not seem to help prevent COVID-19.  
  
  
There is interest in using cod liver oil for a number of other purposes, but there isn't enough reliable information to say whether it might be helpful.  
  
  
Is it safe?  
When taken by mouth: Cod liver oil is likely safe for most adults. It can cause side effects including heartburn, stomach upset, and nausea. High doses of cod liver oil are possibly unsafe. They might keep blood from clotting and can increase the chance of bleeding. Vitamin A and vitamin D levels might also become too high with high doses of cod liver oil.  
When applied to the skin: There isn't enough reliable information to know if cod liver oil is safe or what the side effects might be.  
  
Special precautions & warnings:  
Pregnancy and breast-feeding: Cod liver oil is possibly safe when used in amounts that provide no more than the recommended daily intakes of vitamin A and vitamin D. Cod liver oil is possibly unsafe when taken in larger amounts. Do not take cod liver oil that provides more than about 3000 mcg of vitamin A and 100 mcg of vitamin D when pregnant or breast-feeding.  
Children: Cod liver oil is likely safe for most children when taken by mouth in amounts that provide no more than the recommended daily intakes of vitamin A and vitamin D. Cod liver oil is possibly unsafe when taken in larger amounts.  
Diabetes: Cod liver oil or other fish oils might increase blood sugar in people with diabetes, but it's not clear if this is a major concern. Cod liver oil might also lower blood sugar levels and increase the effects of some antidiabetes drugs. If you have diabetes and use cod liver oil, monitor your blood sugar levels closely.   
  
  
  
Are there interactions with medications?  
ModerateBe cautious with this combination.Medications for diabetes (Antidiabetes drugs)Cod liver oil might lower blood sugar levels. Taking cod liver oil along with diabetes medications might cause blood sugar to drop too low. Monitor your blood sugar closely.Medications for high blood pressure (Antihypertensive drugs)Cod liver oil might lower blood pressure. Taking cod liver oil along with medications that lower blood pressure might cause blood pressure to go too low. Monitor your blood pressure closely.Medications that slow blood clotting (Anticoagulant / Antiplatelet drugs)Cod liver oil might slow blood clotting. Taking cod liver oil along with medications that also slow blood clotting might increase the risk of bruising and bleeding.  
  
  
Are there interactions with herbs and supplements?  
Herbs and supplements that might lower blood pressureCod liver oil might lower blood pressure. Taking it with other supplements that have the same effect might cause blood pressure to drop too much. Examples of supplements with this effect include andrographis, casein peptides, L-arginine, niacin, and stinging nettle.Herbs and supplements that might lower blood sugarCod liver oil might lower blood sugar. Taking it with other supplements with similar effects might lower blood sugar too much. Examples of supplements with this effect include aloe, bitter melon, cassia cinnamon, chromium, and prickly pear cactus.Herbs and supplements that might slow blood clottingCod liver oil might slow blood clotting and increase the risk of bleeding. Taking it with other supplements with similar effects might increase the risk of bleeding in some people. Examples of supplements with this effect include garlic, ginger, ginkgo, nattokinase, and Panax ginseng.  
  
  
Are there interactions with foods?  
There are no known interactions with foods.  
  
  
How is it typically used?  
Cod liver oil has most often been used by adults in doses of 15-20 mL by mouth daily for up to 4 months. Speak with a healthcare provider to find out what dose might be best for a specific condition.  
  
  
Other names  
Aceite de Higado de Bacalao, Acides Gras Om ga 3, Acides Gras N-3, Acides Gras Polyinsatur s, Cod Oil, Fish Liver Oil, Fish Oil, Halibut Liver Oil, Huile de Foie, Huile de Foie de Fl tan, Huile de Foie de Morue, Huile de Foie de Poisson, Huile de Morue, Huile de Poisson, Liver Oil, N-3 Fatty Acids, Omega 3, Om ga 3, Omega 3 Fatty Acids, Omega-3, Omega-3 Fatty Acids, Polyunsaturated Fatty Acids.  
  
  
Methodology  
  
 To learn more about how this article was written, please see the Natural Medicines Comprehensive Database methodology.   
   
  
  
References  
Brunvoll SH, Nygaard AB, Ellingjord-Dale M, et al. Prevention of covid-19 and other acute respiratory infections with cod liver oil supplementation, a low dose vitamin D supplement: quadruple blinded, randomised placebo controlled trial. BMJ 2022;378:e071245. View abstract.  
Hansen MW, rn S, Erevik CB, et al. Regular consumption of cod liver oil is associated with reduced basal and exercise-induced C-reactive protein levels; a prospective observational trial : A NEEDED (The North Sea Race Endurance Exercise Study) 2014 sub-study. J Int Soc Sports Nutr 2021;18:51. View abstract.  
Fatima F, Memon A, Zafar S, et al. Role of Cod Liver Oil in Reducing Elevated Lipid Parameters. Cureus 2021;13:e15556. View abstract.  
Mal M, Kumar A, Meraj A, et al. Role of Cod Liver Oil in Preventing Myocardial Infarction. Cureus 2021;13:e16067. View abstract.  
Conus N, Burgher-Kennedy N, van den Berg F, Kaur Datta G. A randomized trial comparing omega-3 fatty acid plasma levels after ingestion of emulsified and non-emulsified cod liver oil formulations. Curr Med Res Opin. 2019;35:587-593. View abstract.  
 ien T, Schjelvaag A, Storr O, Johnsen R, Simpson MR. Fish consumption at one year of age reduces the risk of eczema, asthma and wheeze at six years of age. Nutrients. 2019;11. pii: E1969. View abstract.  
Yang S, Lin R, Si L, et al. Cod-liver oil improves metabolic indices and hs-CRP levels in gestational diabetes mellitus patients: A double-blind randomized controlled trial. J Diabetes Res. 2019;2019:7074042. View abstract.  
Helland IB, Saarem K, Saugstad OD, Drevon CA. Fatty acid composition in maternal milk and plasma during supplementation with cod liver oil. Eur J Clin Nutr 1998;52:839-45. View abstract.  
Bartolucci G, Giocaliere E, Boscaro F, et al. Vitamin D3 quantification in a cod liver oil-based supplement. J Pharm Biomed Anal 2011;55:64-70. View abstract.  
Linday LA. Cod liver oil, young children, and upper respiratory tract infections. J Am Coll Nutr 2010;29:559-62. View abstract.  
Olafsdottir AS, Thorsdottir I, Wagner KH, Elmadfa I. Polyunsaturated fatty acids in the diet and breast milk of lactating Icelandic women with traditional fish and cod liver oil consumption. Ann Nutr Metab 2006;50:270-6. View abstract.  
Helland IB, Saugstad OD, Saarem K, et al. Supplementation of n-3 fatty acids during pregnancy and lactation reduces maternal plasma lipid levels and provides DHA to the infants. J Matern Fetal Neonatal Med 2006;19:397-406. View abstract.  
Foti C, Bonamonte D, Conserva A, Pepe ML, Angelini G. Allergic contact dermatitis to cod liver oil contained in a topical ointment. Contact Dermatitis 2007;57:281-2. View abstract.  
Mavroeidi A, Aucott L, Black AJ, et al. Seasonal variation in 25(OH)D at Aberdeen (57 N) and bone health indicators--could holidays in the sun and cod liver oil supplements alleviate deficiency? PLoS One 2013;8:e53381. View abstract.  
Eysteinsdottir T, Halldorsson TI, Thorsdottir I, et al. Cod liver oil consumption at different periods of life and bone mineral density in old age. Br J Nutr 2015;114:248-56. View abstract.  
Hardarson T, Kristinsson A, Sk lad ttir G, Asvaldsd ttir H, Snorrason SP. Cod liver oil does not reduce ventricular extrasystoles after myocardial infarction. J Intern Med 1989;226:33-7. View abstract.  
Sk lad ttir GV, Gudmundsd ttir E, Olafsd ttir E, et al. Influence of dietary cod liver oil on fatty acid composition of plasma lipids in human male subjects after myocardial infarction. J Intern Med 1990;228:563-8. View abstract.  
Gruenwald J, Graubaum HJ, Harde A. Effect of cod liver oil on symptoms of rheumatoid arthritis. Adv Ther 2002;19:101-7. View abstract.  
Linday LA, Shindledecker RD, Tapia-Mendoza J, Dolitsky JN. Effect of daily cod liver oil and a multivitamin-multimineral supplement with selenium on upper respiratory tract pediatric visits by young, inner-city, Latino children: randomized pediatric sites. Ann Otol Rhinol Laryngol 2004;113:891-901. View abstract.  
Porojnicu AC, Bruland OS, Aksnes L, Brant WB, Moan J. Sun beds and cod liver oil as vitamin D sources. J Photochem Photobiol B Biol 2008;91:125-31. View abstract.  
Brunborg LA, Madland TM, Lind RA, et al. Effects of short-term oral administration of dietary marine oils in patients with inflammatory bowel disease and joint pain: a pilot study comparing seal oil and cod liver oil. Clin Nutr 2008;27:614-22. View abstract.  
Jonasson F, Fisher DE, Eiriksdottir G, et al. Five-year incidence, progression, and risk factors for age-related macular degeneration: the age, gene/environment susceptibility study. Ophthalmology 2014;121:1766-72. View abstract.  
Mai XM, Langhammer A, Chen Y, Camargo CA. Cod liver oil intake and incidence of asthma in Norwegian adults - the HUNT study. Thorax 2013;68:25-30. View abstract.  
Detopoulou P, Papamikos V. Gastrointestinal bleeding after high intake of omega-3 fatty acids, cortisone and antibiotic therapy: a case study. Int J Sport Nutr Exerc Metab 2014;24:253-7. View abstract.  
Ross AC, Taylor CL, Yaktine AL, Del Valle HB (eds). Dietary reference intakes for calcium and vitamin D. Institute of Medicine, 2011. Available at: www.nap.edu/catalog/13050/dietary-reference-intakes-for-calcium-and-vitamin-d (accessed April 17, 2016).   
Ahmed AA, Holub BJ. Alteration and recovery of bleeding times, platelet aggregation and fatty acid composition of individual phospholipids in platelets of human subjects receiving a supplement of cod-liver oil. Lipids 1984;19:617-24. View abstract.  
Lorenz R, Spengler U, Fischer S, Duhm J, Weber PC. Platelet function, thromboxane formation and blood pressure control during supplementation of the Western diet with cod liver oil. Circulation 1983;67:504-11. View abstract.  
 Galarraga, B., Ho, M., Youssef, H. M., Hill, A., McMahon, H., Hall, C., Ogston, S., Nuki, G., and Belch, J. J. Cod liver oil (n-3 fatty acids) as an non-steroidal anti-inflammatory drug sparing agent in rheumatoid arthritis. Rheumatology.(Oxford) 2008;47:665-669. View abstract.  
Raeder MB, Steen VM, Vollset SE, Bjelland I. Associations between cod liver oil use and symptoms of depression: The Hordaland Health Study. J Affect Disord 2007;101:245-9. View abstract.  
Farmer A, Montori V, Dinneen S, Clar C. Fish oil in people with type 2 diabetes mellitus. Cochrane Database Syst Rev 2001;3:CD003205. View abstract.  
Linday LA, Dolitsky JN, Shindledecker RD, Pippenger CE. Lemon-flavored cod liver oil and multivitamin-mineral supplement for the secondary prevention of otitis media in young children: pilot research. Ann Otol Rhinol Laryngol 2002:111:642-52.. View abstract.  
Brox JH, Killie JE, Osterud B, et al. Effects of cod liver oil on platelets and coagulation in familial hypercholesterolemia (type IIa). Acta Med Scand 1983;213:137-44.. View abstract.  
Landymore RW, MacAulay MA, Cooper JH, Sheridan BL. Effects of cod-liver oil on intimal hyperplasia in vein grafts used for arterial bypass. Can J Surg 1986;29:129-31.. View abstract.  
al-Meshal MA, Lutfi KM, Tariq M. Cod liver oil inhibits indomethacin induced gastropathy without affecting its bioavailability and pharmacological activity. Life Sci 1991;48:1401-9.. View abstract.  
Hansen JB, Olsen JO, Wilsgard L, Osterud B. Effects of dietary supplementation with cod liver oil on monocyte thromboplastin synthesis, coagulation and fibrinolysis. J Intern Med Suppl 1989;225:133-9.. View abstract.  
Aviram M, Brox J, Nordoy A. Effects of postprandial plasma and chylomicrons on endothelial cells. Differences between dietary cream and cod liver oil. Acta Med Scand 1986;219:341-8.. View abstract.  
Sellmayer A, Witzgall H, Lorenz RL, Weber PC. Effects of dietary fish oil on ventricular premature complexes. Am J Cardiol 1995;76:974-7. View abstract.  
Food and Nutrition Board, Institute of Medicine. Dietary Reference Intakes for Vitamin A, Vitamin K, Arsenic, Boron, Chromium, Copper, Iodine, Iron, Manganese, Molybdenum, Nickel, Silicon, Vanadium, and Zinc. Washington, DC: National Academy Press, 2002. Available at: www.nap.edu/books/0309072794/html/.  
Sanders TA, Vickers M, Haines AP. Effect on blood lipids and haemostasis of a supplement of cod-liver oil, rich in eicosapentainoic and docosahexaenoic acids, in healthy young men. Clin Sci (Colch) 1981;61:317-24. View abstract.  
Brox JH, Killie JE, Gunnes S, Nordoy A. The effect of cod liver oil and corn oil on platelets and vessel wall in man. Thromb Haemost 1981;46:604-11. View abstract.  
Landymore RW, Kinley CE, Cooper JH, et al. Cod-liver oil in the prevention of intimal hyperplasia in autogenous vein grafts used for arterial bypass. J Thorac Cardiovasc Surg 1985;89:351-7. View abstract.  
Landymore RW, MacAulay M, Sheridan B, Cameron C. Comparison of cod-liver oil and aspirin-dipyridamole for the prevention of intimal hyperplasia in autologous vein grafts. Ann Thorac Surg 1986;41:54-7. View abstract.  
Henderson MJ, Jones RG. Cod liver oil or bust. Lancet 1987;2:274-5.  
Anon. Licensed fish-oil concentrate versus cod-liver oil. Lancet 1987;2:453.  
Jensen T, Stender S, Goldstein K, et al. Partial normalization by dietary cod-liver oil of increased microvascular albumin leakage in patients with insulin-dependent diabetes and albuminuria. N Engl J Med 1989;321:1572-7. View abstract.  
Stammers T, Sibbald B, Freeling P. Efficacy of cod liver oil as an adjunct to non-steroidal anti-inflammatory drug treatment in the management of osteoarthritis in general practice. Ann Rheum Dis 1992;51:128-9. View abstract.  
Lombardo YB, Chicco A, D'Alessandro ME, et al. Dietary fish oil normalize dyslipidemia and glucose intolerance with unchanged insulin levels in rats fed a high sucrose diet. Biochim Biophys Acta 1996;1299:175-82. View abstract.  
Dawson JK, Abernethy VE, Graham DR, Lynch MP. A woman who took cod-liver oil and smoked. Lancet 1996;347:1804.  
Veierod MB, Thelle DS, Laake P. Diet and risk of cutaneous malignant melanoma: a prospective study of 50,757 Norwegian men and women. Int J Cancer 1997;71:600-4. View abstract.  
Terkelsen LH, Eskild-Jensen A, Kjeldsen H, et al. Topical application of cod liver oil ointment accelerates wound healing: an experimental study in wounds in the ears of hairless mice. Scand J Plast Reconstr Surg Hand Surg 2000;34:15-20. View abstract.  
FDA. Center for Food Safety and Applied Nutrition. Letter regarding dietary supplement health claim for omega-3 fatty acids and coronary heart disease. Available at: http://www.fda.gov/ohrms/dockets/dockets/95s0316/95s-0316-Rpt0272-38-Appendix-D-Reference-F-FDA-vol205.pdf. (Accessed February 7, 2017).   
Shimizu H, Ohtani K, Tanaka Y, et al. Long-term effect of eicosapentaenoic acid ethyl (EPA-E) on albuminuria of non-insulin dependent diabetic patients. Diabetes Res Clin Pract 1995;28:35-40. View abstract.  
Toft I, Bonaa KH, Ingebretsen OC, et al. Effects of n-3 polyunsaturated fatty acids on glucose homeostasis and blood pressure in essential hypertension. A randomized, controlled trial. Ann Intern Med 1995;123:911-8. View abstract.  
Prisco D, Paniccia R, Bandinelli B, et al. Effect of medium-term supplementation with a moderate dose of n-3 polyunsaturated fatty acids on blood pressure in mild hypertensive patients. Thromb Res 1998;1:105-12. View abstract.  
Gibson RA. Long-chain polyunsaturated fatty acids and infant development (editorial). Lancet 1999;354:1919.  
Lucas A, Stafford M, Morley R, et al. Efficacy and safety of long-chain polyunsaturated fatty acid supplementation of infant-formula milk: a randomized trial. Lancet 1999;354:1948-54. View abstract.