

Benefits of Taurine: More Than a Performance Booster

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Taurine benefits many common mental and physical conditions, such as anxiety, depression, insomnia, and diabetes, as well as athletic performance.



What Will I Learn in This Article?

You may be familiar with taurine as a supplement used by athletes or bodybuilders to enhance physical performance, or as an ingredient in energy drinks.

But taurine is much more than that.

In fact, it may be one of the most valuable nutrients for your overall health, mental well-being, and longevity.

Let's take a closer look at what taurine is and what it can do for your performance, mood, and overall health.

What Is Taurine?

Taurine is a [sulfur amino acid](#) and one of the most abundant compounds in the brain, retina, heart, and muscles. (1)

It plays an important role in many aspects of good health.

It's found in high concentrations in the brain where it aids the movement of potassium, sodium, calcium, and magnesium in and out of brain cells. (2)

Taurine almost qualifies as a neurotransmitter, chemicals used by brain cells to communicate with each other.

It meets all of the criteria of a neurotransmitter except one — no taurine-specific receptors have been identified. (3)

It's considered a non-essential or *conditional* amino acid since your liver and brain can synthesize some, but not enough to meet all your needs. (4)

The remainder of your taurine requirements must come from your diet, mostly from meat and seafood.

Where Does Taurine Come From?

Taurine was first discovered in the bile of bulls.

The word “taurine” is derived from “taurus,” the Latin word for ox or bull.

The best sources of taurine are seafood (especially shellfish) and poultry (especially dark meat).

(5)

You’ll also get some from meat and a little from dairy.

It’s found in human breast milk since it’s critical for newborns’ brain and eye development. (6)

The only known vegetable to contain taurine is nori, the sea vegetable used to wrap sushi. (7)

Besides eating taurine directly, your body can synthesize it when the right building blocks are available.

The amino acids cysteine and methionine must be present along with zinc, vitamin A, and vitamin B6. (8)

Does Taurine Come from Bull Urine?

Currently, the most popular energy drink is Red Bull which contains taurine.

Someone made the connection between bull and taurine and the rumor got started.

But rest assured there is no bull urine or bull sperm in any energy drinks.

The taurine used by these companies is chemically created in laboratories.

It is not financially feasible for them to extract taurine from natural sources, and that includes bull urine!

Red Bull states on their website, *“Many people bet it comes from some delicate parts of the strongest and most potent bulls in the world, but the truth is that the taurine in Red Bull is produced synthetically by pharmaceutical companies, which guarantees highest quality standards. Taurine is not derived from animals.”* (9)

Causes of Taurine Deficiency

In spite of taurine being abundant in the body, not everyone has enough of it for their needs.

Common symptoms of taurine deficiency include anxiety, depression, impaired vision, high blood pressure, kidney problems, and trouble recovering from exercise. (10)

Since it’s found almost exclusively in animal products, vegetarians are at risk for taurine deficiency. (11)

Deficiencies in the raw materials needed to synthesize it (cysteine, methionine, zinc, vitamin A and vitamin B6) can lead to taurine deficiency as well. (12)

Seniors are also at risk since taurine levels drop with age. (13)

According to renowned surgeon and nutrition expert Dr. Leonard Smith, taurine deficiency is common in patients with numerous health conditions including: (14)

- anxiety
- depression
- hypertension
- hypothyroidism
- gout
- infertility
- obesity
- kidney failure
- candida
- autism

Low levels of taurine have been reported in Parkinson’s patients. (15)

Both type 1 and type 2 diabetics have subpar levels of taurine and can benefit from supplementation. (16)



Chemotherapy drugs used to treat cancer deplete taurine. (17)

If you are concerned that you have a taurine deficiency, you can try supplementation first since it's safe to use.

Or you can get your taurine levels checked with a blood test.

What Can a Brain Supplement Do for You?

Are you ...

- Frustrated with your fuzzy thinking and foggy focus?
- Stressed over a growing forgetfulness and struggle to learn?
- Discouraged by a lack of mental energy and drive?

The *right* brain supplement can help **reverse** this.

Any supplement we endorse must be effective, safe, and a good value.

This nootropic ticks all the boxes. **Take a look.**

Deane & Dr. Pat

Benefits of Taurine

Taurine is essential for a healthy heart, brain, bones, vision, hearing, and more.

It's thought to increase physical stamina and improve athletic performance.

It's also critical for mental health and well-being.

It can help with anxiety, panic attacks, and insomnia.

There is a significant correlation between high levels of dietary taurine and longevity. (18)

A diet high in taurine (from seafood) is believed to be one of the reasons for the extreme longevity found in pockets of people in Japan. (19, 20, 21)

However, the two most common reasons people supplement with taurine are to enhance physical performance and to calm anxiety.

Taurine as a Performance Booster

Taurine has a strong reputation as a means to improve athletic performance and recovery.

Taurine supplements are commonly used by endurance athletes and bodybuilders to relieve cramps, muscle soreness, and fatigue. (22)

Limited research has been done on taurine and sports performance, but so far the evidence is mixed.

When paired with branched chain amino acids (BCAAs), taurine reduces post-exercise muscle soreness. (23)

Studies have found that taurine reduces muscle fatigue, at least in rats. (24)

When endurance athletes were tested after drinking different energy drink combinations, they experienced significantly longer endurance times when taurine was included. (25)

But when taurine was taken by long-distance cyclists, it had no effect on the performance times, heart rates, oxygen intake, or other parameters tested. (26)

Moreover, neither the World Anti-Doping Agency nor the US Anti-Doping Agency includes taurine on their list of banned substances, implying that taurine's reputation as a performance enhancer is not well supported.



How Taurine Calms Anxiety

While the evidence on taurine as a performance booster is mixed, the evidence on taurine for anxiety is sound.

Gamma-aminobutyric acid (GABA), the brain's key calming neurotransmitter, is essential for feeling happy and relaxed.

Signs of low GABA include:

- Feeling stressed out, anxious, overwhelmed, or consumed with dread
- Being disorganized, easily distracted, or easily overstimulated

Low GABA levels can be brought on by stress, physical exertion, illness, injury, blood sugar imbalance, or gluten intolerance. (27)

Those low in GABA often self-medicate with food, alcohol, or tranquilizing drugs to relax.

But a much healthier and effective way to increase GABA is with taurine supplementation.

Anti-Anxiety Supplements

[See Amazon for best selection & value](#)

Related on Be Brain Fit —

[25 Proven Natural Remedies for Anxiety Relief](#)

Taurine acts amazingly like GABA in the brain.

It has a similar structure to GABA and binds to GABA receptors. (28)

Researchers have found taurine to be “extraordinarily active” on these brain receptors. (29)

Additionally, taurine stimulates the release and formation of GABA. (30)

If you tend to be anxious and have trouble concentrating or sleeping, taurine can calm and focus your anxious, distractible mind. (31)

Why Taurine Supplements Work Better for Anxiety than GABA

You might be wondering if it would make more sense to supplement with GABA rather than taurine.

However, GABA supplements don't work for everyone for a good reason.

The current scientific consensus is that GABA molecules are too large to cross the blood-brain barrier to enter the brain. (32)

Stress Relief Supplements

[See Amazon for best selection & value](#)

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[GABA Supplements for Stress and Anxiety Relief](#)

The fact that they work for some people is a mystery waiting to be solved.

It's suspected that unknown mechanisms are at work or that certain areas of the brain allow GABA access. (33, 34, 35)

Another theory is that GABA can enter the brain only if the blood-brain barrier has been compromised and is “leaky.” (36)

If this makes you leery about trying GABA or you've tried it without success, taurine supplements are a reliable alternative.

Other Benefits of Taurine

Addressing a GABA imbalance isn't the only way taurine benefits your brain and mental health.

Taurine exhibits impressive neuroprotective capabilities and can help protect against age-related mental decline. (37)



One of the ways it does this is by increasing the level of brain-derived neurotrophic factor (BDNF). (38)

This protein acts like fertilizer in your brain, stimulating the growth of new brain cells.

Taurine especially promotes the formation of new brain cells in the hippocampus, the part of the brain considered the “memory center.”

It also has shown to have antioxidant, anti-inflammatory, and antidepressant properties. (39, 40, 41)

Taurine has a role in a number of nervous system functions and shows promise as a potential treatment for Alzheimer's. (42, 43)

Levels of taurine are naturally low in Parkinson's patients.

And, unfortunately, the drug used to treat it, levodopa, depletes taurine further, making this amino acid a must-have supplement for those with this disease. (44)

Dr. Hyla Cass is a nationally acclaimed expert in the fields of integrative medicine, psychiatry, and addiction recovery.

In her book *The Addicted Brain: How to Break Free*, Cass reports that taurine is helpful in treating:

- alcoholism
- depression
- epilepsy
- migraines
- obsessions
- sleep problems
- stress and anxiety
- the manic phase of bipolar disorder

Other Important Taurine Benefits

Since taurine is present throughout the body, it's been found to help almost every major system.

Here are some other notable health benefits of taurine.

Eyes and ears

Taurine is essential for healthy vision.

The retina has a higher concentration of taurine than any other part of the body. (45)

Taurine also plays a vital role in hearing.

Taurine supplementation can sometimes reverse hearing loss.

Tinnitus is an annoying condition that causes ringing in the ears.

It's not fully understood whether tinnitus is ear-related or brain-related, but at least for some, taurine can almost completely eliminate it. (46)

Heart disease

Taurine is the most important and abundant amino acid in the heart.

It improves blood flow and oxygen supply to heart cells. (47)

It increases the effectiveness of heart muscle contractions and normalizes rhythm irregularities. (48, 49)

Patients with congestive heart failure can improve their exercise capacity with taurine supplementation. (50)

Diabetes

It's well established that diabetics have lower levels of taurine than those with normal blood sugar levels. (51)

A taurine supplement can help diabetes in several ways.



It decreases insulin resistance and helps to offset significant side effects of diabetes such as retinopathy, neuropathy, and kidney damage. (52)

Taurine for MSG Reactions

One of the most unusual uses for taurine supplements is for neutralizing reactions to the **food additive MSG** (monosodium glutamate).

MSG is commonly found in processed foods of all kinds, particularly salty foods such as canned soups, salty snacks, ramen noodles, and veggie burgers.

Reported reactions from MSG consumption include headache, sweating, flushing, numbness or burning in the mouth or throat, abdominal pain, nausea, fatigue, and hives. (53, 54)

The US Food and Drug Administration gives MSG a “generally recognized as safe” (GRAS) designation.

Yet lab animals fed MSG exhibit brain lesions, stunted skeletal development, obesity, sterility, and liver damage. (55, 56)

Inadvertent MSG consumption is not unusual.

In fact, it’s hard to avoid MSG since it is added to many foods and is not required to be explicitly labeled if it’s in the form of compounds like hydrolyzed vegetable protein, yeast extract, soy extracts, or protein isolate. (57, 58)

And, of course, if you want to avoid MSG, eating at restaurants is always a gamble.

There’s a growing body of anecdotal evidence that taking supplemental taurine after accidental ingestion of MSG can reduce MSG-induced symptoms.

But is there any science to back this up?

If you’re skeptical or just like to see the science for yourself, I suggest looking at this study published on PubMed — [Review: Taurine: A “very essential” amino acid](#).

Here are a few highlights of this report that connect the dots between MSG and taurine:

- Monosodium glutamate is a known neurotoxin that can affect cells in the central nervous system.
- Too much glutamate can cause inadequate oxygen (hypoxia) and blood supply (ischemia) to the brain.
- Taurine is [cytoprotective](#) — it protects cells from damage by harmful substances.
- Taurine is one of the most effective agents for protecting against toxic levels of glutamate.

Taurine in Energy Drinks: A Lot of Bull

No article on the benefits of taurine would be complete without taking a look at the taurine found in energy drinks.

Taurine is among the top three ingredients added to energy drinks after caffeine and B vitamins. (59)

You may have read the label on a drink can and wondered what taurine is doing in your energy drink.

The answer may surprise you.

The International Society of Sports Nutrition concluded that any performance-enhancing effects of energy drinks come from carbohydrates and/or caffeine, NOT from other nutrients (like taurine) purported to enhance mental function or physical performance. (60)

Dr. Neil L. Harrison, professor of pharmacology at Weill Cornell Medical College, led research on taurine and GABA receptors in the brain.

As to taurine in energy drinks, he says:



“Its inclusion in these supplements is a little puzzling, because our research would suggest that instead of being a pick-me-up, the taurine actually would have more of a sedative effect on the brain.” (61)

He specifically recommends avoiding energy drinks with taurine since its effect may *negate the boost from caffeine* — the reason people drink this stuff!

Related on Be Brain Fit —

[Why Natural Energy Drinks Are Better for Your Brain](#)

He believes that taurine may actually play a role in the “crash” often experienced from energy drinks.

So, ironically, if you want to experience the boost in focus, productivity, and energy from caffeine, it’s best to drink natural sources of caffeine like coffee or tea, or look for an energy drink that does *not* contain taurine.

Other research has found that the amount of taurine in energy drinks is so low that it won’t cause any side effects, but it won’t provide any of the desired benefits either. (62)

So while the taurine added to energy drinks has been deemed “safe but ineffective” that doesn’t make energy drinks themselves safe.

They’re responsible for tens of thousands of visits to the emergency room each year, and sadly, a handful of deaths. (63)

There are much better and healthier ways to increase taurine, such as eating taurine-rich foods or taking a taurine supplement.

Taurine Supplement Dosage

There is no Recommended Daily Allowance (RDA) for taurine, but a typical dose is between 500-2,000 mg per day.

The long-term upper limit is thought to be 3,000 mg per day, but much higher doses are usually well tolerated. (64)

Excess taurine is simply excreted by the kidneys. (65)

Doctors sometimes recommend up to 6 grams per day for various medical conditions such as hypertension, diabetes, congestive heart failure, iron deficiency anemia, cystic fibrosis, and before and after surgery to boost the immune system. (66)

Taurine Side Effects

Taurine supplements are considered very safe.

However, it’s not recommended for pregnant or breastfeeding women as not enough is known about its safety during these times. (67)

Discuss taking taurine with your doctor if you have bipolar disorder.

Taurine is helpful for many, but occasionally it makes mania symptoms worse. (68)

Additionally, it does not mix well with lithium, a common bipolar medication. (69)

Taurine affects your body’s ability to process lithium which could result in serious side effects.

Also, avoid taking taurine with beta-alanine, an amino acid supplement taken by athletes for enhanced endurance.

When taken together, too much beta-alanine can lead to taurine deficiency. (70)

Benefits of Taurine: Take the Next Step

Taurine is an amino acid usually thought of as a physical performance booster, but it provides some powerful overall physical and mental health benefits as well.



In the brain, it acts much like the relaxing neurotransmitter GABA, making taurine an effective natural remedy for anxiety, stress, insomnia, and many psychiatric disorders.

It also protects the brain from aging and damaging chemicals.

Taurine is essential for the health of your heart, muscles, ears, and eyes.

Taurine supplements may offset the unpleasant side effects of accidental MSG consumption.

Keep in mind that energy drinks are not a good source of taurine.

If you need quick energy, you're better off with a natural source of caffeine that doesn't contain taurine.

READ NEXT: [GABA Supplements for Stress and Anxiety Relief](#)



COMMENTS & CONVERSATIONS

LISA A MASTERSON says

March 30, 2019 at 6:50 pm

Yes please what exact description and milligrams are you recommending because it is showing a lot of the NOW capsules. Thank you+

[Reply](#)

Deane Alban says

March 31, 2019 at 7:18 am

Hi Lisa, I believe NOW taurine comes in 500 and 1000 mg capsules. [Typical dosage](#) is 500 – 2000 mg per day.

[Reply](#)

Maggie says

March 16, 2019 at 2:29 pm

Is it true that taurine supplements can cause High Blood Pressure in women? Thank you.

[Reply](#)

Deane Alban says

March 17, 2019 at 6:52 am

Hi Maggie, I've never read anything reputable to indicated that. In fact, I've seen several studies that show it can reduce high blood pressure and is beneficial for heart disease.

[Reply](#)

Ricardo says

March 11, 2019 at 7:47 am

Does Taurin help with studies?

[Reply](#)

Deane Alban says

March 11, 2019 at 8:32 am

Hi Ricardo, It can help your memory, so it could.

[Reply](#)



Erika says

January 23, 2019 at 3:09 pm

Hi I've had some test results back today which showed that my norepinephrine, taurine, tyramine levels are low. Taurine was really low. I was surprised because I thought my anxiety and obsessional thought patterns/ looping was due to low serotonin. I take sertraline which definitely helps. Could I take supplements alongside the sertraline?

Thanks
Erika

[Reply](#)

Deane Alban says

January 24, 2019 at 8:12 am

Hi Erika, You should ask your doctor, but in the meantime, you can check your medication against any supplements you are taking or intend to take with one of these [online interaction checkers](#).

Before you put too much stock in the results of your neurotransmitter tests, you might find this article on the [limits of neurotransmitter testing](#) interesting and hopefully helpful.

[Reply](#)

Dara says

January 4, 2019 at 3:45 am

Essentially, going by this article, Taurine is more of a tension reliever than a mental stimulant, correct?

I wanted to opt for the supplement for work as a brain stimulant, i.e., instead of coffee.

[Reply](#)

Deane Alban says

January 5, 2019 at 10:33 am

Hi Dara, Supplements that increase brain energy include citicoline, curcumin, and acetyl-L-carnitine. Also, consider any adaptogenic herbs which increase energy while reducing stress. You can learn more about them here: [Using Adaptogenic Herbs to Reduce Stress, Boost Energy](#).

[Reply](#)

Jeannie says

January 2, 2019 at 4:24 pm

What brand of taurine do you recommend for special needs young adult?

[Reply](#)

Deane Alban says

January 3, 2019 at 9:10 am

Hi Jeannie, I personally use NOW capsules. Another brand that is well-regarded is BulkSupplements Taurine — it's a loose powder.

[Reply](#)

Erin says

January 1, 2019 at 12:51 pm

Great information; thank you.

[Reply](#)

Deane Alban says



January 1, 2019 at 3:59 pm

You're welcome, Erin!

[Reply](#)

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