

# **DISCLAIMER**

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The information contained herein includes both psychological and non psychological interventions. The delivery of psychological services requires a medical referral whilst non psychological services do not.

Each person is an individual and has a unique psychological profile, biochemistry, developmental and social history. As such, advice will not be given over the internet and recommendations and interventions within this website cannot be taken as a substitute for a thorough medical or allied health professional assessment or diagnosis.

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# Food Allergies and Celiac Disease

## ARTICLE 1

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## INTRODUCTION

Children and adults with ADD and associated disorders including depression, emotional lability, asthma, recurrent ear infections and learning difficulties have been found to be allergic to common foods such as wheat, rye, barley, oats, milk, eggs, yeast, peanuts, chocolate, oranges, tomatoes, shellfish, food additives, artificial colourings and preservatives, caffeine and wine.

Food not only provides energy and the structural building blocks for growth and repair of cells it is also a source of information. Food allergies and other adverse reactions to food can manifest in a multitude of different ways. Here is a partial list of some of the most common symptoms associated with them.

## RESPIRATORY SYSTEM

- Non-seasonal runny nose, nasal congestion
- Allergic rhinitis (hay fever)
- Allergic conjunctivitis (red, itchy eyes)
- Recurrent serous otitis media (inflammation and fluid in the middle ear)
- Asthma
- Throat swelling (in serious anaphylactic reactions)

## SKIN

- Hives
- Eczema
- Swelling of the mouth, eyelids and lips (angioedema)
- Itching skin

## **DIGESTIVE SYSTEM**

- Diarrhoea
- Constipation
- Nausea and/or vomiting
- Bloating
- Burping
- Flatulence
- Upset stomach or indigestion
- Stomach aches

## **BRAIN AND NERVOUS SYSTEM**

- Dizziness
- Irritability or aggression
- Hyperactivity, agitation or anxiety
- Poor concentration
- Exhaustion
- Insomnia
- Migraine headaches

## **MISCELLANEOUS**

- Dark circles under eyes
- Paleness
- Excessive sweating or Slight fever
- Rapid heartbeat
- Muscle aches and pains
- Bed wetting
- Frequent urination and Excessive thirst

There has been much confusion about describing the difference between food allergies and food sensitivities.

**FOOD ALLERGY DEFINITION:** Adverse reactions to foods which are primarily caused by the immune system.

## **TYPE I HYPERSENSITIVITY**

A Type I hypersensitivity is an immune system reaction which is responsible for an immediate allergic reaction such as rhinitis (hay fever) and anaphylaxis.

Mast cells which line all entrances to the body and found in all locations in the body, primarily defend the body against parasitic infection.

In a Type I hypersensitivity, antigens break through the skin or mucous membranes of the respiratory or digestive tracts and are greeted by mast cells which set off a violent explosion. When a person has an immediate Type 1 hypersensitivity, their mast cells are covered with lots of allergy promoting antibodies (large protein molecules produced by the immune system) known as IgE.

Each antibody is specifically designed to attach to one particular antigen. (There are 5 classes of antibodies each with a different role in the immune system IgA, IgD, IgE, Ig G, IgM). This means that mast cells of allergic individuals are covered with vast amounts of IgE designed to attack only those antigens to which they are allergic.

These allergy generating antibodies are known as allergens. If large numbers of allergens attach to IgE molecules on mast cells, they set off a chain reaction releasing alarm molecules such as histamines and leukotrienes which cause immediate inflammation, redness, swelling, mucous, hives, nasal congestion, coughing sneezing, red and itching eyes.

Mast cells in the digestive tract react differently to food allergens. Huge amounts of allergens may cross the mucous membrane of the gut and travel throughout the body activating mast cells in other locations distant from the digestive tract. Therefore food allergies are accompanied by hives, fatigue, malaise, headaches, stomach pains, irritability, hyperactivity, and "mental fog" and antihistamines have no place in the treatment of food allergies because a wide variety of inflammatory molecules are released in the gut.

Recent research indicates that mast cells within the GALT (**Gut Associated Lymphoid Tissue**) may release their contents under circumstances not associated with Type I hypersensitivity. For example, mast cells in the gut may release their contents when directly stimulated by nerve endings, or when communicated to by neuropeptides (released from nerves or absorbed from the diet if digestion is inefficient or the gut is leaky) or a variety of inflammatory mediators released from other immune cells.

This is in direct contrast to what immunologists and allergy specialist have been taught i.e. that food allergy only exists when specific IgE molecules on the surface of mast cells are stimulated by specific allergens. Recent estimates that Type 1 hypersensitivity based on food allergens occurs between 3-5 % in children (as high as 8 %) and between 1-2 % in adults does not account for the much higher incidence of adverse reactions to food in the general population.

Furthermore, when ADHD children are placed on a high-quality, low allergy potential diet, 75% or more showed marked improvement in overall health, behaviour and cognitive performance. This cannot be explained by Type I hypersensitivity alone (Lyon 2000).

## **TYPE II HYPERSENSITIVITY**

Although very important in defending the body against foreign invaders, this type of hypersensitivity is unlikely to play a major role in food allergies as it does not involve specific IgE antibodies. Instead the body manufactures IgA, IgG and IgM antibodies to defend itself against invasion.

This occurs to some extent in leaky gut (increased permeability of gut membrane) where whole cells e.g. bacteria, yeasts, undigested food cross the mucous membrane of the gut and have to be destroyed through Type II hypersensitivity reactions. The end result of Type II hypersensitivity is the release of inflammatory mediators from the immune cells.

## **TYPE III HYPERSENSITIVITY**

This may yet prove to be the most important class of immune reactions for those experiencing adverse food reactions, particularly children and adults with hard-to-pinpoint, delayed food allergies.

Type III hypersensitivity occurs when antibodies and antigens combine together in the blood stream to form large complexes called immune complexes. These stimulate immune cells to release inflammatory molecules which can lead to an extraordinary variety of symptoms. Very common in snake bite victims who have been given an antidote made with horse serum (serum sickness).

Type III hypersensitivity is amplified when gut permeability is increased. These reactions are delayed (4-6 hours) and if a person keeps eating a food which provokes a Type III hypersensitivity, they may never associate specific foods with specific adverse reactions and may simply experience poor health with no apparent cause. Type III hypersensitivity is also thought to be associated with food addictions.

People with food allergies often crave the very foods they are allergic to. When placed on an elimination diet they may feel like "death warmed over" for the first 3-10 days and experience "allergen withdrawal syndrome". This occurs because of a transient serum sickness-like event that occurs when allergenic foods are suddenly withdrawn from the diet. When a person regularly eats foods to which they are allergic, immune complexes formed are small and numerous. High numbers of small immune complexes create vague and hard to define symptoms. Once the food is withdrawn, smaller numbers of very large immune complexes are formed and have to wait for a few days before being cleared by the immune system.

Large complexes provoke more severe symptoms. Headaches, muscle and joint pains, stomach aches, mood swings, malaise, cognitive, emotional and behavioural changes commonly occur during this withdrawal phase. If the allergic food is eaten during this phase, these individuals experience a short-term "high" most likely caused by the release of stress hormones, increased sympathetic nervous system activity or the release of "opioid" peptides from nerve endings or immune cells in the gut. This would explain why these individuals are very reluctant to eliminate favourite foods from their diets. Opioids have been implicated, in animal studies, in delaying neuron and glial development (Zagon, McLaughlin, 1990) dendrite development (Hauser, McLaughlin, Zagon, 1989), and brain development (Zagon, McLaughlin, 1984). Food addictions seem to be most common with dairy or wheat allergy.

## **TYPE IV HYPERSENSITIVITY**

In Type IV hypersensitivity, specialised immune cells (natural killer cells) become highly sensitised to specific antigens and attack those antigens without the need for the production of antibodies.

This type of hypersensitivity is a very slow reacting process which has been implicated in celiac disease (gluten intolerance) and is also thought to be a contributing factor in Crohn's disease (inflammatory bowel disease).

**FOOD INTOLERANCE DEFINITION:** Adverse reactions to foods which are not primarily caused by the immune system.

## **CELIAC DISEASE**

Celiac disease (also called celiac spruce) is caused by an intolerance to gluten, a component of wheat, rye, barley and oats.

Gluten contains a protein called alpha-gliadin and in persons with this disease this protein causes a reaction in the mucous lining of the intestine. The villi lining the small intestine suffer damage and destruction, which impairs the body's ability to absorb vital nutrients.

Malabsorption becomes a serious problem, and the loss of vitamins, minerals, and calories results in malnutrition despite an adequate diet. Diarrhoea compounds the problem. Since digestion is impaired, food allergies may also appear. There appears to be a very strong familial pattern of food intolerance, which may also include patterns of digestive enzyme deficiencies disease (Dohan 1972; Horvath, Horn, Bodanszky, Toth, Varadi, 1983; Leung, Robson, 1996 ).

Lactose intolerance also often accompanies celiac disease. Kaczmariski, Kurzatowska (1988) have reported a very high familial incidence of cow's milk intolerance in the families (34%) of children with cow's milk intolerance and a 13.3% family incidence of gluten intolerance in the families of children with celiac disease. Similar familial patterns have also been observed regarding ADHD patients (Biederman, Faraone, Keenan, 1992; Sandberg, 1996; Hechtman, 1996). Investigations of children of short stature has revealed that 5% to 20% of these children have celiac disease (Arucchio, et al, 1988).

Celiac disease is often misdiagnosed as irritable bowel syndrome or spastic colon as many physicians are not aware of the various symptoms associated with gluten intolerance. Many people therefore go a long time before being diagnosed correctly, and often they identify themselves because of what they have read or heard about the disease.

The latest estimates for the prevalence of this condition in the US is 1:150 and the only thing that is rare about it is diagnosis. Europe is ahead of the US, and Italy (1 in 7 children) requires testing of every 7 year old child. A study done in Italy found the prevalence in Northern Italy to be twice that of Southern Italy.

Susceptibility to celiac disease is a genetically transmitted trait which has been associated with genetically coded immune system factors identified as human leukocyte antigens (HLA) (Auricchio, Greco, Troncone, 1988). There is a significant association with HLA B8, which has also been demonstrated in 10% to 30% of European populations (Ammerman, Cavalli-Svorsa, 1984). Other HLA factors have been demonstrated to have an even stronger association with celiac disease, but the HLA B8 is found in more than 80% of celiac patients (Cooke and Holmes, 1984).

Depression has also been asserted to be the most prevalent symptom of celiac disease (Cooke and Holmes 1984) and reported as very common by others (Addolorato, Stefanini, Capristo, Caputo, Gasbarrini, 1996; Holmes 1996; Pellegrino, D'Altilia, Germano, 1995; Hallert, Astrom, Walan, 1983) which is thought to be a function of central monoamine metabolism dysfunction (Hallert, Martensson, Allgen, 1982) or due to reduced serotonin binding sites on the platelets of celiac patients (Chiaravalloti, Marazziti, Batistini, Favilli, Ughi, Ceccarelli, Cassano, 1997).

Celiac disease affects both adults and children, and can appear at any age. It can be triggered by emotional stress, physical trauma, a viral infection, pregnancy or surgery. It often appears in babies when they are first introduced to cereal foods at around three or four months of age.

A baby with celiac disease may gain weight more slowly than normal or may lose weight. The infant may have a poor appetite, flatulence, and offensive smelling bowel movements. Infants and children may exhibit stunted growth, vomiting, an intense burning sensation in the skin and a red itchy skin rash called dermatitis herpetiformis. Children are likely to have an anaemic, undernourished appearance. Ulcers may develop in the mouth. Celiac spruce may trail off in adolescence only to reappear, in some instances, in adults in their thirties or forties. The first signs are often weight loss, diarrhoea and nutritional deficiencies such as anaemia.

Other symptoms include nausea, abdominal swelling, large and frequently pale and / or light-yellow coloured stools that float, depression, irritability, muscle cramps and wasting, and joint and / or bone pain.

There is a great deal of evidence suggesting that gluten may also contribute to the rapidly increasing incidence of malignancy. Gluten has been implicated in the pathogenesis of schizophrenia, bi-polar disorder, obsessive-compulsive disorder, and autism (Dohan et al., 1969; Singh & Kay, 1976; Reichelt, et al, 1990a).

Gluten produces exorphins which are opioid-acting peptides derived from external sources, instead of being synthesized within the body. These exogenous opioids have been shown to bind to the same cellular receptors that endogenous opioids bind to, thus impacting on the immune system, nerve function, myelination processes, vascular walls, neuromuscular function, and a variety of CNS functions. As may be expected, such opioids can have an anaesthetizing, analgesic, and addictive effect.

Zioudrou et al. (1979) identified some opioid peptides in the digests of wheat prolamines and dairy proteins which have opioid activity, and Fukudome and Yoshikawa (1992) have since characterized 15 separate amino acid sequences of gluten-exorphin A-5 in a single molecule of wheat. It bears noting that four other opioid-acting amino acid sequences have also been identified in wheat protein and may also occur in multiple regions of the proteins in this very common food ( Fukudome & Yoshikawa, 1992). It is also likely that passage of at least some of these exorphins into the blood, as is witnessed by anti-gliadin antibodies, is occurring in at least 15% of the random population (Arnason, et al., 1992).

There is also a significant population of patients with autism, schizophrenia, and bi-polar disorder, many of whom do not mount a discernable antibody response to these proteins, but whose symptoms improve on a diet which excludes them (Reichelt, 1996).

One sequence of amino acids which has been identified in abundant quantity in both wheat and cow's milk is similar to **Melanocytestimulating-hormone-release-Inhibiting Factor (MIF)** which has been shown to enhance CNS dopaminergic activity in animals (Mycroft et al, 1982). A condition of increased central dopaminergic activity has long been associated with ADHD and a variety of other psychiatric conditions (Gill, Daly, Heron, Hawi, Fitzgerald, 1997; Raskin, Shaywitz, Shaywitz, Anderson, Cohen, 1984).

The earliest report that opioid peptides could be derived from food proteins is probably that of Zioudrou et al.(1979). This group named exorphins and established their functional similarity to morphine. They reported that Naloxone, a morphine antagonist, blocked 70% of gluten-derived exorphin activity, while blocking 100% of milk-derived exorphin activity. Animal studies conducted by the same group show that these exorphins will bind to opiate receptors in the brain.

Gluten-derived opioids are thought to have a much greater potency than those derived from milk, and the former are claimed to have a potency that is a small fraction of that of morphine (Huebner, Lieberman, Rubino, Wall, 1984), so the signs of behavioural impact would likely be much more subtle than is seen in morphine addiction

There was evidence almost thirty years ago, from double blind trials that some schizophrenics benefited from exclusion of gluten and dairy from their diets (Dohan, et al, 1969; Singh and Kay, 1976. The patients in question were released earlier than previous patients who had consumed a regular diet. These positive results were replicated by all the researchers who worked within the clear and simple parameters outlined by Dohan. It was a decade after publication of the first clinical trial of this diet with schizophrenics, that Zioudrou et al. (1979) published their discovery of morphine-like peptides in the digests of wheat and dairy products, thus providing subsequent support for the application of the exorphin hypothesis to schizophrenia.

Opioids, in general, have been implicated in sleep onset (Wilson, Dorosz , 1984) and hypothalamic-pituitary-adrenal axis function (Hoggan, 1997b). Reduced attention may be the result of the CNS attachment of opioid-acting exorphins. Paul et al. (1985) have indicated that exorphins can stay in the circulation of celiac children for as long as a year after consumption of gluten. Since there are five known types of opioids which have been isolated from proteins in wheat, and eight which have been isolated from milk proteins the number of possible variations in presentations should amount to the square of the sum of these two numbers.

If left untreated celiac disease can be quite serious, even life threatening. Bone disease, central and peripheral nervous system impairment, internal hemorrhaging, pancreatic disorders, infertility, miscarriages and gynecological disorders are just some of the long term maladies that can complicate celiac disease. It also increases the risk of developing intestinal lymphoma and other intestinal malignancies.

Certain autoimmune disorders can also be associated with celiac disease, including dermatitis herpetiformis, kidney disease (nephrosis), sarcoidosis (the formation of lesions in the lungs, bones, skin, and other places) insulin dependent diabetes mellitus, systemic lupus erythematosus, thyroid disease, and rarely chronic active hepatitis, scleroderma, myasthenia gravis, Addison's disease, rheumatoid arthritis and Sjogern's syndrome.

Celiac disease is increasingly being linked to epilepsy, autism, schizophrenia, depression and chronic fatigue syndrome (Lancet). Endorphin-like substances may be created in celiac disease and together with increased gut permeability allows absorption of these substances into the brain. Delays in neuron, glia, dendrite, and brain development have also been associated with opioid peptides (Hauser, et al., 1989; Zagon, et al., 1991; Zagon, et al., 1984).

## RECOMMENDATIONS

- Avoidance of all foods which contain gluten (wheat, rye, barley, oats) is essential as is adequate vitamin intake.
- Eliminate milk as Investigation of ADHD subjects for deficiencies of digestive enzymes may thereby be very revealing.
- Processed foods should be avoided and all labels need to be carefully read. Watch for hidden sources of gluten such as hydrolysed vegetable protein, textured vegetable protein and hydrolysed plant protein.
- Avoid all derivatives of wheat, rye, barley and oats such as malt, modified food starch, some soy sauces, grain vinegars, binders, fillers, excipients and natural flavourings.
- Do not eat sugary products, bouillon cubes, bottled salad dressings, chocolate.
- People with celiac disease need fibre and foods rich in iron and B vitamins. Rice, nuts, sunflower seeds, raisins, figs, seedy fruits (raspberries, strawberries, blackberries) are suitable.
- Celiac disease causes malabsorption of the B vitamins and the fat-soluble vitamins A, D, E and K so ensure adequate intake of these vitamins in addition to vitamin C. Barley grass is a good source of Vitamin K.
- Ensure an adequate intake of the minerals iron, zinc (and copper to balance the zinc), calcium, magnesium and Nacetylglucosamine (forms the basis of complex molecular structures in the mucous membrane of the intestinal lining).
- Essential fatty acid supplementation is also necessary for the villi in the intestines.
- Proteolytic enzymes to aid in digestion and absorption are also useful.
- Use supplements that are hypoallergenic, wheat-free and yeast-free.
- Drink at least 8 glasses of filtered water per day.

"Dietary compliance is an intense learning experience. Errors are the rule, not the exception, as one learns the pitfalls of such a diet in the context of a culture inundated with gluten" (Hoggan 1998). "One of the most important skills that children and adults with ADHD must learn is how to properly feed their own brains for life" (Lyon, p121).

## FURTHER READING SUGGESTIONS

- The Palaeolithic Diet
- Dietary Supplements

# Does milk really look good on you?

## ARTICLE 2

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### **Newspaper Article:**

Does milk really look good on you?  
February, 2000, Idaho Observer

<http://proliberty.com/observer/20000208.htm>

### **Article QUICK LINKS :**

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[Dietary Alternatives to Cow Calcium](#)

## **INTRODUCTION**

Pasteurised, homogenised cow's milk has been promoted as the perfect food for humans, especially for our children. This multigenerational advertising campaign has been so successful that the industry has a multi-million dollar advertising budget and a legislative lobbying influence in congress so powerful that every child in a public school receives a pint of milk each day, whether he or she can pay for it or not.

In 1999 the US Department of Agriculture donated \$200million to America's dairy farmers despite the fact that the wholesale price for milk had reached the highest levels in history.

Most people have been so conditioned to believe that the healthy growth of their children's bones is dependent upon receiving calcium from processed cow's milk that they view milk commercials as more of a public service announcement than an attempt by businessmen to sell a product.

Several well-footnoted books and countless articles on the subject show that processed cow's milk is not healthy for humans and, to the contrary, has been linked to a wide range of physiological complications. The list of problems that have been associated with the consumption of milk and dairy products includes iron deficiency anaemia, allergies, diarrhoea, heart disease, colic, cramps, gastrointestinal bleeding, sinusitis, skin rashes, acne, arthritis, diabetes, ear infections, osteoporosis, asthma, autoimmune diseases and possibly even lung cancer, multiple sclerosis and non-Hodgkin's lymphoma.

Milk and dairy products are acid-forming and mucus-producing substances that provide the ideal bodily environment for many children and adults to experience increased frequency of colds and flu's.

The milk of mammals is species-specific and cow's milk is a species-specific food for calves. As Dr. Frank Oski explains in his book "Don't Drink Your Milk!", the milk of each species appears to have been specifically designed to protect the young of that species.....Heating, sterilisation, or modification of the milk in any way destroys the protection.

There is a tremendous difference between human babies and baby calves and a corresponding difference between the milk intended to nourish human babies and baby calves. It takes about 180 days for a human infant to double its birth weight, and human milk is five to seven percent protein. It takes only 45 days for a calf to double its birth weight and cow's milk is 15 percent protein. This protein in cow's milk is of a different composition than that of human milk and is poorly assimilated in the human body. The primary type of protein in cow's milk is casein. According to Dr. John R. Christopher, N.D., M.H., there is up to 20 times more casein in cow's milk than human milk which makes the nutrients in cow's milk difficult (if not impossible) for humans to assimilate.

## **LOST IN THE PROCESS**

Pasteurising milk destroys enzymes and reduces the vitamin content by over 50 percent. Raw milk contains beneficial bacteria such as lactobacillus acidophilus which holds the putrefactive bacteria in check. This is why raw milk will eventually curdle and sour if allowed to sit at room temperature. Pasteurised milk, not having any beneficial bacteria or enzymes, eventually rots.

The irony of pasteurisation is that it destroys the germicidal properties of milk. Experimental animals deteriorate rapidly on pasteurized milk. For instance, calves fed pasteurized milk die within 60 days, as shown by numerous experiments. So why do we pasteurize milk?

1. It extends the shelf life of milk from five days to several weeks and
2. It enables the farmer to have lower standards of cleanliness. The standards for certified dairy herds and milk handlers of raw milk are considerably higher than for herds whose milk is to be pasteurised.

Homogenising milk has been linked to the rise in arteriosclerosis (hardening of the arteries) and heart disease. The culprit is an enzyme in milk called xanthine oxidase (XO) which partly survives pasteurization (40 percent). When the cream in milk is in it's natural state, the fat globules are too large to go through the intestinal wall and into the bloodstream.

Homogenization changes that by straining the fat through tiny pores under great pressure. XO attaches to the fat molecules (now reduced in size but increased in amount a hundred times) which are now small enough to get into the bloodstream and do its damage.

Scientists have discovered that a significant amount of XO is present in areas of hardened and blocked arteries. XO is not present in human milk. In clean, raw cow's milk. XO is not absorbed by the intestines.

Your bones are a mineral bank for your body storing 99 percent calcium, 85 percent phosphorus and 60 percent magnesium. When mineral levels are low in the blood, osteoclasts break down bone to free up these minerals and deposit them in the blood. Excessive animal protein intake increases the need for calcium to neutralize the acid formed from digesting animal protein.

This indicates that the drinking of processed milk destroys bone in the process of digestion – the opposite of what the Dairy Farmer's Association of America, the U.S. Department of Agriculture and the Food and Drug Administration has been telling the American public for generations.

Conditioning the American public to believe that processed cow's milk is beneficial, if not critical to growing healthy bodies is not unlike conditioning the American public to believe that fluoride prevents tooth decay.

Jethro Kloss, author of the internationally recognised and revered herbalist resource guide, "Back to Eden", stated in 1939 that, 'Cow's milk is unfit for human consumption and causes the symptoms intestinal auto-intoxication'.

## **THE MONSANTO CONNECTION**

In 1994 the FDA approved the use of **Recombinant Bovine Somato Tropin** (rBST) better known as **Bovine Growth Hormone** (BGH), a genetically engineered hormone manufactured by Monsanto that increases milk production in cows by 10 percent to 25 percent. The milk from cows treated with BGH contains elevated levels insulin-like growth factor-1 (IGF-1), one of the most powerful growth factors ever identified. While IGF-1 doesn't cause cancer, it definitely stimulates its growth. Recent studies have found a seven-fold increase in the risk of breast cancer in women with the highest IGF-1 levels, and a four-fold increase in prostate cancer in men with the highest levels of IGF-1.

BGH is banned in both Canada and Europe. BGH-treated cows are also more likely to contract mastitis, a persistent infection of the cows' udders. These cows are then treated with a myriad of antibiotics and sulfa drugs. Trace amounts of these drugs as well as pus and bacteria from the infected udders are also found in their milk. Many of these antibiotics, even in trace amounts, can cause allergic reactions from mild reactions such as hives to anaphylactic shock.

The role of Monsanto, one of the world's largest chemical corporations and developer of the terminator gene for seed crops, in the wilful adulteration and contamination of milk must be considered. Monsanto, also one of the world's most prolific polluters, intends to control the world's food supply by making sure that farmers must come back and purchase its seed year after year because terminator gene-containing plants will not produce viable seed. Monsanto also developed the FDA-approved bovine growth hormone that increases production at the expense of the cow and the health of the adults and children who drink the milk.

Kloss' statement was published long before Monsanto was able to further contaminate milk with bovine growth hormone. If cow's milk was unfit for human consumption in 1939, has Monsanto and the FDA, with the introduction and approval of BGH, made it more or less fit than it was before WWII?

## **DIETARY ALTERNATIVES TO COW CALCIUM**

Our nutritional education in school (funded in part by the dairy industry) taught us that dairy products are one of the four basic food groups we ALL need for proper nutrition. Largely as a result of this K-12 conditioning, the average American consumes 375 pounds of dairy products a year. One out of every seven dollars spent on groceries in the U.S. goes to buy dairy products.

There is no question that cow's milk contains calcium. What is in question is how much of that calcium is made available to the body through the digestive process.

We have been told all of our lives to drink plenty of milk in order to build strong teeth and bones. Curiously, the U.S. as a whole records the highest consumption of dairy products in the world and also boasts the highest incidence of bone fractures and osteoporosis in the world. In the January 1988 Journal of Clinical Endocrinology and Metabolism, scientists reported that calcium excretion and bone loss increase in proportion to the amount of animal protein ingested. Animal proteins, due to their high sulphur content, alter the kidney's reabsorption of calcium, so that more calcium is excreted on a diet based upon meats, eggs and dairy products. People on high protein diets excrete between 90 to 100 mg. of calcium a day.

The difference in health between consumers of milk and those who choose to abstain are astounding. Dr. John R. Christopher tells the story of a woman who came to his office with her three grown daughters. All three daughters were encouraged by their mother to drink lots of milk but one of the daughters had rebelled. The two daughters who dutifully drank their milk and lots of it wore false teeth whereas the third daughter who abstained still had all her teeth intact.

Being a former La Leche League leader, I have heard numerous stories told by mothers of the trials and tribulations of raising children. The most frequent success stories I have heard about resolving chronic ear infections and frequent trips to the doctor's office is the elimination of dairy products. Over and over again these women relate how surprised they were to have healthy kids at last. Others have found that milk, being quite addictive, was more difficult to eliminate totally. These families would go on a dairy binge periodically. The following week they would pay for it with a flare up of symptoms from the build up of mucus.

Dr. J. Dan Baggert, a pediatrician in Alabama, describes his experience after recommending that ALL his patient's eliminate cow's milk from their diets. "In Don't Drink Your Milk", Dr. Baggert was quoted as stating, "During the years from 1963 through 1967, I referred an average of four appendectomy cases per year. During the past five and a half years, I have referred only two patients for appendectomy, the last one being three years ago. Both of these children were professed milk guzzlers.... I do not have a single case of asthma. In fact, I have nearly forgotten how to prescribe for them..."

Perhaps the most significant thing I have learned is that Group A beta-hemolytic streptococcus germ will not, under ordinary circumstances, establish an infection in a child kept on an absolutely no-milk-protein dietary regimen. I have been aware of this for the past two and a half years and, so far, there have been no exceptions. Anytime a patient of mine is found to have streptococcal pharyngitis or pyoderma, we can establish by history that he ingested milk protein within five days prior to onset of symptoms or signs bringing him to the office.

I now admit an average of 12-14 patients per year to the hospital. Their average hospital stay is three days. Between 1963 and 1967, I admitted an average of 100+ patients to the hospital per year. Their average stay was five days.

Considering all this evidence, it would be difficult to still buy into the media hype that cow's milk is the perfect food and natural for humans to consume. So what do you drink instead? Distilled water, herbal teas and fresh-extracted fruit and vegetable juices. And if you are a newborn infant, there are two obvious alternatives the right and left breast of your healthy mother.

To increase dietary calcium, consider increasing your consumption of green leafy vegetables such as collards, kale and spinach. Adding these greens to soups, stews and even chilli is a more appetising way to incorporate them into your diet. Carrots and their juice are also an excellent source of highly assimilable calcium.

# Nutrition

## ARTICLE 3

Food is one of our most basic needs. However, in our modern society fresh food is a thing of the past. The so called fresh fruits and vegetables we buy today have little nutritional value because they are grown in nutrient-deficient soil, picked before they ripen naturally, gassed, irradiated, artificially ripened and stored for days before we eat it. Therefore, our diets lack the essential building blocks of functional foods vital to our health and well being.

Without functional foods the body cannot continue the miracle of healing itself as these foods provide the raw materials needed to assist in this healing process thus giving the body fuel to perform at optimum levels. Without sufficient functional foods the following four problems exist for most people:

- **Starvation:** Since most of our food is nutritionally starved;
- **Toxicity:** Many food products including raw fruits and vegetables contain toxins not to mention the air we breathe and the water we drink which actually work against our body's natural healing process;
- **Stress:** As a result of malnutrition and high levels of toxicity;
- **Degenerative Disease:** Which can be symptomatic of nutritional deficiency and as a result of stress on the body.

Functional foods or Nutraceuticals are "foods that are thought to prevent disease" (Harvard Health Letter April 1995). The building blocks of functional foods are called phytochemicals (plant chemicals) These phytochemicals (carbohydrates) are naturally occurring bioactive substances that prevent diseases by interacting with the body's innate healing process to maintain vibrant health and energy.

Of the 200 simple sugars (**glyconutrients**) occurring in plants, only eight are known to be essential for cell-to-cell communication. These are only found in food that is ripened on the vine / tree and remain active for 48 hours after being picked. However, only two of these, glucose and galactose are found in modern diets. The body can convert these two into the six missing sugars, but this enzymatic process is long (up to 20 steps), unreliable and error-prone. Thus we need to supplement our diets with these missing sugars.

All cell surface receptors, binding and signaling components are glycoproteins (proteins and sugar). They essentially act as the language between cells in our body. The glycoproteins are like the letters and words of a language. If the correct sugar (carbohydrate) is not placed in the proper location, or is missing, the glycoprotein is not formed correctly and will not be able to carry out its function in the cell membrane. Only effective cell membrane communication can make the proper cells for our organs.

The functional components of glyconutrients appear to boost the production or activity of enzymes that act as:

1. **Blocking Agents:** Detoxifying carcinogens or keeping them from reaching or penetrating cells;
2. **Suppressing Agents:** Restraining malignant changes in cells that have been exposed to carcinogens.

There are four basic reasons why people get sick. These are:

1. Decreased function of the immune system
2. Increased oxidative stress
3. Diminished / faulty neurotransmitter function
4. Poor / faulty cellular repair / regeneration

Therefore anyone with the following diseases will benefit from glyconutritional supplementation:

- **Brain:** ADHD, Alzheimer's, seizures, dementias, stroke, aneurism, migraines, brain tumours, Cerebral Palsy, Down's syndrome, hydrocephalus, autism, a wide variety of psychoses.
- **Eyes:** Macular degeneration, glaucoma, cataracts, retinopathy, retinitis, detached retina
- **Ears:** Tinnitus, various forms of deafness
- **Nose:** Sinus infections, hay fever
- **Mouth:** Mouth ulcers, gum disease
- **Thyroid:** Goitre, hypothyroidism, Grave's disease
- **Heart:** Myocardial infarction (heart attack), clogged arteries, aneurism, tachycardia, arrhythmia, and mitral valve problem
- **Liver:** Hepatitis C, A, & B, cirrhosis
- **Colon:** Ulcerative colitis
- **Underactive Immune System:** Chronic Fatigue Syndrome, viral infection, flu, cold, cancer, AIDS
- **Overactive Immune System:** Lupus, rheumatoid arthritis, and allergies
- **Pancreas:** Diabetes, hypoglycaemia
- **Joints:** Osteoarthritis
- **Muscles:** Fibromyalgia, muscular dystrophy, various cramps and pains
- **Cartilage:** Deteriorated, Carpal tunnel syndrome
- **Nervous System:** MS, ALS, Parkinson's, ALD Bell's Palsy, other degenerative disorders
- **Lungs:** Asthma, emphysema, cystic fibrosis
- **Skin:** Eczema, psoriasis and scleroderma
- **Cravings:** Alcoholism, sugar, caffeine

The discovery of the importance of glycoproteins was awarded the "Biochemical Discovery of the Year" in 1996 by the **American Naturopathic Medical Association (ANMA)**. The ANMA further released the statement "The most significant discovery of the century". "Almost without exception where ever two or more living cells interact in a specific way, cell surface carbohydrates will be involved " (Bio/Technology, John Hodgson 1990). Major studies have recently indicated exciting revelations regarding the significance of glycoproteins in our development, out- growth, and in the formation of disease.

Scientists are suggesting that glyconutrients may provide the missing link in the body's amazing capacity to heal itself and sustain health. Thus anyone who eats, drinks or breathes in today's world is likely to benefit from these supplements.

In addition to glyconutrient support, research suggests that supplementation with essential fatty acids (EFA's) are also beneficial in ameliorating the symptoms of dyslexia, dyspraxia and ADHD.

# Why are Essential Fatty Acids Important?

## ARTICLE 4

### Article QUICK LINKS :

[Introduction](#) / [Research has Shown](#) / [Other Essential Vitamins and Minerals](#) / [Probiotics](#) / [Water](#) / [Links](#) / [References](#)

## INTRODUCTION

Brain neurons are fluid filled structures completely covered with a thin membrane composed mostly of various types of fat. Nerve endings in the executive regions of the brain are important in ADHD. The whole cycle of dopamine release, attachment to receptors, reuptake into the neuron and breakdown of dopamine all occurs at an extraordinarily rapid rate. The speed of this process depends largely upon the fats that compose these specialised nerve endings. Approximately 80% of these dopamine producing nerve endings are made up of the thinnest, lowest viscosity fat within the human body, known as docosahexaenoic acid (DHA). DHA is an extremely fragile omega-3 fatty acid which gives the nerve endings extremely fluid properties enabling very rapid release of dopamine.

If there is an insufficient supply of DHA during foetal development, infancy or childhood, the body will substitute thicker fats (Omega-9 instead of Omega-3) to build these important brain cells. Thicker fats at these nerve endings means that nerve endings are less fluid and dopamine release may be more sluggish. MRI scans consistently show executive centres in ADHD brains to be more underdeveloped and shrunken and this may be in part due to DHA deprivation.

Furthermore, since DHA is a super-polyunsaturated fat and therefore fragile, it is more susceptible to oxidation it must be continually supplied to the brain throughout life in order to maintain adequate brain function. Oxidative stress in the brain occurs as the result of the following:

- Trauma or emotional stress (cortisol, adrenalin)
- Toxicity (mercury, lead, aluminium, pesticides- organophosphates, organochlorides, alcohol, nicotine)
- Inflammatory disorders, food allergies/intolerances, trans-fatty acids
- Drugs (Dexamphetamine, Ritalin)

Prolonged periods of excessive stress can actually cause molecular damage to the brain and accelerate the aging process (Campbell 99; Seeman 97)

In addition to brain function, DHA is critically important in the development and function of the eye. Rapid processing of light information to the brain depends upon the fluidity of the membranes of the retina. A deficiency in DHA especially during foetal development or childhood could lead to visual problems.

DHA is a rare nutrient found only in certain fish and aquatic plants. The richest sources of DHA is tuna oil. DHA is also found in sardines and salmon. The body can produce DHA from a more readily available omega-3 fatty acid alpha linolenic acid (ALA) found in vegetable oils (canola, soy, flax seed). However, there may not be enough ALA in the diet without supplementation. Furthermore, the conversion of ALA to DHA requires the enzyme delta-six desaturase and nutritional elements. Without adequate amounts of Vitamin, A, E, B and zinc, magnesium the action of this enzyme is impaired. Conversion is also impaired by stress hormones, alcohol, nicotine, drugs, heavy metals, chronic infections, trans-fatty acids and pesticides and also depends upon a person's genetic make up.

Omega-6 fatty acids are also necessary for brain function and effective functioning of the immune system. Arachidonic acid (AA) is readily available in animal fats and in the developed world excessive AA is often the case and is associated with allergies, inflammation or muscle spasms. Gamma linolenic acid (GLA) is another omega-6 fatty acid which is important in brain and immune system function. Unfortunately, GLA is not common in the western diet and is usually manufactured in the body through enzymatic conversion of linoleic acid (LA) readily available from vegetable oils. The richest source is evening primrose oil, borage oil or black current seed oil. Whilst recent studies have shown adequate amounts of LA in levels in children with ADHD, the same research shows inadequate GLA levels in these children.

Research suggests that there is a series of related conditions (dyslexia, attention deficit hyperactivity disorder and dyspraxia) which can overlap, so an affected child is likely to display a combination of problems which are extremely distressing both for the child and his or her parents. Such problems often lead to disruptive behaviour and school failure.

Striking results from a major ongoing research programme on Dyslexia, Dyspraxia and Attention Deficit Hyperactivity Disorder (ADHD) show that **lipid supplementation can make a child less clumsy and more able to catch a ball within 12 weeks**. These findings are supported by observations from leading UK medical research centres indicating unusual brain lipid biochemistry in people with Dyslexia.

Efamol Ltd are sponsoring a major series of research programmes into these three linked disorders and important advances have emerged in findings presented to date. These include:

- Research by Dr Jackie Stordy published in the Lancet, **indicated abnormal essential fatty acid metabolism in the eyes of dyslexics**. This caused night blindness, which could be corrected by supplementation with essential lipids. The dyslexics showed substantial improvement to near normality in just 4 weeks.
- Research from the Royal Postgraduate Medical School at Hammersmith by Dr Basant Puri, using brain scanning techniques has demonstrated that **dyslexic individuals have abnormal brain lipid chemistry**.
- Research by Dr Stordy on fifteen dyspraxic children who were seriously clumsy, showed substantial objective improvement when treated for three months with a supplement of high DHA tuna oil and thyme oil, which promotes the incorporation of these lipids into brain and eye. This combination made a noticeable **improvement in the children's manual dexterity, ball skills and balance**. The tests measured co-ordination, fine movements and balance. All three tests showed substantial improvements over three months. In practical terms this led to improved writing skills, better balance and behaviour and co-ordination.
- A major American study from Purdue University compared 52 hyperactive boys to 42 normal ones and found that **hyperactive children were** deficient 'in essential fatty acids. Blood samples showed that the problem was not dietary deficiency but that hyperactive children can't convert dietary EFA's to the long chain EFA's required by the body for brain and eye function.

## RESEARCH HAS SHOWN

- Hyperactivity may be due to a deficiency of EFAs.
- Low levels of EFAs are common in the blood of children with asthma and allergies. It is known that many hyperactive children suffer from colic, eczema, asthma, allergies and repeated infections.
- Zinc deficiency leads to poor EFA processing in the body. Hair analysis has indicated that many hyperactive children are zinc deficient.
- Salicylates block conversion of EFAs to Prostaglandins - EFAs and prostaglandins are important in brain function. Some food additives and natural food ingredients like salicylates can cause rapid deterioration in a hyperactive child's behaviour.
- The problem is unlikely to be due to lack of EFAs in the diet since often only one family member may be affected.
- The most likely cause of the problem is a failure to convert dietary EFAs to long chain EFAs (the ones needed by body processes and especially by the brain).

A major American study from Purdue University compared hyperactive boys to normal ones and found that **hyperactive children** are EFA deficient based on clinical signs such as thirst, dry skin and hair, more asthma and infections. They also took blood samples from the boys to test evidence for EFA deficiency. These showed that the problem is not dietary deficiency but that hyperactive children can't convert dietary EFA's to the long chain EFA's required by the body for brain and eye function.

## **OTHER ESSENTIAL VITAMINS AND MINERALS**

In addition to glyconutrients and essential fatty acids, the brain needs adequate amounts of numerous other nutrients.

### **B GROUP VITAMINS**

Are essential for many metabolic processes and require daily supplementation because they are not stored in the body. A lack of **Vitamin B1 (thiamine)** manifests in disorders of the neuromuscular, intestinal and cardiovascular systems. Deficiency symptoms include depression, irritability, memory loss, mental confusion, weight loss etc. Vitamin B1 is easily destroyed during cooking, with alcohol consumption and is depleted in celiac disease.

### **VITAMIN B2 (Riboflavin)**

Facilitates the metabolism of carbohydrates, fats and proteins and is critical for the conversion of carbohydrates to ATP in the production of energy. Deficiencies affect primarily the skin, eyes and mucous membranes of the intestinal tract. Eczema, red, itchy eyes, light sensitivity and depression are some of the symptoms of a B2 deficiency.

### **VITAMIN B3 (Niacin)**

Is important because it functions as a component of two important coenzymes: nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide phosphate (NADP). It is useful in reducing elevated cholesterol levels, enhancing response to insulin and important in the Krebs cycle. The parts of the body most affected by niacin deficiency are the skin (dermatitis), intestinal tract and nervous system.

### **VITAMIN B5 (Pantothenic Acid)**

Is necessary for the production of some hormones and neurotransmitters and is involved in the metabolism of carbohydrates, fats and proteins. Deficiencies manifest as problems related to the skin, liver, thymus and nerves.

### **VITAMIN B6 (Pyridoxine)**

Is required for the proper functioning of more than 60 enzymes. It is involved in the metabolism of amino acids, haemoglobin, serotonin, various hormones and the prostaglandins. Deficiencies manifest as depression, sleep disturbances, nerve inflammation, PMS, lethargy, decreased alertness, anaemia, elevated homocysteine levels, nausea, vomiting, seborrheic dermatitis.

## **VITAMIN B12 (Cyanocobalamin)**

Is an essential growth factor and plays a vital role in the metabolism of all cells especially those of the intestinal tract, bone marrow, and nervous tissue. Deficiencies manifest primarily as anaemia and neurological changes. Symptoms include fatigue, depression, confusion and memory (particularly in the elderly), poor blood clotting, dermatitis, easy bruising, loss of appetite, nausea and vomiting.

## **IRON**

Trace minerals also have a significant role to play in ADHD. Iron deficiency which leads to anaemia reduces the quantity of red blood cells within the blood stream depriving the oxygen-hungry brain of its fuel. Iron is also incorporated into enzymes such as cytochromes which help detoxify drugs and poisons. Dopamine producing neurons in the brain's executive centre require the highest concentration of iron. Thus a deficiency in iron robs the brain of energy to perform adequately and cognitive impairments and behavioural problems can result.

## **MAGNESIUM**

Magnesium has a multitude of different uses in the and is an essential cofactor of the enzyme delta 6 desaturase which converts vegetable derived omega 3 fatty acids to the brain critical omega 3 fatty acid DHA (docosahexaenoic acid) which is essential for the rapid release of dopamine. Thus if magnesium levels are low, DHA deficiency is very likely to exist. Magnesium is also a calming mineral that relaxes nerves and muscles. Emotional and physical stress, chemical abuse (caffeine, cortisone, alcohol, nicotine, Ritalin, dextroamphetamine), recurrent infection, food or environmental allergies and gastrointestinal parasites can all result in magnesium depletion and can increase hyperactivity.

## **ZINC**

Is another mineral that may be of prime importance in ADHD. Zinc is responsible for the activation of numerous enzyme systems in the body. Low-grade zinc deficiency results in a weakened immune system (recurrent infections) and diminished digestive system function (intestinal parasites, bacteria and yeast in the gut). Kids who are zinc deficient are often fussy eaters who love junk food, have poor appetites and a poor sense of taste. Zinc is also a cofactor for the enzyme delta 6 desaturase mentioned above. Additionally, inadequate zinc levels affect the production of a complex protein called metallothionein which acts like a "metal clean up service" for toxic metals such as lead, cadmium, mercury, aluminum and arsenic. Since the ADHD brain is very susceptible to these toxins adequate levels of zinc may be of critical importance.

## **CALCIUM, CHROMIUM AND SELENIUM**

Are other important minerals. For those who are allergic to dairy products eating adequate amounts of vegetables from the cabbage family, nuts, seeds, sardines, tofu and legumes is essential. Calcium is the key component in bones and teeth but is also necessary for blood clotting, nerve conduction, muscle contraction, and enzyme activity. Calcium also helps the body detoxify from lead poisoning and calcium citrate and micro-crystalline hydroxyapatite are usually free of heavy metals contamination. Supplementation if the diet is inadequate needs to occur.

## **CHROMIUM**

Is thought to play a vital role in the immune system and is known to be important in the regulation of blood sugar levels. Hypoglycemia (weakness, shakiness, irritability, moodiness, cognitive problems, sweating, rapid heart rate, hyperactivity or lethargy) result when there is an excessive drop in the blood sugar level. Avoiding sugary foods, beginning the day with breakfast and frequent balanced meals during the day as well as supplementation if necessary are ways to overcome hypoglycaemia and keep the blood sugar levels stable and the brain on an even keel.

## **SELENIUM**

Is important for the production of antioxidant enzymes the most important of which is glutathione peroxidase. Inadequate levels of this enzyme leaves the body highly susceptible to oxidative damage and the brain vulnerable to toxic stress. Furthermore, selenium plays a major role in thyroid function. The enzyme 5'-deiodinase depends on selenium for its activity. It is responsible for converting the hormone T4 to the active hormone T3 which is difficult to measure and thus subtle thyroid problems often go undetected. It has been suggested that inadequate T3 activity may result in profound diminishing of brain function. Those who are selenium deficient are also at greater risk to the accumulation of toxic mercury (amalgam fillings, fresh water fish) because the activity of the enzymes glutathione peroxidase and 5'-deiodinase are decreased.

Other trace elements may also play a role in ADHD. The most important way to ensure an adequate intake of nutritional traces minerals is to eat a whole foods diet with adequate whole grains (be careful of gluten), proteins, fruits and vegetables. Care should be taken to ensure that multivitamin supplements supply adequate quantities of the desired trace minerals and vitamins in a highly absorbable form and they should be free from common allergens (wheat), artificial colours, flavours and sweeteners.

## **PROTEINS**

Provide amino acids particularly tyrosine and phenylalanine which are used to manufacture the neurotransmitters dopamine and norepinephrine, glutamine which is used for the production of GABA, and tryptophan which is used to make serotonin. Poor breakdown of protein or inefficient absorption of amino acids may be significant factor in both addiction and ADHD (Blum, 1996).

## PROBIOTICS

Probiotics There are over 400 species of microbes residing in the gastrointestinal tract (GIT) and not all of these are friendly. Some of the most dangerous of these enter the body through the food we eat, the water we drink and from the air we breathe and there is no escape from them anywhere on this planet. These intestinal microbes can be divided into three groups.

### GROUP ONE:

Probiotics which are known to be beneficial and are never responsible for disease (friendly flora).

Consists mainly of Lactobacilli (predominantly in the small intestine) and Bifidobacteria (predominant in the large intestine or colon) used in fermented foods like cheese, yogurt, sauerkraut.

Streptococcus, Enterococcus, Bacillus and E.coli are also probiotic.

### GROUP TWO:

Those that have no known benefits and which cause or contribute to disease processes only under certain circumstances. Consist mainly of bacteria and yeast eg. Streptococcus pneumoniae and Candida albicans. In small numbers they may help to maintain the immune system in a vigilant state but in large numbers they cause disease. Candida can cross the blood brain barrier and has been found in many children with learning difficulties and ADD / ADHD.

### GROUP THREE:

Those that have no known benefits and which are known to readily cause or contribute to disease processes (pathogenic or parasitic). These include bacteria, protozoans, viruses and worms such as Salmonella or enterotoxigenic E coli (food poisoning), Cholera or rotavirus (cause dysentery or diarrhea), Helicobacter pylori (ulcers), enterotoxigenic E.coli, Giardia lamblia (associated with growth retardation in children) Klebsiella (in the colon increases the risk of ankylosing spondylitis - a painful arthritic condition of the spine).

The relative balance of these various organisms have a tremendous influence on a person's health. GALT simply cannot function without the assistance and adequate populations of friendly flora. They not only suppress immunity to decrease allergic states, they also diminish gut inflammation and food allergies whilst improving immune responsiveness toward infection.

Recent research (Lyon 2000) reported that in a sample of 63 children with ADHD 46% of children had no Lactobacillus or Bifidobacteria species. Additionally, over 80% of these children had significant quantities of Group 3 bacteria. In the same study, 32% of the stool samples were found to have Candida albicans or other related fungi. In 41% of cases, protozoal parasites were found on microbial analysis. (Previous research suggested that 5-10% of the normal population would be found).

Shaw (1996) reported high levels of tartaric acid in the urine of many children who have autism. Tartaric acid is a fermentation by product of an overgrowth of Candida. Tartaric acid is a potent inhibitor of certain microbial enzymes used in energy production, particularly in the mitochondria. This is also found in the urine of those with chronic fatigue syndrome.

It is interesting to note that McGregor (1996 a & b) discovered a substance in the urine of individuals with chronic fatigue syndrome (CFS). The substance (CFSUM1) is a marker which has been detected in approximately 85% of cases and is similar in molecular structure to the common pesticide N-methyl proline, known to cause overgrowth of certain undesirable gut bacteria, and although no research has been done to date to look for this gut derived toxin in those with ADHD, the finding further establishes the reality of a gut brain connection.

Unfriendly microorganisms come in many guises and are responsible for a range of diseases and disorders including bowel problems, constipation, diarrhea, colitis, irritable bowel syndrome, urinary tract infections, migraines, rheumatic and arthritic conditions, some skin conditions including acne, eczema and psoriasis. Healthy colonies of flora in the gastrointestinal tract (GIT) constitute the first line of defence against illness and disease. For those taking antibiotics it is vital to supplement the GIT with *L. acidophilus*, *B. bifidum* and *L. bulgaricus* since antibiotics do not discriminate between friendly and unfriendly microorganisms. Probiotics should ideally be taken at least two hours after a dose of antibiotics. Once antibiotic treatment is over, the probiotic regimen should be doubled for the next ten to fourteen days to ensure the gut re-establishes its friendly flora.

## **WATER**

Perhaps the simplest and least expensive dietary intervention is to ensure that a person has an adequate intake of clean, filtered water. Chronic low grade dehydration is common in children with ADHD and learning disabilities for a variety of reasons they don't slow down long enough to think about drinking water; a fatty acid deficiency may have a diuretic effect on the kidneys, and food allergies are often associated with excessive thirst and urination. Eventually a sense of thirst can become inefficient and these children feel miserable when they become dehydrated. Minor degrees of dehydration can cause irritability, malaise, cognitive problems, lethargy or hyperactive behaviour.

Dehydration also causes significant impairment of the immune system, constipation and increases the risk of respiratory infections. Detoxification also requires optimal function of the liver, kidneys and bowel, all of which require good hydration. The usual recommendation of six to eight glasses of water may be insufficient for children who are active, have food allergies or fatty acid deficiencies. Sending a child to school with a litre bottle of filtered water is one way for parents to control the quality of water and allows some degree of monitoring the child's intake of water.

**For more information or to make an appointment please contact us on (02) 9637 9998 during business hours.**

## LINKS

### **PLEASE NOTE :**

Learning Discoveries offers the links below as a convenience to our clients and the users of this website. However, we do not control third party websites and we are not responsible for the websites content.

- **Celiac Disease and Gluten-free Diet Information**

<http://www.celiac.com/>

The site offers key gluten-free and wheat-free on-line resources that are helpful to anyone with special dietary needs.

It provides important resources and information for people on gluten-free diets due to celiac disease, gluten intolerance, dermatitis herpetiformis, wheat allergy, or other health reasons.

It also raises celiac disease awareness, and to provide people who have it with enough information to get diagnosed and treated so that they can begin to lead more comfortable and healthy lives.

- **True Food Guide by Greenpeace Australia**

<http://www.truefood.org.au/truefoodguide/>

Australia currently has limited labelling laws for genetically engineered (GE) foods. That's where the Truefood Guide comes in handy. The Guide rates food brands and products as Green (GE-free) and Red (may contain GE ingredients).

This is essential reading for all people especially those with young children, and those who experience developmental, learning, behavioural or psychiatric disorders.

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**Note:**

To view the Masters Thesis:

<http://gluten-free.org/hoggan/adhd.txt>

Many ADHD and associated disorders and mental illnesses are postulated to be exacerbated by the ingestion of gluten (wheat, rye, barley, oats) and casein (cow's milk) and backed up by a thorough scientific literature search.

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8. Wadley, G and Martin, A (2000): The origins of agriculture – a biological perspective and a new hypothesis. Journal of the Australasian College of Nutritional & Environmental Medicine. Vol. 19, No. 1, April 2000, pages 3-12.

**Note :**

For the full article:

<http://disweb.dis.unimelb.edu.au/staff/gwadley/msc/WadleyMartinAgriculture.html>

This article is well worth reading as it explores the pharmacological properties of cereals and milk and the possible link between diet and mental illness. Exorphins – opioid activity in wheat, rye, barley and oats and casomorphin (in bovine [cow's] and human milk) have been shown to be absorbed from the intestine and can produce effects such as analgesia and reduction in anxiety usually associated with poppy-derived opioids (heroin and morphine). The questions raised in this article "Are cereals and milk chemically rewarding and are humans somehow addicted to these foods?" are thought provoking and the arguments presented are certainly food for thought.