



Nitric Oxide Discussion

November 2018

NITRIC OXIDE – AGING AND YOUR HEALTH:

It's hard to argue with the old adage that aging is better than the alternative, but at the same time, aging is even better when we have our health. There are things we can do to improve the odds of that happening, and the sooner we start the better.

There isn't a moment when we aren't aging: The process begins at conception. With that idea in mind, we should be laying a foundation for healthy aging as early as possible. Unfortunately, most of us wait until a health problem surfaces before we start thinking about exercise, diet, and other lifestyle choices that can help keep us healthy. At that point, we're often forced to treat health problems rather than prevent them.

THE UNDERLYING CAUSES OF AGING & CARDIOVASCULAR DISEASE:

So, what exactly causes unwanted symptoms of aging as the years progress? Currently, researchers believe the process can be traced to four tiny things that can have a huge impact on our bodies.

1 | OUR CHROMOSOMES: The ends of our chromosomes — twisted strands of our DNA — are protected by small sections called telomeres. Think of the telomeres as the plastic tips on our shoelaces that protect the laces from fraying. As time goes by, the sections shorten, leaving the chromosomes more vulnerable and putting us at greater risk of age-related diseases.

2 | OUR MITOCHONDRIA: Known as the "powerhouse" of the cell, mitochondria provide the critical energy our cells need to do their jobs. We have over 100 trillion cells, and each cell can have up to 200 little energy motors called Mitochondria. They stop functioning properly (as occurs with age) and can be linked to numerous health and age-related problems. They include dementia, cardiovascular disease, stroke, autoimmune diseases, and even tumors.

3 | OUR STEM CELLS: The cool thing about stem cells is their ability to transform into any type of specialized cell in the body, from nerve cells to liver cells to muscle cells. This function is important because we need stem cells to replenish the cells in our tissues and organs that constantly need replacing. However, when our stem cells lose the ability to replenish themselves (replacement should take place every 90 days), our tissues and organs begin to show signs of aging.

4 | OUR ADMA DESTRUCTIVE DNA MOLECULE: ADMA is a pro-atherogenic molecule which causes plaque buildup in the arteries. This name ADMA comes from Asymmetric dimethylarginine. Patrick Vallance and his London co-workers first noted the interference role for asymmetric dimethylarginine in the early 1990s. Today biochemical and clinical research continues into the role of ADMA which is the major cause of cardiovascular disease, diabetes mellitus, erectile dysfunction and certain forms of kidney disease.

The conditions listed here are the results of the ADMA.

1. LDL Oxidation
2. Vasodilation
3. Platelet Aggregation
4. Superoxide Radical Elaboration
5. Smooth Muscle Cell Proliferation
6. Monocyte Adhesion
7. Platelet Aggregation

NITRIC OXIDE (NO) TO THE RESCUE:

While it's easy to feel we're powerless to do anything about the inner workings of our bodies at such a miniscule level, there are things we can do to help protect healthy function. Most people know that nutrition, rest, and exercise all play roles in promoting health and reducing the risk of age-related illnesses. But few are aware that we have another resource to help us age gracefully: **Nitric Oxide (NO)**.

Protecting and Reversing Cardiovascular Disease: **Nitric Oxide** is one of the most important molecules in the body and specifically so in the blood circulation. Nitric oxide (NO) was discovered in the 1980s, and the scientists who made this discovery were awarded the Nobel Prize in Medicine and Physiology in 1998; because, by that time, it had become clear that NO is a unique protector of cardiovascular health. A multitude of cardiovascular diseases arises from lack of nitric oxide (NO). **Hypertension, atherosclerosis with heart attack and stroke, and chronic heart failure** are the most obvious ones. However, other ailments may also result from it, like loss of memory, asthma, and organ dysfunction of the liver, kidneys, intestines, penis and more.

The ADMA destructive molecule in your cardiovascular system is neutralized by Nitric Oxide; however, the formula of arginine is most important. The ratio of arginine to citrulline is the secret to sustained production of Nitric Oxide, that knowledge took 20 years of research. You must have Nitric Oxide 24-7 to have it be effective. We have a blood test for validating if you are offsetting the ADMA.

Arginine Miracle with Dr. Rainer Boger's research has come up scientifically with a **unique, new formulation representing the first "third-generation" L-arginine supplement.**

We have continued our research efforts during many years and built a new formula that allows us to address all four reasons why there may be too little NO in the body. The unique combination of L-arginine plus L-citrulline and a proprietary blend of natural, herbal extracts with scientifically-proven efficacy, is currently being brought to market. **This whole new third scientific generation of L-arginine is going to revolutionize the market for cardiovascular and heart disease prevention and repair. No other product even comes close to doing what Arginine Miracle can do.**

OUR NEW, SCIENTIFICALLY-PROVEN FORMULA CAN:

- 1 - Enhance NO production by adding L-arginine plus L-citrulline in proper ratios**
- 2 - Increase the power of the biological effects that second-generation L-arginine supplements have on Nitric Oxide (NO)**
- 3 - Enhance the gene expression of the enzyme that makes NO (NO synthase)**
- 4 - Reduce the inhibitory effects of oxygen radicals on NO**

With this broad spectrum of high-power biological activity, it is a unique L-arginine formula. It is the only product that has been scientifically proven to address all four causes for NO deficiency at the same time. It is more than twice as effective in Nitric Oxide production as any product on the market. All other products on the market can not address the last two issues (3) & (4), which is the reason they are ineffective. **Your destructive ADMA molecule will be neutralized with Arginine Miracle's powerful Nitric Oxide production.**

We have a blood test to evaluate the offset. Everybody's ADMA is different; it is genetic - from your parents. Once you know the amount of Nitric Oxide being manufactured and absorbed in your body, then and only then will you know if you are offsetting the damage in order to be disease free. The test will tell you that. Your anti-aging and cardiovascular disease is a function of your Nitric

Oxide level. Arginine is your only solution, no pills with Nitric Oxide works and test strips are totally worthless. Testing Nitric Oxide in your saliva is a zero. Only in your blood does it count, and that is all science based. Arginine can only turn into Nitric Oxide in your blood because of the endothelium organ in your blood vessels. That discovery is why the Nobel Prize for medicine was awarded in 1998. Nitric Oxide pills will turn into Nitrites, and Nitrates in your gut will never be turned into arginine or Nitric Oxide in your blood. Again, testing saliva is worthless says Dr. Boger.

PROTECTING CHROMOSOMES: Remember those telomeres that help keep our chromosomes intact? It turns out there's an enzyme — telomerase — that protects the telomeres and extends their lifespan. Even better news: Nitric Oxide (NO) is the signaling molecule that regulates telomerase activity. In other words, NO boosts your body's natural mechanisms for keeping chromosome protection intact. Arginine Miracle helps in every way to protect and increase your telomeres. With good life style choices, resveratrol, curcumin, L-arginine, L-citrulline and Co-Q10 you can stay ahead of the curve of slowing down the aging process. All these ingredients and many more are in Arginine Miracle.

EXTENDING BATTERY LIFE: While dysfunctional mitochondria is linked to many age-related diseases, Nitric Oxide can stimulate the production of new healthy mitochondria. By promoting the development of new, properly functioning mitochondria with Nitric Oxide, we keep our cells running efficiently and effectively and, most importantly, replicate themselves in a healthy and vibrant manner.

REINVIGORATING STEM CELLS: Stem cells offer tremendous regenerative power — both in medicine and in the everyday renewing of our body's tissue and organs. It's no surprise to learn that NO plays a role in the signaling that tells our body both to create new stem cells (called "proliferation") and to transform stem cells into whatever specialized cells our body's need at the time (called "differentiation").

A study, built on previous work in stem cell research, was recently published in the journal Proceedings of the National Academy of Sciences (PNAS): It shows that Nitric Oxide (NO) signaling plays a very important role in the differentiation of mouse and human embryonic stem cells into other kinds of cells.

THE ESSENCE OF THE ISSUE:

While none of us particularly look forward to aging, we do have an ally. Nitric Oxide can help us remain healthy enough to enjoy the later chapters of our life. By the time we get to 60 years of age we are producing 10% of the Nitric Oxide that we were producing at 20 years of age. Want to make sure you maintain adequate NO levels? Give yourself a daily Nitric Oxide boost with Arginine Miracle. Go to www.argininemiracle.com and read all about it.

This article was predominately written by Dr. Rainer Boger, MD, #1 Researcher in the world on **Arginine/Nitric Oxide/with the 1st "Third Generation Science"** Some of the discussion has come from major universities' research on telomers and stem cells and researchers of Nitric Oxide. Go to www.expertscape.com and put in "arginine" then on next page put in "experts". Pub Med information places him as either #1 or #2 in the world out of 60,000 arginine researchers. Dr. Rainer Boger MD has over 100 peer review published articles on L-arginine/Nitric Oxide. **Arginine Miracle** has been the result of his 27 years of research which is worth reading.