

# The Food-Mood Connection

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Food intake does affect mood due to biochemical messengers in the brain called neurotransmitters. They can control mood, appetite, thoughts and behaviors. The most food sensitive neurotransmitters are serotonin, dopamine and norepinephrine.

## Serotonin, dopamine and norepinephrine

Serotonin is responsible for the calming and relaxation states with a general sense of well being. High levels of serotonin can cause a person to feel sluggish and drowsy. Low levels of serotonin will cause intense food cravings. Serotonin is released in the brain as a result of eating carbohydrates such as fruits, breads, grains and vegetables to a lesser extent.

Dopamine and norepinephrine are responsible for alertness, increased energy with quicker, more accurate reaction times. Protein consumption causes these two neurotransmitters to be released in the brain. Good protein sources include meat, chicken, fish, nuts, soy products, eggs and dairy products.

## Tired after lunch

If you find that you are usually tired shortly after lunch, you may need to add 3-4 oz of protein to your noontime meal. Conversely, if you have trouble sleeping at night, you may want to limit your protein and increase your carbohydrates at your evening meal.

Overeating, regardless of the protein content of the meal will cause drowsiness. Think about how sleepy you were after eating your large Thanksgiving dinner. This phenomenon happens because blood flow is redirected to the stomach, to handle the food overload, and away from the brain. Light meals, containing 300-500 calories, is the ideal amount of energy to maintain peak performance.

Endorphins are natural tranquilizers which are released with exercise and through the consumption of chocolate. Chocolate contains a chemical called phenylethylamine that is responsible for the endorphin response that is similar to the feelings experienced with a hug or being in love.

**Note:** Recent studies have shown that chocolate can cause a completely opposite effect in some people, and especially those prone to depression. Instead of feeling good, these people get even more depressed.

## Mood swings

If you are prone to mood swings eating foods in their natural state is ideal. Good choices include fruits, vegetables, whole grains, lean protein and dairy sources. Water intake should be a minimum of 10 cups per day, as dehydration is a major factor affecting mood swings.

Limiting caffeine and alcohol is a good idea, as they are both diuretics that tend to dehydrate the body, as well as the fact that caffeine is a stimulant and alcohol is a depressant. Sugar should only be consumed in limited amounts, as excess amounts (greater than 200 calories per day) will cause individuals to experience the "sugar-high" which is always followed by the "sugar-blues".

## Summary

Foods with serotonin, dopamine and norepinephrine can affect your mood. This is caused by biochemical messengers in the brain called neurotransmitters. Eating healthy foods and limiting such items as caffeine and alcohol will help to avoid mood swings.