Overview

5-hydroxytryptophan (5-HTP) is a chemical that the body makes from tryptophan (an essential amino acid, which you get from food). After tryptophan is converted into 5-HTP, the chemical is then changed into another chemical called serotonin (a neurotransmitter, which relays signals between brain cells). 5-HTP dietary supplements help raise serotonin levels in the brain. Since serotonin helps regulate mood and behavior, 5-HTP may have a positive effect on sleep, mood, anxiety, appetite, and pain sensation.

5-HTP is not found in the foods we eat, although tryptophan is. Eating foods with tryptophan does not increase 5-HTP levels very much, however. As a supplement, 5-HTP is made from the seeds of an African plant called *Griffonia simplicifolia*.

In 1989, the presence of a contaminant called Peak X was found in tryptophan supplements. Researchers believed that an outbreak of eosinophilic myalgia syndrome (EMS, a potentially fatal disorder that affects the skin, blood, muscles, and organs) could be traced to the contaminated tryptophan, and the U.S. Food and Drug Administration pulled all tryptophan supplements off the market. Since then, Peak X was also found in some 5-HTP supplements, and there have been a few reports of EMS associated with taking 5-HTP. However, the level of Peak X in 5-HTP was not high enough to cause any symptoms, unless very high doses of 5-HTP were taken. Because of this concern, however, you should talk to your health care provider before taking 5-HTP, and make sure you get the supplement from a reliable manufacturer. (See "Precautions" section.)
5-HTP may help treat a wide variety of conditions related to low serotonin levels, including the following, but there is not much evidence for any of these uses:

**Depression**

Some small studies indicate that 5-HTP may work as well as certain antidepressant drugs to treat people with mild-to-moderate depression. Like the class of antidepressants known as selective serotonin reuptake inhibitors (SSRIs), which includes fluoxetine (Prozac) and sertraline (Zoloft), 5-HTP increases the levels of serotonin in the brain. One study compared the effects of 5-HTP to fluvoxamine (Luvox) in 63 people and found that those who were given 5-HTP did just as well as those who received Luvox. They also had fewer side effects than the Luvox group. However, these studies were too small to say for sure if 5-HTP works. More and larger studies are needed.

**Fibromyalgia**

Three studies have suggested that 5-HTP can improve symptoms of fibromyalgia, including pain, anxiety, morning stiffness, and fatigue. Many people with fibromyalgia have low levels of serotonin, and doctors often prescribe antidepressants. Since 5-HTP, like antidepressants, raises levels of serotonin in the brain, it may work too. However, it does not work for all people with fibromyalgia, and more studies are needed to understand its effect.

**Insomnia**

In one study, people who took 5-HTP went to sleep quicker and slept more deeply than those who took placebo. These researchers recommend 200 - 400 mg at night to stimulate serotonin, but it may take 6 - 12 weeks to be fully effective.

**Migraines and Headaches**

Antidepressants are sometimes prescribed for migraine headaches. Some studies suggest that high doses of 5-HTP may help people with various types of headaches, including migraines. However, the evidence is mixed, with other studies showing no effect.
Obesity

A few small studies have looked at whether 5-HTP can help people lose weight. In one study, those who took 5-HTP ate fewer calories, although they were not trying to diet, compared to those who took placebo. Researchers believe 5-HTP led people to feel more full (satiety) after eating, so they ate less.

A follow-up study, which compared 5-HTP to placebo during a diet and non-diet period, found that those who took 5-HTP lost about 2% of body weight during the non-diet period and another 3% when they dieted. Those taking placebo did not lose any weight. However, doses used in these studies were high, and many people had nausea as a side effect. If you are seriously overweight, see your health care provider before taking any weight-loss aid. Remember that you will need to change your eating and exercise habits to lose more than a few pounds.

Dietary Sources

You can’t get 5-HTP from food. The amino acid tryptophan, which the body uses to make 5-HTP, can be found in turkey, chicken, milk, potatoes, pumpkin, sunflower seeds, turnip and collard greens, and seaweed.

Available Forms

5-HTP is made from tryptophan in the body, or can be taken as a supplement. Supplements are made from extracts of the seeds of the African tree *Griffonia simplicifolia*. 5-HTP can also be found in many multivitamin and herbal preparations.

How to Take It

Pediatric

5-HTP should not be given to children.

Adult

Health care professionals generally recommend 50 mg of 5-HTP taken 1 - 3 times per day. Some studies have used higher doses, but because 5-HTP can be toxic at high doses, you should talk to your health care provider before raising the dose. Your health care provider can help determine the right dose for you.
Precautions

Because of the potential for side effects and interactions with medications, you should take dietary supplements only under the supervision of your health care provider.

Tryptophan use has been associated with the development of serious conditions, such as liver and brain toxicity, and with eosinophilic myalgia syndrome (EMS), a potentially fatal disorder that affects the skin, blood, muscles, and organs (see "Overview" section). Such reports prompted the FDA to ban the sale of all tryptophan supplements in 1989. As with tryptophan, EMS has been reported in 10 people taking 5-HTP.

Side effects of 5-HTP are generally mild and may include nausea, heartburn, gas, feelings of fullness, and rumbling sensations in some people. At high doses, it is possible that serotonin syndrome, a dangerous condition caused by too much serotonin in the body, could develop. Always talk to your health care provider before taking higher-than-recommended doses.

People with high blood pressure or diabetes should talk to their doctor before taking 5-HTP.

If you take antidepressants, you should not take 5-HTP (see "Possible Interactions" sections).

People with liver disease, pregnant women, and women who are breastfeeding should not take 5-HTP.

Possible Interactions

If you are currently being treated with any of the following medications, you should not use 5-HTP without first talking to your health care provider.

Antidepressants -- People who are taking antidepressant medications should not take 5-HTP without their health care provider's supervision. These medications could combine with 5-HTP to cause serotonin syndrome, a dangerous condition involving mental changes, hot flashes, rapidly fluctuating blood pressure and heart rate, and possibly coma. Some antidepressant medications that can interact with 5-HTP include:
SSRIs: Citalopram (Celexa), escitalopram (Lexapro), fluvoxamine (Luvox), paroxetine (Paxil), fluoxetine (Prozac), sertraline (Zoloft)

Tricyclics: Amitriptyline (Elavil), nortriptyline (Pamelor), imipramine (Tofranil)

Monoamine oxidase inhibitors (MAOIs): Phenelzine, (Nardil), tranylcypromine (Parnate)

Nefazodone (Serzone)

**Carbidopa** -- Taking 5-HTP with carbidopa, a medication used to treat Parkinson's disease, may cause a scleroderma-like illness. Scleroderma is a condition where the skin becomes hard, thick, and inflamed.

**Tramadol (Ultram)** -- Tramadol, used for pain relief and sometimes prescribed for people with fibromyalgia, may raise serotonin levels too much if taken with 5-HTP. Serotonin syndrome has been reported in some people taking the two together.

**Dextromethorphan (Robitussin DM, and others)** -- Taking 5-HTP with dextromethorphan, found in cough syrups, may cause serotonin levels to increase to dangerous levels, a condition called serotonin syndrome.

**Meperidine (Demerol)** -- Taking 5-HTP with Demerol may cause serotonin levels to increase to dangerous levels, a condition called serotonin syndrome.

**Triptans (used to treat migraines)** -- 5-HTP can increase the risk of side effects, including serotonin syndrome, when taken with these medications:

- Naratriptan (Amerge)
- Rizatriptan (Maxalt)
- Sumatriptan (Imitrex)
- Zolmitriptan (Zomig)

**Supporting Research**


Rakel D. Rakel Integrative Medicine, 2nd ed. Philadelphia, PA: Saunders; 2008;47.


### Alternative Names

5-HP

### Version Info

- Last Reviewed on 04/09/2011
- Steven D. Ehrlich, NMD, Solutions Acupuncture, a private practice specializing in complementary and alternative medicine, Phoenix, AZ. Review provided by VeriMed Healthcare Network.

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