



The Wellness Family

Dr. Gelinas Keeps You Informed

Food and Your Mood

We all know that the food we eat is the fuel our body uses to get through the day but what many don't know is that the quality of that food may actually affect our mood. Caffeine jitters or a sugar rush are fairly well known and the grouchiness that results from the inevitable crash that follows isn't a secret. However, understanding why these things happen and how to avoid them is the key to understanding that certain foods can cause depression and a healthy diet can have a positive effect on our emotions.

How Blood Sugar Works

The first step to making better dietary choices for improved mood is to understand how blood sugar works with the adrenals. Since the adrenals will release the hormones adrenaline and cortisol as part of the fight-or-flight response, they will greatly affect the mood.

Matt Reddy, a naturopathic doctor in Denver, simplifies the process as follows: When you eat a sugary or carb-heavy food, your blood sugar spikes. Insulin then spikes to compensate for that blood sugar spike, which in turn creates a blood sugar drop. The adrenals then secrete adrenaline and cortisol which cause the jitters or an anxious feeling that some may call an uncomfortable "high".

The only way to avoid these reactions is to increase protein to try to stabilize blood sugar levels. Caffeine can also cause the same reaction from the adrenals so consider consuming something high in protein prior to drinking coffee in an attempt to avoid the blood sugar spikes and resultant moods.

How Neurotransmitters Work

There are 22 amino acids that work together to build our neurotransmitters. Some of these are created by our bodies and others are consumed in the foods we eat. Neurotransmitters are brain chemicals that help communicate information from the brain to the body and if specific neurotransmitters are low they can affect our moods and emotions.

For instance, serotonin is a neurotransmitter whose primary function is maintaining mood balance, specifically a positive outlook and emotional flexibility. A lack of serotonin may possibly result in the following: anger and irritability; anxiety, panic or phobias; guilt; a pessimistic outlook; insomnia and low self-worth.

Another example is GABA (gamma-aminobutyric acid), a chemical messenger in the brain that serves to control the fear or anxiety experienced when neurons are overexcited and provide a sense of calm. A GABA deficiency may result from prolonged stress or a nutrient-depleting diet.

Endorphins work to protect us from emotional and physical pain; meaning that if this neurotransmitter is low we may struggle with overcoming life's stressors and may be overly sensitive.

The family of neurotransmitters called the catecholamines, is made up of dopamine, norepinephrine and epinephrine and their primary purpose is to support alertness, concentration, energy and initiative. A deficiency in this area will typically result in a lack of motivation and difficulty concentrating.



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Since these neurotransmitters clearly affect emotions, it makes sense that this may be the primary cause of a connection between diet and mood. While amino acid content is definitely affected by a diet high in refined foods and caffeine, certain lifestyle issues can also have an affect including excessive stress and a sedentary lifestyle.

Improving the quality of your diet as well as increasing exercise can have a positive effect on the amino acid levels in your body, but you may still want to consider amino acid therapy. However, it is very important to be careful when taking amino acid supplements. Adverse effects are possible when taking too many or the wrong types of amino acids. Please consult a healthcare professional before choosing to begin an amino acid regimen.

Brain Function

Just as amino acids are the building blocks of neurotransmitters, there are other fatty acids, vitamins, minerals and other nutrients that help to build healthy brain cells.

For example, omega-3s are fatty acids that are key but lacking in the typical diet. Since fatty fish, pastured meat, high-quality dairy products, walnuts and flax seeds aren't routine in the average diet there is a shortage of omega-3s. Add to this the overabundance of vegetable oils and fried foods, which tend to be high in omega-6s and can cause inflammation and deplete omega-3s, and clearly the typical diet is not good for healthy omega-3 levels.

Zinc and Vitamin B6 are two of the most important nutrients for brain function. Christina Veselak, a mental health nutritionist in Denver, says, "The brain requires vitamin and mineral 'co-factors' in order to turn amino acids into their neurotransmitters, without these, brain processes diminish." A deficiency in these important vitamins and minerals can result in the following emotional signs: depression, irritability, anxiety and learning issues.

Inflammatory Foods

Certain foods provide nutrients that work for the body, other foods certainly work against. A recent study published in the journal *Brain, Behavior and Immunity*, found a correlation between an inflammatory diet and a 41% increased risk of depression. Recent research has also linked chronic, low-level inflammation to heart disease, stroke, diabetes, cancer and more. This type of inflammation is caused by our immune system reacting to stressors and a poor diet contributes to this problem.

Foods that are likely to trigger inflammation include margarine, refined grains, red meat and soft drinks (both regular and diet). Anti-inflammatory foods include olive oil, wine, leafy greens, yellow vegetables (winter squash, carrots and yams) as well as caffeinated coffee.

Digestion Effects

Understanding the foods that need to be eaten is just the first step. If our bodies are not properly digesting these

foods and absorbing the necessary nutrients (amino acids, fatty acids, vitamins, minerals, etc.) then diet changes are not going to be effective.

The proteins we consume can only be properly converted to amino acids and subsequently converted to neurotransmitters if our digestion system is working properly. Natasha Campbell-McBride, a doctor with postgraduate degrees in neurology and human nutrition, explains in her book, *Gut and Psychology Syndrome*, that good gut flora is as important as diet. If there is an imbalance in this area then that will have a negative effect on our body's ability to digest and absorb valuable nutrients.

Why Chiropractic?

Beyond diet and exercise the digestion system and the immune system have a vital role to play in how our mood and emotions can be affected by what we're consuming. Your Family Wellness Chiropractor recognizes that the central nervous system controls all bodily systems including the digestion and immune systems.

The central nervous system includes the brain, spinal cord and nerves that sends signals from the brain to all of the muscles, organs and glands. Vertebral subluxation may cause nerve interference that can possibly interrupt those signals, causing bodily systems not to function properly. If the digestive and immune systems are affected by nerve interference then the positive effects of proper diet and exercise may be marginalized.

Proper foods and exercise may affect our mood, but a properly functioning nervous system is the foundation of true wellness.



Dear Patient,
Dr. Gelinis is dedicated to providing you with the absolute best in family wellness care. So take a moment today to discuss with your Family Wellness Chiropractor any concerns you may have regarding your family's overall health and wellness.

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