

**It is easier to maintain a brain, than to repair it, so take action sooner rather than later.**

No one can deny that our brain is our most important organ, so we must respect it, listen to it and act. When we get older, if it indicates that we need sleep, we should sleep.

The human brain weighs approximately 1.4 kg. It takes the longest of any organ to develop during pregnancy and goes through more changes than any other organ. The brain has a high percentage of fat, which can harbour heavy metals, so avoid them and detox them sooner rather than later. Use Chris Rhodes in Human Health Specialists, page 7.

Consume krill oil because they live closer to the surface of the sea than fish which go deeper. Orange Roughy goes the deepest of all fishes and has the highest mercury level by far, so never eat them.

A mother's illness may severely affect foetal brain cells; studies suggest that influenza or malnutrition during pregnancy may be associated with the development of schizophrenia. Damage to developing cells may also occur from maternal smoking and drinking, prenatal exposure to chemicals, or excess heat. Children born from malnourished mothers suffer brain damage causing poor learning ability.

### **Risks to the developing brain**

The most rapid and extensive development of a baby's brain occurs during the last three months of pregnancy and the first two years after birth. But the prefrontal cortex, which controls the most complex and advanced types of mental function, continues to develop until around age 27.

This puts the person at a high degree of risk for brain damage and abnormal brain development for a very long period.

Breathing polluted air for three decades can produce a great deal of pathological injury to some very critical parts of the brain.

### **Age**

As we get older, our brain becomes more susceptible to tiredness and chemical toxins that can harm it. I have one short sighted eye and one long sighted eye. The brain works out which I need for perfect vision, but is slower when I am tired and after turning 84.

After 4 weeks, 76 people taking olive oil had a 3% increase in omega-3. Those taking krill oil had their omega-3 skyrocket by 178%.

If you're short of time in the morning, fruit is a good energy source that will start the brain working. Mental exercise drains glucose, so feeding your glucose level throughout the day, with fruit, is a great way to keep energy levels up. Watery and crunchy fruits are low in calories and can be eaten all day, any time. Berries and citrus are highest in complex carbohydrates and also antioxidants which reduce the risk of brain failure.

### **Antioxidants**

Low levels of antioxidants in the blood are associated with memory impairment. Cranberries, prunes, plums and pomegranates have high levels of antioxidants. A recent study from the massive University of California, Los Angeles, showed that drinking a glass of pomegranate juice a day improved memory in people aged 50 to 70.

Later in the morning something with more protein will maintain the energy in the brain all day. A piece of full grain toast or sandwich with natural fish paste provides the nutrition to improve memory and attention.

### **Feeding the brain**

Mental activity requires a lot of energy. The brain needs some sugar in small regular amounts. If you get tired and yawn more frequently than you should, it could be from needing a little sucrose which you can get from fruits and/or drinking diluted fruit juice. Mango (and its juice) also helps people slim.

A University of Toronto study compared the improving of the memory by different breakfasts eaten after an overnight fast. Participants who consumed a carbohydrate breakfast of potatoes or barley performed better on short and long term memory tests, as compared with those who consumed only a glucose-laden lemon drink. Both groups did better than the participants who consumed only an inactive breakfast.

Regardless of the source, caloric intake after an overnight fast can cause a short burst in memory capacity. Carbohydrates, however, generally brought longer-term memory benefits than either fats or proteins in the people tested.

This study emphasised the advantage of nutritious carbohydrates, e.g., fruits, vegetables, and whole grains, over simple sugars such as pastries. Studies also point to the importance of children's breakfasts to school performance.

Fruit is an excellent food. Instead of a short burst of energy these carbohydrates have long chains of sugar molecules that the body breaks down gradually, releasing glucose to fuel the body and the brain over time.

Pectin in apples drains heavy metals out of the body and the brain.

Choline in shrimps, eggs, poultry, tuna, cod, salmon, beef and greens.

The omega-3 fats found in wild Alaskan salmon help fight inflammation throughout your body, including in your brain, and offer numerous protections to your brain cells.

For instance, a study in the journal *Neurology* found "older women with the highest levels of omega-3 fats... had better preservation of their brain as they aged than those with the lowest levels, which might mean they would maintain better brain function for an extra year or two."<sup>5</sup>

In separate research, when boys were given an omega-3 supplement, there were significant increases in the activation of the dorsolateral prefrontal cortex part of the brain.<sup>6</sup>

This is an area of your brain that is associated with working memory. They also noticed changes in other parts of the brain, including the occipital cortex (the visual processing center) and the cerebellar cortex (which plays a role in motor control).

You can get omega-3 fats in therapeutic doses by taking a supplement like krill oil. But if you're looking for a food source, wild Alaskan salmon (along with sardines and anchovies) is among the best.

In the short term, your brain uses this technique to keep your memory and other functions up and running. But in the long run, your nerve cells end up badly damaged. It's not surprising that Alzheimer's patients have very low levels of acetylcholine. As the disease progresses, it's the choline neurons that show the most damage.

Celery is a rich source of luteolin, a plant compound that may calm inflammation in your brain, which is a primary cause of neurodegeneration. In addition to celery, peppers and carrots are also good sources of luteolin.

For decades I've dreaded Alzheimer's because I've seen so many, and a good friend died early (50) from, "Stress from caring for her Alzheimer's affected husband", and I didn't want to leave that for Auriel.

### **Diet and Supplements of Benefits**

- Longevity experts are big advocates of grazing throughout the day, because the brain's main energy source is glucose and if that gets depleted, you're not going to think properly. Eat six times a day, lighter meals and nuts or protein bar-type snacks.

I agree, so have three meals and five fruit juices with fruit or biscuits, and water inbetween.

- Low levels of antioxidants in the blood are associated with memory impairment. Cranberries, prunes, plums and pomegranates have high levels of antioxidants. A recent study from UCLA showed that drinking a glass of pomegranate juice a day improved memory in people aged 50 to 70.

### **Too much blood sugar — too little brain sugar**

A high-sugar snack or soft drink that quickly raises your blood glucose (sugar) level may give you a quick boost (and any caffeine adds to the lift), but both are short-lived. When you eat something with a high sugar content your pancreas starts to secrete insulin. Insulin triggers cells throughout your body to pull the excess glucose (sugar) out of your bloodstream and store it as fat for later use.

Caffeine, can energize you and help you concentrate. Found in coffee, chocolate, energy drinks, and some medications, caffeine gives you that unmistakable wake-up buzz, though the effects are short-term. Too much caffeine can make you jittery and uncomfortable. Soon, the glucose available to your brain will have dropped. Your neurons then experience an energy crisis and you feel spaced-out, weak or confused. Your ability to focus and think suffers. The name for this glucose deficiency is hypoglycaemia, and it can even lead to unconsciousness. An hour or two after drinking a sugary soft drink, you feel the need for another boost. This bouncing up and back is referred to as a "sugar spike". Surprise! Over-eating increases insulin which damages the brain, and makes more fat.

Repeatedly overloading the bloodstream with sugar in this way can diminish the body's ability to respond to insulin, and type 2 diabetes may develop. This is not good for the brain either, because diabetes causes a narrowing of the arteries and makes the brain more susceptible to gradual damage. People with diabetes are more vulnerable to depression and are more likely to suffer a decline in mental ability as they age.

If doing work which requires a lot of concentration, regular getting up and moving around, stretching, drinking water and a small carbohydrate snack are necessary to recover optimum brain function.

I do a leg lifting exercise, when sitting at the computer. I lift both knees together up as high as possible, twisting the ankles and squeezing the toes at the same time. When starting this, you will be able to lift them only a few centimetres off the ground, but after a few months you will be able to lift your knees to the height of the desk. Keep at it!

I can walk for an hour and not get exhausted, or run for 15 minutes, but five minutes of lifting my knees, and I have to stop. It exercises feet, legs and the extremities and lower back.

### **Glucose and carbohydrates**

Low blood glucose levels can lead to a significant deterioration in attention abilities. Auditory and visual information is processed more slowly when your brain is deprived of its main source of energy, namely glucose. The preferable source of glucose is not quick acting sugars, but longer-acting carbohydrates.

Carbohydrates like whole-wheat bread and pasta, are considered good for the brain, because their energy giving glucose content is continuously released into the blood. So, make sure that you eat a lot of slow-release carbohydrates, and add protein rich items like fish or chicken with boiled potatoes and whole-grained rice, to improve your memory.

Also, too much sugar depletes magnesium, and the high levels of phosphoric acid in soft drinks can combine with calcium and magnesium in the gut to cause a loss of vital minerals.

**Dr Sears Primal Force** says the same. Get his Newsletter from [www.primalforce.net](http://www.primalforce.net)

### **Gluten and brain damage**

Some researchers and professionals believe the brain and nervous system are particularly susceptible to gluten damage and that some nerves may be badly affected.

Some researchers also believe that gluten damages other tissues, organs, nerves or even nerves in the gut, beside the villi in the gut. In these cases, a villi biopsy can be negative but damage is still being done.

Indiscriminate, repeated gluten indiscretions in a gluten sensitive person may eventually cause serious physical and neurological damage, psychiatric symptoms and, a study indicates, higher mortality rates. See chapter on Human Health > [Gluten](#).

### **Time to lift the brain fog**

Some heavy metals damage the brain. I've tried several specialists and the best at drainage of my heavy metals is Chris Rhodes. He measured my urine and found I had heavy metals, so prescribed his Drainage for six weeks. After five weeks, I felt that it was helping. My urine became perfect. It later became infected again from certain supplements. Mercury and cadmium were in 25% of supplements from USA suppliers that I was taking. See [Human Health Specialists](#).

### **Brain fog**

Menopause studies have shown that memory problems are common among women who are going through menopause. In fact, for some women, their mood, the severity of their hot flashes and their loss of memory abilities may all be linked. The good news is that studies suggest that memory abilities will likely return to normal once the transition through menopause is over.

In pregnant women, changes in hormone levels can cause a weaker memory. Not all, but many pregnant women report being more forgetful during pregnancy, and studies have suggested it could be due to elevated hormone levels affecting the brain.

This may be described as feelings of mental confusion or lack of mental clarity. It is called 'Brain fog' because it can feel like a cloud or fog that reduces your ability to see (not visually) and think clearly. It can cause a person to become forgetful, detached and often discouraged and depressed, cause a person to become forgetful, detached and often discouraged and depressed.

It usually is present most of the time, meaning it does not come and go, although it may become better or worse depending on what a person eats, or one's state of rest and hydration.

Brain fog is not recognised as a clinical diagnosis because it is not easy to test for it. The person just knows that they do not function well, and the mind often seems foggy or cloudy!. This is not the same as dementia, mental retardation, anxiety, depression or other common mental symptoms. I hope that medical doctors will soon expand their diagnostic ability to measure brain fog, but for now it is a subjective condition, though it is very real.

Brain fog is quite common. It affects thousands of people, including children as well as adults. It

contributes to school and work problems, low self-esteem, accidents, unhappy relationships and often is a factor in crime and delinquency because it can cause intense frustration and inability to function well in society.

The onset of brain fog. Some people have had brain fog for most of their lives, and may even think their state of mind is normal. In some other cases, it comes on slowly with age. In other instances, it may develop overnight, perhaps after a mild flu or other illness, or perhaps after a toxic exposure to something to which you are allergic, such as mercury, gluten.

Brain fog can have many causes. However, the most common, by far, are nutritional and biochemical imbalances that affect the brain and central nervous system of the body. In my experience, the cause is usually somewhat complex. It can involve a combination of many factors. The most common contributing factors are toxic metals that can cause or contribute to brain fog. The most common metal imbalances with brain fog that we see include. there are many, many things that can cause it. One can temporarily suffer with a foggy head from lack of sleep, low blood sugar, seasonal allergies, food allergies, dehydration, or electrolyte imbalance following heavy exercise.

It happens to almost everyone every now and then: a strange memory lapse, impaired concentration, mental fatigue, or a sensation that a cloud has taken over your sharp minds, leaving you with a foggy brain.

Besides lack of sleep and stress, there are five additional reasons why this may happen. Here's a look at them.

One possibility is that you are doing this to yourself. If you are one of those multitaskers who always toggle between projects, it's possible your brain might just give up at some point.

One of the common forms of multitasking in today's world happens on our computers, as we take on multiple tasks, such as paying the bills, ordering lunch, chatting with friends and reading the news, without actually moving or having to be in two places at once.

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One of the common forms of multitasking in today's world happens on our computers, as we take on multiple tasks, such as paying the bills, ordering lunch, chatting with friends and reading the news, without actually moving or having to be in two places at once.

Such digital overload may have an adverse effect on the brain and leave you distracted, foggy-brained and less productive, researchers say.

### **Ginkgo**

Ginkgo biloba is called the brain herb. It has the ability to improve blood circulation and therefore increases oxygen and nutrient supply to the brain. It also prevents damage to nerve cells.

It is a powerful antioxidant called the brain herb, enhancing concentration and memory. Its leaves contain two types of chemicals (flavonoids and terpenoids) that are believed to have antioxidant properties which support the body against free radicals and oxidative damage. It has valuable healing properties and today is one of the most popular of herbal medicines.

Ginkgo is used in the treatment of Alzheimer's disease, memory and cognitive related problems. However, I'm allergic to some of them and to an excess. Unfortunately Ginkgo and many other supplements may contain mercury, so you should buy reputable brand names, or Muscle Test yourself before buying.

Just as rust forms when iron is exposed to oxygen, human cells are damaged from free radical exposure. Free radicals contribute to health problems including cancer, heart disease and Alzheimer's disease.

Acetylcholine is the foremost chemical that assists in memory improvement and general health. Poor circulation occurs when the blood flow is impaired. This may occur due to a gradual narrowing of blood vessels, resulting in a decrease in blood to important areas of the body. Ginkgo assists blood flow by dilating the arteries, veins and capillaries and encouraging microcirculation to areas such as the hands and feet. It has also been shown to increase blood flow to the retina and therefore may improve vision.

Australians, and other countries are facing serious health problems with the re-emergence of iodine deficiency in their diets. "Iodine deficiency is the single most important cause of preventable intellectual deficit in the world," says Professor Cres Eastman, Director of the Institute of Clinical Pathology and Medical Research. Eat fish, eggs, liver, and nuts because they are rich in acetylcholine.

Nuts such as walnuts, almonds, pine nuts, etc, not only are rich in omega-3 unsaturated fatty acids, but also contain a large number of antioxidants like vitamin E and selenium. These antioxidants can protect the brain cells from the damage of free radicals. The researchers from United States Department of Agriculture have found out that, nuts also contain a kind of mineral called as "boron". It will affect the electrical activity in the brain, and make people's intelligent reaction become more sensitive. Experts point out that, parents can provide their children with some nuts at breakfast.

### **Berries**

Berries (such as strawberry, blueberry, cranberry, etc.) contain a lot of antioxidants, which can help reduce the damage of free radicals, as well as delay your ageing. Animal experiments have shown that, berries are closely related with the function of motor nerve, memory and cognitive ability. What's more, berries also contain a variety of vitamins. When the brain cells synthesize acetylcholine - the neurotransmitter of memory, vitamins play an indispensable role.

### **Omega 3**

Omega 3 fatty acids found in krill oils helps remove toxins and sharpens intellect. Fish oil used to be recommended, but not now because most contain mercury. Flax oil, if not refrigerated, becomes rancid and highly toxic. See Human Health > [Omegas](#). Oils (except olive and coconut) and all nuts

should be kept in fridges.

### **Ginseng**

Ginseng is a natural herb used for 2000 years and is now popular because of its tremendous healing power of many diseases, and it is of special to the brain. It helps Alzheimer's and some nerve disorders, but some Ginseng products have been modified, i.e., chelated, so are toxic and may contain mercury.

### **Magnesium**

Thompson's Organic Magnesium is the safest and best I've found.

Take it before bed to sleep better and help memory and to stop muscle cramps. The brain and heart are muscles. If they get cramp, look out. Magnesium is best taken in the evening because it has a relaxing effect on the muscles, so helps people sleep better. The same applies to selenium and zinc, so take them all with dinner or before going to bed.

If refluxes at night are a problem, take acid fruits, like kiwifruit or grapes, most of which have a pH or about 5, and/or Manuka honey (also pH 5), just before going to bed. The mild acid in them tells the body to release alkali, not acid. Read Refluxes in 'Human Health'.

### **Choline function excerpt from Dr Al Sears**

Your brain needs choline for thinking and remembering. It is a building block required for the nerve cells to work. If you have lots of choline, your mind is sharp and your memory is clear. When you drink coffee in the morning, the release of acetylcholine gives some the buzz that is needed, but it can burn you out, as it depletes your reserve of acetylcholine. Too much coffee causes nervousness, irritability, sleeplessness, and for some, a rapid heart beat.

Your brain has a huge appetite for choline. It's the primary building block for acetylcholine. You burn it up 24/7 as your brain uses it to maintain clear communication between trillions of neurons.

You need it for all the basics like thought, memory and sleep. It even controls how you move. Your muscles receive commands from your brain via acetylcholine. That means your sense of balance and stability is controlled by this key transmitter.

Like many nutrients, your supply of choline drops as you get older. As this happens, you can expect some or all of these symptoms:

- Poor recall and memory loss;
- Fatigue or lack of energy;
- Brain fog and/or a sense of confusion;
- Problems falling asleep, tossing and turning;
- Unable to catch on, or learn new things;
- Feeling distracted or irritable;
- Walking with a wobbly or shaky gait, unable to stay balanced.

To survive, your body will scavenge materials from other sources when it can't get enough from its main supplier. When choline levels drop off, your brain goes on a scavenger hunt and extracts choline from nerve cell membranes.

This last resort is called "auto-cannibalism" and it's very dangerous.

In the short term, your brain will use this technique to keep your memory and other functions up and running. But in the long run, your nerve cells end up badly damaged. It's not surprising that Alzheimer's patients have very low levels of acetylcholine. As the disease progresses, it's the choline neurons that show the most damage. Our brains have a huge appetite for choline, a nutrient you've probably never heard of, but it's vital for mental performance. In fact, nobody really knew much about choline until recently when both the Food and Nutrition Board of the Institute of Medicine, and the National Academy of Sciences, reclassified it as an essential nutrient. It's the primary building block for acetylcholine, which your brain uses to maintain clear communication between the cells throughout your body. Safe fish oil (has no mercury), eggs, liver, and nuts are rich in acetylcholine. You need it for thinking, remembering, sleeping and even maintaining your balance, stability and mobility.

Your brain needs choline to keep you healthy, so take choline three times a day, breakfast, dinner and just before sleep.

At Northwestern University in Chicago, researchers tested people with choline deficiency. They gave them a series of memory tests and found below-average scores. In the next stage, one group received extra choline, while the control group didn't. After 24 weeks, both groups repeated the memory tests. The group with the extra choline showed a dramatic improvement, while the group that received no extra choline

performed poorly with no improvement.

One participant said the improvement she noticed from taking choline during the study was amazing. Each time she was interviewed, she had to sit a random memory test, where she was asked to recall 20 items. When she started she could remember only the last four, but as the trial wore on she was able to remember all 20 each time. "I was happy, I felt different – I felt very positive, I could remember everything."

Results of the Test - 0 out of 20 is very bad, 0 to 5 is typical, 16 out of 20 is excellent.

The primary fuel your brain needs for energy is glucose. However, your brain is able to run on more than a single type of fuel, one being ketones (ketone bodies), or ketoacids. Ketones are what your body produces when it converts fat (as opposed to glucose) into energy.

The medium-chain triglycerides (MCT) found in coconut oil are GREAT source of ketone bodies, because coconut oil is about 66 percent MCTs.

Therapeutic levels of MCTs have been studied at 20 grams per day. According to research by Dr. Mary Newport, just over two tablespoons of coconut oil (about 35 ml or seven level teaspoons) would supply you with the equivalent of 20 grams of MCT, which is indicated as either a preventative measure against degenerative neurological diseases, or as a treatment for an already established case.

Pumpkin is the best source of beta-carotene. The Dutch study has found out that, beta-carotene can maintain the thinking ability sensitive. Beside pumpkin, dark green leafy vegetables, carrot, bell pepper, sweet potato, papaya and mango are also rich in beta-carotene. If the intake of zinc is insufficient, it will cause memory loss and inattention. Experts point out that, as long as you take in adequate zinc, the memory will be increased by 12%. Sunflower seeds, brown rice, but not too much because today most has too much arsenic. Whole grains are also sources of zinc. The NZ government subsidises a zinc supplement through doctors' prescriptions, but it is toxic, so should not be eaten. After taking Thompson's Organic Zinc for few months your nails should improve.

### **Milk**

This can not only supplement great amounts of calcium to the body, but can also provide some important nutrients for the brain, such as Lewis organic milk or Lewis chocalit in the North Island of New Zealand, protein and vitamin B group. According to the statistics, nowadays most of the primary school students eat too much meat (USA information no doubt, where they eat marbled grain-fed meats) and this may cause the deficiency of calcium, but not if enough dairy is consumed. If parents are worried about the lactose intolerance of their children, they can buy Lewis milk or any other grown the same way, or choose non-sugar almond milk, yogurt and add some fruits or nuts, which can improve the flavours.

### **B vitamins**

One of the most interesting aspects of the Vitamin B's range of nutritional benefits is its positive effect on the brain and central nervous system. Inadequate B intake can contribute to a lack of energy, ability to stay focused on tasks, and mental alertness.

I take Thompson's Ultra B, which I find wonderful. However, more Vitamin B12 and B6 are likely to be necessary than is in the Thompson's Ultra B.

Little was known about the relationship between vitamin B and health until the 1980s. However, for centuries before then, salt boric acid, a compound that contains B, was recommended by healers for its ability to improve brain function, memory and coordination. Research has shown that B can help with the prevention of Alzheimer's. Being such an excellent fungicide, it is not surprising that B is also being successfully used to treat Candida.

A study of participants on a low B diet performed poorly in tests of manual dexterity, hand-to-eye coordination, attention, perception, and short- and long-term memory, when compared to those on a high B diet.

In another experiment a group of medical students was given either a placebo or 3 mg. of B daily for three months. Nearly 92 percent of those taking vitamin B demonstrated noticeably greater mental alertness and higher participation in class discussions. Electroencephalogram (EEG) tests have demonstrated that B supplements show increased activity in the areas of the brain associated with alertness when compared to subjects with inadequate B intake.

A deficiency of vitamin B5 shows symptoms like fatigue, headaches, nausea, tingling in the hands, depression, personality changes and cardiac instability.

Vitamin B5 and choline daily has helped my memory, judged by stopping it for a few weeks on four occasions.

It does not appear to be toxic in high dosage, although diarrhoea, digestive disturbances and water retention have been reported on dosages exceeding 10 g a day. Taking 1,500 mg a day over an extended period may cause sensitivity to the teeth.

Vitamin B12 level must be optimum or higher. Some people need more than one form of B12. Some need injections. I take a drop on the back of my hand, another one under my tongue and a XXXX tablet.

### **Selenium**

Selenium is a major mineral for our body, especially muscle development and immune function. Our brain is a muscle, and selenium has a huge impact on brain function.

Nerve cells must have selenium to produce glutathione, one of the brain's most important antioxidants. The brains of animals fed a low selenium diet make less glutathione. Such selenium-deprived brains also show disturbances in the activity of prominent neurotransmitters serotonin, dopamine, and adrenaline, signifying potential brain damage and dysfunction, according to recent research.

### **Things that can help the brain**

- Ginseng and Gingko.
- Vitamin B5.
- A little good fats.
- Adequate food and liquid intake. Being hungry has adversely affected eyesight. In some cases eyes became out of focus due to low blood sugar levels.
- Choline Bitartrate.
- Enzogenol - Paediatrician Leila Masson says, "Enzogenol is a safe and effective alternative for children with hyperactivity and concentration problems. I have noticed improvements in my patients within a few weeks of starting this potent antioxidant. Parents and teachers consistently report that the children are calmer and more focused." Enzogenol, the name of the supplement, is a natural extract from the bark of pines grown in New Zealand.
- Large doses of B vitamins can halve the rate of brain shrinkage in the elderly suffering memory problems, and is claimed to slow the old age problem of increasing dementia.
- Selenium which the brain needs, is low in New Zealand soils. It is needed to produce glutathione, an antioxidant critical for healthy brain function. Blood levels of selenium drop as we age, by 7% after age sixty and 24% after age seventy-five, according to one study.
- Acetyl-L-carnitine (ALC) enhanced memories.
- Vinpocetine benefitted speech, language, memory, learning, and other measures of cognitive performance.

Wild blueberries have even been shown to reduce some of the effects of a poor diet (such as high blood pressure systemic inflammation). In one recent animal study, wild blueberries reduced the pro-inflammatory effects of a poor diet as well as prevented high blood pressure, which would also be beneficial for the brain health.

The antioxidants and other phytochemicals in blueberries have been linked to improvements in learning, thinking and memory, along with reductions in neurodegenerative oxidative stress. They're also relatively low in fructose compared to other fruits, making them one of the healthier fruits available.

Fructose, or fruit sugar, is a simple sweetener found in many plants, where it is often bonded to glucose to form the simple sugars soluble in water. Rats fed fructose syrup showed significant impairment in their cognitive abilities—they struggled to remember their way out of a maze. They were slower, and their brains showed a decline in solving activities.

Consuming large amounts of fructose may block insulin's ability to regulate how brain cells store and use sugar for the energy needed to fuel thoughts and emotions.

A second group of rats was given omega-3 fats in the form of flaxseed oil and DHA (docosahexaenoic acid), in addition to the high-fructose diet. After six weeks, this group of rats was able to navigate the maze better and faster than the rats in the non-DHA group.

### **Improving the brain**

Relaxation of all types helps.

Listening -- really listening -- to soothing music, relaxes your body and brain and reduces anxiety. Do you love listening to your iPod? Music can make you healthier and smarter. Anything that makes one laugh improves the brain's activity, possible because of the relaxation.

Walnuts are good sources of plant-based omega-3 fats, natural phytosterols, and antioxidants, and have



been shown to reverse brain aging in older rats. DHA, in particular, is a type of omega-3 fat that's been found to boost brain function and even promote brain healing, although it's more plentiful in animal-based omega-3 sources, like krill and wild Alaskan salmon, as opposed to walnuts.

Walnuts contain a number of other neuroprotective compounds as well, including vitamin E, folate, melatonin, and antioxidants that lend even more brain benefits. Research shows walnut consumption may support brain health by increasing inferential reasoning in young adults,<sup>9</sup> for instance.

Another study found that consuming high-antioxidant foods like walnuts "can decrease the enhanced vulnerability to oxidative stress that occurs in aging," "increase health span," and also "enhance cognitive and motor function in aging."

Is Your Sweet Tooth Killing Your Brain? Dr. Mercola Interviews Dr. Perlmutter

We've covered some of the best foods for your brain, but equally important is what foods to avoid. In the video above, Dr. David Perlmutter, author of *Grain Brain*, shares his insights into how to protect your brain health and even prevent Alzheimer's disease using a key dietary strategy... namely, avoiding sugar and carbohydrates. He cites research from the Mayo Clinic, which found diets rich in carbohydrates are associated with an 89 percent increased risk for dementia. Meanwhile, diets high in healthy fats are associated with a 44 percent reduced risk.

As you over-indulge on sugar and grains, your brain becomes overwhelmed by the consistently high levels of glucose and insulin that blunts its insulin signaling, leading to impairments in your thinking and memory abilities, eventually causing permanent brain damage. Additionally, when your liver is busy processing fructose (which your liver turns into fat), it severely hampers its ability to make cholesterol, an essential building block of your brain that is crucial for optimal brain function. Indeed, mounting evidence supports the notion that significantly reducing fructose consumption is a very important step for preventing Alzheimer's disease.

Citicoline is a brain chemical that occurs naturally in the body. As a medicine, it is taken by mouth as a supplement. It is used for Alzheimer's disease and other types of dementia, head trauma, cerebrovascular disease such as stroke, age-related memory loss, Parkinson's disease, attention deficit-hyperactive disorder (ADHD), and glaucoma. Citicoline was originally developed in Japan for strokes. It was later introduced as a prescription drug in many European countries. In these countries it is now frequently prescribed for thinking problems related to circulation problems in the brain. In the US, citicoline is marketed as a dietary supplement.

How does it work? Citicoline seems to increase a brain chemical called phosphatidylcholine. This brain chemical is important for brain function. It might also decrease brain tissue damage when the brain is injured.

It helps you think faster. It has been used for centuries as a brain tonic in Indian and Chinese medicine, and its use has been recorded for over 2,000 years.

**Bacopa** can also protect you from toxins that are harmful to brains, like aluminium.

If you wanted to take it a step further, you would want to stimulate the brain to increase the effects of your growth factors, which promotes neurite and dendrite rejuvenation and an expansion of the connections between your brain cells. That's why a special nutrient called Acetyl L-Carnitine (ALC) should be taken. It is commonly known as Waterhyssop or Water Hyssop, though this is more misleading as Bacopa is not very closely related to hyssop but simply has a somewhat similar appearance.

#### **Some causes of brain deterioration**

- Low vitamin B12, even if slightly low. Good health specialists recommend a consumption that is higher than the standard.
- Gluten, even in minute amounts, adversely affects brains in gluten sensitive individuals.
- Alcohol.
- Fatigue.
- Iodine deficiency.
- Excess minerals that can adversely affect the brain include manganese, mercury, aluminium, phosphate and copper. Some, such as manganese and aluminium, are causes of Parkinson's and Alzheimer's diseases. Excess phosphate is common on New Zealand farms because of the commercial power of fertiliser companies, that promote Superphosphate to benefit from the profit from \$400/tonne fertiliser. So farms suffer low calcium levels, partly caused by the lack of accurate factual promotion of lime at only \$25/t. The establishments' dreadful inaccuracy about agricultural lime, costs farmers

collectively millions of dollars, from Ca deficient soils and pastures, so pasture and animal production. The resulting high manganese causes stressed cows and staff, resulting in human tempers causing both to suffer.

### **Things that can harm the brain**

- Mercury and an excess of any heavy metals, especially aluminium which causes Alzheimer's disease. Manganese adds to it.
- Fluoride in all forms is bad. Fluoride has now been proved to also cause obesity. Read the Chapter on Fluoride.
- Aluminium and drinking from aluminium can and contents.
- Manganese. Most who work in manganese mines get Parkinson's disease. Most New Zealand soils are acid and moist, so are high in manganese.
- Avoid consuming cadmium, which, along with mercury, is in some supplements and clothing elastics and collars. Muscle Test them.
- Avoid aspartame - although Safety Approved in 90 nations, aspartame damages the brain.
- Chelated supplements mostly contain mercury because chelating uses mercury to cement or bond things. Avoid supplements that contain the words 'chelation' or 'chelated'. I am very allergic to mercury, which gives me boils and pimples, while is not affected by it, perspires (glows) which removes it.
- Lack of sleep or being tired.
- Cholesterol drugs cause rapid aging, brain damage and diabetes.