



Feed your Brain

It's well-known that diet can have both negative and positive effects on our health. An example of a negative effect is when your body doesn't get enough of a certain nutrient. For example, if you don't get enough calcium in your diet, you may develop osteoporosis (weak and brittle bones). An example of a positive effect can be seen when your diet is full of vegetables, fruit, and whole grains. These foods are high in fibre and can help lower your blood cholesterol and prevent some types of cancer.

Diet also impacts mental health. Eating a well-balanced diet and staying hydrated can contribute to optimal mental health by reducing stress and improving mood. Your mood is partly controlled

by neurotransmitters (NTs), which are chemicals that send signals in your brain. The amount and activity level of NTs in your brain contributes to your mood and can play a role in memory and in some types of addictions and mental illnesses (e.g. Parkinson's, schizophrenia). Some nutrients in your diet can contribute to deficiencies in the type and number of NTs your brain releases (Mental Health Foundation, 2006). You can help prevent NT deficiencies by eating a healthy, well-balanced diet according to *Canada's Food Guide* (Health Canada, 2007). To optimize your mental health through your diet, refer to the information in the following chart:

Type of neurotransmitter (NT)	Effects of deficiency	Foods you should limit	Top five foods you should eat
Acetylcholine	<ul style="list-style-type: none"> - Decreased imagination and fewer dreams - Increased confusion, forgetfulness, and disorganization - Decreased short-term memory 	Sweets, deep-fried food, chips, and alcohol	Eggs, salmon, mackerel, sardines, and fresh tuna
Serotonin	<ul style="list-style-type: none"> - Low mood - Difficulty sleeping - Feeling 'disconnected' 	Alcohol	Fruit, fish, eggs, avocado, and low-fat cheese
Dopamine	<ul style="list-style-type: none"> - Lack of motivation and enthusiasm 	Caffeinated drinks (e.g., coffee, tea, cola, energy drinks)	Red peppers, kiwi, oranges, strawberries, and broccoli
GABA (gamma-aminobutyric acid)	<ul style="list-style-type: none"> - Difficulty relaxing - Increased anxiety and irritability - Increased self-criticism 	Sugar, alcohol, and caffeinated drinks	Dark green vegetables, bananas, eggs, seeds, and nuts

(Holford, 2003)

Some of the foods listed in the chart that you should eat to help prevent NT deficiencies are also foods that are high in omega-3 fats (e.g., fish and nuts). Interestingly, research has shown that including omega-3 fats in your diet may play a role in the prevention of some mental disorders such as depression (Ruxton, 2004).

The Role of Omega-3 Fats in Depression

Omega-3 fats are considered “healthy fats” because they have many health benefits. A diet that’s rich in omega-3 fats may help lower your risk of heart disease and protect against some types of cancer (Dietitians of Canada, 2009). Studies have shown that increasing the omega-3 fats in our diet can also have positive impacts on mental health, especially depression. It has been shown that omega-3 fats may improve symptoms of depression that can occur in those with mood disorders, clinical depression, and bipolar disorder (Lin & Su, 2007). Other research suggests that omega-3 fats should go along with traditional medications used to treat symptoms of depression and other types of mental illness (Freeman et al., 2006). Although more research is needed to determine whether or not omega-3 fats play a role in the prevention of depression, their role in improving the symptoms of depression seems promising.



Including Omega-3 Fats in Your Diet

The easiest way to make sure you’re getting omega-3 fats in your diet is by following *Canada’s Food Guide*. It recommends having two servings of fish each week because fish and seafood are good sources of the healthy omega-3 fats. Types of fish and seafood that are rich in omega-3 fats include:

- Salmon
- Mackerel
- Halibut
- Herring
- Sardines
- Trout
- Whitefish
- Caviar
- Mussels
- Oysters



By eating healthy foods according to *Canada’s Food Guide*, you can get all of the nutrients and healthy fats you need for a healthy body and mind.

Key References:

- Dietitians of Canada. (2009). *Practice-based evidence in nutrition: Eating guidelines for omega-3 fats*. Retrieved August 13, 2010, from <http://www.pennutrition.com/KnowledgePathway.aspx?kpid=2671&trid=13497&trcatid=467>
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- Holford, P. (2003). *Optimum nutrition for the mind*. London: Piatkus.
- Mental Health Foundation. (2006). *Feeding minds: The impact of food on mental health*. Retrieved July 12, 2010, from <http://www.mentalhealth.org.uk/publications/?entryid5=38571&char=F>

Drink up!

Be sure to drink fluid throughout the day. Dehydration can impact mental function by decreasing short-term memory and increasing fatigue

(Institute of Medicine of the National Academies, 2005).

There are also many other food choices that have omega-3 fats. These include:

- Walnuts
- Soybeans
- Soy nuts
- Products with added omega-3 fats (e.g., margarine, eggs, yogurt).
- Ground flax
- Tofu
- Flaxseed oil

(Dietitians of Canada, 2010)

