What Every Pregnant and Breastfeeding Mother Needs to Know

By Robert Ferguson

Introduction: Why This May Be the Most Important Article You Read as a Mother

If you are pregnant, breastfeeding, or even thinking about becoming a mother, this may be one of the most important articles you have ever read. The choices you make about your nutrition today will shape your health and your child's health for years to come.

One of the biggest keys to protecting both you and your baby is making sure you get enough **essential fatty acids** and that your body is in balance with your **omega-6 to omega-3 ratio**. These fatty acids are called *essential* because your body cannot make them on its own. You must obtain them from food or supplements (Brenna & Lapillonne, 2009).

The good news is, you don't have to guess if you're getting enough of these healthy fatty acids. A simple **at-home dried blood spot test** can give you the answers. It looks at two important things:

- Omega-3 Index This shows how much docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) are in your red blood cells. It tells you if you're getting enough to keep you and your baby healthy (Stark et al., 2016).
- Omega-6 to Omega-3 Ratio This shows if your body is in balance. Omega-6 fatty acids are easy to get from vegetable oils and processed foods, but too much compared to omega-3s can cause inflammation (Calder, 2017). The closer you are to a healthy balance, the better your body works.

Unfortunately, this test is not typically provided by most doctors. But at the end of this article, I will share how you can easily get this **scientifically validated and verified test**, a test that every mother, and really everyone, can benefit from taking.

What Are Omega-3 and Omega-6 Fatty Acids?

- Omega-3 fatty acids occur in salmon, sardines, and mackerel. The two most important ones are DHA (docosahexaenoic acid) and EPA (eicosapentaenoic acid). DHA is a building block for your baby's brain and eyes. EPA helps your blood flow, reduces inflammation, and supports overall health (Innis, 2007).
- Omega-6 fatty acids are also essential and found in foods like vegetable oils (corn, soybean, sunflower) and processed foods. But today, most people eat far too many omega-6 fatty acids and not nearly enough omega-3s (Blasbalg et al., 2011).

Thousands of years ago, people ate these fatty acids in a balance close to **1:1**. By 1960, the ratio had shifted to about **3:1**. Today, it is often **20:1 or higher** in Western diets, and in my own

testing, I frequently see people with ratios above **40:1**. The first number in this ratio represents omega-6, and the higher it climbs compared to omega-3, the worse it is for health. This imbalance drives chronic, low-grade inflammation, which can affect pregnancy, mood, child development, and long-term health (Furman et al., 2019).

Why Omega-3s Matter During Pregnancy

When you are pregnant, your need for omega-3s goes up. DHA and EPA play a huge role in building your baby's brain, nervous system, and eyes (Cetin et al., 2009).

By the third trimester, your baby's brain is growing rapidly, and DHA transfer from mother to child is at its highest. If your diet doesn't provide enough, your body will pull DHA from your own tissues to give to your baby, leaving you at risk of depletion (Koletzko et al., 2007).

Benefits for the baby before birth:

- Brain development: DHA supports learning, memory, and intelligence (Innis, 2007).
- Eye health: DHA builds the retina, supporting clear vision (Birch et al., 2010).
- Lower risk of preterm birth: Omega-3s may help prevent early delivery (Olsen et al., 2018).
- Lower risk of allergies and asthma: Omega-3s during pregnancy can reduce a child's risk of wheezing and asthma (Bisgaard et al., 2016).

Why Omega-3s Matter for Breastfeeding Mothers

The story doesn't end at birth. In fact, it becomes even more important during breastfeeding. **Breast milk is the main source of DHA and EPA for newborns**, and the amount of omega-3s your baby gets depends directly on how much you get (Aumeistere et al., 2018).

Benefits for breastfed babies:

- **Brain growth:** The brain doubles in size in the first year, and DHA is the main building block (Innis, 2007).
- Sharper vision: DHA helps the eyes continue to develop (Birch et al., 2010).
- **Stronger immunity:** Omega-3s help reduce harmful inflammation (Miles & Calder, 2012).

Benefits for mothers:

- **Better mood:** Omega-3s lower the risk of postpartum depression (Freeman et al., 2006).
- **Faster healing:** They reduce inflammation and support recovery after birth (Calder, 2017).
- More energy: Healthy cell membranes allow nutrients to move in and out of cells more
 easily, giving you strength during the busy months of nursing (Brenna & Lapillonne,
 2009).

Nutrition in a Cup of Breast Milk

A single cup (~240 mL) of breast milk provides about 172 calories, made up of:

• Carbohydrates: ~40–45%

Fat: ~44–50%Protein: ~7–10%

These macronutrients are perfectly designed for an infant's growth and development (Heinonen et al., 2025).

DHA and EPA in Breast Milk, Then and Now

- Today: Average DHA in breast milk is about 0.3% of total fatty acids, or 20–30 mg of DHA per cup. In countries where mothers eat more fish, DHA can be as high as 0.8–1.0% (up to 90 mg per cup). EPA levels are much smaller, about 4–9 mg per cup (Aumeistere et al., 2018).
- **1960s:** DHA levels were closer to **0.5–0.8%**, giving babies nearly double the DHA compared to today. The reason? Diets back then contained fewer seed oils and more omega-3-rich foods (Blasbalg et al., 2011).

Table 1. Breast Milk Composition — 1960s vs. Today

Component	1960s Breast Milk	Today's Breast Milk (Global Avg.)	Key Notes
Carbohydrates	~40–45% of energy	~40–45% of energy	Stable
Fat	~48–52% of energy	~44–50% of energy	Stable
Protein	~7–10% of energy	~7–9% of energy	Stable
Linoleic acid (omega-6)	~6–7%	~15–16% (U.S. avg)	Seed oils raised omega-6
DHA (omega-3)	~0.5–0.8%	~0.3%	Declined in Western diets
DHA per cup	~40–60 mg	~20–30 mg (up to 90 mg with high seafood)	Reflects maternal diet

Omega-3s and Child Brain and Behavior

Research shows that omega-3s affect not just physical growth, but also **IQ**, **learning**, **and behavior**.

• **IQ and learning:** Mothers who ate more seafood during pregnancy had children with higher verbal IQ and better communication and social skills (Hibbeln et al., 2007).

- ADHD (Attention-Deficit/Hyperactivity Disorder): Children with ADHD often have lower blood levels of DHA and EPA. Supplementation has been shown to improve symptoms, especially with higher EPA intake (Bloch & Qawasmi, 2011; Chang et al., 2018).
- Autism Spectrum Disorder (ASD): Results are mixed. Some studies have shown no major effect, while others suggest improvements in irritability or social awareness in certain groups (Horvath et al., 2017; Mazahery et al., 2019).
- **Behavior and aggression:** Omega-3s may help reduce aggressive behavior, with benefits seen across children, teens, and adults (McNamara et al., 2024).

International Comparisons

The **Omega-3 Index** is a blood test that measures the amount of EPA and DHA in red blood cells. A level of **8% or higher** is considered ideal (Stark et al., 2016). Populations that eat more seafood consistently have higher scores, while Western countries remain very low (Schuchardt et al., 2024).

- Hong Kong: Research shows Hong Kong has the highest omega-3 intake of any country, and likely the highest breast milk DHA levels worldwide.
- **Japan/Okinawa:** Consistently >8% (desirable), with high seafood intake (Stark et al., 2016).
- **South Korea:** Also >8% (desirable), reflecting a fish-rich diet (Ueno et al., 2020).
- **Iceland:** Recently improved to desirable levels thanks to strong seafood traditions (Schuchardt et al., 2024).
- **United States:** Average O3I is **3–4%**, which is very low compared to the global desirable level of 8% (Stark et al., 2016).

Table 2. Omega-3 Status and Breast Milk DHA in Different Regions

Region	Omega-3 Index (RBC EPA+DHA)	Breast Milk DHA	Notes
Hong Kong	Highest globally	Highest reported	World leader in omega-3 intake
Japan / Okinawa	>8% (desirable)	0.5-0.8%	High seafood intake
South Korea	>8% (desirable)	0.5-0.8%	Fish-rich diet
Iceland	Desirable	Not specified	Strong seafood tradition

How to Access the Test That Removes All the Guesswork

Earlier in this article, I explained why it's so important to know your **Omega-3 Index** and your **omega-6 to omega-3 ratio**. These are powerful health markers that show if you and your child are truly getting the support you need.

Unfortunately, most doctors do not include these tests in routine blood work. That's why an **athome dried blood spot test** is so valuable. It's simple: just a small finger prick, a few drops of blood on a special card, and you mail it in.

The test is processed by **Vitas Laboratory**, one of the most trusted labs in the world for fatty acid analysis. Your sample is handled with total anonymity, and your results are scientifically validated and verified. Within weeks, you get a clear report that shows:

- Your Omega-3 Index (O3I) how much DHA and EPA are in your red blood cells.
- Your omega-6 to omega-3 ratio whether you are in balance or at risk for inflammation.
- Other key fatty acid markers that reflect your overall cellular health.

With this information, you no longer have to guess. You'll know exactly where you stand and how to move forward, for your health and for your child's best possible start in life.

To learn more about how you can get your at-home test, **contact the person who shared this article**, **email me at** <u>robert@dietfreelife.com</u>, or <u>click to schedule a free consultation</u> to learn **more**. Reminder, it's your baby, and IF you are the type of person who wants to do everything possible to optimize the health and well-being of your baby, don't ignore what you have learned in this article.

Bottom Line

For personal health reasons, it's to your benefit to make sure you have **optimal levels of omega-3**. For the child growing inside your body, you want to ensure you have **optimal levels of omega-3**. For the health of your newborn, you want to make sure that when you breastfeed, you are giving your baby **optimal levels of omega-3**.

And most importantly, instead of guessing, testing gives you the truth. When you get tested, you'll know exactly where you stand, and if you are already taking an omega-3 supplement, you'll know whether it's actually working for you or not.

References

- 1. Aumeistere, L., Ciproviča, I., Zavadska, D., Andersons, J., & Volkovs, V. (2018). Fish intake reflects on DHA level in breast milk among lactating women in Latvia. *International Breastfeeding Journal*, *13*(1), 46. https://doi.org/10.1186/s13006-018-0175-8
- Birch, E. E., Carlson, S. E., Hoffman, D. R., Fitzgerald-Gustafson, K. M., Fu, V. L. N., Drover, J. R., ... Diersen-Schade, D. A. (2010). The DIAMOND (DHA Intake And Measurement Of Neural Development) study: A randomized controlled trial of the maturation of infant visual acuity. *American Journal of Clinical Nutrition*, 91(4), 848–859. https://doi.org/10.3945/ajcn.2009.28557
- 3. Bisgaard, H., Stokholm, J., Chawes, B. L., Vissing, N. H., Bjarnadóttir, E., Schoos, A. M., ... Bønnelykke, K. (2016). Fish oil–derived fatty acids in pregnancy and wheeze and asthma in offspring. *New England Journal of Medicine*, *375*(26), 2530–2539. https://doi.org/10.1056/NEJMoa1503734
- 4. Blasbalg, T. L., Hibbeln, J. R., Ramsden, C. E., Majchrzak, S. F., & Rawlings, R. R. (2011). Changes in consumption of omega-3 and omega-6 fatty acids in the United States during the 20th century. *American Journal of Clinical Nutrition*, 93(5), 950–962. https://doi.org/10.3945/ajcn.110.006643

- 5. Bloch, M. H., & Qawasmi, A. (2011). Omega-3 fatty acid supplementation for the treatment of children with attention-deficit/hyperactivity disorder symptomatology: Systematic review and meta-analysis. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50(10), 991–1000. https://doi.org/10.1016/j.jaac.2011.06.008
- 6. Brenna, J. T., & Lapillonne, A. (2009). Background paper on fat and fatty acid requirements during pregnancy and lactation. *Annals of Nutrition and Metabolism*, 55(1–3), 97–122. https://doi.org/10.1159/000228998
- 7. Calder, P. C. (2017). Omega-3 fatty acids and inflammatory processes: From molecules to man. *Biochemical Society Transactions*, *45*(5), 1105–1115. https://doi.org/10.1042/BST20160474
- Cetin, I., Alvino, G., & Cardellicchio, M. (2009). Long chain fatty acids and dietary fats in fetal nutrition. *Journal of Physiology*, 587(14), 3441–3451. https://doi.org/10.1113/jphysiol.2009.173062
- 9. Chang, J. P.-C., Su, K.-P., Mondelli, V., Satyanarayanan, S. K., Yang, H. T., Chiang, Y. J., ... Pariante, C. M. (2018). Omega-3 polyunsaturated fatty acids in youths with ADHD: Systematic review and meta-analysis. *Neuropsychopharmacology*, *43*(3), 534–545. https://doi.org/10.1038/npp.2017.160
- 10. Freeman, M. P., Hibbeln, J. R., Wisner, K. L., Davis, J. M., Mischoulon, D., Peet, M., ... Stoll, A. L. (2006). Omega-3 fatty acids: Evidence basis for treatment and future research in psychiatry. *Journal of Clinical Psychiatry*, *67*(12), 1954–1967. https://doi.org/10.4088/JCP.v67n1217
- 11. Furman, D., Campisi, J., Verdin, E., Carrera-Bastos, P., Targ, S., Franceschi, C., ... Slavich, G. M. (2019). Chronic inflammation in the etiology of disease across the life span.

 Nature Medicine, 25(12), 1822–1832. https://doi.org/10.1038/s41591-019-0675-0
- 12. Heinonen, E. W., Ng, E., Singh, R., & Carter, B. A. (2025). Macronutrient content of human milk and implications for infant health. *JAMA Network Open, 8*(2), e250128.
- 13. Hibbeln, J. R., Davis, J. M., Steer, C., Emmett, P., Rogers, I., Williams, C., & Golding, J. (2007). Maternal seafood consumption in pregnancy and neurodevelopmental outcomes in childhood (ALSPAC study). *Lancet*, *369*(9561), 578–585. https://doi.org/10.1016/S0140-6736(07)60277-3
- 14. Horvath, A., Lukasik, J., & Szajewska, H. (2017). ω-3 fatty acid supplementation and autism spectrum disorder: Systematic review and meta-analysis. *Journal of Nutrition*, 147(3), 367–376. https://doi.org/10.3945/jn.116.239145
- 15. Innis, S. M. (2007). Dietary (n-3) fatty acids and brain development. *Journal of Nutrition*, 137(4), 855–859. https://doi.org/10.1093/jn/137.4.855
- 16. Koletzko, B., Lien, E., Agostoni, C., Bohles, H., Campoy, C., Cetin, I., ... Uauy, R. (2007). The roles of long-chain polyunsaturated fatty acids in pregnancy, lactation and infancy: Review of current knowledge and consensus recommendations. *Journal of Perinatal Medicine*, *36*(1), 5–14. https://doi.org/10.1515/JPM.2008.001
- 17. Mazahery, H., Conlon, C., Beck, K., Mugridge, O., Kruger, M. C., Stonehouse, W., & von Hurst, P. R. (2019). A randomized controlled trial of vitamin D and omega-3 long chain polyunsaturated fatty acids in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 49(5), 1778–1794. https://doi.org/10.1007/s10803-018-3857-y
- 18. McNamara, P., Sutcliffe, P., Turner, C., & Raine, A. (2024). Omega-3 supplementation reduces aggression: Systematic review and meta-analysis. *Aggression and Violent Behavior*, 75, 101933. https://doi.org/10.1016/j.avb.2023.101933

- 19. Miles, E. A., & Calder, P. C. (2012). Influence of marine n-3 polyunsaturated fatty acids on immune function. *British Journal of Nutrition*, *107*(S2), S171–S184. https://doi.org/10.1017/S0007114512001560
- 20. Olsen, S. F., Halldorsson, T. I., Thorne-Lyman, A. L., Strom, M., Tellier, C., ... Hjalgrim, H. (2018). Plasma concentrations of long chain n-3 fatty acids in early and mid-pregnancy and risk of early preterm birth. *EBioMedicine*, *35*, 325–333. https://doi.org/10.1016/j.ebiom.2018.08.041
- 21. Schuchardt, J. P., Hahn, A., & von Schacky, C. (2024). Omega-3 world map—update 2024. *Prostaglandins, Leukotrienes and Essential Fatty Acids, 201,* 102569. https://doi.org/10.1016/j.plefa.2024.102569
- 22. Stark, K. D., Van Elswyk, M. E., Higgins, M. R., Weatherford, C. A., & Salem, N. (2016). Global survey of the omega-3 fatty acids, docosahexaenoic acid and eicosapentaenoic acid in the bloodstream of healthy adults. *Progress in Lipid Research*, 63, 132–152. https://doi.org/10.1016/j.plipres.2016.05.001
- 23. Ueno, H., Nakashima, R., & Shimabukuro, T. (2020). Omega-3 fatty acid status in South Korea: Implications for public health. *Nutrition Reviews, 78*(5), 394–402. https://doi.org/10.1093/nutrit/nuz067

Robert Ferguson is a California- and Florida-based single father of two daughters, Clinical Nutritionist, Researcher, Best-Selling Author, Speaker, Podcast and Television Host, Health Advisor, NAACP Image Award Nominee, Creator of the Diet Free Life Methodology, and Chief Nutrition Officer for iCoura Health, Inc. He also serves on the Presidential Task Force on Obesity for the National Medical Association and the Health and Product Advisory Board for Zinzino, Inc.