



# Nutrition, diet and brain injury

**A healthy diet is an essential key to maximizing your brain's potential after a brain injury.**

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## The basics of a healthy diet

Poor diet can affect mood, behaviour and brain function. Our brains need energy and nutrients for healthy brain chemistry, functioning of nerves, and correct neurotransmitter levels. That is why a healthy diet is so important for recovery after brain injury

Fad diets come and go, but the essentials of a healthy diet remain:

- eat a variety of foods including vegetables, fruits and grains
- eat lean meats, poultry, fish, beans and low-fat dairy products
- drink lots of water
- limit your intake of salt, sugar and alcohol
- eat unsaturated fats in moderation, strictly limit saturated and trans fats.

Are there special supplements which could help when recovering from a brain injury?

A recent study by the Department of Defense in the USA suggested that choline, creatine, omega-3 fatty acids and zinc are helpful during the recovery process. A healthy diet will generally supply all key vitamins, minerals and fats needed - supplements typically are only a semi-effective way to make up for a poor diet.

## Alcohol, caffeine & other drugs

Most rehabilitation specialists will advise against drinking alcohol for at least one to two years after brain injury, or even indefinitely.

The body uses essential vitamins and minerals to break down alcohol, which can lead to nutritional deficiencies when alcohol intake is excessive.

There is also a risk of further injury when a person with brain injury is under the influence of alcohol.

For those who choose to drink alcohol after a period of time, it should be in moderation. Family members can observe any negative impacts, such as worsening behaviours or other impairments.

## Guide to vitamins

Each vitamin is found in different foods and has a different purpose for our brains.

**Vitamin B-1:** Grain products, pork, legumes, nuts, seeds and organ meats. Helps metabolize glucose (blood sugar) - glucose is a primary energy source and promotes growth and muscle tone.

**Vitamin B-12:** Milk, meat and eggs. Protects our nerve cells by maintain a myelin sheath (outer coating) - B-12 deficiency can result in nerve damage and impaired brain function.



**Folic Acid:** liver, yeast, asparagus, fried beans, peas, wheat, broccoli, and some nuts. Prevents a buildup of blood, reducing the risk of heart disease and stroke and can also lower levels of serotonin in the brain (neurotransmitter and functions the brain).

**Vitamin B:** enriched grains, meat, fish, wheat bran, asparagus, high quality milk and peanuts. Vitamin B deficiency can cause mental symptoms such as irritability, headaches, loss of memory, inability to sleep, and emotional instability. Also pellagra (causes psychosis, delirium, coma, diarrhea, dementia, dermatitis and death).

**Vitamin A:** meats, fish, eggs, carrots, yellow squash and spinach. Helps provide protection against infection, bone and teeth formation, smooth skin and promotes growth and repair of body tissue.

**Vitamin E:** plant oils, green leafy vegetables (e.g. spinach) and some breakfast cereals. Supplies oxygen to the brain, slows down ageing process, nutrition for cells and prevents blood from clotting.

**Vitamin B-6:** chicken, fish, pork, whole-wheat products, brown rice and some fruit and vegetables. Helps with metabolism of carbohydrates and fats, supports nervous system and maintains healthy skin.

### Guide to Minerals

**Iron:** meat, poultry and fish. Iron helps the formation of hemoglobin (which carries oxygen to cells throughout our bodies).

**Magnesium:** Green leafy vegetables (e.g. spinach), whole grains, nuts, seeds and bananas. Assists with bone structure and aids in the transmission of nerve impulses.

**Manganese:** Whole grains and nut, also some fruits and vegetables. Helps metabolize carbohydrates and assists in the brain functioning.

**Copper:** organ meats, seafood, nuts, seeds, whole grain bread and cereals and chocolate. Deficiency can cause anemia and impairs brain function and immune system response.

**Zinc:** red meats, liver, eggs, dairy products, vegetables and some seafood's. Maintains cell membranes and protects our cells from any damage.

**Selenium:** Seafood, liver and eggs also some grains and seeds. Provides synthesis for some hormones and protects cell membranes from damage.

### References and further information

Nutrition and mental Health- Nutrition and the brain-

<http://www.minddisorders.com/Kau-Nu/Nutrition-and-mental-health.html>

Nutrition Australia- Nutrition in and out

<http://www.nutritionaustralia.org/national/resource/balancing-energy-and-out>

Health insight- Food and Nutrition

<http://www.healthdirect.gov.au/healthy-eating>

Medline Plus- Nutrition: Medline Plus

<https://medlineplus.gov/nutrition.html>