

Examine.com

Memory & Focus

Medical Disclaimer & Important Note

This guide is a general health-related information product, intended for healthy adults over the age of 18.

This guide is for educational purposes only. It is not medical advice. Please consult a medical or health professional before you begin any exercise, nutrition, or supplementation program, or if you have questions about your health.

Participating in exercise activities or using products mentioned in this guide may pose risks for people in poor health or with pre-existing physical or mental health conditions.

Do not use any products or participate in any activities if you are in poor health or have a pre-existing mental or physical health condition. If you choose to participate, you do so of your own free will, and you knowingly and voluntarily accept the risks.

While we will mention major known drug interactions, it may be possible for any supplement to interact with medications or other drugs. If you are currently taking medication, consult a health professional prior to using any supplement in this guide.

Specific study results described in this guide should not be considered representative of typical results. Not all supplements provide the exact amount of compounds as listed on the label. Always investigate supplement companies, as well as the supplement itself, before purchasing anything. Herbs, rather than isolated compounds, may also have some variability from one batch to the next that can alter the efficacy.

To read the evidence supporting claims mentioned in this guide, please visit [Examine.com](https://www.examine.com).

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How to use this Guide

The team at Examine.com has been publishing research on nutrition and supplementation since March 2011. In that time, we've learned a great deal about supplements, especially how they can work together to help you with health goals.

This stack guide help you figure out which supplements can help you and which will hinder and/or be a waste of your money for your desired goals.

The following four sections present information on supplements that are relevant to *Memory & Focus*:

1. Base Supplements
2. Proven Options
3. Unproven Options
4. Cautionary and Overhyped Options

Base Supplements are recommended for the majority of people with this goal. They are either effective on their own or are required to boost the effects of another supplement. These are the first supplements to consider for your stack. Base Supplements are more researched and have less adverse drug interactions than options.

Proven Options are supplements that will provide a lot of benefits, but only in the right context. They cannot be recommended for everyone, but if you read the entry and find that you meet the criteria, feel free to add the supplement to your stack.

Unproven Options are another group of potentially beneficial supplements, but they lack evidence for their effects. They cannot be recommended with the same confidence as proven options. They could work or be a waste of your money - there is not enough evidence to know for sure. Keep unproven options in mind, but approach them cautiously when incorporating them into your stack.

Cautionary and Overhyped Options are supplements that are claimed to provide benefits but have been shown to be ineffective. If a supplement is deemed too risky to be used, it will also be found in this section. **Do not** add these compounds to your stack; they tend to be a waste of money or potentially harmful to your health.

Once we have explained the various supplements that you need to be aware of, the **Assembling your Supplement Stack** section will outline how different supplements can be combined, based on your objectives.

After that, we follow up with the **Stack Modification FAQ**, in which we cover common questions that may arise when assembling your stack.

Lastly, we include information on **Precautions and Troubleshooting**.

With all this combined, you should be able to identify and assemble a supplement stack best suited for your goals and objectives.

Blueberry

Why you should take it

Blueberries and other dark berries contain molecules called [anthocyanins](#) and [pterostilbenes](#). These compounds can protect the brain and influence its activity.

Blueberries can also increase the activity of a growth factor called neuronal growth factor (NGF). When neurons grow, they branch out toward each other. NGF helps neurons grow, which makes it easier for them to communicate.

Though the only human evidence for blueberries increasing cognition comes from studies done on senior citizens, the mechanism and animal evidence suggest blueberries are an effective supplement for brain health.

Blueberries are safe, readily available, and do not interact negatively with pharmaceuticals. Blueberries are an ideal base supplement for the Memory & Focus stack.

How to take it

To supplement blueberries, take 500 – 1,000 mg of blueberry anthocyanins, once a day.

This is equivalent to 60 – 120 g of fresh berries, less than one metric cup.

To supplement blueberries through a supplement that is not concentrated for anthocyanin content, take 5.5 – 11 g of the supplement.

Studies on blueberry juice use a 500 mL daily dose.

Note: Blueberry juice should include blueberries or a similar dark berry as the first ingredient. Any juice made primarily from sugars with added flavoring will not benefit memory or focus after ingestion.

Bacopa monnieri

Why it is a proven option

Bacopa monnieri is a swamp plant used in traditional Indian medicine to improve cognition and memory. *Bacopa monnieri* supplementation is most effective for elderly people, but it can provide benefits for all age groups.

Bacopa monnieri supplementation reliably improves working memory, though further research is needed to determine if it can affect verbal fluency, word processing, and attention span. Working memory refers to the ability to focus on a topic in order to understand and retain it.

Benefits from *Bacopa monnieri* supplementation show up after about a month of consistent supplementation. Using *Bacopa monnieri* for less than a month does not result in any significant benefits.

Bacopa monnieri is not a base supplement because more research is needed to determine if it interacts negatively with pharmaceuticals.

How to take it

Bacopa monnieri doses are based on the supplement's bacoside content, which is the compound responsible for *Bacopa monnieri*'s effects. To supplement 150 mg of bacosides, take 300 mg of a supplement with a 55% bacoside content. To supplement the leaf powder, assuming a 10-20% bacoside content, take 750 – 1,500 mg.

Bacopa monnieri should be taken with food, once a day. Further research is needed to determine if higher doses of *Bacopa monnieri* are more effective. To be safe, do not exceed the doses recommended above.

L-Theanine with Caffeine

Why it is a proven option

L-Theanine and caffeine, taken together, can improve focus and attention span. L-theanine, when taken alongside caffeine, will reduce the excitability

caused by caffeine while retaining the focus and attention span benefits that caffeine provides.

L-Theanine is an amino acid with relaxing, but not sedating, properties. It does not interact with sedative neurotransmitters and does not cause feelings of fatigue or sedation.

How to take it

To supplement caffeine and L-theanine, take 200 mg of each supplement 30 minutes before you need increased focus and attention. Taking caffeine and L-theanine on an empty stomach can increase the rates of absorption. If supplementing on an empty stomach causes stomach upset, take caffeine and L-theanine with food instead.

People that are not used to caffeine should start with a 100 mg L-theanine dose taken alongside 50 mg of caffeine.

Veteran coffee drinkers may need to supplement more caffeine than recommended above. L-Theanine supplementation should match caffeine doses. This means that 200 mg of caffeine should be paired with 200 mg of L-theanine.

Nicotine Gum

Why it is a proven option

Nicotine is an addictive compound found in cigarettes. It is also a potent intestinal anti-inflammatory agent that can provide cognitive benefits.

Nicotine works by stimulating the cholinergic system and the nicotine receptors. This results in a release of neurotransmitters that can improve memory retention and focus, as well as provide a calming effect.

If used carefully, nicotine can improve long-term memory formation. Nicotine must be used more carefully than supplements like L-theanine and caffeine.

Only nicotine gum is recommended for cognitive enhancement. Nicotine's addictiveness depends on the speed at which it reaches the brain. Inhaling nicotine poses too great of a risk for addiction. Nicotine patches work too slowly to provide an acute stimulatory effect.

How to take it

To supplement nicotine, chew 2 mg of nicotine gum while working on the task that requires increased focus and cognition. Nicotine can be used multiple times per day, though it should not be used more than three times. Nicotine doses should be supplemented at least four hours apart.

People with nicotine tolerance can increase their dose to 4 mg. Do not increase the dose above 4 mg if tolerance develops. Instead, cease supplementation for up to two weeks to allow sensitivity to return.

Prolonged nicotine gum use is less likely to form a habit than smoking cigarettes, but it should still be used carefully.

Do not take more than 12 mg of nicotine in one day. Do not take nicotine with alcohol.

Note: Do not use cigarettes to supplement nicotine.

Creatine

Why it is an unproven option

Creatine is an important source of fuel for cells, especially neurons. Creatine deficiencies is due to a "genetic creatine transporter defect, a developmental disorder characterized by severe cognitive impairment. CTD can be treated with creatine supplementation.

Most people produce enough creatine naturally to prevent cognitive complications, but vegetarians and vegans may experience more cognitive benefits after supplementation than omnivores.

More research is needed to determine whether creatine supplementation can provide benefits to cognition, assuming there is no creatine deficiency.

How to take it

To supplement creatine, take 2 – 5 g a day, with a meal. Active people should supplement closer to the high end of the dosage range, though 2 g of creatine is technically sufficient to provide cognitive benefits.

The best way to supplement creatine is through creatine monohydrate. People with sensitive stomachs should consider micronized creatine monohydrate supplementation, since it may be gentler on the digestive system. Other forms of creatine are more expensive and less effective than creatine monohydrate.

Cholinergics

Why it is an unproven option

Cholinergic supplements are compounds that can increase acetylcholine levels in the brain. Acetylcholine is a major neurotransmitter involved in memory formation.

Elevated acetylcholine levels are associated with improved cognition.

Cholinergic supplements include [CDP-choline](#), [alpha-GPC](#) and [huperzine-A](#).

These supplements have been studied in the context of dementia, but further research is needed to confirm that cholinergic supplements can improve cognition when used by healthy, younger people.

Though huperzine-A is a cholinergic supplement, it is not recommended for long term supplementation because of its long half-life. Since huperzine-A remains in the body longer than other cholinergics and has a different mechanism, the body may adapt negatively to it, which can cause reduced acetylcholine levels and a withdrawal period after supplementation has stopped.

How to take it

To supplement alpha-GPC, take 300 – 600 mg, once a day, with a meal. Higher doses can benefit people with dementia.

To supplement CDP-choline, take 250 – 500 mg, twice a day, for a total daily dose of 500 – 1,000 mg. CDP-choline can also be supplemented for its uridine content. To supplement CDP-choline as a uridine source, take 2,000 mg a day. See the [uridine](#) section for more details.

Uridine

Why it is an unproven option

Uridine is a vital compound for neuron growth. Preliminary evidence suggests uridine supplementation can provide long-term benefits for cognition.

Uridine supplementation is thought to be synergistic with blueberry and Bacopa monnieri supplementation, though more research is needed to confirm this effect.

Uridine has been shown to be safe to use in the short term. More research is needed to determine if long term supplementation can be recommended specifically for safely enhancing memory and cognition.

How to take it

To supplement uridine, take 250 mg, twice a day, for a total daily dose of 500 mg. Further research is needed to determine if supplementing uridine alongside a meal is more effective than supplementing it on an empty stomach.

High doses of CDP-choline (1,500 – 2,000 mg) can be used to supplement dietary cytidine, which is converted to uridine. Pairing uridine supplementation with alpha-GPC supplementation may provide synergistic benefits, though this is a much more expensive option than just supplementing CDP-choline.

Chemically Induced Long Term Potentiation (CILTEP)

Chemically induced long term potentiation (CILTEP) is a term that refers to combining forskolin, the bioactive from [*Coleus forskohlii*](#) and luteolin, the bioactive in artichoke extract, in order to increase cyclic adenosine monophosphate (cAMP) levels. Elevated cAMP levels are associated with improved memory formation, cognition, and muscle contractions.

However, there is no evidence that suggests combining forskolin and luteolin actually increases cAMP levels. These molecules are flavonoids, which tend to be poorly absorbed. In this case, they never reach the brain to exert their beneficial effects.

Though CILTEP works in isolated brain cells, real-world supplementation does not increase cAMP levels. CILTEP should not be a part of any stack.

Assembling Your Supplement Stack

The following outlines how to incorporate this supplement stack into your daily nutrition habits.

Incorporating Base Supplements

The base supplement in the Memory & Focus stack is the humble **blueberry**. It can be supplemented through 500 – 1,000 mg of anthocyanins, or by eating 60 – 120 g (up to one metric cup) of fresh blueberries a day. Drinking 500 mL of juice made exclusively from blueberries and other dark berries can provide similar benefits to the doses recommended above.

Incorporating Supplement Options

For people who want to improve long-term memory formation

Take the base **blueberries**, as described above. Add ***Bacopa monnieri*** (150 mg of bacosides, or 300 mg of a 55% bacoside supplement) and a **cholinergic**. People supplementing **alpha-GPC** for their cholinergic can add **uridine** (250 mg, taken twice a day) although this is not needed if using **CDP-choline**.

For people who want to improve attention span

Take the base **blueberries**, as described above. Add **caffeine** (200 – 400 mg) and **L-theanine** (200 – 400 mg), taken 30 minutes before improved attention span is desired. If necessary, chew **nicotine** gum (2 – 4 mg) to further increase attention span.

Caffeine and nicotine should be cycled based on their stimulatory effects. If the doses listed above no longer provide noticeable benefits, stop supplementation for at least two weeks.

Assembling Your Supplement Stack (cont.)

Do **not** increase the caffeine and nicotine doses listed above. Taking more than the recommended amount of caffeine or nicotine may temporarily counteract the effects of tolerance, but this is not a sustainable solution. Increasing the dose to counteract the effects of tolerance greatly increases the effects of withdrawal and the risk of addiction.

Other Options

People that do not eat meat frequently can add **creatine** (5 g) to any stack, taken with a meal.

Cholinergic supplements include **alpha-GPC** (300 – 600 mg) and CDP-Choline (250 – 500 mg, taken twice a day).

How do I add supplements to my stack that are not covered in this guide?

Before adding a new supplement to your stack, supplement your current stack for a few weeks to determine if you need to make a new addition. If you want to make multiple changes to your stack, pick one supplement to add at a time. Identify the stack change that you think will be the most effective, and do your research:

1. Use [Examine.com](https://www.examine.com) to determine if that supplement would have a negative interaction with your current stack. Talk to your doctor about including a new supplement in your stack.
2. Introduce the new supplement at half of the regular dose.
3. After a week with the new supplement, slowly increase the dose to the recommended dose if you are not experiencing the effects you want.

Stacks are intended to be synergistic, which means taking two supplements together may provide more effects than the supplements by themselves. New supplements should be added carefully, since even low doses can be powerful if other supplements in your stack improve their effects.

Can I modify the recommended doses?

If a supplement has an established advised dosage range, stay within that range. If a supplement has a recommended dose, and not a range, stay within 10% of that dose. Halving or doubling an advised dose could be ineffective or even dangerous.

The safest way to add dietary supplements to your life is one at a time. If you are considering purchasing several supplements, purchase only one and add the others after a week or two of supplementation. This will limit the risk of new supplements, and it will also make it easier to figure out what supplements are providing you with your newfound benefits.

Why are there no racetams in this stack?

Racetams are pharmaceutical compounds that are thought to improve cognition. They include supplements like piracetam, aniracetam, and nefiracetam.

These supplements are not recommended in this stack because they are pharmaceuticals and due to a lack of human evidence for their effects. Further research is needed on the long term safety and effectiveness of racetams, so they are not included in this guide.

Can fish oil improve memory and focus?

More research is needed to determine the effects of fish oil on cognition. Though preliminary evidence suggests fish oil may be beneficial for cognition, it cannot be recommended specifically for supplementation.

It may be a good idea to modify your diet to include more fatty fish while taking supplements in the Memory & Focus stack.

Fish like cod, salmon, and sardines are the best fish to eat, since they have high levels of omega-3 fatty acids, but low levels of mercury. To supplement fish oil, take 1 g a day.

Precautions & Troubleshooting

The safest way to add dietary supplements to your life is one at a time. If you are considering purchasing several supplements, purchase only one and add the others after a week or two of supplementation. This will limit the risk of new supplements, and it will also make it easier to figure out what supplements are providing you with your newfound benefits.

Any supplement that can affect the brain, particularly anything with stimulatory or sedative effects, should be first taken in controlled situations. Your first dose should not be taken before events such as driving or operating heavy machinery where impaired cognition may be a risk for your own safety and the safety of others.