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.
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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 Cardiovascular & Heart Health:

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.
Maca

Why you should take it
Maca is a root vegetable that can enhance libido when supplemented by both men and women. It is one of the few supplements that has repeatedly been shown to improve libido in a dose and timing-dependent way. Maca supplementation can improve libido consistently when supplemented over the course of eight weeks, at which point libido plateaus and maintains its improved level.

Maca can be used to treat sexual dysfunction related to selective serotonin reuptake inhibitors (SSRIs), a kind of antidepressant. It can also provide mild benefits for men with erectile dysfunction. Preliminary animal evidence suggests red maca can improve prostate health and reduce anxiety.

When it comes to improving libido, there is no difference between red, black, or yellow maca.

Maca does not interact with any major hormones, like testosterone, estrogen, and DHEA. It is not known to interact with any pharmaceuticals.

How to take it
To supplement maca, take 1,500 – 3,000 mg of maca root powder a day, with the first meal of the day.
Yohimbine

Why it is a proven option
Yohimbine is a stimulant derived from the bark of the *Pausinystalia yohimbe* plant. If it is often supplemented by men who want to increase virility and erectile rigidity. It is sometimes colloquially referred to as “herbal Viagra”, though it is less powerful than Viagra.

Yohimbine is not a reliable treatment for chronic erectile dysfunction, so it should only be used by otherwise healthy men looking for a boost.

Do not supplement yohimbine if you are taking an antidepressant or antipsychotic medication. Be very cautious when taking yohimbine in combination with alcohol, or other legal stimulants like caffeine or synephrine. The natural source of yohimbine, *Pausinystalia yohimbe* bark, is not recommended for supplementation because it has other psychoactive compounds in it that should not be ingested.

Do not supplement yohimbine alongside pro-erectile drugs like Viagra or Cialis. These pharmaceuticals are safer and more effective than yohimbine, and can be supplemented instead.

How to take it
To supplement yohimbine by itself, without other supplements, take 0.2 mg of yohimbine per kilogram of bodyweight. This translates to approximately:
- 14 milligrams for a 150 lb person
- 18 milligrams for a 200 lb person
- 22 milligrams for a 250 lb person

These doses should be progressively worked up to. Start with a half-dose to assess tolerance and slowly work your way up. If you are using yohimbine daily alongside other stimulants, you will need to reduce the dosage of yohimbine (start with a quarter, working up to half the dose). If you do not use yohimbine frequently, do not use it with other stimulants.

Taking yohimbine 30 – 45 minutes before bed may impair sleep.
Eurycoma Longifolia

Why it is an unproven option

_Eurycoma longifolia_, also known as tongkat ali, is a libido enhancing compound that is used in traditional medicines around the globe.

Preliminary evidence suggests _Eurycoma longifolia_ supplementation can boost libido in men and women, but more research is needed to confirm this effect.

Though this herb is claimed to increase testosterone, there is no reliable evidence to support this claim. Infertile men may experience a benefit to testosterone levels, which may be attributed to antioxidants, since this effect is also seen with vitamin E and Coenzyme Q10 supplementation.

How to take it

To supplement _Eurycoma longifolia_, take 100 - 150 mg of a 100:1 concentrated extract (concentrated for eurycomanone), twice a day, for a total daily dose of 200 – 300 mg.

Fenugreek

Why it is an unproven option

Fenugreek is a powdered seed used for a variety of purposes in Indian traditional medicine. It is sometimes supplemented to improve vitality and masculinity.

When supplemented by healthy men, high doses of fenugreek can significantly increase libido and sexual satisfaction.

More research is needed to determine if fenugreek interacts with hormones. Some evidence suggests it may reduce dihydrotestosterone (DHT) levels.

One of the more interesting properties of fenugreek is its ability to cause bodily fluids to smell like maple syrup. This includes urine, semen, and sweat.

Fenugreek could potentially interact with blood thinning medication like warfarin.
How to take it
To supplement fenugreek, take 600 mg of an extracting containing 50% fenusides, the compound responsible for fenugreek’s effects. Fenugreek can be taken with any meal of the day.

Blood Flow Enhancement

Why it is an unproven option
One form of erectile dysfunction is characterized by impaired blood flow. Poor circulation can result in softer erections that are more difficult to maintain. Supplements that improve blood flow can treat this kind of erectile dysfunction.

Pycnogenol, a brand name for a procyanidin source, grape seed extract, and cocoa polyphenols are all supplements that can improve blood flow.

How to take it
To supplement Pycnogenol, take 90 – 150 mg, once a day, ideally with breakfast. The timing is similar for grape seed extract, although the dose is increased slightly to 150 - 300 mg.

The standard dose for cocoa polyphenols is 1,000 mg, which is equivalent to about 25 g of pure dark chocolate daily. Milk or white chocolate is not a source of polyphenols.

Tribulus terrestris

Why it is an unproven option
Tribulus terrestris has been marketed as an herbal testosterone booster for a while, despite the fact that it has zero evidence for its claimed ability to increase testosterone. It continues to be sold because it can improve libido, which many people associate with increased testosterone.
It is listed as an unproven option because, like other libido enhancers, there has been very minimal research done on *Tribulus terrestris* in this context.

**How to take it**

To supplement *Tribulus terrestris*, take 200 – 450 mg of a supplement with a 60% steroidal saponin content.

*Tribulus terrestris* supplements should be taken once a day, with a meal.
Testosterone Boosters

Testosterone boosters would greatly benefit exercise performance, if they actually worked. Unfortunately, all of the testosterone boosters on today’s market have little to no effect on testosterone levels after supplementation.

Though these compounds are not recommended for supplementation, they are also not associated with the side-effects attributed to a steroid cycle. Some herbs claiming to boost testosterone, including Tribulus terrestris, maca, and fenugreek enhance libido, which can translate to increased confidence and energy in the gym. The influence of confidence on workout performance has not been scientifically assessed, but if these supplements improve your power output due to improved energy and mood, they may have a role to play in your stack.

Sodium Bicarbonate

Sodium bicarbonate, also known as baking soda, is a performance-enhancing supplement that can improve muscular endurance.

Sodium bicarbonate can cause severe stomach upset if supplemented improperly. Keep in mind, one dose is 300 - 400% of the daily recommended sodium intake. Sodium bicarbonate supplementation has a similar effect to beta-alanine supplementation, but taking both at once will not be more effective than beta-alanine by itself.

Due to sodium bicarbonate’s side-effects, it should not be included in any stack.

β-Hydroxy β-Methylbutyrate (HMB)

β-Hydroxy β-Methylbutyrate (HMB) is a product of leucine. It is thought to have an anti-catabolic effect on muscles, meaning it may be useful for preventing muscle loss during a fat loss diet or extreme caloric restriction.
HMB may also play a role in building muscle, but it has a history of being supplemented alongside food and exercise with no significant effect on muscle mass or power output.

HMB may be effective at preserving muscle mass, but further research is needed before it can be recommended specifically for exercise performance.

**Glutamine**

Glutamine is an amino acid that plays an important role in muscle cells. In fact, in vitro studies – done in the test tube or a petri dish – require glutamine to keep the cell alive. When glutamine is added to cells, it increases muscle protein synthesis.

The problem is getting glutamine to muscle cells in the first place. After ingestion, glutamine does not reach the muscle cells. Instead, it’s taken up by the intestines and liver, which releases glutamine to other tissues in the body on an as-needed basis.

Though glutamine supplementation will benefit the digestive system and liver, it will not reach the muscles and cause an increase in muscle protein synthesis. Glutamine is not recommended for a performance-enhancing supplement stack.
The following outlines how to incorporate this supplement stack into your daily nutrition habits.

Incorporating Base Supplements

The base supplement in the Libido & Sexual Enhancement stack is **maca** (1, 500 – 3,000 mg), taken once a day with a meal, usually breakfast. The effects of maca take a few weeks of supplementation to start appearing.

Physical exercise, especially one that involves intense cardiovascular activity, a healthy diet, and healthy sleep patterns can improve libido and should be considered before purchasing any supplements.

Incorporating Supplement Options

**For men and women who want to increase libido**

Take the base **maca** (1,500 – 3,000 mg) once a day, with breakfast. After a month of supplementation, add either **Tribulus terrestris** (200 – 450 mg), **fenugreek** (600 mg), or **Eurycoma longifolia** (200 – 300 mg), taken with the maca once a day.

Do not add all three additional libido enhancers at the same time. They can be rotated through once a month.

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**For men without erectile dysfunction who want to improve erectile rigidity**

Take the base **maca** (1,500 – 3,000 mg) once a day, with breakfast. About 30 minutes before sexual activity, take **yohimbine** (0.2 mg per kilogram of bodyweight).
For men with untreated erectile dysfunction caused by impaired blood flow

Take the base **maca** (1,500 – 3,000 mg) once a day, with breakfast.
After a month of supplementation, add **Pycnogenol** (90 – 150 mg).
Pycnogenol supplementation can be replaced by **grape seed extract** (150 – 300 mg).
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 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.
I’m a woman looking for increased libido, how does this influence the above recommendations?

Aside from maca, human studies on libido and sexual satisfaction are mostly conducted on men. Supplements affect men and women differently. Much more research is needed on many of these supplements to determine how they affect women.

If you try these supplements, keep a journal of the effects you experience. Taking notes will help you determine which supplements are effective, and which are not.
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.

If you experience an erection that lasts for more than four hours, see your doctor immediately to avoid permanent penile damage.

Some sexual aids have stimulatory properties, like yohimbine and Viagra. Taking these supplements with other stimulants or compounds that can increase diastolic blood pressure can increase the risk of cardiovascular injury.