

## Prenatal Omega-3 Research Report



### Omega-3 Fatty Acids in Pregnancy

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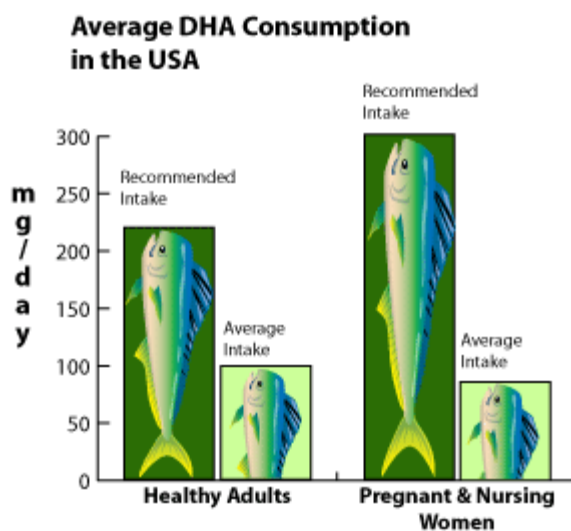
This report is about the omega-3 fatty acids found in Melaleuca's **Prenatal Omega-3**, in particular DHA and its effect on pregnancy and the health of the newborn baby.

Words with a red dashed underline indicate a link to a glossary definition.

### Omega-3 Fatty Acids in Pregnancy

Omega-3 fatty acids, in particular DHA, help a pregnant woman give her developing baby every advantage in life starting in-utero. In general the omega-3 fatty acids found in fish help the cardiovascular system, the brain (including moods), and even the brain and eyes of a developing baby. Yet only about 68% of women know about the benefits of DHA, an essential fatty acid. More than two-thirds of women say their doctor has never told them anything about DHA, and 72% have no idea how to get DHA into their diet.(1)

Chart 1



DHA while pregnant performed more poorly on vision tests than babies of mothers who supplemented with DHA. The vision test measures the babies' ability to differentiate between the width of lines.(3)

The risk of pre-term delivery and low birth weight is three and a half times higher when mothers are deficient in DHA.(4) Premature babies (preemies) are prone to have many health problems

Consumer DHA consumption is well below recommended amounts in the United States and the United Kingdom, and is only a little better in Australia and Canada. Yet still the consumption in these countries is not even half of the consumption of DHA in Japan or Norway where fish and seafood are eaten regularly.(2)

### DHA and Prenatal Development

Neglecting to supplement the diet with DHA is risky for infant neurological development while in-utero because so much of the brain and eyes are made up of omega-3 fatty acids, specifically DHA. Babies of mothers who were deficient in

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"All the reports are very informative and helpful. They will definitely be of great help in getting my customer base interested. Many thanks..." S.D.

"Excellent! Thorough and informative. Thank you!" J.A.

"I just wanted to say

including high risk of eye and brain damage, and some need speech therapy as they grow older. (5) Advances in newborn medical care have greatly reduced the frequency of deaths related to low birth weight. However, of those who survive, a small percentage may develop mental retardation, learning problems, cerebral palsy, and vision and hearing loss. (6) In the year 2005, pre-term births nationwide represented 12.7% of all births. That's about a half a million premature babies a year. (7)

There are many different reasons for a premature birth, and not all of them are within the mothers' control, so it is impossible to say that simply supplementing with prenatal vitamins and omega-3s are enough to prevent one. However, within the list of causes that are in a mothers' control, such as lifestyle choices, a proper diet and supplementation is the first line of defense. (5) Mothers who supplement with fish oil tend to have longer pregnancies by about four days than those who are deficient in DHA.

Unfortunately, low birth weight is now known to be associated with increased adult rates of coronary heart disease, stroke, hypertension and non-insulin dependent diabetes. Preventing disease really does start in the womb. Also consider that the womb is where the baby learns how life on the outside might be. If the mother is poorly nourished she signals to her unborn baby that the environment it is about to enter will probably be harsh. The baby responds to these signals by adaptations, such as reduced body size and altered metabolism, which help it to survive a shortage of food after birth, but which also set the stage for health problems later on in life. (8)

Conversely, the higher the child's blood level of omega-3, as determined by the supplement the mother took while pregnant, the better eye-hand coordination the child may possess. (9) It is more likely that language and motor skills and problem-solving ability will be more strongly developed in children whose mothers' levels of DHA were high. One small scale double blind study found that the babies of women who were given DHA supplements in functional food during the last trimester of pregnancy could out-perform other babies in problem solving tests at nine months of age. Curiously, there was no difference between the test and control groups in tests of memory, but DHA-rich babies could find a toy hidden under a cloth more often than the babies of moms in the control group. (10)

## DHA and Mother's Health

Since the consumption of omega-3 fatty acids help both the circulatory system and brain function in people, it follows that if a pregnant woman consumes fish oil supplements, not only is she helping her developing baby, she is also fortifying her own system. A cross-national study on rates of postpartum depression among twenty-two countries found that the lower the amount of DHA in the mother's blood, the higher chance she'll develop postpartum depression. (11)

The following is a quotation from Dr. S.J. Genuis, Faculty of Medicine-OB/GYN, University of Alberta, Canada, supporting the decision to supplement with fish oil:

"In view of the mounting evidence implicating Omega-3 Fatty Acid deficiency as a determinant of various **maternal and** pediatric afflictions, physicians should consider recommending purified fish oil supplementation during pregnancy and lactation." (12)

During prenatal development, the fetus takes all available DHA if the mother is deficient. That leaves nothing left over for the mother. Nutritional science studies point to a correlation between low levels of omega-3s and depression in people. A pregnant or lactating woman has higher needs for omega-3 (see chart 1 above), with current recommendations at 300 milligrams per day for intake of DHA. To compare numbers, consider that the average non-pregnant Japanese woman consumes 571 milligrams per day of DHA. (13)

Melaleuca includes 1000 milligrams of DHA (1400 milligrams of DHA and EPA combined) in their **Prenatal Omega-3** supplement, so pregnant mothers can be sure they have enough DHA to meet the needs of their baby and have enough left over to fortify themselves against

thank you for the report and to let you know how helpful I found it. — A really useful newsletter! Thanks." D.H.

"A real gold mine of info." J.K.

"Thanks for your tireless pursuit of truth. It is a huge resource to us!!" P.L.

"I love this report, and the leads generated from it..." D.B.

depression and loss of energy. Most fish oil supplements targeted towards cardiovascular health have more EPA than DHA. Since **Prenatal Omega-3** is targeted towards the healthy development of the baby's brain, it has twice the DHA as EPA because the brain is composed mostly of DHA.

Be aware that B vitamins also play an extremely important role in preventing depression, so a new mother should continue taking vitamins even after the birth of her baby.

### Gestational Diabetes

Doctors have taken detailed diet diaries of women during pregnancy and found that those who develop gestational diabetes tend to eat more omega-6 fatty acids than omega-3s. Omega-6 fats are found in many common vegetable oils. In Western countries omega-6 intake well exceeds the recommended levels, and the median intake of omega-3 is well below recommended amounts. There is evidence that **DHA modulates insulin resistance!** Those prone to gestational diabetes are strongly urged to replace omega-6 fats with omega-3s. (14) (15)

### Pre-eclampsia

More research is needed on the relationship between omega-3 and pre-eclampsia, also known as toxemia. However there are a few studies that indicate a possible reduction in risk for developing pre-eclampsia during pregnancy when the diet is rich in omega-3. In fact, the findings are very similar to those of gestational diabetes. If the mother has extremely low levels of omega-3, she is seven and a half times more likely to develop pre-eclampsia than the mother whose levels of omega-3 are the highest. Also, if the mother changes her dietary ratio of omega-3 to omega-6 by eating less fried food and more fish, there is a 46% reduction in the risk of pre-eclampsia. (16)(17)

### Young Mothers

Of mothers under age twenty, 14% have pre-term deliveries (before thirty-seven weeks of gestation), while only 11.5% of mothers aged twenty to twenty-nine have pre-term deliveries. More than 10% of U.S. births in 2004 were to mothers under the age of twenty. Teens are the least likely of all age groups to get regular prenatal care, and yet a teenage mother is at greater risk than women over age twenty for pregnancy complications, such as premature labor, anemia and high blood pressure. These risks are even greater for teens who are under fifteen years of age. Basically, the younger the mother, the higher the risk of a low birth weight baby and premature delivery. (18)

Based on the strong link between levels of omega-3 and lower rates of premature and low birth weight deliveries, all young mothers need to be extra careful about their diet during pregnancy. Adding extra DHA supplementation on top of regular prenatal care and use of prenatal vitamins are strongly advised for the young mother-to-be.

### About Mercury in Fish

Many women are fearful of eating any fish at all during pregnancy because they have heard that the mercury content in fish is bad. It's true, large cold-water fish tend to accumulate mercury, and possibly, dioxins and PCBs in their bodies from the pollution in water because of their long life spans. For this reason, pregnant women are customarily advised to abstain from shark, swordfish, and marlin. But no one should cut fish out of their diet because the benefits of eating fish exceed the potential risks, as verified by a meta-analysis of studies about risks of fish intake vs benefits. (19)

Pregnant women are usually advised to eat two small servings of low-mercury fish per week. See the reference (20) for a list of mercury amounts in different species of fish.

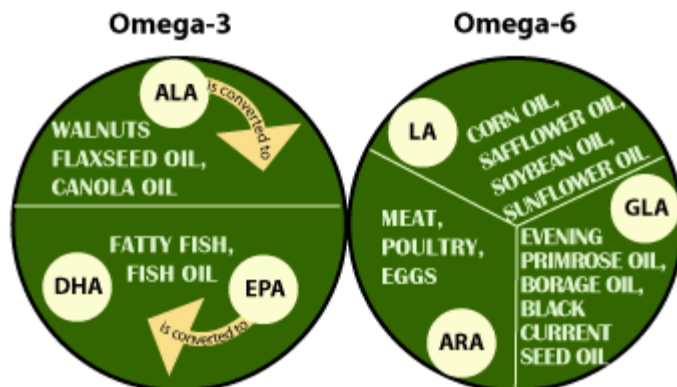
**(Note:** The smaller fish that Melaleuca uses for the supplement **Prenatal Omega-3** are anchovy, mackerel, and sardines. They have short life spans and therefore less of a chance to accumulate toxins from the water. Melaleuca uses high quality fish and molecular distillation to make sure there is no mercury in their supplements.

## About the Ratio of Essential Fatty Acids in the Diet

As noted earlier, doctors recommend that in both gestational diabetes and pre-eclampsia, mothers should reduce the amount of omega-6 intake or possibly replace it with more omega-3s. See chart 2 below to find out sources of these omegas. Most of the omega-6 foods that western societies over-consume include foods fried in corn oil or safflower oil, as well as other oils. Meats and poultry also contain omega-6.

Chart 2

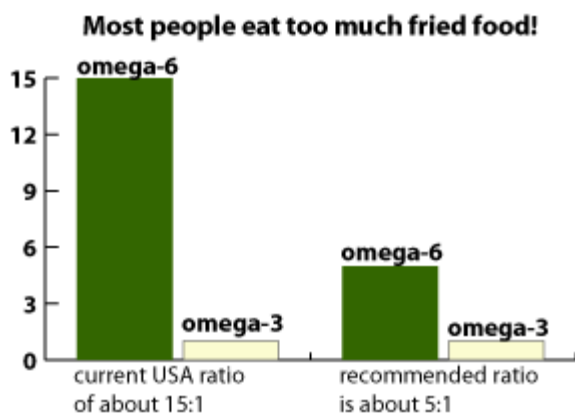
### Sources of long-chain polyunsaturated fatty acids



Unfortunately, today's Western diet promotes many diseases, including cardiovascular disease, cancer, and inflammatory and autoimmune diseases. A lower ratio of omega-6 to omega-3 fatty acids is more desirable in reducing the risk of many of the chronic diseases particular to Western societies, including the complications of pregnancy.<sup>(21)</sup>

People in the West are eating on average a ratio of 15:1 omega-6 to omega-3. Research indicates a ratio of about 5:1 is more healthy and is more indicative of a diet that doesn't normally promote heart disease, like the traditional Japanese diet.<sup>(22)</sup>

Chart 3



What this means is that we eat way too much fried food and not enough fish. (chart 3) If we were to cut the fried food from our diets, average rates of cardiovascular problems would go down. In pregnancy, we should limit fried food because when the ratio of omega-6 to omega-3 is out of balance, mood problems such as depression or anxiety may appear. Pregnant women seem to have a reputation for mood swings; this finding could be one more piece in the mood-swing puzzle. The skewing of the ratio of omega-6 to omega-3 causes numerous negative shifts in body systems, all the way from the heart to

the brain.<sup>(23)</sup>

## Other Pregnancy Considerations

A common recommendation for all women of childbearing age is to always supplement the diet with folic acid, even if you're not trying to get pregnant. This will protect an unborn baby from neural tube defects and other birth defects just in case the unforeseen does happen. A new campaign with sports star Mia Hamm as a spokesperson endeavors to teach women about

"The Big 3" nutrients they need before and during pregnancy, including folic acid, calcium and Omega-3. ***Prenatal Omega-3 does not take the place of the standard prenatal vitamins.*** To have a healthy pregnancy with Melaleuca products, remember that you need ***Vitality Prenatal***, the ***Vitality Mineral Complex***, and the ***Prenatal Omega-3***.

Switch your home to non-toxic household cleaners. Watch out for and avoid endocrine disruptors in the form of pesticides and herbicides in products that kill things like weed killer, pest killer, and [head lice shampoo](#). These products may cause birth defects if the pregnant mother is exposed to them at certain sensitive times during the development of the baby.

Women who smoke double the risk of having a low birth weight baby, and there are no studies to prove or disprove that adding enough omega-3 during pregnancy will cancel the negative developmental effect of cigarette smoking. It is best to quit smoking even before you get pregnant, because often women don't know they are pregnant until three to four weeks into the pregnancy when a lot of development has already taken place.

## Summary

We have seen that fish oil supplements are a beneficial addition to the pregnancy diet. DHA is a benefit to the developing infant, and babies of mothers who supplemented with fish oil have longer gestation times, better vision, better eye-hand coordination and language skills. Babies of mothers who didn't consume enough omega-3 may be born prematurely or with low birth weight, and perform more poorly on problem-solving tests and vision tests. Omega-3 is an important addition to the diet for the mother's health, too. Mothers who do supplement may reduce their chances to develop gestational diabetes, pre-eclampsia, and postpartum depression.

We have also learned the optimum ratio of omega-6 to omega-3 in the diet, because simply adding a dietary supplement on top of a poor diet may or may not prove beneficial in the end. Pregnant women need to reduce their intake of fried foods and other omega-6 sources, and increase their intake of omega-3 for the healthiest pregnancy possible.

## Sources

1. [Most Women Unaware of Key Nutrient Needed for Babies' Brain, Heart and Eye Development During Pregnancy](#). Society for Women's Health Research.
2. [Consumers Rarely Get Enough DHA in their Diets](#). Omega 3 Learning.
3. [Diet Of Typical North Americans Is Deficient In Omega-3 Fatty Acids And May Pose A Risk To Infant Development](#). Medical News Today.
4. [Low consumption of seafood in early pregnancy as a risk factor for preterm delivery: prospective cohort study](#). Maternal Nutrition Group, Danish Epidemiology Science Centre, Statens Serum Institut, Artillerivej 5, DK-2300 Copenhagen S, Denmark. BMJ 23 Feb 2002.
5. [A Primer on Premies](#). Family Doctor.org.
6. [Low Birthweight fact sheet](#). March of Dimes Foundation.
7. [Births by Gestational Age](#). Centers for Disease Control.
8. [Low Birth Weight Linked to Heart Risk](#) WebMD April 2009.
9. J A Dunstan, K Simmer et. al., [Cognitive assessment of children at age 21/2 years after maternal fish oil supplementation in pregnancy: a randomised controlled trial](#). School of Paediatrics and Child Health, University of Western Australia.
10. Judge, M.P., Harel, O. and Lammi-Keefe C.J. [Maternal consumption of a docosahexaenoic](#)

[acid-containing functional food during pregnancy: benefit for infant performance on problem-solving but not on recognition memory tasks at age 9 mo.](#) *American Journal of Clinical Nutrition*, Vol. 85, No. 6, 1572-1577, June 2007.

11. Hibbeln, J. [Seafood consumption, the DHA content of mothers' milk and prevalence rates of postpartum depression: a cross-national, ecological analysis.](#) *Journal of Affective Disorders* Volume 69, Issues 1-3, May 2002, Pages 15-29.

12. S J Genus, G K Schwalfenberg [Time for an oil check: the role of essential omega-3 fatty acids in maternal and pediatric health.](#) *Journal of Perinatology* (2006) **26**, 359–365.  
doi:10.1038/sj.jp.7211519.

13. J. Denomme, K. Stark, B.J. Holub, [Directly Quantitated Dietary \(n-3\) Fatty Acid Intakes of Pregnant Canadian Women Are Lower than Current Dietary Recommendations.](#) *The American Society for Nutritional Sciences J. Nutr.* 135:206-211, February 2005.

14. [Dietary intake of essential and long-chain polyunsaturated fatty acids in pregnancy.](#) *Lipids*, Volume 39, Number 5 / May, 2004

15. Thomas B, Ghebremeskel K, et al. [Nutrient intake of women with and without gestational diabetes with a specific focus on fatty acids.](#) *Nutrition.* 2006 Mar;22(3):230-6.

16. [Preeclampsia.](#) MaineHealth.org

17. M. A. Williams, R. W. Zingheim, et al. [Omega-3 Fatty Acids in Maternal Erythrocytes and Risk of Preeclampsia.](#) *Epidemiology*, Vol. 6, No. 3 (May, 1995), pp. 232-237

18. [Teenage Pregnancy Fact Sheet.](#) March of Dimes Foundation.

19. Dariush Mozaffarian, MD, DrPH; Eric B. Rimm, ScD . [Fish Intake, Contaminants, and Human Health.](#) *JAMA* Vol. 296 No. 15, October 18, 2006

20. [Mercury Levels in Fish](#) American Pregnancy Association.

21. Simopoulos AP. [The importance of the ratio of omega-6/omega-3 essential fatty acids.](#) *Biomed Pharmacother.* 2002 Oct;56(8):365-79.

22. [Functional Foods Fact Sheet: Omega-3 Fatty Acids](#) International Food Information Council. Feb. 2005.

23. A. Stoll, M.D. [The Omega-3 Connection: The Groundbreaking Omega-3 Antidepressant Diet and Brain Program.](#) Simon & Schuster, 2001, pg 40.

## Comments From Your Researcher

The above links were gathered with you in mind. Go ahead and browse through them, especially if you or someone you know is pregnant. Your child's future begins with the choices you make now, while pregnant!

The only negative thing I could find about consuming fish oil from whole fish is the fact that if you take too much, you might get too much energy and not be able to sleep. If this happens, take your fish oil supplements with breakfast instead of later in the day.

I also found that if you take fish *liver* oil (and Melaleuca's supplement is not this kind) before the seventh week of pregnancy, it may give you too much vitamin A. Excess vitamin A could cause a problem in embryonic development when taken in the first trimester.

Always consult with your physician before starting any course of supplementation, particularly if you are pregnant or currently under medical care.

We would love to know what you thought of this ***Prenatal Omega-3*** research report.  
Please [contact us](#) with any suggestions or comments.

*Jessica Alvarez*



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