5-HTP FACT SHEET

What is 5-HTP & What Does it DO?

5-Hydroxytryptophan (5-HTP) is the intermediate between tryptophan and serotonin. It is used by the body to make serotonin, an important substance for normal nerve and brain function. Serotonin appears to play significant roles in sleep, emotional moods, pain control, inflammation, intestinal peristalsis, and other body functions. Therefore, 5-HTP supplementation may be helpful for symptoms associated with low serotonin levels, such as emotional imbalances, sleeping problems, headaches, weight loss, and muscle aches and pains. Some more detailed information follows.

Emotional Imbalance: It has been shown that serotonin levels in individuals with depressed feelings are considerably lower than those in normal subjects. Individuals who respond to 5-HTP show a rise in serotonin levels similar to those with normal moods. Several studies have demonstrated improvements in people who did not respond positively to mood boosting prescription medications. A 5-HTP dose of 300 mg is sufficient in most cases of mood imbalances, but in some cases a higher dosage may be necessary.

Sleep: Several clinical studies have shown 5-HTP to produce good results in promoting and maintaining sleep in normal subjects as well as in those experiencing sleeping problems. 5-HTP may help increase REM sleep (typically about 25%), while simultaneously increasing deep sleep stages 3 and 4 without increasing total sleep time. Although there is no clear dose-related effect, a dosage of approximately 200 mg per day may be sufficient in most cases.

Weight Loss: Serotonin influences eating behaviors. When people are fed tryptophan-free diets, appetite is significantly increased, resulting in binge eating and carbohydrate cravings. Researchers discovered that a carbohydrate meal causes more tryptophan to be delivered to the brain, resulting in more serotonin being manufactured. This may be one reason why low serotonin levels lead to “carbohydrate cravings” and may ultimately play a key role in the development of obesity. 5-HTP may help to prevent the decline in serotonin levels associated with a reduced calorie intake. A severe drop in serotonin leads to the brain putting out a strong message to eat, which may help explain why most “diets” do not work. 5-HTP may help stimulate the satiety centers of the brain to discourage excess food consumption.

5-HTP and L-Tryptophan Connection

5-HTP is not present in significant amounts in a typical diet. The human body manufactures 5-HTP from L-tryptophan, a natural amino acid found in many dietary proteins. However, eating food that contains tryptophan does not significantly increase 5-HTP levels. The protein in almost all foods contains relatively small amounts of tryptophan and large proportions of other amino acids, which compete for absorption. Therefore, consuming tryptophan-rich foods or just high-protein foods in general does not result in high serotonin levels.

In comparison studies 5-HTP often fairs better when compared to tryptophan as a supplement. The proposed reason is the fact that 5-HTP easily crosses the blood-brain barriers and is not affected by competing amino acids. 5-HTP also affects brain chemistry in a more broad and positive fashion than the simple tryptophan supplement. Additionally, 5-HTP is one step further on the path to serotonin synthesis. The conversion of tryptophan to 5-HTP by the enzyme tryptophan hydroxylase is the most important step in the conversion and is inhibited by a number of factors, including stress, vitamin B6 deficiency, low magnesium, insensitivity to insulin, various hormones, and genetic factors. Perhaps one of the best advantages of 5-HTP over tryptophan is that it is safer. For example, taking tryptophan to produce positive effects in the
treatment of emotional issues and sleeping problems requires a relatively high dose. Furthermore, excessive levels of tryptophan can result in free radical activity, which can harm cellular structures.

Where Does it Come From? Supplemental 5-HTP is naturally derived from the seeds of the *Griffonia simplicifolia*, a West African medicinal plant.

Dosage Suggestions: The dosage should start at 50 mg three times per day. If the response is inadequate after 2 weeks, increase the dosage to 100 mg three times per day. This recommendation will reduce the chances of experiencing the mild nausea that can accompany 5-HTP supplementation. It can be taken with food.

Possible Side Effects

Some health care professionals have speculated that consumption of 5-HTP may lead to what has been termed "serotonin syndrome." The symptoms of which are dizziness, sweating, shivering, confusion, diarrhea, muscle spasms, increased body temperature, flushing, and coronary artery spasm and/or abnormal platelet aggregation, which are both risk factors for heart attack. However, serotonin syndrome, a serious but uncommon condition, has not been reported to result from supplementation with 5-HTP. Additionally, the level of intake at which this toxic effect might if at all occur remains unknown. Although 5-HTP may theoretically lead to serotonin syndrome, safety and efficacy studies do not support this theory, nor has the increased self-use of 5-HTP indicated any serious safety problems with it.

Because of the theoretical concern that supplementing with 5-HTP could lead to the development of serotonin syndrome it is recommended that anyone with cardiovascular disease, high blood pressure, clotting problems, high levels of circulating triglycerides and other fats, and those at risk for stroke to consult with a doctor before taking this product.