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5-HTP

What is it?

5-HTP (5-Hydroxytryptophan) is a chemical by-product of the protein building block L-tryptophan. It is also produced commercially from the seeds of an African plant known as Griffonia simplicifolia 5-HTP is used for sleep disorders such as insomnia, depression, anxiety, migraine and tension-type headaches, fibromyalgia, obesity, premenstrual syndrome (PMS), premenstrual dysphoric disorder (PMDD), attention deficit-hyperactivity disorder (ADHD), seizure disorder, and Parkinson's disease..

How effective is it?

Natural Medicines Comprehensive Database rates effectiveness based on scientific evidence according to the following scale: Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.

The effectiveness ratings for **5-HTP** are as follows:

Possibly effective for...

- **Depression**. Some clinical research shows that taking 5-HTP by mouth improve symptoms of depression in some people. Some clinical research shows that taking 5-HTP by mouth might be as beneficial as certain prescription antidepressant drugs for improving depression symptoms. In most studies, 150-800 mg daily of 5-HTP was taken. In some cases, higher doses have been used.

Possibly ineffective for...

- **Down syndrome**. Some research shows that giving 5-HTP to infants with Down syndrome might improve muscle and activity. Other research shows that it does not

improve muscle or development when taken from infancy until 3-4 years of age. Research also shows that taking 5-HTP along with conventional prescription drugs does improve development, social skills, or language skills.

Insufficient evidence to rate effectiveness for...

- **Alcoholism**. Early research shows that taking 5-HTP with D-phenylalanine and L-glutamine for 40 days can reduce alcohol withdrawal symptoms. However, taking 5-HTP with carbidopa daily for one year does not seem to help people stop drinking. The effect of 5-HTP alone for alcoholism is not clear.
- **Alzheimer's disease**. Early research suggests that taking 5-HTP by mouth does not help symptoms of Alzheimer's disease.
- **Anxiety**. Evidence on the effects of 5-HTP for anxiety is unclear. Early research shows that taking 25-150 mg of 5-HTP by mouth daily along with carbidopa seems to reduce anxiety symptoms in people with anxiety disorders. However, other early research shows that taking higher doses of 5-HTP, 225 mg daily or more, seems to make anxiety worse. Also, taking 60 mg of 5-HTP daily through the vein does not reduce anxiety in people with panic disorders.
- **Nervous system disorder (Cerebellar ataxia)**. Evidence on the use of 5-HTP for cerebellar ataxia is unclear. Early evidence shows that taking 5 mg/kg of 5-HTP daily for 4 months can decrease nervous system dysfunction. However, other research shows that taking 5-HTP daily for up to one year does not improve symptoms of cerebellar ataxia.
- **Fibromyalgia**. Early research suggests that taking 100 mg of 5-HTP by mouth three times daily for 30-90 days might improve pain, tenderness, sleep, anxiety, fatigue, and morning stiffness in people with fibromyalgia.
- **Menopausal symptoms**. Early research suggests that taking 150 mg of 5-HTP daily for 4 weeks does not reduce hot flashes in postmenopausal women.
- **Migraine headache**. Evidence on the effects of 5-HTP for the prevention or treatment of migraines in adults is unclear. Some studies show that taking 5-HTP daily does not reduce migraines, while other studies show that it might be as beneficial as prescription drugs. 5-HTP does not seem to reduce migraines in children.
- **Obesity**. Early research suggests that taking 5-HTP might help reduce appetite, caloric intake, and weight in obese people. Other research suggests that using a specific mouth spray containing 5-HTP and other extracts (5-HTP-Nat Exts, Medestea Biotech S.p.a., Torino, Italy) for 4 weeks increases weight loss by about 41% in overweight postmenopausal women.
- **Parkinson's disease**. Early research shows that taking 100-150 mg of 5-HTP by

mouth daily with conventional drugs seems to reduce shaking, but these benefits only continue for up to 5 months. Taking larger doses of 5-HTP, 275-1500 mg daily along with carbidopa seems to worsen symptoms.

- **Schizophrenia**. Early research suggests that taking 800 mg to 6 grams of 5-HTP daily with carbidopa for 90 days might improve schizophrenia symptoms in some young men.
- **Tension headache**. Early research suggests that taking 100 mg of 5-HTP three times daily for 8 weeks does not reduce pain or the length of tension headaches.
- **Heroin withdrawal symptoms**. Early research suggests that taking 200 mg of 5-HTP daily for 6 days together with tyrosine, phosphatidylcholine, and L-glutamine, might reduce insomnia and withdrawal symptoms in recovering heroin addicts.
- **Attention deficit-hyperactivity disorder (ADHD)**.
- **Insomnia**.
- **Premenstrual dysphoric disorder (PMDD)**.
- **Premenstrual syndrome (PMS)**.
- **Ramsey-Hunt syndrome**.
- **Other conditions**.

More evidence is needed to rate the effectiveness of 5-HTP for these uses.

How does it work?

5-HTP works in the brain and central nervous system by increasing the production of the chemical serotonin. Serotonin can affect sleep, appetite, temperature, sexual behavior, and pain sensation. Since 5-HTP increases the synthesis of serotonin, it is used for several diseases where serotonin is believed to play an important role including depression, insomnia, obesity, and many other conditions.

Are there safety concerns?

5-HTP is **POSSIBLY SAFE** when taking by mouth appropriately. 5-HTP has been used safely in doses up to 400 mg daily for up to one year. However, some people who have taken it have developed a condition called eosinophilia-myalgia syndrome (EMS), a serious condition involving extreme muscle tenderness (myalgia) and blood abnormalities (eosinophilia). Some people think EMS might be caused by an accidental ingredient or contaminant in some 5-HTP products. However, there is not enough

scientific evidence to know if EMS is caused by 5-HTP, a contaminant, or some other factor. Until more is known, 5-HTP should be used cautiously.

Other potential side effects of 5-HTP include heartburn, stomach pain, nausea, vomiting, diarrhea, drowsiness, sexual problems, and muscle problems.

5-HTP is **POSSIBLY UNSAFE** when taken by mouth in large doses. Doses from 6-10 grams daily have been linked to severe stomach problems and muscle spasms.

Special precautions & warnings:

Children: 5-HTP is **POSSIBLY SAFE** when taken by mouth appropriately. Doses of up to 5 mg/kg daily have been used safely for up to 3 years in infants and children up to 12 years-old. As with adults, there is also concern about the potential for eosinophilia-myalgia syndrome (EMS) in children, a serious condition involving extreme muscle tenderness (myalgia) and blood abnormalities (eosinophilia).

Pregnancy and breast-feeding: There is not enough reliable information about the safety of taking 5-HTP if you are pregnant or breast feeding. Stay on the safe side and avoid use.

Surgery: 5-HTP can affect a brain chemical called serotonin. Some drugs administered during surgery can also affect serotonin. Taking 5-HTP before surgery might cause too much serotonin in the brain and can result in serious side effects including heart problems, shivering, and anxiety. Tell patients to stop taking 5-HTP at least 2 weeks before surgery.

Are there interactions with medications?

Major
Do not take this combination.

Medications for depression (Antidepressant drugs)
5-HTP increases a brain chemical called serotonin. Some medications for depression also increase serotonin. Taking 5-HTP along with these medications for depression might increase serotonin too much and cause serious side effects including heart problems, shivering, and anxiety. Do not take 5-HTP if you are taking medications for depression.

Some of these medications for depression include fluoxetine (Prozac), paroxetine

(Paxil), sertraline (Zoloft), amitriptyline (Elavil), clomipramine (Anafranil), imipramine (Tofranil), and others.

Medications for depression (MAOIs)
5-HTP increases a chemical in the brain. This chemical is called serotonin. Some medications used for depression also increase serotonin. Taking 5-HTP with these medications used for depression might cause there to be too much serotonin. This could cause serious side effects including heart problems, shivering, and anxiety.

Some of these medications used for depression include phenelzine (Nardil), tranylcypromine (Parnate), and others.

Moderate
Be cautious with this combination.

Carbidopa (Lodosyn)
5-HTP can affect the brain. Carbidopa (Lodosyn) can also affect the brain. Taking 5-HTP along with carbidopa can increase the risk of serious side effects including rapid speech, anxiety, aggressiveness, and others.

Dextromethorphan (Robitussin DM, and others)
5-HTP can affect a brain chemical called serotonin. Dextromethorphan (Robitussin DM, others) can also affect serotonin. Taking 5-HTP along with dextromethorphan (Robitussin DM, others) might cause too much serotonin in the brain and can result in serious side effects including heart problems, shivering, and anxiety. Do not take 5-HTP if you are taking dextromethorphan (Robitussin DM, and others).

Meperidine (Demerol)
5-HTP increases a chemical in the brain called serotonin. Meperidine (Demerol) can also increase serotonin in the brain. Taking 5-HTP along with meperidine (Demerol) might cause too much serotonin in the brain and serious side effects including heart problems, shivering, and anxiety.

Pentazocine (Talwin)
5-HTP increases a brain chemical called serotonin. Pentazocine (Talwin) also increases serotonin. Taking 5-HTP along with pentazocine (Talwin) might increase serotonin too much. This might cause serious side effects including heart problems, shivering, and anxiety. Do not take 5-HTP if you are taking pentazocine (Talwin).

Sedative medications (CNS depressants)

5-HTP might cause sleepiness and drowsiness. Medications that cause sleepiness are called sedatives. Taking 5-HTP along with sedative medications might cause too much sleepiness.

Some sedative medications include clonazepam (Klonopin), lorazepam (Ativan), phenobarbital (Donnatal), zolpidem (Ambien), and others.

Tramadol (Ultram)
5-HTP increases a brain chemical called serotonin. Tramadol (Ultram) can also increase serotonin. Taking 5-HTP along with tramadol (Ultram) might cause too much serotonin in the brain and might result in side effects including confusion, shivering, stiff muscles, and others.

Are there interactions with herbs and supplements?

Herbs and supplements with sedative properties
5-HTP can cause sleepiness or drowsiness. Using it along with other herbs and supplements that have the same effect might cause too much sleepiness. Some of these herbs and supplements include calamus, California poppy, catnip, hops, Jamaican dogwood, kava, St. John's wort, skullcap, valerian, yerba mansa, and others.

Herbs and supplements with serotonergic properties
5-HTP increases a brain chemical called serotonin. Taking 5-HTP along with other herbs and supplements that increase serotonin might lead to too much serotonin and cause side effects including heart problems, shivering and anxiety. Other herbs and supplements that increase serotonin levels include Hawaiian baby woodrose, L-tryptophan, S-adenosylmethionine (SAMe), and St. John's wort.

Are there interactions with foods?

There are no known interactions with foods.

What dose is used?

The following doses have been studied in scientific research:
ADULT

BY MOUTH:
- For depression: Most commonly, 150-800 mg daily is taken for 2-6 weeks. These doses are sometimes divided up and administered as 50 mg to 100 mg three times a day. Sometimes the dose starts out low and steadily increases every 1-2 weeks until

a target dose is reached. Less commonly, higher doses are used. In one study, the dose is steadily increased up to 3 grams per day.

Other names

2-Amino-3-(5-Hydroxy-1H-Indol-3-yl)Propanoic Acid, 5 Hydroxy-Tryptophan, 5 Hydroxy-Tryptophane, 5-Hydroxytryptophan, 5-Hydroxytryptophane, 5-Hydroxy L-Tryptophan, 5-Hydroxy L-Tryptophane, 5-Hydroxy Tryptophan, 5-L-Hydroxytryptophan, L-5 HTP, L-5-Hydroxytryptophan, L-5-Hydroxytryptophane, Oxitriptan.

Methodology

To learn more about how this article was written, please see the *Natural Medicines Comprehensive Database* methodology [https://medlineplus.gov/druginfo/natural/methodology.html] .

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