

# 7 Ways Breastfed Babies Become Healthier Adults

The health benefits of breastfeeding extend far past weaning. As researchers look at the various factors associated with different diseases, they often find that children and adults who were breastfed as infants are less likely to experience problems with chronic diseases. In some cases, even minimal amounts of breastfeeding may provide some protection against disease in later life, but usually the longer a baby is breastfed the greater the protective effect. Here are some of the ways that breastfeeding builds a lifetime of good health:

**1. Breastfeeding prevents obesity.** Even in infancy, breastfed babies as a group are leaner than their formula-fed peers. Studies have shown that children who are breastfed are less likely to be obese during adolescence, and that longer periods of breastfeeding greatly reduce the risk of being overweight in adulthood. Overweight children are more likely to become overweight adults. Since breastfed babies themselves control how much they eat (aided by the changes in fat levels during a feeding session), children who are breastfed learn to trust their bodies' signals about how much they need to eat and when. This builds healthy eating habits right from the start. Although parents might urge a formula-fed baby to finish up the last ounce or two of milk in the bottle, you can't do this to a breastfed baby. When she's done, she's done!

**2. Better teeth.** Breastfed babies have better jaw alignment and are less likely to need orthodontic work as they get older. A study of 10,000 children found that those who were breastfed for a year or more were 40 percent less likely to require orthodontic treatment. The sucking action used to breastfeed involves complex motions of the facial muscles and tongue. This improves the development of facial muscles and the shape of the palate. The better jaw alignment associated with breastfeeding can even mean less snoring and a lowered risk for a condition known as obstructive sleep apnea--the blockage of air flow during sleep, which can disturb sleep patterns and lead to other health problems.

**3. Lowered risk of heart disease.** All the evidence isn't in yet, but some researchers believe that breastfeeding during infancy may lower the risk of heart attacks and strokes in later life. This is due in part to the higher levels of cholesterol in human milk. Some heart researchers theorize that because of the cholesterol content of human milk, a breastfed baby's liver learns to metabolize cholesterol better than formula-fed infants. This leads to lower blood cholesterol levels as adults and thus a lower risk of heart disease. Though limited in number, some studies have shown that adults who were formula-fed as infants tend to have higher blood cholesterol and

are more likely to have arterosclerotic plaques than those who were breastfed.

**4. Lowered risk of juvenile diabetes.** Babies who are breastfed are less likely to develop type 1 diabetes mellitus in childhood. Researchers have attributed this lowered risk of diabetes to the delayed introduction of cow milk in breastfed babies. In addition, researchers have shown a lower insulin release in breastfed infants compared to infants fed formula. This preventive effect is particularly important if you have a family history of diabetes.

**5. Lowered risk of multiple sclerosis.** Multiple sclerosis, a degenerative muscle disease that strikes adults, may be caused in part by myelin breakdown. However, multiple sclerosis is less common in countries where breastfeeding rates are high. Human milk's contribution to the myelin formation may help to prevent multiple sclerosis in later life.

**6. Lowered risk of asthma and allergy.** Studies have shown that breastfeeding lowers the chances of a child developing allergies and asthma symptoms. Breastmilk's immune components protect babies from allergens in the first months of life. Breastfeeding also delays the introduction of potentially allergenic foods, such as cow milk and soy protein, into the diet until the baby is older and the immune system is more mature.

**7. Other diseases.** Research suggests that breastfeeding may also play a role in preventing digestive diseases, such as ulcerative colitis and Crohn's disease, as well as childhood cancers. This makes sense: nourish an infant's body with the unique food designed for it by nature and that body will function in a healthier way, perhaps for the child's entire life.

Breastmilk's influence on health is probably more far-reaching than researchers have even dared to imagine, but studies of factors that affect the development of disease in adults seldom ask their research subjects how they were fed as infants (and many adults would have trouble giving accurate answers to these kinds of questions). New studies of what breastmilk contains suggest that this living biological fluid carries substances that are critical to the optimal development of many systems in the body. This early development may very well affect the progress of many diseases throughout life.

# The Pero Study

## Boosting Your Immunity Through CHIROPRACTIC

In 1975, Ronald Pero, Ph.D., chief of cancer prevention research at New York's Preventive Medicine Institute and professor in Environmental Health at New York University, began developing scientifically valid ways to estimate individual susceptibility to various chronic diseases.

Pero and his colleagues found strong evidence that an individual's susceptibility to cancer could be determined by measuring the presence of various DNA-repairing enzymes following exposure to carcinogenic or "mutagenic" chemicals. Lack of those enzymes, Pero said, "definitely limits not only your lifespan, but also your ability to resist serious disease consequences."

Pero was also fascinated by the relationship of various hormones with cancer-inducing agents. Since the nervous system regulates hormone balances, he postulated that the nervous system also influences susceptibility to cancer. Along these lines, it is well documented that various kinds of spinal cord injury are associated with a high risk of developing cancer, particularly lymphomas and lymphatic leukemias. This connection led Pero to consider Chiropractic as a potential alternative for reducing the risk of immune breakdown and disease.

Measuring 107 individuals who had received long-term Chiropractic care, Pero's team turned up some surprising findings. The chiropractic patients had a 200 percent greater immune competence than people who had not received chiropractic care, and a 400 percent greater immune competence than people with cancer or serious diseases. Surprisingly, despite the wide range of ages in this study, the immune competence did not show any decline with age - it was uniform for the entire group. Pero concluded, "Chiropractic may optimize whatever genetic abilities you have so that you can fully resist serious disease. I am very excited to see that without chemical intervention this group of patients under chiropractic care did show a very improved response."

Dr. Ronald Pero has published over 160 papers in peer-reviewed journals.

# Study: Omega-3 Fatty Acids Boost Baby's Immune System

More and more, research shows that omega-3 fatty acids (EPA and DHA, in particular) play an important role in promoting cell health. Eating omega-3 rich foods such as salmon, flax seeds and walnuts, and taking supplements are two ways to receive the proper amount of omega-3 fatty acids. Research about omega-3 fatty acids has come a long way in showing how these acids aid in the development of the brain, nerves and tissues.

Now, new studies suggest that pregnant women who supplement their diets with high dosages of DHA omega-3 oils may also boost their infants' immune system. The journal *Pediatrics* reports that mothers who took DHA supplements during their pregnancy had babies that appeared to be ill, on average, 14 percent less than children whose mothers did not receive a DHA supplement.

The study examined infants at one, three and six months of age that showed signs of illness, ranging from congestion to rashes. At each interval, children whose mothers took DHA supplementation showed fewer instances of illness. At the six-month mark, researchers found staggering numbers:

- 20 percent shorter duration of fever
- 54 percent shorter duration of difficulty breathing
- 23 percent shorter duration of rashes

"If women want to take it, it's unlikely to cause harm in the overall picture of the babies we looked at," the study's authors wrote.

Associate professor Usha Ramakrishnan of global health at Emory University, who led the study, is also planning to follow the subjects for the immediate future, studying their long-term cognitive performance:

[We are] interested in the long-term implications, if these children grow better and smarter.

More and more, through continued studies and research, the necessity of omega-3 fatty acids are becoming more apparent. The introduction of these fatty acids at early stages of childhood development – even throughout adulthood – have been shown vital when promoting numerous areas of health.

# Seven Reasons to Breastfeed Your Child That You Need to Know

Although breastfeeding has become increasingly accepted in recent years, there is still much controversy over breastfeeding in America. Issues range from how long one should breastfeed to where it is acceptable to do. But one issue that needs no further debate is whether it is healthier to breastfeed or formula-feed your baby--overwhelmingly, the answer is breastfeed! What's more is that breastfeeding is not only good for the baby--it's good for mom too.

## Breastfeeding Builds Your Baby's Immune System

Newborns are still developing and do not have a mature immune system to protect them from illness. Antibodies, or immune molecules, in a mother's breast milk are transferred to the baby, giving them immunities to illnesses that the mother is immune to. The converse is also true--if your newborn is exposed to a germ, she will transfer it back to the mother while nursing. The mother's body will then make antibodies to that particular germ and transfer them back to the baby at the next feeding.

Studies have also shown that babies who are breastfed exclusively have better functioning immune systems in the long-term as well.

## Formula-fed babies do not get the same immune boost and have higher rates of:

- Middle ear infections
- Pneumonia
- Gastroenteritis (stomach flu)
- Urinary tract infections
- Necrotizing enterocolitis, a digestive tract disorder that is a leading killer of premature infants

## Breastfed infants, on the other hand, have added protection against:

- Heart disease
- Immune system cancers such as lymphoma
- Bowel diseases such as Crohn's disease
- Juvenile rheumatoid arthritis
- Asthma and allergies
- Respiratory infections
- Eczema
- Type 1 and type 2 diabetes

## **Breastfeeding Improves Baby's Brain Function**

The nutritional properties of breast milk are not only good for the newborn's immune system, they are also good for the brain. Breastfed infants tend to have higher intelligence than formula-fed infants. This may be due to certain compounds found in breast milk, including omega-3 fatty acids.

For instance, one study found that the verbal IQ of 7- and 8-year-old children who had been breastfed was about 10 points higher than those who were not. Another 18-year study of over 1,000 children found that those who were breastfed had higher intelligence and greater academic achievement than children who were formula-fed as babies.

It is interesting to note that babies who are breastfed naturally spend more time in what is known as the "quiet alert" state, which is not only soothing for parents but also it is the state most conducive to the newborn's learning.

## **Breastfeeding Reduces Obesity**

Breast milk contains a protein that could reduce the risk of obesity later in life. In fact, the longer a child is breastfed, the lower their risk of obesity, according to a study by U.S. researchers. The protein affects the body's processing of fat.

## **Breastfeeding Helps Babies Emotionally**

Babies have an intense need to be held and one of the most comforting things for a newborn is the physical act of nursing. Leaving a baby alone with a bottle is not emotionally satisfying to the child and does not make them feel safe or secure.

Breastfeeding also promotes bonding between mother and baby in a way that bottle-feeding cannot. Most women naturally feel a strong desire to hold their baby and there are physical and emotional reasons for this. Breastfeeding ensures that mother and baby have some intimate time together and actually stimulates the mother's release of the oxytocin hormone, which is known to promote maternal behavior.

## **Reduces Mom's Risk of Cancer and Other Health Conditions**

Breastfeeding is a mutually beneficial experience in that it helps both mother and child. Women who breastfeed have a reduced risk of breast and ovarian cancers and osteoporosis later in life.

## **Moms Return to Pre-Pregnancy Weight Faster**

Breastfeeding women lose weight faster than those who do not. This is because producing milk and breastfeeding requires about 500 calories per day. This is the equivalent of jogging about five miles! Breastfeeding also stimulates contractions in the uterus that help it to shrink back to its normal, pre-pregnancy size faster. It also helps to reduce lower body fat.

## **Save Time and Money**

Surely your primary reason for wanting to breastfeed is to help your baby physically and emotionally, but the more material advantages of breastfeeding are hard to ignore. If you breastfeed you don't have to prepare bottles and formula--breast milk is always fresh and ready to go. This will save you a substantial amount of time at a period in your life when you will need it!

Breastfeeding also saves you the expense of buying formula, which typically costs at least \$800 per year. The savings continue to accumulate as your child grows, as breastfed babies tend to have fewer doctor's visits and lower overall medical expenses. One study even found that a group of formula-fed babies had over \$68,000 in health care costs for six months, compared to only \$4,000 for the breastfed group.

## **What to do if You Can't Breastfeed**

If you still think that formula is a suitable alternative to breast milk, consider that there are at least 400 nutrients in breast milk that are not found in formula. That said, I understand that there are certain conditions and circumstances that may prevent you from being able to breastfeed. If this is the case, you can make a healthy infant formula using raw milk.

Breast milk is always the best choice though, so if it's at all possible I encourage you to breastfeed your child. The longer you do this, the better, but even a short time of breastfeeding is better than none at all!

# Omega 3 for Wellness and Prevention

The role of Omega-3 EFAs (specifically EPA and DHA) in the promotion of health and the prevention of illness has been studied a great deal in recent years. Both scientists and practitioners are celebrating the results that have been found to date and with every research study the importance of EFAs for health promotion and illness prevention becomes more evident.

Omega 3 essential fatty acids (EFAs) are some of the most crucial essential nutrients for human and other animal health ever identified. **Over 2000 scientific studies provide evidence of the importance of EPA and DHA essential fatty acids for the maintenance and restoration of health and the prevention of disease.**

**Omega 3 EFAs are extremely important in the structure and function of every cell in the body and the function of your cells is what determines your health.** Your cells are what determine your immune function, healing, hormone levels, heart function, cholesterol levels, blood pressure, digestion, moods etc. Literally, the function and health of your cells determines every aspect of your health. **EPA and DHA omega 3 EFAs are part of every cell membrane and are required to maintain the proper shape, flexibility or fluidity, and “slipperiness” of cell membranes.**

The flexibility and “slipperiness” of cell membranes is important for the flow of blood through blood vessels and decreasing the risk of stroke and heart attack. This fluidity or flexibility of cell membranes is also crucial to ensure the proper flow of nutrients into cells as well as the proper shape of cell receptors for hormones such as insulin.

**In addition, EFAs are required for proper nerve signal transmission** (memory, concentration, cognitive ability, muscle coordination and strength) and **immune function including defence against cancer.** This is why EPA and DHA deficiency are linked with cognitive impairments and **learning and behaviour disabilities such as ADHD**, with **depression**, and with **decreased cognitive ability and increased risk of Alzheimer’s and dementia** in the elderly. EPA and DHA deficiency is also highly correlated with **increased risk of breast, colon, and prostate cancer.**

**EPA and DHA omega 3 EFAs also play a major role in regulating inflammation** via substances called prostaglandins. EPA and DHA Omega 3 fatty acids produce anti-inflammatory prostaglandins while Omega 6 fatty acids produce pro-inflammatory prostaglandins.

Having a diet that is toxic with Omega 6 or deficient in Omega 3 EFAs creates a pro-inflammatory state within the body. This is very significant because **inflammation is at the root of virtually all of the common chronic illnesses such as heart disease, stroke, diabetes, and depression** as well as the autoimmune and atopic diseases such as **arthritis, Crohn’s Disease, irritable bowel, psoriasis, eczema, allergies, fibromyalgia, lupus, and multiple sclerosis.** Inflammation is also a major factor in



**dysmenorrhea (menstrual pain and/or cramping), headaches, and back and neck pain.**

**Omega 3 EFAs play a role in virtually every human function** including growth and development, digestion, brain and nerve function, immune function, hormone production and regulation, maintenance of skin and bones, regulation of healing and inflammation, heart function, vision, cholesterol levels, and even emotions and behaviour.

This is why supplementing with Omega 3 EFAs has been shown to help people with so many different illnesses. In reality supplementing with Omega 3 EFAs will help anyone that is deficient in Omega 3 EFAs whether they have a diagnosed illness or not. **The fact of the matter is that everyone needs Omega 3 EFAs and due to dietary practices virtually everyone in Western society is deficient. Without these essential nutrients cells cannot function properly and illness is inevitable even though it may take years before symptoms arise.**

This does not mean that a deficiency in Omega 3 EFAs is the only cause of all illness; that would be an unscientific and illogical claim. However, it does absolutely mean that **if someone is deficient in Omega 3 EFAs their cell function and thus their health is compromised and will be improved when they begin to supplement – this is an indisputable scientific fact.** Obviously if Omega 3 EFAs are needed for proper cell function and cell function determines our health then Omega 3 EFAs are a significant determining factor in health. This is exactly what research indicates.

The above information is why we stress the importance of supplementation **BEFORE** illness develops. It is both dangerous and illogical to wait until illness develops to begin to take care of yourself or your children or your pets! How can we **PREVENT ILLNESS** or **PROMOTE HEALTH** if we wait until we are already ill before we take action?

# Enhanced Neutrophil Study

**FROM: J Manipulative Physiol Ther 1992 (Feb); 15 (2): 83–89**

**Brennan PC, Triano JJ, McGregor M, Kokjohn K, Hondras MA, Brennan DC**

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A critical need in assessing the clinical utility of manipulative therapy for back pain is the identification of biological changes associated with the forces applied by spinal manipulation. Such changes could then serve as markers for both sham treatment and manipulation. We determined the priming of polymorphonuclear neutrophils for an enhanced respiratory burst and its duration, the priming of mononuclear cells for enhanced endotoxin-stimulated tumor necrosis factor production and plasma levels of substance P following a single thoracic spine manipulation. There was a significant difference in the respiratory burst of polymorphonuclear neutrophils in response to a particulate challenge, depending on the time of blood sample collection. The response of polymorphonuclear neutrophils isolated from blood collected 15 min after manipulation was significantly higher than the response of cells isolated from blood collected 15 min before and 30 and 45 min after manipulation. Mononuclear cells were also primed for enhanced endotoxin-stimulated tumor necrosis factor production by spinal manipulation. Both of these priming effects were accompanied by a slight, but significant elevation in plasma substance P. The mean manipulation force associated with these biological effects was 878 +/- 99 N. These biological effects may provide a means of monitoring the delivery of both sham and manipulative treatment and, therefore, provide a crucial tool for understanding the efficacy of manipulative therapy.

# Comparison of Human Milk and Formula

Dr. William Sears

NUTRIENT FACTOR	BREAST MILK CONTAINS	FORMULA CONTAINS	COMMENT
<b>Fats</b>	<ul style="list-style-type: none"> <li>• Rich in brain-building omega 3s, namely DHA and AA</li> <li>- Automatically adjusts to infant's needs; levels decline as baby gets older</li> <li>- Rich in cholesterol</li> <li>- Nearly completely absorbed</li> <li>- Contains fat-digesting enzyme, lipase</li> </ul>	<ul style="list-style-type: none"> <li>- No DHA</li> <li>- Doesn't adjust to infant's needs</li> <li>- No cholesterol</li> <li>- Not completely absorbed</li> <li>- No lipase</li> </ul>	<p>Fat is the most important nutrient in breastmilk; the absence of cholesterol and DHA, vital nutrients for growing brains and bodies, may predispose a child to adult heart and central nervous system diseases. Leftover, unabsorbed fat accounts for unpleasant smelling stools in formula-fed babies.</p>
<b>Protein</b>	<ul style="list-style-type: none"> <li>- Soft, easily-digestible whey</li> <li>- More completely absorbed; higher in the milk of mothers who deliver preterm</li> <li>- Lactoferrin for intestinal health</li> <li>- Lysozyme, an antimicrobial</li> <li>- Rich in brain-and-</li> </ul>	<ul style="list-style-type: none"> <li>- Harder-to-digest casein curds</li> <li>- Not completely absorbed, more waste, harder on kidneys</li> <li>- No lactoferrin, or only a trace</li> <li>- No lysozyme</li> <li>- Deficient or low in some brain-and body-building</li> </ul>	<p>Infants aren't allergic to human milk protein.</p>

	<p>body- building protein components</p> <ul style="list-style-type: none"> <li>-Rich in growth factors</li> <li>-Contains sleep-inducing proteins</li> </ul>	<p>proteins</p> <ul style="list-style-type: none"> <li>-Deficient in growth factors</li> <li>-Does not contain as many sleep-inducing proteins.</li> </ul>	
<b>Carbohydrates</b>	<ul style="list-style-type: none"> <li>-Rich in lactose</li> <li>-Rich in oligosaccharides, which promote intestinal health</li> </ul>	<ul style="list-style-type: none"> <li>-No lactose in some formulas</li> <li>-Deficient in oligosaccharides</li> </ul>	<p>Lactose is considered an important carbohydrate for brain development. Studies show the level of lactose in the milk of a species correlates with the size of the brain of that species.</p>
<b>Immune Boosters</b>	<ul style="list-style-type: none"> <li>-Rich in living white blood cells, millions per feeding</li> <li>-Rich in immunoglobulins</li> </ul>	<ul style="list-style-type: none"> <li>-No live white blood cells-or any other cells. Dead food has less immunological benefit.</li> <li>-Few immunoglobulins and most are the wrong kind</li> </ul>	<p>When mother is exposed to a germ, she makes antibodies to that germ and gives these antibodies to her infant via her milk.</p>
<b>Vitamins and Minerals</b>	<ul style="list-style-type: none"> <li>-Better absorbed, especially iron, zinc, and calcium</li> <li>-Iron is 50 to 75 percent absorbed.</li> <li>-Contains more selenium (an antioxidant)</li> </ul>	<ul style="list-style-type: none"> <li>-Not absorbed as well</li> <li>-Iron is 5 to 10 percent absorbed</li> <li>-Contains less selenium (an antioxidant)</li> </ul>	<p>Vitamins and minerals in breast milk enjoy a higher bioavailability-that is, a greater percentage is absorbed. To compensate, more is added to formula, which makes it harder to digest.</p>
<b>Enzymes and Hormones</b>	<ul style="list-style-type: none"> <li>-Rich in digestive enzymes, such as lipase and amylase</li> <li>-Rich in many hormones: thyroid, prolactin, oxytocin,</li> </ul>	<ul style="list-style-type: none"> <li>-Processing kills digestive enzymes</li> <li>-Processing kills hormones, which are not human to begin with</li> </ul>	<p>Digestive enzymes promote intestinal health. Hormones contribute to the overall biochemical balance and well-being of baby.</p>

	<p>and more than fifteen others</p> <p>-Varies with mother's diet</p>	<p>-Always tastes the same</p>	<p>By taking on the flavor of mother's diet, breastmilk shapes the tastes of the child to family foods.</p>
<b>Cost</b>	<p>-Around \$600 a year in extra food for mother</p>	<p>-Around \$1,200 a year</p> <p>-Up to \$2,500 a year for hypoallergenic formulas</p> <p>-Cost for bottles and other supplies</p> <p>-Lost income when baby is ill</p>	

## **Colostrum, transfer factor and your immune system**

When a baby is born, it has never before been attacked by any bugs - it doesn't have any army troops to help defend it against the invading enemy.

What can a vulnerable baby without any protection do to defend against the worst bugs?

The solution is simple. You have probably heard about how healthy 'mother's milk' is for her newborn baby? The mother, with all her protective antibodies, passes on HER immunity to her baby through breast feeding.

When a baby has not had mother's breast milk, it takes the baby about one month to develop its own immune system. During that month, if the baby gets sick, then some immunity might never develop because the immune system was so overwhelmed by some particular antigen (invading bug) - the immune system can even start thinking that the antigen is a normal thing to have floating around in the bloodstream.

All mothers should understand that they give immunity to their new-born baby by breast feeding.

For years this was understood to be true, but the mechanisms through which this happened were not understood.

**Breast feeding and the baby's immune system**

A mother breast-feeding her baby: that is the only way it was done thousands of years ago. For thousands of years, there was no such thing as a bottle-fed baby! (For the dangers of feeding a baby soy formula, [click here](#)) Then, the medical world changed. We went through a period when even physicians were telling new mothers: "Don't breast feed!" Now we know better. All the immunity within the mother is transferred to the baby through her breast-feeding milk.

When a baby was NOT breast-fed, researchers would find almost ZERO antibodies in the baby. Those antibodies were NOT there. That baby was at risk. When a baby was breast-fed, researchers found the antibodies inside the newborn baby's system, they couldn't deny them. They were there. A newborn baby has no antibodies - but within a few days on breast milk, the baby suddenly has a fully functioning immune system! A miracle.

So, there was much research (1) studying how this breast milk could carry the mother's immune system over to the baby. It was a puzzle for quite some time. The scientists determined that the baby could not get the antibodies themselves from the mother's milk. These antibodies are living cells - protein - and the body would simply use it as food.

### **Antibodies ingested through the mouth**

There is an important technical point here.

When a human ingests living cells, or even dead animal cells, into the body through the mouth, the digestive system treats it all like food. It might be a very valuable living immune system cell, but as far as the baby is concerned, it's only more food to digest.

If you take these same living cells (even immune system cells) and INJECT them into a human body, the body treats them like invading bugs. There is a rejection mechanism which protects the human body from injected living things. The body even rejects ANY protein substance injected into the bloodstream. If you ground up steak and made it very fine and injected it? - terribly harmful. Your immune system would attack the steak as an invading bug.

So, don't think that you can boost your immune system by absorbing the antibodies in the milk - it doesn't work that way.

Antibodies are living cells and the new baby could not possibly get them through the mother's milk which went into the baby's body through the mouth and stomach. That milk DOES have antibodies in it, but they are nothing more than food to the baby. No living cell can possibly pass through the digestive system and get into the body through the mouth and stomach.

So, the antibodies in a baby could not have gotten there through the mother's milk, even though the mother's milk does have those antibodies in it.

The many immune system cells in the mother did not, somehow, get transferred over to the baby. But the baby who got breast fed ended up with immediate immune system cells and the baby who did not get breast fed did not get those cells.

Numerous studies (2,3,4) were done of this problem and finally the researchers identified a 'transfer factor' which was transferred in the mother's milk. This 'transfer factor' was not a cell, it was not a germ, it was something which hadn't really ever been identified before. The researchers would use 'screens' to filter out anything as large as a living cell - and the 'factor' still got through. So, the scientists realized that whatever the 'factor' was, it was smaller than any cell - it probably was a molecule.

Then the researchers found ways to filter out the large molecules, but the 'factor' still got through these screening techniques. That meant it had to be something very small - a small molecule?

It was much too small to see with a microscope. They looked, but couldn't find it.

Finally, rather than give it some fancy new name, researchers just stuck with the word 'factor' to explain this 'thing'.

The transfer factor

They called it the 'transfer factor', this 'thing' in mother's milk which gets transferred from her to the new-born baby and creates INSIDE the baby an entire immune system, almost overnight. It was almost as if, as soon as this transfer factor got into the new baby's body it started manufacturing exactly the type of antibodies which were called for in the transfer factor. The baby's system did this even though there were no invading bugs. So, if one of

those bugs entered the baby's body, the baby's immune system was ready even though the baby itself had never personally been attacked by that bug previously.

Now, have you heard of a 'wet nurse'? A wet nurse is a woman who is lactating. She has had a baby and has milk in her breasts. She can take any other baby, not her own, and feed that baby her breast milk. For many years, wealthy women who had just given birth would hire a 'wet nurse' to breast-feed their new-born baby.

This way the wealthy woman didn't have to stay home all day to nurse. When babies were breast-fed by a 'wet nurse', they did NOT get the immune system factors transferred from that wet nurse. Now, there's another puzzle!

Well, by now you might have guessed. 'Regular mother's breast milk' does NOT transfer the immune system to the baby. It is NOT the milk which transfers immunity, but only a special form of mother's milk, called the 'colostrum'.



## **CD4 Emory University Study**

**FROM: Chiro Res J 1994; 3 (1): 32–39**

**Selano, J.; Hightower, B.; Pflieger, B.; Collins, K.; Grostic, J.**

The researchers of this project sought to demonstrate that upper specific adjustments would have a profound effect on the physiology, serology and immunology of HIV positive individuals. The effect of specific upper cervical adjustments on the immune system CD4 cell counts of HIV positive individuals was measured by CD4/mm<sup>3</sup> in the blood. These tests were performed by the patients independent medical center where they were under medical supervision for the regular group were dramatically increased over the counts of the control group. A 48% increase in CD4 cells was demonstrated over the six month duration of the study for the adjusted group.

**Mantis Database Item # 27222**

# Probably the Best Way to Enhance Your Baby's Gut and Brain Development



A vast amount of research has reported that breastfeeding plays an important role for the development of a newborn. Non-breast fed premature infants have higher risk of developing infantile diarrhea and necrotizing enterocolitis.

In a recent study, the content of brain cell growth factors and cytokines in human breast milk was analyzed. Growth factors and cytokines were found in all breast milk samples at varying concentrations.

According to the study, as linked by Green Med Info:

*"It could be demonstrated that protein extracts of breast milk increased the amount of surviving enteric neurones as well as neurite outgrowth. Additionally it was shown, that the number of nestin and S100-expressing glial cells increased significantly after incubating in breast milk protein extracts. The data suggest that milk-born proteins support the development of the enteric nervous system."*

Breastfeeding offers a list of life-long health benefits for both mom and baby, making it the best food you can give to your baby by far. Many are aware that breast milk contains antibodies, or immune molecules, that are transferred to the baby, giving her immunities to illnesses that the mother is immune to. The converse is also true -- if your newborn is exposed to a germ, she will transfer it back to the mother while nursing. The mother's body will then make antibodies to that particular germ and transfer them back to the baby at the next feeding.

So it's not just a matter of vitamins, minerals, proteins and fats that makes breast milk far superior to formula. In fact, as a new study revealed, breast milk also contains substances that may significantly enhance your baby's gut and brain development.

## How Breast Milk Supports Baby's Gut and Brain

Researchers recently analyzed human breast milk for brain cell growth factors (neurotrophic factors) and cytokines. Neurotrophic factors are proteins involved in the growth and survival of developing neurons -- they are essential during the early development of your brain and also help maintain healthy neuronal function throughout your life. "Trophic" is actually derived from a Greek word meaning "to

nourish," so neurotrophic factors are substances that nourish your neurons, or nerve, cells.

As for cytokines, they are substances secreted by immune system cells that play a role in cellular communication and behavior.

Not only were growth factors and cytokines found in all breast milk samples at varying concentrations, but researchers demonstrated that protein extracts of breast milk increased the amount of surviving enteric neurons as well as neurite outgrowth, which indicates it likely plays a beneficial role in enteric nervous system development.

## **Why it's Important to Nourish Your Baby's Enteric Nervous System**

Your brain and gut are actually created out of the same type of tissue. During fetal development, one part turns into your central nervous system while the other develops into your *enteric* nervous system. These two systems are connected via the vagus nerve; the tenth cranial nerve that runs from your brain stem down to your abdomen.

This is what connects your two "brains" together.

Your gut is quite literally your second brain, and they work in tandem, each influencing the other. This is why your intestinal health can have such a profound influence on your mental health, and vice versa.

An important example of this is explained in my interview below with Dr. Natasha Campbell-McBride, a Russian neurologist who demonstrates that an impairment in a woman's gut flora due to antibiotic and birth control exposure, along with a poor diet, is then transferred to the children she has. This impairment in gut flora then makes her children sitting ducks for autism and other brain injuries.

Dr. Campbell-McBride has developed an extensive recovery protocol that has helped many thousands of autistic children recover. It involves no drugs, but rather dietary changes and detoxification intended to heal and rebalance the child's gut flora.

Breastfeeding can help your child's gut flora to develop in a beneficial way right from the start, as it provides protective, nourishing factors for both the brain and the gut. Dr. Campbell-McBride is convinced that autistic children are in fact born with perfectly normal brains and perfectly normal sensory organs.

She explains:

*"What happens in these children [is that] they do not develop normal gut flora from birth ... Gut flora is a hugely important part of our human physiology. Recently research in Scandinavia has demonstrated that 90 percent of all cells and all genetic material in a human body is our own gut flora. We are just a shell... a habitat for this mass of microbes inside us. We ignore them at our own peril.*

*...As a result, their digestive system—instead of being a source of nourishment for these children—becomes a major source of toxicity. These pathogenic microbes inside their digestive tract damage the integrity of the gut wall. So all sort of toxins and microbes flood into the bloodstream of the child, and get into the brain of the child.*

*That usually happens in the second year of life in children who were breast fed because **breastfeeding provides a protection against this abnormal gut flora**. In children who were not breastfed, I see the symptoms of autism developing in the first year of life. **So breastfeeding is crucial to protect these children.**"*

Breast milk is loaded with nutrient growth factors that will support the growth of beneficial bacteria. It also has components that will inhibit the growth of bad bacteria and yeast. So one of the most important foundational elements of building a healthy GI system for your child is to first eat a healthy, probiotic-rich diet while you're pregnant, and then breastfeed after your child is born.

## The Many Benefits of Breastfeeding

Studies have shown that breastfed babies gain added protection against:

<a href="#">Sudden infant death syndrome (SIDS)</a>	Eczema	Respiratory- and other types of infections
Heart disease	Obesity	Type 1 and <a href="#">type 2 diabetes</a>
Bowel diseases such as Crohn's disease	Asthma and allergies	Necrotizing enterocolitis among premature babies

Breastfeeding can also help promote cognitive development in your child. It also benefits the mother in several ways, including:

Enhancing maternal behavior through increased oxytocin release	"Natural birth control," as it suppresses ovulation, making pregnancy less likely	Diabetic mothers typically require less insulin
Easier weight loss	Reducing your risk of endometrial-, ovarian- and breast cancers	Reducing your risk of metabolic syndrome

As you can see, breastfeeding is actually about so much more than just feeding. It may even have a direct impact on a mother's brain, promoting 'maternal behavior' and increasing emotional bonding between the mother and child. This is not altogether surprising, since breastfeeding promotes the increased release of oxytocin, also known as the "love hormone" or "bonding hormone."

## Do You Need Help Breastfeeding?

The majority of women are able to produce adequate supplies of milk and breastfeed successfully. Often, those who believe they cannot may be misinformed, and believe they don't have enough milk; this is a common misperception. In the vast majority of circumstances, most women have enough milk to breastfeed. The more your baby nurses, the more milk you will produce! This is why supplementing with formula can be detrimental to your milk supply.

Mom needs to drink plenty of water and seek optimal nutrition while nursing -- and the beginning weeks and months are critical in the process.

You should begin nursing as soon after birth as possible, as your baby's sucking instinct will be very strong at that time, giving you the best chance of success. In the beginning, the milk that is produced is called colostrum -- a thick, golden-yellow fluid that is very gentle for your baby's stomach and full of beneficial antibodies.

As your baby continues to nurse, your milk will gradually change in color and consistency from thick and yellow, to thinner with a bluish-white hue. Newborns need to nurse at least once every two hours, for about 15 minutes or so on each side, but most do not adhere to any kind of strict schedule and feedings can vary in length. It is this frequent nursing that stimulates your breasts to produce increasing amounts of milk to keep up with demand.

You may want to begin planning for successful breastfeeding before your baby is even born by taking a breastfeeding class while you're pregnant. Le Leche League is a terrific resource to contact for help whether you want to prepare

beforehand or find you're having trouble breastfeeding once your baby is born. But even many hospitals offer breastfeeding classes and lactation consultants who can help you.

I do encourage you to do all you can to breastfeed your baby successfully, and exclusively, for at least the first six months, ideally longer. This is one of the best gifts you can give to your child and the health benefits will last a lifetime.

# **Breast-fed babies have less risk of celiac disease**

**A new study has concluded that breast-feeding significantly lowers the risk of a child developing celiac disease.**

Celiac disease is a common gastrointestinal problem caused by intolerance to a grain protein called gluten.

Dr. Tony Akobeng the lead investigator says that breast-feeding at the time of solid food introduction significantly reduces the risk of celiac disease, and the longer a baby is breast-fed, the more likely it is that the child will not develop the symptoms of celiac disease.

Akobeng of Central Manchester and Manchester Children's University Hospitals in the UK and colleagues reviewed six studies which involved more than 1,100 individuals with celiac disease and almost 3500 comparison subjects.

Apart from one small study involving just 8 cases and 73 controls, all of the other studies found an association between increasing duration of breast-feeding and a decreased risk of celiac disease.

When compared with infants who were not breast-fed at the time of gluten introduction, breast-fed infants were 52-percent less likely to develop celiac disease.

The investigators do not know how this protection is achieved but suggest it may simply be that breast-feeding during weaning leads to less gluten exposure, and might also reduce intestinal infection that might reduce the risk of celiac disease in susceptible infants.

The researchers also say that it is not clear whether breast-feeding delays the onset of symptoms or provides a permanent protection against the disease.

The study is published in the Archives of Disease in Childhood, November 21, 2005.

# Vitamin D Deficiency is Why You Get Flu!

Posted By Dr. Mercola | March 25 2010 | 68,623 views

A new study has confirmed that vitamin D plays an important role in activating your immune defenses against infectious diseases like the flu.

Vitamin D deficiency has already been linked to a wide spectrum of diseases including heart disease, cancer, diabetes, depression, autoimmune disease and many others.

The new study discovers that activation of T-cells to fight infections needs definite help from vitamin D. When a T cell recognizes foreign invaders like bacteria or viruses, it sends activating signals to the vitamin D receptor gene. The VDR gene then starts producing DVR protein, which binds vitamin D in the T cell. Then the vitamin D bound and activated DVR produces PLC-gamma1 protein -- which allows the T cell to get started fighting the infection.

Dr. John Cannell has also reported that vitamin D helps produce antibacterial peptides that help protect against the flu. That is why in winter, when there is little sunshine, people are more prone to vitamin D deficiency and getting infected with flu viruses.

## Dr. Mercola's Comments:

This confirmation is exciting, if for no other reason than the fact that curing vitamin D deficiency is not only inexpensive – it may in some cases cost you nothing!

And, optimizing your vitamin D levels can have a remarkably positive effect on your overall health and helps protect you against a vast number of diseases that are far more serious than the flu.

Vitamin D actually works by increasing your body's production of 2-300 different antimicrobial peptides that are actually far more effective than any synthetic antibiotic or antiviral. They do this at a fraction of the cost and at virtually no toxicity.

## How Vitamin D Protects You from the Flu and Other Infections

Backing up Dr. Cannell's previous theory that the flu may simply be a symptom of vitamin D deficiency, this latest study, published this month in the journal Nature Immunology, explains the mechanics of vitamin D's protective nature.

Lead researcher Carsten Geisler told Food Consumer:

"When a T cell is exposed to a foreign pathogen, it extends a signaling device or 'antenna' known as a vitamin D receptor, with which it searches for vitamin D.

This means the T cell must have vitamin D or activation of the cell will cease. If the T cells cannot find enough vitamin D in the blood, they won't even begin to mobilize."



That said, no wonder flu shots don't work!

Flu shots do absolutely nothing to address the underlying problem of vitamin D deficiency, which is effectively hindering your immune system from working properly. In fact, flu vaccines deteriorate your immune system even further, and their side effects can be potentially lethal.

Again, I've frequently written about the importance of maintaining a robust immune system to ward off both minor and major disease, and understanding the role vitamin D plays in allowing your immune system to activate to begin with, could make a radical difference in your health.

Yet another study published this month found that schoolchildren who received supplemental vitamin D had far fewer incidents of both flu and asthma attacks.

The randomized, double-blind, placebo-controlled trial compared two groups of schoolchildren, from December, 2008 through March, 2009.

One group of 167 children received 1,200 IU's of vitamin D3 daily. The other group, consisting of an equal number of children received a placebo. Only 18 of the children in the vitamin D group came down with influenza, compared to 31 of the children in the control group.

They also found that:

"... in children with a previous diagnosis of asthma, asthma attacks as a secondary outcome occurred in 2 children receiving vitamin D(3) compared with 12 children receiving placebo."

These are significant differences. And best of all, optimizing your family's vitamin D levels to reap these kinds of rewards is so easy!

### **Sources of Vitamin D**

Ideally, the best way to get your vitamin D is by exposing your skin to sunlight. The vitamin D generated in your skin from exposure to UV-Bs in sunlight acts as a pro-hormone, rapidly converting into 25-hydroxyvitamin D, or vitamin D3.

Unfortunately, the vast majority of people in the U.S. cannot possibly receive enough UV-B to generate optimal levels of vitamin D from September to mid-April.

Also keep in mind that sunny and hot weather is not necessarily a reliable indicator of the amount of UV-B present. If your latitude is above 30 degrees north or below 30 degrees south, you will likely benefit from vitamin D supplementation from September to mid-April.

In those cases, you can either opt to use a safe tanning bed, or take an oral form of vitamin D3 (cholecalciferol).

If you don't know the latitude of your city you can use a latitude finder. If your latitude is lower than 30 degrees, then you have access to good sunshine and may not need vitamin D supplementation.

### **What You Need to Know about Dosing**

It's also important to realize that even though the recommended daily allowances (RDA's) for some age groups have recently been increased, they're still woefully inadequate for most.

For example, at the end of 2008, the American Academy of Pediatrics doubled its recommended dose of vitamin D for infants, children and adolescents, raising it from 200 to 400 units per day. But recent research reveals children may need ten times that amount in order to receive the health benefits that optimal vitamin D levels have to offer.

Based on the latest research, many experts now agree you need about 35 IU's of vitamin D per pound of body weight. This recommendation also includes children, the elderly and pregnant women.

However, keep in mind that vitamin D requirements are highly individual, as your vitamin D status is dependent on numerous factors, such as the color of your skin, your location, and how much sunshine you're exposed to on a regular basis. So, although these recommendations may put you closer to the ballpark of what most people likely need, it is simply impossible to make a blanket recommendation that will cover everyone's needs.

The only way to determine your optimal dose is to get your blood tested. Ideally, you'll want to maintain a vitamin D level of 50-65 ng/ml year-round.

I recommend using Lab Corp in the U.S. For more important information about vitamin D testing, please review this previous article.

### **Vitamin D, a Viable Treatment for Depression, Diabetes, and More?**

I also find it encouraging to see that researchers are now starting to delve deeper into vitamin D's impact on depression, and even blood sugar control.

One intriguing connection between depression and vitamin D levels is the link between depression and inflammation.

As you just read above, sufficient vitamin D is imperative for proper functioning of your immune system to combat inflammation, and other research has discovered that depressed people tend to have higher levels of inflammation in their brains. Ditto for those with Alzheimer's disease.

Other diseases caused by low-level, chronic inflammation include cancer, arthritis, and chronic fatigue, just to name a few. And yes, vitamin D has been found to play a major role in all of those ailments too, and more.

Just take a look at this list of common chronic diseases that researchers have linked to vitamin D deficiency:

Cancer	Hypertension	Heart disease
Autism	Obesity	Rheumatoid arthritis
Diabetes 1 and 2	Multiple Sclerosis	Crohn's disease
Cold & Flu	Inflammatory Bowel Disease	Tuberculosis
Septicemia	Signs of aging	Dementia
Eczema & Psoriasis	Insomnia	Hearing loss
Muscle pain	Cavities	Periodontal disease
Osteoporosis	Macular degeneration	Reduced C-section risk
Pre eclampsia	Seizures	Infertility
Asthma	Cystic fibrosis	Migraines
Depression	Alzheimer's disease	Schizophrenia

And as if that wasn't enough, a 2008 meta-analysis of 18 randomized controlled trials concluded that supplemental vitamin D significantly reduces mortality from ALL causes!

Clearly, a large number of health problems and potentially lethal diseases are directly or indirectly caused by chronic inflammation in your body, which makes the recommendation to optimize your vitamin D levels a no-brainer.

### **Important Personal Update**

I have done a personal experiment over the past few years and have not taken any oral vitamin D when I leave Chicago's dark and cold winters for sunny and warmer weather. Before I leave, my levels run about 60-65 ng/ml.

But after sufficient and safe exposure to daily sunshine for three months, for a number of years, when I return home, my levels have always been about 75 ng/ml. When this first happened I was concerned and believed that they were too high. But after four years in a row of these levels I am coming to believe that this may actually be a healthier normal.

Based on my personal experience, I believe it is likely the optimal range could be about 75 ng/ml. Part of this is also based on studies of lifeguards who are in the sun most of the day during the summer. Their levels rise to 100 ng/ml.

I typically get 1-3 hours of sun on my body while I am shirtless and wearing shorts. So it is important to understand that you are not going to achieve these high levels unless you can expose large portions of your body to the sun.

You simply will not achieve these levels by exposing your face and lower arms to the sun. There just isn't enough surface area to collect enough UVB.

But please be careful to protect your face. You should avoid using your face as a UVB collector as that skin is too thin and fragile, and most susceptible to photo aging.

I personally wear a cap to put my face in shade but you can also use a safe sun screen, especially around your eyes.

Improve Your Health and be Part of Worldwide Public Health Campaign

Carole Baggerly, founder of GrassrootsHealth and a major vitamin D proponent, is currently studying the long-term health effects of vitamin D. She was also instrumental in getting Canadian health authorities to investigate the use of vitamin D against the swine flu last year.

D\*Action is a worldwide public health campaign, aiming to solve the vitamin D deficiency epidemic in one year through focus on testing, education, and grassroots word of mouth.

You can still participate in the D\*action study, if you like! Best of all, Mercola subscribers will receive a 15 percent discount on the 5-year sponsorship.

To sign up, and get your discount, follow these instructions:

When you sign up, at the beginning of the Payment Options (The area where it says "Please input any CLINIC ID or COUPON CODE assigned to your organization and click Apply:") on the Order form, please enter 'Mercola.' Then continue with your payment process.

When you join D\*action, you agree to test your vitamin D levels twice a year during a 5 year program, and share your health status to demonstrate the public health impact of this nutrient.

There is a \$60 fee for every 6 months for your sponsorship of the project (Mercola sponsors get a 15 percent discount), which includes a complete new test kit to be used at home (except in the state of New York), and electronic reports on your ongoing progress.

When you finish the questionnaire, you can choose your subscription option. You will get a follow up email every 6 months reminding you "it's time for your next test and health survey."

To join now, please follow this link to the sign up form.

I, along with GrassrootsHealth, expect this study will demonstrate the real significance of this nutrient on your health and, of course, its value in the prevention of many diseases. So please sign up today so you can be part of a team of Mercola subscribers setting out to demonstrate that PREVENTION WORKS!

**Disease Prevention and Optimal Health Begins in the Womb!**

GrassrootsHealth is particularly interested in signing up people in these three categories, in order to extrapolate specific data from these groups:

Pregnant women  
Lactating women  
Infants

As you likely know, good health begins in the womb, and optimizing your vitamin D levels during this time is one crucial strategy that can significantly improve the long-term health of your baby!

So if you or someone you know is either pregnant or breast feeding, please consider joining this groundbreaking study to show the health benefits of this remarkable nutrient.

I hope you'll jump on the chance to participate in this wonderful project, and please, help spread the word!

Source: Food Consumer March 7, 2010

Source: Nature Immunology March 7, 2010 [Epub ahead of print]

Source: Eurekalert March 3, 2010

Source: Reuters March 7, 2009

Source: American Journal of Clinical Nutrition March 10, 2010 [Epub ahead of print]