The Nitric Oxide Solution: A Natural Approach to Kidney Health and Blood Pressure Transcript

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Nitric Oxide and the Kidney-Blood Pressure Cycle

This decline creates a problematic cycle. Lower nitric oxide leads to narrower, stiffer vessels. This increases blood pressure, which puts strain on the kidneys.

Damaged kidneys then struggle to maintain nitric oxide production, further worsening blood pressure. It's a downward spiral that conventional medicine often addresses by simply prescribing blood pressure medications without addressing the underlying nitric oxide deficiency.

This is Doctor Talks, real talk from real doctors on the issues that matter to you most. Welcome back everyone. I'm Dr. Basmarifan and today we are diving into something that could be absolutely transformative for those of you dealing with kidney disease, high blood pressure or both.

While talking about nitric oxide, a molecule your body produces naturally that plays an incredible role in kidney health and blood circulation. What's fascinating is that many people with chronic kidney disease and hypertension actually have depleted nitric oxide levels, which creates a vicious cycle that can worsen both conditions.

Let me start by explaining what nitric oxide actually is. It is a signaling molecule that your body produces primarily in your inner lining of your blood vessels.

Think of it as a messenger that tells your blood vessels to relax and dilate, allowing more blood to flow freely. When your nitric oxide levels are optimal, your blood vessels remain flexible and elastic and dilated.

Blood flows easily delivering oxygen and nutrients throughout your body.

What Nitric Oxide Does in the Body

Your kidneys receive adequate blood flow which is crucial for them to filter waste and maintain proper function. But here's where things get interesting and concerning.

As we age or when we develop conditions like diabetes, high blood pressure, kidney disease, our nitric oxide production often decreases significantly.

By age 40, most people produce only about half the nitric oxide they did in their 20s. By 70, they are down to about 15%. And if you have kidney disease or hypertension, these levels can drop even further.

This decline creates a problematic cycle. Lower nitric oxide leads to narrower, stiffer vessels. This increases blood pressure, which puts strain on the kidneys.

Damaged kidneys then struggle to maintain nitric oxide production. further worsening blood pressure. It's a downward spiral that conventional medicine often addresses by simply prescribing blood pressure medications without addressing the underlying nitric oxide deficiency.

That reminds me of a patient who came to me in his 60s who came at the kidney institute with stage 3 kidney disease and persistently high blood pressure despite taking three different medications.

When we tested his nitric oxide levels through a salivary test, they were severely depleted. We implemented a comprehensive nitric oxide restoration protocol and within three months his blood pressure had not only stabilized, his energy had improved and most remarkably his kidney function began to show signs of improvement and he was

off two of his blood pressure medications.

Why Nitric Oxide Declines With Age and Disease

His primary care doctor was surprised to see that where he was struggling with his blood pressure with three medications, now his blood pressure is stable with just one blood pressure medication.

Now I want to be clear that I'm not suggesting that nitric oxide is some miracle cure or that you should stop your medications, but what I'm saying is that addressing nitric oxide deficiency can be a powerful complementary approach that may help outcomes and potentially reduce medication needs for some people.

So how exactly does nitric oxide help kidney health? There are several key mechanisms. First, nitric oxide is a powerful vasodilator that helps maintain healthy blood flow to and within the kidneys.

This ensures adequate filtration and kidney function. Second, it has anti-inflammatory properties. Chronic inflammation is a major driver of kidney disease progression and nitric oxide helps dampen this inflammatory response.

Third, it has anti-fibrotic effects. Kidney fibrosis, essentially scarring of kidney tissue, is a hallmark of progressive kidney disease. Research shows that nitric oxide can help reduce this fibrosis, potentially slowing down progression.

Fourth, it helps balance oxidative stress. Your kidneys are highly susceptible to damage from free radicals and nitric oxide helps neutralize these harmful molecules.

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And fifth, it helps regulate mitochondrial function and lipid metabolism in kidney cells, which is crucial for overall kidney health.

How Nitric Oxide Supports Kidney Health

For hypertension or high blood pressure, nitric oxide works through several fascinating mechanisms. the primary pathway and this gets a bit scientific but stay with me.

It is called nitric oxide ENOS SGC CGMP pathway. Let me break this down. Nitric oxide activates an enzyme called soluble gunelite cyclase SGC which then produces cyclic GMP.

This messenger molecule causes the smooth muscle in your blood vessels to relax. leading to vasodilation and lower blood pressure. Research has shown that increasing nitric oxide bioavailability through various interventions directly activates this pathway and improves endothelial function, the health of the inner lining of your blood vessels.

So nitric oxide also works through a process called S-nitrosylation where it modifies specific proteins that control blood vessel constriction. For example, it can modify an enzyme called calcium comodulin-dependent protein kinase 2, which reduces your blood vessels' response to adrenaline-like substances that would normally cause them to constrict.

This means your blood vessels stay more relaxed even during stress. Another powerful way nitric oxide helps lower blood pressure is by reducing oxidative stress.

It inhibits an enzyme called NADPH oxidase which produces harmful free radicals that contributes towards hypertension. By keeping this enzyme in check, nitric oxide preserves its own availability and prevents blood pressure from rising.

Dietary nitrate supplementation like beetroot juice has been shown to reduce blood pressure by actually decreasing the activity of your sympathetic nervous system.

How Nitric Oxide Lowers Blood Pressure

your body's stress response system and normalizing the expression of angiotensin 2 receptors in the brain. Angiotensin 2 is a powerful blood vessel vasoconstrictor, so reducing its effects helps keep blood pressure lower.

And finally, nitric oxide helps your kidneys excrete more sodium rather than reabsorbing it. which can lower blood volume and blood pressure. Now the exciting part is they are natural evidence-based ways to boost your nitric oxide levels.

Let me share the most effective strategies. The first and perhaps the most powerful approach is dietary. Nitrate rich foods are converted to nitric oxide in your body.

The stars here are leafy greens and beets. Arugula, spinach, kale, swiss chard and beets contain high levels of dietary nitrates that your body can convert to nitric oxide.

Just 100 grams of arugula, about 2 cups contain more nitrates than almost any other food. But here's something crucial to understand. The conversion of dietary nitrates to nitric oxide requires healthy oral bacteria.

Antibacterial mouthwash can actually kill these beneficial bacteria and reduce nitric oxide production by up to 90% within just a few days of use. So if you're trying to boost nitric oxide, consider avoiding antibacterial mouthwash or using it very sparingly.

The other thing to remember is that sometimes these produce have oxalates in it. And if your kidneys are sensitive to oxalate, then that may also not be the right approach.

The second thing is regular physical activity. Exercise is one of the most reliable ways to boost nitric oxide production.

Natural Ways to Boost Nitric Oxide

It releases the sheer stress of blood vessel walls, which stimulates nitric oxide release. Even moderate activity like brisk walking for 30 minutes can have significant benefits.

But remember, with kidney disease, always discuss exercise plans with your physician. The third approach is addressing vitamin and mineral deficiencies.

Several nutrients are essential for nitric oxide production including Vitamin C, which helps stabilize and extend the life of nitric oxide in your body.

Vitamin E, a powerful antioxidant that protects nitric oxide from degradation. Vitamin D, which many kidney patients are deficient in and which supports nitric oxide synthesis.

magnesium which activates the enzyme that produces nitric oxide, zinc which helps maintain the enzymes involved in nitric oxide production. The fourth approach involves supplements that directly support nitric oxide production.

These include L-arginine and L-citrinine amino acids that are precursors to nitric oxide, beetroot powder or juice and a pine bark extract that has been shown to enhance nitric oxide production.

However, and this is important, with kidney disease you have to be extremely careful with supplements as many supplements contain unnecessary fillers or even harmful ingredients or it could be full of oxalates which could harm your kidneys.

The fifth approach involves lifestyle modifications that protects your nitric oxide levels. Manage stress as chronic stress depletes nitric oxide. Get adequate sleep as poor sleep reduces nitric oxide production.

Avoid excessive sitting as prolonged inactivity inhibits nitric oxide release. Reduce exposure to air pollution which can damage the cells that produce nitric oxide.

Consider intermittent fasting, which some studies suggest may enhance nitric oxide production. Let me also mention what depletes nitric oxide so you know what to avoid.

Processed foods, especially those high in added sugars. Excessive salt intake.

Testing, Starting Protocol, and Key Takeaways

smoking, which is particularly damaged to nitric oxide production, chronic stress, poor sleep, certain medications, though never stop or change medications without consulting your doctor.

Now let's talk about testing. There are several ways to assess your nitric oxide status. Direct test measures nitric oxide metabolites in your blood or saliva.

Indirect tests evaluate endothelial function which reflects nitric oxide activity. Flow mediated dilation test measures how well your blood vessels dilate in response to increased blood flow.

Specialized labs can conduct more comprehensive assessments. At Kidney Institute, we include nitric oxide assessment as part of our comprehensive evaluation.

because we understand how central it is to both kidney function and blood pressure. So here is a simple starting protocol you might consider discussing with your doctor.

Incorporate one cup of leafy greens and one small beet into your daily diet. Aim for 30 minutes of moderate physical activity most days. Consider supplementing with vitamin C if appropriate for your kidney stage.

Practice stress reduction techniques like deep breathing or meditation daily. Ensure adequate quality sleep. And there is a supplement that has nitric oxide which is oxalate free.

Comment below if you want to get more details about it. I believe this approach could be transformative for many people suffering with kidney disease and hypertension.

By addressing the underlying nitric oxide deficiency that contributes to both conditions, we may be able to break the cycle and create an environment where healing becomes possible.

Remember, the journey to better health isn't about quick fixes. It's about addressing root causes and giving your body what it needs to function optimally.

Nitric oxide is one piece of that puzzle but it's an important one that deserves more attention than it typically receives in conventional medical settings.

I hope you found this information valuable. Remember addressing nitric oxide levels is just one aspect of a comprehensive approach to kidney health and blood pressure management but it is important one that deserves more attention than it typically receives Bye now.

Thank you for tuning into Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices that empower your well-being.

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