3.2.2.3.7.13 How to use arginine to help erections

In recent years, arginine has been heavily promoted as a health supplement capable of enhancing sexual function in men. Specifically, it has been claimed that arginine supplementation may ameliorate erectile dysfunction, and may be capable to produce better erections in healthy men. On the Internet, corresponding information is primarily emanated on websites, which serve as storefronts of vitamin and supplement retailers.

We do NOT sell arginine or any other pills, vitamins, or minerals. Our aim is to provide qualified information, and to establish our sites (Yohimbe.org, Arginine.net, and others) as a competent source of information, regardless of whether the information, which we believe to be truthful, will support a decision to buy arginine or not.

I have myself experimented a lot with arginine supplements in capsules and as bulk powders and have found these supplements disappointing, compared to what I expected after reading about it on websites promoting them. I have been much more successful with foods rich in arginine. Incidentally, many of these arginine-rich foods have a long-standing reputation in folk medicine as aphrodisiacs, and apart from containing a proportionally high amount of arginine; they are mostly also rich in vitamin E and zinc, the vitamin and the mineral with the strongest association with sexual function.

Sure, my own experiments with arginine supplements (capsules and powder of pure arginine) are anecdotal in character… nothing like double-blind crossover scientific studies. But I have experimented in the same way with yohimbine and Viagra, and there could have been no doubt that both of these substances work.

There are scientific studies on arginine, and they indeed show clearly that arginine has something to do with erections. But I know of no study that would simply prove that arginine supplementation is a definite successful treatment for erectile dysfunction, or that it has the power to enhance sexual function in healthy men.

With scientific studies, one has to be careful not to jump to conclusions that are not specifically supported. For example, if a scientific study shows that arginine supplementation gives aging male rats better erections, one cannot just derive that it will do the same for aging male humans.

In fact, studies do exist that show that arginine supplementation does cause better erections in rats. One such study was done at the Department of Surgery, Harbor-UCLA Medical Center, Torrance, California and titled: Effects of long-term oral administration of L-arginine on the rat erectile response.

During the study, arginine-fed and control rats underwent electric field stimulation of the cavernosal nerve to induce erection and maximal intracavernosal pressure was measured. The corpus cavernosum is the part of the male sexual organ that fills with blood during sexual response, thus causing an erection. An increased intracavernosal pressure will manifest itself as increased rigidity, and, if it occurs in the human male, will subjectively be interpreted as a "better" erection. The above-cited study found that indeed, long-term arginine supplementation will cause a higher intracavernosal pressure… in the rat.

The authors of the study came to the following conclusion: "Long-term oral administration of supra-physiologic doses of L-arginine improves the erectile response in the aging rat. We postulate that L-arginine in the penis may be a substrate-limiting factor for NOS activity [NOS = nitric oxide synthase, the enzyme responsible for metabolizing nitric oxide from L-arginine - ed.] and that L-arginine may up-regulate penile NOS activity but not its expression. The blockade of penile erection by EFS [electric field stimulation - ed.] with L NAME [N-omega-nitro-L-arginine methyl ester, a substance that blocks nitric oxide synthase metabolizing nitric oxide from L-arginine - ed.] suggests that if ancillary corporeal vasodilator mechanisms develop a basal level of NO synthesis is still required for activation and relaxation of the corporeal smooth muscle. These data support the possible use of dietary supplements for treatment of erectile dysfunction."

Other studies have shown that L-NAME hinders erections in the human corpus cavernosum, and that without normal nitric oxide function, erections do not occur.

All of this is very interesting. But it's premature to assume that taking a daily spoonful of L-arginine will significantly improve the sex life of patients suffering from erectile dysfunction, or of healthy subjects.

Sure, nitric oxide is needed for erections, and the enzyme nitric oxide synthase needs L-arginine to metabolize nitric oxide.

But there may be a good number of co-factors involved. It may just happen that humans need a vitamin or mineral or other catalyst in order to make use of arginine, and that a supplementation of plain arginine alone is ineffective.

All to often, a promise of "better" sex will, sadly enough, make men hand over their critical minds to the cloakroom attendant. Try to sell them some expensive remedy to make for healthier lungs or livers, and they will likely demand proper scientific proof before paying up. But when it comes to medications that promise power to go on for 30 minutes, and this three or four times a day, a large number of men are inclined to try it without demanding proper proof, even if it costs them a whole day's salary.

Am I one of these men? As a matter of fact, I have tried almost everything.

I have been experimenting for years, and I will never stop experimenting. When I started experimenting some 5 or 6 years ago, my sex life was very down. I have learned several ways to improve it, and to get my kicks in a dimension I would have though impossible to achieve at my age (pushing 50).

Five or six years ago, I did almost everything wrong. I may still be doing some things wrong, but the proportion between what I'm doing right and what I'm doing wrong has tilted much towards the right. The proof of the pudding is in eating it.

I am a scientifically minded person, and when I encounter claims that yet another substance enhances sexuality, I do first look for scientific support. But I do not only look for scientific studies; I do read anecdotal evidence, and I do not belittle traditional medicine.

We have to be aware that scientific studies are often contradictory. For example, one can find scientific studies that show both: that yohimbine has an effect, and that it has no effect on erectile function. And I've read abstracts claiming that testosterone causes prostate cancer, and abstracts claiming that testosterone actually protects from prostate cancer. Medical history is full of U-turns.

If it concerns sexual enhancement, I value anecdotal evidence from a credible source or the consensus of folkloric sources. If something works in many men, then there will be an increased likelihood, but no guarantee, that it will work with me. With yohimbe, the efficacy had been established in folk medicine long before the first scientific studies have been conducted.

The same goes for garlic supporting general health (but not sexual function), and for saw palmetto bringing relief to men suffering from prostate enlargement.

I believe that optimal sexual function is correlated to good general health. For this reason, I try to live a healthy lifestyle, including consuming healthy food and avoiding food recognized to be of little benefit to general health.

Nevertheless, we have to be aware that not everything that supports general health is also conducive to a satisfying sex life. And I wonder how many men do harm to their sexual function while trying to promote their general health.

Both saw palmetto and garlic are cases in point. Saw palmetto shrinks an enlarged prostate, largely by interfering with the conversion of testosterone by the enzyme 5-alpha-reductase into dihydrotestosterone. But for me, while I'd like to have a healthy prostate until old age, saw palmetto too heavily interferes with erections. It causes numbness and non-responsiveness of the male organ.

Garlic is healthy for many organs, including (!) the prostate. There is some evidence that it can be helpful even in the treatment of prostate cancer. Which is what made me suspicious.

And indeed, when I consume a bulb of garlic (my heart and blood vessels are probably grateful), erections don't seem to happen easily for up to two days. Obviously, I cancelled garlic from my diet. (I care to live long only for as long as I can get my sexual kicks; I do not see much sense in other aspects of life, including literature.)

I have had better results from experimenting with other dietary factors. Nuts, for example.

Nuts, any kind of nuts, are, of course, a mainstay of macrobiotic nutrition, and few dietitians would contest that they are a valuable component of a healthy menu. Nuts provide unsaturated fats, vitamin E, and a fine selection of minerals (brazil nuts are the best source one could think of for selenium). Folk medicine also attributes aphrodisiac properties to nuts in general.

I have read on more than one medical website that a) nuts are high in arginine, and that b) the high arginine content of nuts can cause more frequent outbreaks in patients who suffer from herpes.

But actually, the arginine content of nuts is not so high in comparison to the arginine content of other foods. Not high enough to make nuts by themselves responsible for herpes outbreaks.

The following data on arginine is from a publication of the US Department of Agriculture. According to this publication, the arginine content of 100 grams of selected foods is:

Almond nuts - 2.466 gram
Brazil nuts - 2.390 gram
Cashew nuts - 1.837 gram
Hazelnuts - 2.211 gram
Pistachios - 2.108 gram
Sunflower seeds - 2.403 gram
T-bone steak - 1.492 gram
Sardines - 1.473 gram
Fried chicken - 1.793 gram

The arginine content of nuts is a little bit higher than that of meat or fish. However, the above list does not take into consideration that the water content of meat and fish, even when fried, is around 50 percent, and that the water content of nuts is typically less than 5 percent. If dry mass is compared, the arginine content of fish and meat probably is higher than that of nuts.

But fish and meat do not have the reputation to supply excessive amounts of arginine, cause herpes outbreaks, or be useful as aphrodisiacs.

There must be something else that either supports the absorption of the arginine in nuts, or that helps its bioavailability. Foods, of course, are not just a mixture of a few amino acids, a few minerals, and a few vitamins, all of which can be synthesized in the laboratory. If I take nuts and extract some 20 amino acids, some 10 minerals, and some 15 vitamins, and then mix these extracts, what do I get: nuts? By no means. Foods are much more complicated chemical compounds.

I have started eating a diet rich in nuts primarily for reasons of general health. It was only after some time that I noticed that such a diet in me definitely supports sexual function.

I was wondering why.

Could it be the vitamin E or the zinc? Both have a reputation of supporting sexual function, and I have tried both in the form of encapsulated supplements. The vitamin E and zinc supplements had no effect, just as the "pure" arginine supplements I consumed.

And even though the arginine content in nuts is not that different from the arginine content in meat and fish, I do assume that the sexuality-enhancing effect of nuts is related to arginine. Why? Because not only do nuts enhance erectile response; a diet rich in nuts can provoke in me a herpes outbreak every three month, while without any or just a few nuts in my diet, it’s more like once a year.

There is, to the best of my knowledge, no association between vitamin E and zinc on the one side, and herpes on the other side. This indicates that what is active in nuts in improving erectile response, as well as provoking herpes outbreaks, probably is related to arginine. (I have herpes outbreaks only at times when I have reason to be proud of my erectile capacity; it's sort of funny that usually, when I think, wow, I have great reproductive health, a herpes outbreak isn't far away.)

Apart from what you read in the subscriber sections of Yohimbe.org and other domains of mine, you will find few sources on the Internet that attest to the sexuality-enhancing capabilities of a diet rich in nuts, and the reason is not that it wouldn't work, but that little money can be made by promoting it. You'll buy your nuts at a supermarket near you, and the retail profit margins in nuts are probably around ten percent, and not hundreds of percent as in capsulated supplements. (And just be sure that I have no stake in any supermarket, or nuts wholesale or retail business.)

With my recommendation to get your sexuality-enhancing arginine from nuts, I stand pretty much alone against hundreds or thousands of sites that promote the use of supplemental "pure" arginine to support sexual function. But it's just that there is a massive commercial interest in promoting the consumption of supplemental arginine (as well as other supplemental amino acids, junk minerals, and junk vitamins).

And because readers tend to put a lot of trust into quoted scientific articles, even if they don't fully understand them, websites that try to sell supplements go to great length in quoting scientific studies in order to… no, not in order to educate the public, but in order to sell their wares.

You get what you pay for. Because so much of the Internet is free, what comes along as information is very often just advertising copy, and spam. Quality information cannot be free, as this would contradict basic market dynamics. It's expensive to trust free information, as you will learn after having been enticed to buy bottles over bottles of expensive, useless supplements.

Appendix

I've had a reader's response on the previous version of this article, which I do want to share with site subscribers. The reader attributes the aphrodisiac power of nuts to their content in phytoestrogens, rather than arginine. Foods are, of course, complex chemical compounds, and I definitely am open to the assumption that what constitutes the sexuality-enhancing capacity of nuts must be a combination of several factors. But I do believe that arginine is a major one, as nuts not only support sexual health but also herpes non-health. And for these two aspects, the likely link is arginine.

Remember your article about how nuts seem to work well for you, but arginine supplements did not?

I was looking at the phytoestrogen (steroid-like molecules produced by plants) contents of many foods today, and one of the things I discovered is that nuts are very high in the phytoestrogen secoisolariciresinol.

Phytoestrogens exhibit estradiol-like activity in the human body. Phytoestrogens consist of three sub-classes: isoflavonoids, lignans, and coumestans. Secoisolariciresinol is a lignan.

This is significant because many phytoestrogens, including secoisolariciresinol, bind with the sex hormone-binding globulin, SHBG, competing with testosterone for binding sites, causing more of the serum testosterone in your blood to become bio-available, or in other words more free testosterone. Thus foods like nuts have the effect of increasing free testosterone.

This is probably why you see a benefit from consuming lots of nuts, and do not see the same benefit when consuming an equal amount of arginine to the amount you would get from nuts. It is probably because it had nothing to do with arginine content.

Foods with high secoisolariciresinol content per unit weight include flaxseed, berries, guava, green tea, black tea, some citrus fruits, cabernet sauvignon wine, broccoli, garlic, sunflower seed, walnuts, and hazelnuts in order of highest to lowest. Of course, as you point out, the amount one would consume of various foods ordinarily

would vary greatly - you would consume a few milligrams of tealeaves in a tea, but many grams in a serving of broccoli. When taking typical serving size into account, broccoli appears to be the most active food in this regard. Flaxseed and linseed have unusually high levels - 500 times higher than anything else.

A tablespoon of linseed or flaxseed oil every day would have a strong effect. [I have read that the secoisolariciresinol in linseed is lost in the extracted oil. I have also found no support for the assumption that linseed, as oil or as seeds, would work as aphrodisiac. – Serge]

Many oilseeds and cruciferous vegetables also contain two other phytoestrogens abundantly, daidzein and genistein, which are also estradiol-like in their activity.

Some isoflavones, a sub-class of isoflavonoids, are known to be aromatase inhibitors (e.g. chrysin), which also increases free testosterone and DHT levels. Isoflavones affect a number of things in the body in addition. Some interfere with 5-alpha reductase, and therefore inhibit DHT production as well.