On December 23, 2008, Dr. Joseph Mercola, owner of the popular holistic website mercola.com, issued a statement, “Important Cod Liver Oil Update,” in which he rescinded his long-standing recommendation to take cod liver oil. The Weston A. Price Foundation received dozens of inquiries about this statement and it is for this reason that we have devoted much of this issue to the subject of cod liver oil.

Mercola’s official pronouncement is a strange mixture of true statements and illogical sequelae, conflicting reasoning and unexplained omissions. While it is unfortunate that Mercola has joined establishment voices against vitamin A, what concerns us most is not the fact that Dr. Mercola disagrees with us, but that he misrepresents the WAPF message on the importance of vitamin A in the modern diet.

The following is a point-by-point rebuttal, with Mercola’s statements in bold.

Mercola Statement: For years, I have recommended cod liver oil as a dietary supplement to support healthy vitamin D levels. However, based on more recent findings, I am updating my recommendations regarding cod liver oil, as it may not serve you as well as previously believed. My previous recommendation was based on the fact that cod liver oil contains vitamins D and A in addition to healthy omega-3 fats. These vitamins are essential for most everyone who cannot get regular sun exposure year-round.

WAPF Response: It is a true statement that vitamins A and D are essential for “most everyone” but contrary to the implication that follows, we do not get vitamin A from sunlight. Mercola is correct in stating that cod liver oil may not serve us as well as previous believed. That is because most cod liver oil today has had a large part of the vitamin D removed during processing. We warned our readers about this situation in an article on the manufacture of cod liver oil in the Winter 2005 issue of Wise Traditions. This is why we recommend only those brands of cod liver oil that contain adequate vitamin D (as well as adequate vitamin A).

Mercola Statement: But more recent research has discovered that the ratios of these two vitamins may be of paramount importance in order to extract optimal health benefits, and unfortunately, modern cod liver oil does not supply these vitamins in healthy ratios to each other.

WAPF Response: A detailed explanation of this research was compiled by Chris Masterjohn and published in Wise Traditions, Fall, 2005 (Vitamin A on Trial: Does Vitamin A Cause Osteoporosis?). The Weston A. Price Foundation was the first organization to provide the public with this important information. We noted that most – but not all – cod liver oil does not supply vitamins A and D together in the right ratio. Mercola avoids telling his readers that we can still obtain cod liver oil that contains adequate vitamin D, a fact with which he is surely familiar since he seems familiar with all the other information on cod liver oil posted at westonaprice.org.

Basically, adults need about 1000 IU vitamin D daily to avoid vitamin A toxicity. This can be supplied by a dose of a recommended brand of cod liver oil that provides 10,000 IU vitamin A, which is a completely safe dose of natural vitamin A. Our recommended brands of cod liver oil are listed in our shopping guide and posted on our website.

Mercola Statement: WHAT YOU NEED TO KNOW ABOUT VITAMINS A AND D IN COD LIVER OIL – At least 2,000 genes, or nearly 10 percent of your genes, have been identified that are directly influenced by vitamin D, which in turn impact a wide variety of health issues, from
preventing the common cold and flu to inhibiting at least sixteen different types of cancer. There’s even evidence linking vitamin D to the process of brain detoxification of heavy metals such as mercury.

Widespread vitamin D deficiency has also been strongly linked to the childhood epidemics of autism, asthma, and diabetes, both type 1 and 2. Vitamin A, which is essential for your immune system just like vitamin D, is also a precursor to active hormones that regulate the expression of your genes, and they work in tandem. For example, there is evidence that without vitamin D, vitamin A can be ineffective or even toxic. But if you’re deficient in vitamin A, vitamin D cannot function properly either.

WAPF Response: These statements are all true. The information about the importance of balance between vitamins A and D comes from our website.

Mercola Statement: There are many problems with modern cod liver oil but one of the primary ones is that there is no standard definition of what constitutes cod liver oil. Manufacturers are free to add or subtract as much vitamin A or D as they see fit.

WAPF Response: This is a true statement to which we have alerted our readers in several places on our website. When it comes to cod liver oil, it is important to read the labels!

Mercola Statement: In fact cod liver oil was discovered in the sewers of England several hundred years ago by starving children who drank it and scientists noticed they did not get rickets. Cod liver oil is in fact a highly processed food that was never consumed by humans prior to this.

WAPF Response: Reference please?? In fact, for thousands of years, traditional peoples from Northern Europe, the Mediterranean, Russia, North America and the South Seas have valued the oil from cod and other species of fish and shark. Medical research on the benefits of cod liver oil dates back to the 1700s. The notion of cod liver oil running through the sewers of England is ludicrous – if cod liver oil is a new, highly processed food, how did it get into those English sewers hundreds of years ago? How could it have been manufactured before it was even discovered?

Mercola Statement: PRIMARY JUSTIFICATION FOR WHY YOU SHOULD AVOID COD LIVER OIL – There have been two recent meta-analyses done. The first one showed that people who took vitamin A supplements in cod liver oil, or in supplements, had an 18 percent increase in death rates.

WAPF Response: Mercola is referring to a meta-analysis by Bjelakovic and others published in the Journal of the American Medical Association (2007 Feb 28;297(8):842-57), cited in the Cannell study and discussed in depth on page 23. This analysis looked at selected randomized trials involving adults given beta-carotene, vitamin A, vitamin C, vitamin E and selenium. By manipulating the data in a certain way, the researchers claimed they found an association with supplement consumption, including vitamin A consumption, and increased mortality. Actually, only two of the studies included in the meta-analysis involved vitamin A given alone, neither of which even mentioned cod liver oil. Both were small studies and in neither did the authors claim that vitamin A had any effect on mortality. By referring to the meta-analysis rather than the individual studies, Cannell was able to avoid mentioning the fact that the two small studies offered no useful information about the effect of vitamin A on mortality.

Mercola Statement: The other study showed that unlike third world countries where vitamin A
supplementation appears to decrease infections, vitamin A supplementation in developed countries like the U.S. actually increases infections.

The researchers believe this is due to massive nutritional deficiencies in the third world because most of their calories are from grains and they simply don’t have an opportunity to consume as many fresh fruits, vegetables, butter, eggs and other vitamin A-containing foods that those in the developed world do.

In fact current research could not find any vitamin A deficiency at all, but approximately 5 percent had vitamin A toxicity. The converse is true in the third world where vitamin A toxicity is virtually unheard of, yet vitamin A deficiency is pervasive.

WAPF Response: As discussed in the sidebar "Does Vitamin A Increase the Risk of Infections?" in Chris Masterjohn's article "The Cod Liver Oil Debate," the analysis cited by Mercola did not even look at vitamin A supplementation in the U.S. but was a meta-analysis that pooled the results of nine studies conducted in India, Ecuador, Indonesia, Brazil, Ghana, Mexico and the Republic of Congo. Several of these studies have suggested that vitamin A may reduce the incidence of respiratory infection in malnourished children but increase it in wellnourished children, but none of them present evidence that the effect of vitamin A depends on vitamin A status or that vitamin A is helpful in the Third World but harmful in the developed world.

A number of studies included in the meta-analysis showed vitamin A to have no effect on respiratory infections while nevertheless reducing severe diarrhea by over 20 percent, gastrointestinal-associated mortality by over a third, infection-associated mortality by half, and measles incidence by 95 percent. The general picture that emerges from the scientific literature is that vitamin A consistently reduces mortality from severe infectious diseases but has a more complicated relationship to lower respiratory infections that we still do not completely understand.

Mercola Statement: Additionally new research has shown that vitamin D protects against cancer. But a paradox was found as those with higher vitamin D levels did not seem to have this benefit. A bright Harvard researcher carefully analyzed the data in the study that showed this and found that when he removed the people with high vitamin A and vitamin D levels, those with normal vitamin A levels and high vitamin D levels continued to have reduced risk of colon cancer. So those that did not take vitamin A had the protective effect from higher levels of vitamin D.

WAPF Response: In this report, which was based on data drawn from the Nurses’ Healthy Study and published in the American Journal of Epidemiology, 2007, total intake of vitamin D from foods and supplements was associated with a lower risk of colon cancer when total vitamin A intakes were below 5,000 IU, but not when total vitamin A intakes were above 5,000 IU. The vitamin D intakes in this study, however, were very low. Even the 20 percent of people consuming the most vitamin D consumed an average of less than 600 IU. If the participants were receiving a lot of sunshine, the thousands of IU from that source would likely have diluted any effect of the vitamin D, so the strong association at low vitamin A intakes suggests they were not receiving much sunshine. Basic adequacy of vitamin D status would require over three times the highest intakes consumed in the study.

In order to truly indict intakes of over 5,000 IU of vitamin A as excessive, evidence should be provided from a population consuming adequate vitamin D. As soon as someone begins taking vitamin D supplements at the levels recommended by Dr. Mercola and the Vitamin D Council, they are no longer a member of the vitamin D-deficient population studied in the Nurses’ Health Study so the results of that study do not apply to them. It must be emphasized, moreover, that correlations never
show causation. We can use the observations in this study to hypothesize that high vitamin A intakes antagonize the beneficial effects of vitamin D intakes when vitamin D intakes are very low, but in order to demonstrate this premise, studies must be performed showing that increasing vitamin D intakes or decreasing retinol intakes reduce the risk of colon cancer compared to controls.

**Mercola Statement: Other research is now showing a connection between high levels of vitamin A and osteoporosis. In fact many Scandinavian countries that regularly supplement with cod liver oil have rampant osteoporosis even though they are getting adequate amounts of oral vitamin D.**

**WAPF Response:** We have thoroughly addressed the problems of osteoporosis in Scandinavian countries in an article published in the Winter 2005 issue of Wise Traditions (Vitamin A on Trial: Does Vitamin A Cause Osteoporosis?). The vitamin A in this study does not come from cod liver oil but from milk and cereals to which vitamin A is added. In the context of a vitamin D-deficient diet, consumption of high levels of synthetic vitamin A was associated with a higher risk of osteoporosis. Although human and animal evidence strongly suggests that vitamin A can only exert harm against the backdrop of vitamin D deficiency, it also suggests that the body's requirements for vitamin A are even higher than once thought.

**Mercola Statement:** Dr. John Cannell, head of the Vitamin D Council, along with fifteen other researchers, recently released an article “Cod Liver Oil, Vitamin A Toxicity, Frequent Respiratory Infections, and the Vitamin D Deficiency Epidemic” in the November issue of Annals of Otology, Rhinology and Laryngology. In this paper Dr. Cannell raised questions about the efficacy of cod liver oil due to its highly variable and frequently excessive amount of vitamin A. Typically modern cod liver oil contains far less vitamin D than it used to, due to the deodorization process used today which removes much of this essential nutrient.

**WAPF Response:** Most of this paper is a review of studies showing the benefits of vitamin D in protecting against various illnesses, including respiratory infection. This paper does not present any information whatsoever indicating that cod liver oil is toxic and, in fact, admits that vitamin A can significantly reduce the incidence of acute lower respiratory tract infections in Third World children.

A portion of the review article is an attempt to explain why a 2004 study providing 600 to 700 IU of vitamin D and 3,500 IU of vitamin A in the form of cod liver oil and a multivitamin failed to meaningfully reduce upper respiratory tract infections when studies from the 1930s found that cod liver oil could reduce the incidence of these infections by 30 to 50 percent. The authors of the recent commentary suggested that the older studies were more effective because cod liver oil in the 1930s contained much more vitamin D. They suggested that modern cod liver oil is low in vitamin D because the deodorization process removes the vitamin while manufacturers fortify the oil with only a fraction of the original amount. As an example, they cited cod liver oil made by Nordic Naturals, advertised as containing only “naturally occurring vitamins A and D,” which has only 3 to 60 IU of vitamin D per tablespoon but between 150 and 12,000 times as much vitamin A.

This conclusion is essentially the same as the conclusion reached by the Weston A. Price Foundation and the research of Chris Masterjohn; we have continually pointed out that vitamins A and D work together and that without vitamin D, vitamin A can be ineffective or even toxic. We do not recommend Nordic Naturals regular cod liver oil or any brand of cod liver oil that is low in vitamin D.

But it is completely inappropriate to conclude from this 2004 study that cod liver oil is toxic because of its vitamin A content. Similar reviews could be put together showing the benefits of vitamin A and cod liver oil in numerous studies – see the sidebar below for a list of recent studies showing a wide range
of benefits from cod liver oil. Obviously the solution is to use the type of cod liver oil that people took in the 1930s, which did not have most of the vitamin D removed by modern processing techniques.

During the first half of the century, cod liver oil was the focus of a worldwide health initiative. Parents were urged to give cod liver oil to their children by doctors, by government officials, by teachers and principals in schools, and even by their ministers in churches. A large portion of adults in America born before the Second World War received cod liver oil as children and this practice contributed to a high level of health, intelligence and physical development in those lucky enough to receive it. In Europe in many countries, children received a daily ration of cod liver oil, especially during the war years. In the UK, for example, the government issued cod liver oil to all growing children until the early 1950s. The cod liver oil used during this period was obviously not toxic, but contributed to the good health of a whole generation of people. Surely the answer is to provide the current generation with the benefits of the same kind of cod liver oil.

**Mercola Statement:** Dr. Cannell and other prominent researchers believe the vitamin A contained in most cod liver oil is excessive, and can reduce the effectiveness of vitamin D by inhibiting the binding of its active form to your DNA, effectively preventing its ability to regulate the expression of your vitamin D-responsive genes.

WAPF Response: According to a comment posted on the Internet, Dr. Veith, the second author of the paper and a prominent vitamin D researcher, does not agree with Cannell’s outright ban of cod liver oil. Dr. Veith is ultimately concerned with the possibility of vitamin A toxicity, but he stated that one teaspoonful per day of cod liver oil is not of concern (onibasu.com/archives/nn/105447.html).

While Mercola states earlier that vitamins A and D are synergistic, he now states that vitamin A antagonizes the actions of vitamin D. The Vitamin D Council report claims that the vitamin A in cod liver oil is excessive and antagonizes vitamin D by inhibiting the binding of its active form to DNA and thus prevents its ability to regulate the expression of vitamin D-responsive genes.

Vitamins A and D are both precursors to active hormones that regulate the expression of genes. The body possesses certain enzymes that convert each of these in a two-step process to their active forms: vitamin A is converted to retinol and then to active retinoic acid while vitamin D is converted to calcidiol and then to active calcitriol. While directly consuming either retinoic acid or calcitriol would be unnatural, consuming vitamins A and D, together, as in cod liver oil, is perfectly natural. The enzymes involved in these conversions are responsible for producing incredibly powerful hormones and are therefore highly regulated.

In order for vitamin D to activate the expression of its target genes, it must bind to the vitamin D receptor (VDR) and then combine with the retinoid X receptor (RXR), which is activated by a particular form of vitamin A called 9-cis retinoic acid. Researchers from Spain recently showed that vitamin D can only effectively activate target genes when its partner receptor is activated by vitamin A.

**Mercola Statement:** The Weston Price Foundation, of which I am an advisory [honorary] member, holds a contradictory view. They believe vitamin D can only effectively target genes when its “partner receptor” is activated by vitamin A. If vitamin A is absent, certain molecules called co-repressors bind to the receptors and prevent vitamin D from functioning. It is their position that cod liver oil is still a highly recommended supplement.

WAPF Response: Dr. Mercola is no longer a member of the Weston A. Price Foundation honorary board. Research does indeed indicate that vitamin D can only effectively target genes when its partner receptor is activated by vitamin A.
Mercola Statement: After reviewing the evidence, I am personally convinced that there is sufficient vitamin A in the current American diet to facilitate sufficient vitamin D activation. This does not appear to be the case in third world countries, where cod liver oil, or some other preformed retinol supplement, would still be useful.

WAPF Response: Please supply us with this evidence. Where does the average American get vitamin A in the modern diet? If vitamin A in the American diet is adequate for vitamin D activation, why are Cannell and Mercola obliged to recommend such high levels of vitamin D – levels much higher than those found in traditional diets – in order to bring serum vitamin D levels into the normal range?

Mercola Statement: MOST COD LIVER OILS HAVE EXCESSIVE VITAMIN A (PREFORMED RETINOL) – However, even the Weston Price Foundation acknowledges that there are dangerous versions of cod liver oil out there, even from some highly reputable companies like Nordic Naturals, which produces a cod liver oil that is clearly excessive in vitamin A as it only has 3 to 60 units of vitamin D per tablespoon but between 150 and 12,000 times as much vitamin A. It’s a delicate balance.

Both vitamins are essential to obtain optimal health benefits, however, the ratios can become dangerously unbalanced – much like the omega-3/omega-6 balance, which has become inversed in our modern diet.

Nearly all brands of cod liver oil provide a token amount of vitamin D, typically a mere 400 to 1,200 IU of vitamin D per tablespoon but anywhere between 4,000 to 30,000 IU of vitamin A. This is clearly inappropriate. About the lowest ratio I have seen is ten times as much vitamin A as vitamin D but, as I stated above, it can be as high as 12,000 times as much vitamin A.

First of all, this is clearly an insufficient amount of vitamin D for even the smallest child. This is in part due to the government recommendations, which are FAR too low to offer any health benefits; the recommended daily dosage being no more than 200 to 600 IU, depending on age. Meanwhile, researchers have since established that the therapeutic dosage is anywhere between 2,000 to 10,000 IU per day, depending on your weight and other factors, such as skin color and level of regular sun exposure. (Some people may require, and can safely take, as much as 20,000 IU daily.)

WAPF Response: A dose of 1000 IU vitamin D daily is adequate to avoid problems with vitamin A in adults. If the ratio of A to D in cod liver oil is 10 to 1, then it is easy to obtain a safe amount of vitamin A along with an adequate amount of vitamin D.

Mercola Statement: Consuming such high amounts of vitamin A as contained in cod liver oil and most multi-vitamins, while not getting nearly enough vitamin D, combined with the fact that most people are deficient in vitamin D to begin with, could potentially cause vitamin A to become toxic.

WAPF Response: We agree with this statement and have consistently warned people not to use multivitamins and not to take brands of cod liver oil that are low in vitamin D.

Mercola Statement: The concern Dr. Cannell and the other researchers have is that vitamin A in cod liver oil is excessive and actually antagonizes vitamin D by inhibiting the binding of its active form to DNA and thus preventing its ability to regulate the expression of vitamin D-responsive genes.
WAPF Response: As stated earlier, vitamin A can be toxic when vitamin D is absent. Vitamin A does not antagonize vitamin D – both are needed for optimal assimilation. It would be amazing if vitamins A and D were antagonistic since they are so often found in the same foods.

Mercola Statement: The Weston Price Foundation’s strong belief is that vitamin A is not at all toxic but is necessary for optimal vitamin D function. However they believe there is sufficient vitamin A in the diet of most Americans, especially if they are taking a multivitamin.

WAPF Response: If Dr. Mercola is so familiar with all the information on cod liver oil on our website, how can he make this fundamental misrepresentation of Dr. Price’s research? Our primary message is that vitamin A levels are far too low in the modern American diet compared to primitive diets. Primitive peoples consumed very high levels of vitamin A from organ meats, insects, fish eggs, fish heads, liver and fish liver oils, as well as from butterfat and egg yolks from grassfed animals. Since most of our animals are raised in confinement today, and many of the vitamin A-rich foods are unacceptable to modern palates, we recommend taking cod liver oil on a daily basis. We have never recommended taking a multivitamin. Likewise, we have never stated that vitamin A is “not at all” toxic.

Mercola Statement: In the third world this is not the case and they would likely benefit from vitamin A supplementation.

WAPF Response: Why would the average Westerner have more sources of vitamin A in the diet than people in the Third World? At least in the latter, people who are not literally starving are more likely to eat organ meats, fish heads, insects and other sources of vitamin A. But it is certainly true that children in the Third World have greatly benefited from vitamin A supplementation. Why would children in the West be any different?

Mercola Statement: The Weston Price Foundation does not agree with Dr. Cannell’s conclusion that cod liver oil itself may cause vitamin A toxicity, however they also do not recommend taking any cod liver oil that is low in vitamin D. Yet even their recommendations, in my opinion have far too low amounts of vitamin D to be clinically useful. But more importantly it appears that the high amounts of vitamin A may limit the effectiveness of vitamin D even if more is taken in addition to that received in the cod liver oil.

WAPF Response: As shown in the sidebar below, "A Preliminary Look at the Effects of Cod Liver Oil on Vitamin D Levels," we are seeing good serum D levels in people taking balanced cod liver oil without supplemental vitamin D; Cannell and Mercola are recommending very high levels of vitamin D supplementation to get the same results. We have a genuine concern that such high levels without supporting vitamin A could suppress the immune system and be toxic in other ways. Too much vitamin D can result in calcification of the kidneys, arteries, joints and other soft tissues.

Mercola Statement: Although it’s still unclear exactly what the balance should be, Dr. Cannell and most of the prominent expert researchers in this area believe that the ratios of these two essential nutrients likely should be reversed from those typically seen in cod liver oil, as you need far greater amounts of vitamin D as opposed to vitamin A.

WAPF Response: Reference please? If Cannell is unclear what the balance should be, why is he recommending a ratio that is impossible to achieve in traditional diets? It may be possible in primitive diets to obtain an A-to-D ratio of approximately 1:1 from food, but certainly not 1:10. This can only be done with modern supplements.
Mercola Statement: After carefully reviewing the arguments on both sides of the issue I am convinced that Dr. Cannell’s approach is far more likely to be consistent with producing high levels of health and decreased illness.

WAPF Response: What’s needed is a study comparing the health status of individuals taking a balanced cod liver oil and those taking large amounts of vitamin D without cod liver oil, as recommended by Cannell and Mercola. Meanwhile, it would be wise to err on the side of traditional diets, which generally contained higher levels of A than D in terms of International Units.

Mercola Statement: MY REVISED COD LIVER OIL RECOMMENDATIONS – As the prevalence of vitamin A deficiency (which would benefit from cod liver oil) in the U. S. is much lower than the prevalence of subclinical vitamin A toxicity, while most everyone suffers from vitamin D deficiency, I no longer recommend taking cod liver oil for either adults or children. You’re likely getting the vitamin A you need if you regularly consume fresh vegetables high in this nutrient, such as sweet potatoes, carrots, cantaloupe, and other colorful fruits and vegetables, and butter especially, if obtained from grass-fed cows.

WAPF Response: Here Dr. Mercola repeats the myth that we can obtain adequate vitamin A from plant foods. We have thoroughly explored this topic and shown that plant foods are a very poor source of vitamin A for humans, especially for babies and children, diabetics, and those suffering from thyroid and digestive disorders. (See Vitamin A Saga.)

Mercola Statement: Although you can obtain vitamin D from your diet, it is very difficult, and I believe it is very unnatural. It is my strong belief that we were designed to obtain virtually all of our vitamin D from exposing appropriate areas of our skin to sunshine. If this is not possible, the next best choice would be exposure to UVB rays from safe tanning beds, and if that is not possible then one should resort to a high quality vitamin D3 supplement.

WAPF Response: Why is it unnatural to get vitamin D from the diet? Is it more unnatural than taking vitamin D pills? What did our ancestors do during the winter months? Mercola was not there to sell them vitamin D pills or tanning beds. Even in the tropics, traditional peoples obtained high amounts of vitamin D from their food.

Mercola Statement: As it stands, it is my strong belief that you’re simply not getting the appropriate balance of vitamin A to vitamin D from cod liver oil, which is why I believe it is best to avoid it.

WAPF Response: With the right brands of cod liver oil, it is indeed possible to get the right balance of A and D and a myriad of well-documented health benefits.

Mercola Statement: Please note that this new recommendation does NOT apply to either fish oil or krill oil, as neither of them contain the vitamins A or D, but rather are excellent sources of essential omega-3 fats. EVERYONE still needs a regular high quality source of these absolutely essential and vital nutrients.

WAPF Response: Dr. Mercola sells krill oil. Is this why he recommends it? The omega-3 fatty acids in krill oil are likely to be highly damaged from heat treatment during industrial processing. (See our description of krill oil manufacture in David Wetzel's article, "Update on Cod Liver Oil Manufacture.") In addition, there is a danger from over-dosing on omega-3 fatty acids, which can depress the immune system and potentially lead to cancer. By taking a high-vitamin cod liver oil, you can obtain adequate vitamins A and D without overdosing on omega-3 fatty acids.
**Mercola Statement:** Another potential point of confusion is that beta carotene is not a concern, as that is PRE vitamin A. Your body will simply not over convert beta carotene to excessive levels of vitamin A. So taking beta carotene supplements is not going to interfere with vitamin D.

**WAPF Response:** Several studies have shown that taking betacarotene supplements result in higher mortality. The body cannot convert beta-carotenes into adequate levels of vitamin A. To achieve optimum health, we need liberal amounts of preformed vitamin A from foods like liver, seafood, butter, egg yolks and cod liver oil, along with vitamin D from the same types of foods, not from vitamin D pills.

**SIDEBARS**

**A Preliminary Look at the Effects of Cod Liver Oil (CLO) on Vitamin D Levels**

Nineteen volunteers had their vitamin D levels tested using the home blood test from ZRT Laboratories and reported their vitamin D levels, cod liver oil usage and vitamin D supplementation to the Weston A. Price Foundation. The results are shown below. All volunteers are from northern latitudes and none reported recent sun exposure.

<table>
<thead>
<tr>
<th>Vitamin D Level</th>
<th>A/D from CLO</th>
<th>CLO Type</th>
<th>Vitamin D Supplement</th>
<th>Duration (Months)</th>
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<tr>
<td>32</td>
<td>6,000/600</td>
<td>Fermented</td>
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<td>12</td>
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<tr>
<td>34</td>
<td>857/107</td>
<td>Carlson’s 1000 mg caps</td>
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<td>50,000 IU x 2, before onset of a cold</td>
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<td>40</td>
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<td>Fermented</td>
<td>0</td>
<td>12</td>
</tr>
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<td>41</td>
<td>6,000/200</td>
<td>Fermented</td>
<td>6,000 IU</td>
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<td>44</td>
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<td>50,000 IU x 3, before onset of a cold</td>
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While these results are merely preliminary, a tentative conclusion is that consumption of cod liver oil containing vitamin A does not interfere with the assimilation of vitamin D. Of the twelve individuals who had vitamin D levels of 40 or above, eight took cod liver oil alone, with no supplemental vitamin D. More carefully controlled studies are needed to provide definitive confirmation of this hypothesis.
Recent Studies on Cod Liver Oil

Numerous recent studies have shown wide-ranging benefits from cod liver oil, as indicated by these summaries from articles published between 2000 and 2009.

PAIN IN RHEUMATOID ARTHRITIS: Cod liver oil supplements were better than controls in relieving pain and can be used as NSAID-sparing agents in rheumatoid arthritis patients (Rheumatology (Oxford). 2008 May;47(5):665-9).

VITAMIN D STATUS AND BONE LOSS: Inclusion of cod liver oil in the diet appears to attenuate the seasonal variation of vitamin D status in early postmenopausal women at northerly latitudes where quality of sunlight for production of vitamin D is diminished. Cod liver oil can thus protect against greater bone turnover, bone loss and obesity (Bone. 2008 May;42(5):996-1003).

DIABETES-RELATED CARDIOVASCULAR DISORDERS: Cod liver oil treatment in diabetic rats completely prevented endothelial deficiency and partly corrected several biochemical markers for cardiovascular disorders (J Pharm Pharmacol. 2007 Dec;59(12):1629-41).

MULTIPLE SCLEROSIS: In Arctic climates, supplemental cod-liver oil during childhood may be protective against multiple sclerosis later in life (J Neurol. 2007 Apr;254(4):471-7).

BREAST CANCER: Reduced breast cancer risks were associated with increasing sun exposure and cod liver oil use from ages ten to nineteen. “We found strong evidence to support the hypothesis that vitamin D could help prevent breast cancer. However, our results suggest that exposure earlier in life, particularly during breast development, maybe most relevant” (Cancer Epidemiol Biomarkers Prev. 2007 Mar;16(3):422-9).

DEPRESSION: Regular use of cod liver oil is negatively associated with high levels of depressive symptoms in the general population (J Affect Disord. 2007 Aug;101(1-3):245-9).

WOUND HEALING: The combination of zinc oxide and cod liver oil was found to be superior to the formulations containing only one active ingredient. This combination was also found to be most efficient in accelerating wound healing when it is retarded by repeated dexamethasone treatment (Dtsch Tierarztl Wochenschr. 2006 Sep;113(9):331-4).

BREAST MILK: Women using cod liver oil had a significantly higher levels of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) in their breast milk. “As this may have an impact on the health and development of breast-fed infants in later life, regular maternal cod liver oil intake could be relevant for the infant as well as for the nutritional adequacy of the maternal diet” (Ann Nutr Metab. 2006;50(3):270-6).

PAIN AND JOINT STIFFNESS: Cod liver oil application allows reduction of the dose of nonsteroidal anti-inflammatory drugs, and improves chief clinical symptoms, reducing pain and morning joint stiffness (Klin Med Mosk 2005;83(10):51-7).

HIP FRACTURE: Multivitamin or cod liver oil supplementation was associated with a significantly lower risk of any fracture. “We found no evidence to support any skeletal harm associated with increased serum indices of retinol exposure or modest retinol supplementation in this population” (J Bone Miner Res. 2005 Jun;20(6):913-20).

HIGHER BIRTH WEIGHT: Women who used liquid cod liver oil in early pregnancy gave birth to heavier babies, even after adjusting for the length of gestation and other confounding factors. “Higher
birth weight has been associated with a lower risk of diseases later in life and maternal cod liver oil intake might be one of the means for achieving higher birthweight” (BJOG. 2005 Apr;112(4):424-9).

UPPER RESPIRATORY TRACT INFECTIONS IN CHILDREN: Children supplemented with cod liver oil had a decrease in upper respiratory tract infections and pediatric visits over time (Ann Otol Rhinol Laryngol. 2004 Nov;113(11):891-901).

VITAMIN D STATUS: In Norway, three mølje meals (consisting of cod liver and fresh cod-liver oil) provided an amount of vitamin D equal to 54 times the recommended daily dose. Subjects with food consumption habits that included frequent mølje meals during the winter sustained satisfactory vitamin D levels in their blood, in spite of the long “vitamin D winter” (Public Health Nutr. 2004 Sep;7(6):783-9).

DIABETES: Use of cod liver oil in the first year of life was associated with a significantly lower risk of type 1 diabetes. Use of other vitamin D supplements during the first year of life and maternal use of cod liver oil or other vitamin D supplements during pregnancy were not associated with lower risk of type 1 diabetes (Am J Clin Nutr. 2003 Dec;78(6):1128-34).

INTELLIGENCE IN CHILDREN: Children who were born to mothers who had taken cod liver oil during pregnancy and lactation scored higher on intelligence tests at age four compared with children whose mothers had taken corn oil (Pediatrics. 2003 Jan;111(1):e39-44).


EAR ACHES IN CHILDREN: Children prone to ear aches (otitis media) receiving cod liver oil plus selenium needed lower amounts of antibiotics during supplementation compared to before supplementation (Ann Otol Rhinol Laryngol. 2002 Jul;111(7 Pt 1):642-52).


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About the Author

Sally Fallon Morell is the author of Nourishing Traditions: The Cookbook that Challenges Politically Correct Nutrition and the Diet Dictocrats (with Mary G. Enig, Ph.D.), a well-researched, thought-provoking guide to traditional foods with a startling message: Animal fats and cholesterol are not villains but vital factors in the diet, necessary for normal growth, proper function of the brain and nervous system, protection from disease and optimum energy levels. She joined forces with Enig again to write Eat Fat, Lose Fat, and has authored numerous articles on the subject of diet and health. The President of the Weston A. Price Foundation and founder of A Campaign for Real Milk, Sally is also a journalist, chef, nutrition researcher, homemaker, and community activist. Her four healthy children were raised on whole foods including butter, cream, eggs and meat.