Introduction to Nitric Oxide

Are you dealing with? High blood pressure, erectile dysfunction, maybe fatigue, insomnia, or just inflammation throughout your body? You may need nitric oxide in your life.

You see, nitric oxide is a powerful mediator in cell to cell communication, and it plays an essential function in a whole lot of different bodily functions, including inflammation, including blood flow to different areas of the body.

And it may improve your health in a lot of different ways. And in this video, you're going to learn about what nitric oxide is. You're going to learn about the signs and symptoms of poor nitric oxide levels.

And I'm going to go over the different forms of nitric oxide. You're going to learn about the benefits of nitric oxide and understand the causes of low nitric oxide, which may be at the root of a lot of the issues you're dealing with.

I'm also going to share my top strategies to increase your nitric oxide levels so you can have better blood pressure, better libido, better skin health, better energy, sleep, and less pain.

And finally, I'm going to go through why you should not be using spinach, beetroot or L-arginine supplements as they can actually cause more problems.

So let's get into it. Let's start with what is nitric oxide?

What Nitric Oxide Does in the Body

It's a mix of gases that are made up of nitrogen and oxygen, and it acts as a messenger mediator that plays a critical role in cell to cell communication.

It also plays an essential function in and a whole whole lot of different processes, including inflammation and blood flow. And it's one of the most important molecules for your blood vessels.

And it stimulates something called vaso dilation, which refers to the widening of your blood vessels. And that allows your blood to flow easier with less pressure in the blood vessels.

That's why it plays such an important role in overall blood pressure. So if you have high blood pressure, oftentimes as a sign of low nitric oxide levels.

So what are some other signs and symptoms of poor nitric oxide levels. While inflammation in general chronic inflammation insomnia trouble sleeping fatigue, anxiety, erectile dysfunction because you're not getting enough blood flow down into that area, and low libido for women as well, because they're not getting enough good blood flow into their, into their major areas that are involved with libido and erectile function and then aging skin in general.

If you're noticing that your skin is aging faster than it normally should, it's a sign of poor blood flow to those areas, which could be a nitric oxide issue.

Now, there are three different forms of nitric oxide neuronal, nitric oxide, endothelial and inducible neuronal. Nitric oxide is It's an enzyme found primarily in the neurons, and it's involved in neurotransmitter release, nerve cell development, synaptic plasticity, and the regulation of blood flow in the brain.

So that's obviously really critical for nervous system functioning. Good good healthy brain function. Right. Endothelial nitric oxide also known as endothelial Noz or Inas or Noz three.

It's another main form of nitric oxide. It has to do with er a form that helps relax the blood vessels and reduces platelet aggregation. So it reduces blood clotting.

That way when you have good endothelial nitric oxide that improves blood pressure, reduces inflammation and improves circulation into the deep areas of your body.

That's going to enhance cellular and mitochondrial function.

Signs of Low Nitric Oxide

Now inducible nitric oxide very important third form of nitric oxide. Unlike its counterparts, inducible nitric oxide is actually a harmful enzyme. It may be one of the main contributors to health conditions affecting the cardiovascular system, including things like atherosclerosis and heart disease.

So it's actually reactive causes more inflammation in the blood vessels. So our goal is to optimize the neuronal and endothelial nitric oxide production while reducing the inducible nitric oxide production.

Makes sense right. We want better blood flow to our brain and to all our major organs and less inflammation in our system. So that's the key here. Now let's go over what we need to do here.

And really all the benefits of nitric oxide. We know it improves blood pressure and endothelial function. In fact, according to a 2014 study published in the Journal of Clinical Hypertension, only one dose of oral nitric oxide supplement may help to reduce blood pressure, boost vascular compliance, and improve endothelial function in those with high blood pressure.

Nitric oxide helps to make your blood platelets less sticky, and as a result, according to studies, it decreases the risk of blood clots. That's a good thing.

Nitric oxide is also critical for your brain health and cognition. It serves a particularly crucial role within your central nervous system. Studies have shown that healthy nitric oxide levels in the brain reduces the risk or the progression of neurodegenerative conditions like Alzheimer's and dementia.

The Three Forms of Nitric Oxide

And a 2015 study published in Functional Neurology showed that a reduction in nitric oxide levels may increase the risk and worsen the progression of Alzheimer's disease and other neurodegenerative diseases.

So very important for the brain. It also very important for libido and erectile function. In fact, nitric oxide is essential for sexual function. It helps to relax the smooth muscles in the penis and increase blood flow, which is necessary for experiencing and maintaining an erection with age and inflammation.

Nitric oxide synthesis reduces and that decrease leads, reduce blood flow, and can cause erectile dysfunction. So as people age, they have less nitric oxide, less blood flow, more erectile dysfunction.

But there are things we can do to improve that which we're going to go through throughout the video. Now, high blood pressure is also a major cause of erectile dysfunction.

And of course, we know nitric oxide helps improve blood pressure and circulation. So it improves erectile dysfunction for women. Nitric oxide is incredibly important for libido and feelings of sexual pleasure.

This is good because good circulation is one of the most important factors involved in good sexual experiences. It's also a sign that your heart is working well, that all your organ systems are working well.

So if your libido is good, you're able to experience good sexual experiences as a sign of good circulation in your body and good nitric oxide levels. And if it's not, it's a sign that there's problems there.

Now, nitric oxide is also important for immune function, and it's made by macrophages as a toxic defense molecule that helps kill pathogens and stop their replication virus like viral replication.

Parasitic replication. Due to better circulation, a healthy nitric oxide level provides it improves your skin health, reduces fine lines and wrinkles, and improves collagen production and the health and the glow of your skin.

I mean, who doesn't want that? It also improves energy levels and athletic performance. So what were some of the causes of low nitric oxide levels? Well, you can develop nitric oxide deficiency or lower than normal levels of nitric oxide for a variety of reasons, including being exposed to mycotoxins in the food.

Like things like corn, peanuts can be high in mycotoxins or in the air if you're in a moldy home or if you're exposed to heavy metals, right? That also will deplete your nitric oxide levels as well as other industrial toxins.

Health Benefits of Nitric Oxide

Things like flame retardants of, furniture, industrial solvents, pesticides and herbicides, all that can affect your nitric oxide levels. Most individuals are going to benefit from doing things to improve their nitric oxide levels, especially if you're over the age of 40.

Then you're going to particularly benefit from a nitric oxide boost. And some conditions to see the most benefits include those suffering from poor immune function, people with insulin resistance or trouble losing weight, people with arthritis and joint pain, fatigue, insomnia or sleep issues, brain fog, poor memory, erectile dysfunction, high blood pressure, low libido and glaucoma.

They're all going to benefit from doing things strategically to boost nitric oxide levels. So let's talk about those things. Number one is a blood sugar stabilizing nutrition plan.

What does that look like. It looks like a high protein diet consuming 30 to 50g of high quality protein with each meal. It looks like adding in healthy fats.

So that's going to be things like avocados, high polyphenol extra virgin olive oil, grass fed butter, all that's going to be really helpful. And then colorful fruits and vegetables, in particular, fruits and vegetables that are high in nitrates.

And there are many foods that are high in nitrates. And those nitrates are then converted into nitrates by bacteria and enzymes in the mouth when you're chewing them.

What are the high nitrate food or nitrate foods, I should say. Because again it goes from nitrate. So nitrate to nitrate and it are it. So the high nitrate foods are going to be things like beets, arugula, chard, lettuce, spinach and dive and other leafy greens, things like broccoli, radishes Chinese cabbage, carrots, cauliflower, leeks, fennel, turnips, parsley, dill, oranges, bananas and pomegranates all high in these nitrates.

Now, when you look at that list, my favorites are the low oxalate veggies. Now what are oxalates? They're plant compounds plant defense chemicals that for some individuals they don't metabolize them well.

They don't have a type of bacteria in their gut called oxygen factor for meninges that metabolizes and breaks down and eats the oxalates. And therefore the oxalates actually get into their bloodstream and can cause neurological issues, can cause kidney stones.

You know, the most common kidney stone is a calcium oxalate kidney stone. It's that oxalate compound. It can cause gut dysfunction. So for people that are sensitive to oxalates, let's stick with low oxalate, high nitrate foods.

That's going to be things like arugula one of my favorite plants. High and nitrates low in oxalates. Broccoli is a good one. Radishes carrots cauliflower, parsley, leeks, dill, oranges and pomegranates.

Now arginine a lot of people when it comes to nitric oxide we'll talk about arginine. And that's key. That's an amino

acid that's needed by your body to create nitric oxide.

It's generally found in high protein foods including grass fed beef, wild caught fish, pasture raised eggs, organic yogurt and cheeses, as well as the algae spirulina.

Causes of Low Nitric Oxide

So getting arginine really just by eating high protein foods is going to be key. Now, supplementing with arginine is really controversial and I'm going to talk about that at the end of this video.

But before we get into that, start focusing on regular movement and exercise, because that's super critical for good nitric oxide production. So go out and get walks in, do strength training.

Movement is key for good nitric oxide levels. Get walks in every single day. Try to get 10,000 steps in a day. Do strength training 3 to 4 days a week to build lean body mass, good muscle and bone tissue.

And that's going to help with nitric oxide levels. You also want to reduce stress and improve sleep right. So practice gratitude. That can be really key.

Get out in the sun. Regular sun exposure is super important. And also do things to help improve sleep. So after dark, try to do your best to limit blue light exposure.

Put on blue light blocking glasses. Dim the lights in your house. Try to get to bed at a good time. Keep your room cool with no overhead fan or some sort of kind of moving air that can really help a good sleep quality.

So do do. What do you have to do to really optimize good sleep? I've done a lot of different videos and podcasts on that, so do whatever you can to optimize your sleep. That's going to help with nitric oxide levels.

Now regular sun also really key in fact UV light. So getting out around the midday UV light naturally naturally activates nitric oxide levels in your blood right?

Endothelial as well as neuronal nitric oxide levels. So getting out midday sun you're getting that UV light which will also stimulate vitamin D. But on top of that will stimulate nitric oxide production for better blood flow.

Diet and Lifestyle Strategies

In your system. So get regular sun exposure, get ten, 15 minutes, you know, in the middle of the day and go take a walk. And that way you're getting the movement and the sun.

Now, what are some supplements that can be helpful? One of the most helpful is actually omega three fatty acids. A 2022 study published in the journal nutrients found that that omega three fatty acid fatty acids that improve nitric oxide production by increasing arginine levels in the blood.

So you weren't the person wasn't taking arginine, they just took the omega threes, but actually increased arginine and nitric oxide production. According to the study, taking three grams of omega three supplements for 12 weeks helped to improve the nitric oxide levels.

This is because most people they're not getting enough omega threes in their diet, so eating wild caught sockeye salmon eating grass fed beef can be some of the best ways to get high quality omega threes.

And you can also supplement with a really good purified omega three supplement or something like Wild Salmon Row or or Fish Row or something along those lines.

And that can also be a really good form of omega threes. You also want to improve B vitamins, especially vitamin B6, folate and vitamin B12, which are all methylated agents that impact homocysteine levels.

You see, homocysteine is an inflammatory, byproduct of, neurotransmitter production, right? So when our body is actually metabolizing methionine, this amino acid, it will produce homocysteine.

Homocysteine should be converted into something called Sammy, which is like the master precursor to serotonin and dopamine. And also homocysteine can be can be metabolized into glutathione, which is our body's master antioxidant.

But if we don't have enough vitamin B6, folate, B12, as well as magnesium and zinc, then we can end up with high homocysteine, which damages a blood vessel walls, causes atherosclerosis, and lowers nitric oxide production.

So B vitamins are key. Magnesium is really important for increasing nitric oxide and improving circulation. You also want to consider potassium. That really helps.

Vitamin C is also very important. And bio flavonoids all of those help improve nitric oxide production. So lemon if you were to take a lemon and squeeze it in water, it's going to have potassium, it's going to have vitamin C and it's going to have citrus bile flavonoids.

Again, all that helps improve nitric oxide production is why I'm a huge advocate of doing something like fresh squeezed lemon juice in the morning. Warm lemon juice in the morning can be really, really helpful and lukewarm or, or drinking it like, almost like a tea can be really, really helpful.

Okay. And that and that will help with nitric oxide production. Also the lemon itself is bitter. And that's going to stimulate better bile flow and activate peristalsis.

So you can move out toxins from your gut. Now nitric oxide supplements. Let's take a moment here.

Helpful Nutrients and Supplements

Some of you guys are considering supplements for nitric oxide levels. You may already be taking them. What are the best options? Well, I would say the most common options are going to be either beet or spinach based products.

Because of the nitrates, high nitrate levels in the beets and the spinach. But the problem is they're also high in oxalates, very high in oxalates, and so they're not the best form.

Some people have felt good taking them, and that's fine. If you do feel good, continue with that. That's totally fine. But it's not my ideal approach.

And the reason why is, again, high oxalates in beets and spinach. Now a lot of other people will take L-arginine, that amino acid. Right. And that has been shown actually to not be effective in people over 40 on top of that higher arginine.

When you're when you're supplementing with arginine without lysine, this other amino acid, it actually increases viral activity in your system. You might have dormant viruses like I've seen bar that are in your system.

They can become reactivated when you're taking a lot of L-arginine because they love arginine. And again, it can cause an increase in viral activity, causing you not to feel as good.

Also, L-arginine is less effective in older adults. You see the enzyme responsible for converting L-arginine to nitric oxide. It becomes less efficient as you age and so it's harder to convert that.

So in the studies, taking L-arginine works to boost nitric oxide in young individuals, particularly young men, but not for people over 40. So it's really not the most effective way.

Also, on top of that, older adults have higher levels of something called a DMA. And that's important to note as well.

Higher levels of asymmetric di methyl arginine or a DMA inhibit endothelial nitric oxide and reduce overall nitric oxide production.

You see, the arginine paradox is that even with sufficient L-arginine, the enzyme might be saturated, potentially limiting further nitric oxide production.

So again, arginine really not the best strategy. Now there are some studies in animal models and older patients with conditions like heart disease that have shown that long term L-arginine supplementation can actually have detrimental effects on endothelial function and even increase mortality risk your risk of dying.

So I don't recommend supplementing with L-arginine. L Citrulline is actually a much better alternative.

Why to Avoid Common Nitric Oxide Supplements

L Citrulline is converted to L-arginine in the body, and that bypasses some of the issues associated with L-arginine supplementation directly. So if you're going to supplement with amino acid, do the L citrulline for nitric oxide.

Now, my favorite supplement is something we call nitric oxide powder. So breaking down all the science we took the best ingredients. It contains arugula right high and nitrates low in oxalates.

It also has potassium nitrate, magnesium, vitamin C, citrus bile, flavonoids, and methylated folate and B12, as well as vitamin B1 and zinc, all critical for nitric oxide production.

That product was formulated by one of the top nitric oxide researchers and developed to immediately boost nitric oxide levels. Most people notice a difference in their blood flow, energy levels, libido, blood pressure, and cognition within a day or two of starting this.

If you want to check out the nitric oxide powder, just check it out in the links below this video or podcast, and we'll have a special offer there for you.

But ultimately, I hope you guys learned the importance of nitric oxide today. The best foods for supporting nitric oxide levels and what you don't want to supplement with, and what would be the better forms of supplementation.

We talked about low oxalate, nitrate rich foods, right. We also talked about L Citrulline.

Best Supplement Approach and Wrap-Up

We talked about things like potassium, vitamin C, bile, flavonoids, all super critical B vitamins, all super critical for good nitric oxide levels, good circulation and good blood flow.

Guys, share this with somebody you know and you care about and we'll see you in a future video training. Be blessed.