

L-Citrulline is a substance called a non-essential amino acid. Your kidneys change L-Citrulline into another amino acid called L-Arginine and a chemical called Nitric Oxide. These compounds are important to your heart and blood vessel health. They may also boost your immune system.



#### DISCLAIMER

This is a report about the health benefits of natural pain relief and is provided for EDUCATIONAL PURPOSES ONLY.

The information provided in this report should not be interpreted to suggest that similar health benefits would be realized by utilizing Nutra Relief ® **NutraFlow Max Cream.** 

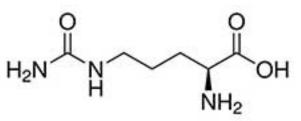
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L-Citrulline is one of three dietary amino acids involved in the urea cycle, which also includes L-Ornithine and L-Arginine. When it enters the body, citrulline is turned into arginine in the kidneys, making it a potentially beneficial supplement for increasing your arginine levels.



L-Citrulline Structure

The following report, which is backed by incredible scientific research, shows the many health benefits of increased Arginine in the human body.

Medical research has now shown that by supplementing with Arginine everyday the following benefits may be possible.



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## L-ARGININE / L-CITRULLINE



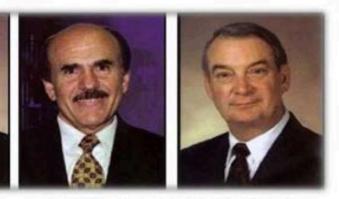
### WHAT IS **L-ARGININE L-CITRULLINE ?**

L-Citrulline is a substance called a non-essential amino acid. Your kidneys change L-Citrulline into another amino acid called L-Arginine and a chemical called Nitric Oxide.

These compounds are important to your heart and blood vessel health. They may also boost your immune system.

## **1998 Nobel Prize**



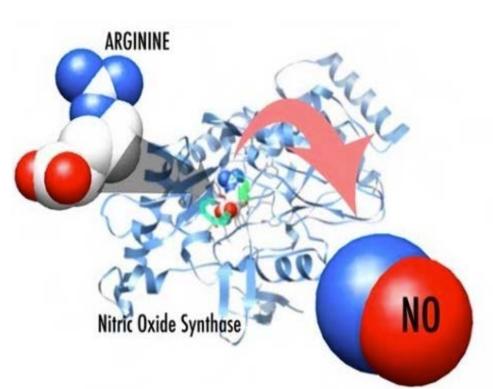


"FOR THEIR DISCOVERIES CONCERNING NITRIC OXIDE AS A SIGNALING MOLECULE IN THE CARDIOVASCULAR SYSTEM"

## L-ARGININE L-CITRULLINE

Medical research has now shown that by simply supplementing with **L-Arginine** everyday multiple benefits can occur in the following categories:

- Aging Process
- Musculoskeletal System
- Cardiovascular System
- Nervous System
- Digestive System
- Sexual System
- Excretory System
- Skin / Hair
- Immune System



# BENEFITS L-ARGININE









Lowering risk for arteriosclerosis and heart attack



Repairing blood vessels



Fighting congestive heart failure (CHF) and coronary artery disease



Helping lower high blood pressure



Improving athletic performance



Increasing immune function



Reducing muscle pains (especially in The legs caused by blocked arteries)



Improving kidney function



Improving mental capacity





Fighting dementia



Correcting impotence, erectile dysfunction (ed) and male infertility



Preventing the common cold



BLENDING THE BEST OF SCIENCE AND NATURE

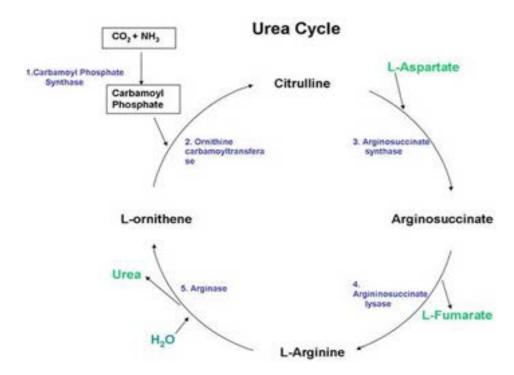
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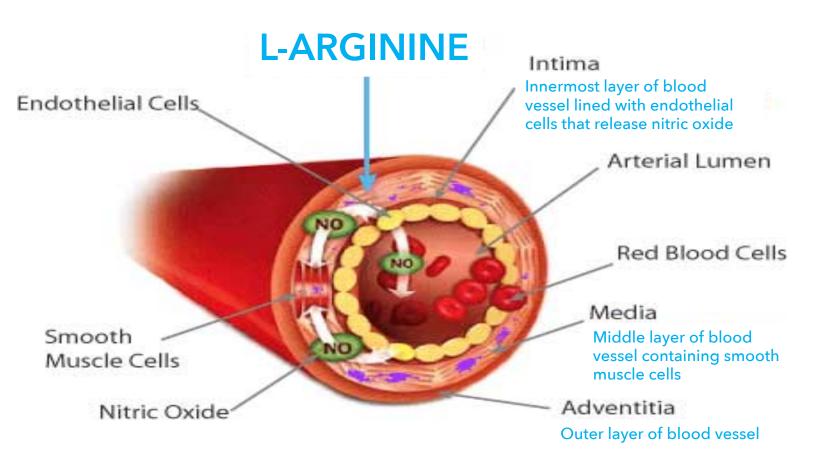
### HOW DOES L-CITRULLINE WORK?

On its own, citrulline also plays a role in the urea cycle. This cycle, which occurs in the liver and kidneys, is primarily involved with removing ammonia from your blood in the form of urea.

- As mentioned, Citrulline is an important precursor to Arginine. Arginine is then converted into nitric oxide and more citrulline by nitric oxide synthase.
- Arginase breaks down arginine directly into ornithine and urea, neither of which are involved in the formation of nitric oxide. Arginine supplements get broken down in your stomach and intestines before they can get absorbed and reach your blood.
- Taking an arginine supplement may lead to a sudden spike in arginine but that quickly tapers off. Citrulline supplements increase Arginine levels in your plasma over a longer period.



# L-CITRULLINE

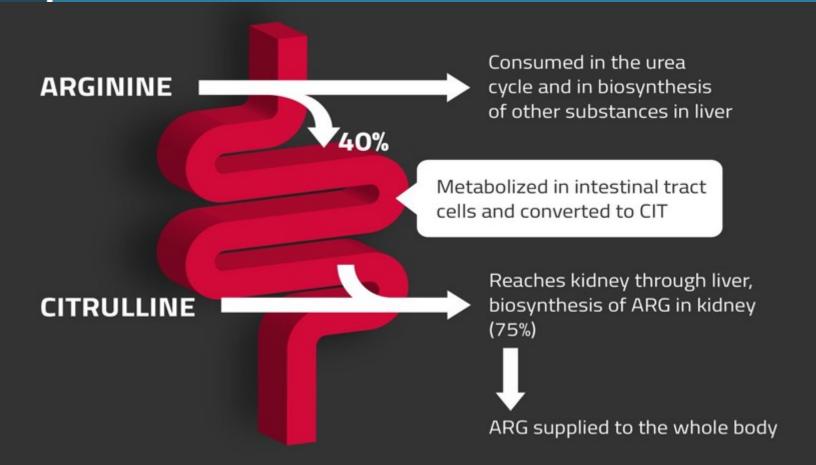


### L-CITRULLINE BENEFITS AND USES

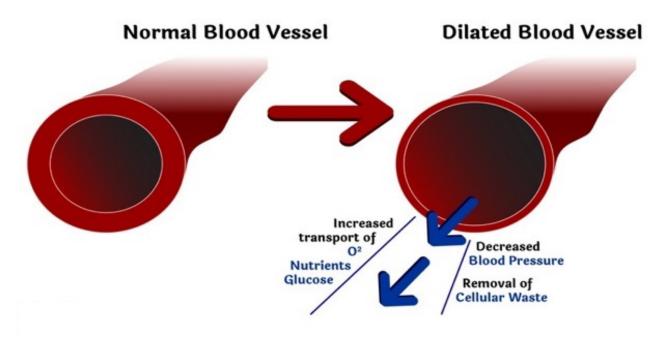
Citrulline and its potential effects on arginine levels may support cardiovascular health and overall circulation. Studies suggest L-Citrulline may promote healthy blood pressure by causing blood vessels to dilate. This increased circulation may extend to systems and organs throughout the body.



# L-CITRULLINE



## VASODILATION





### NITRIC OXIDE PRODUCTION

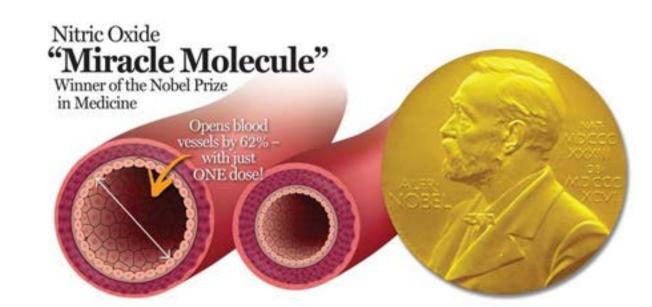
### WHAT IS NITRIC OXIDE?

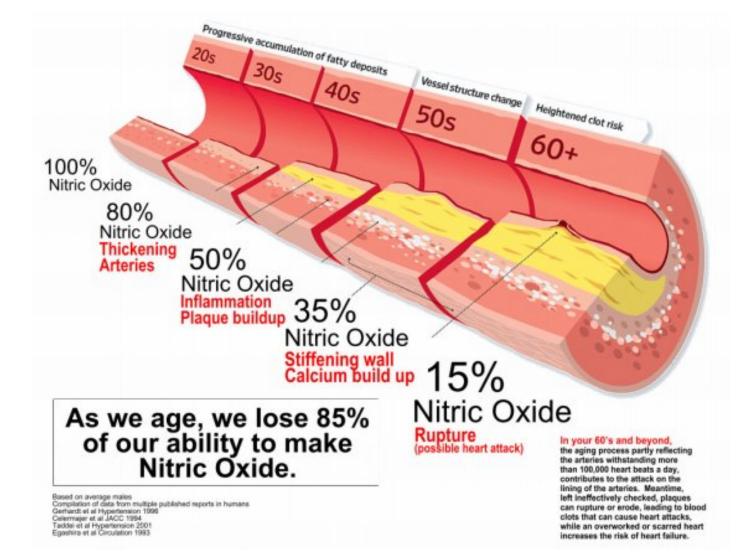
- Nitric Oxide is a molecular compound that is primarily involved in helping cells transmit signals, allowing for intercellular communication. Nitric Oxide also plays a role in circulation, further contributing to citrulline's other potential effects on blood flow. Research also shows that Citrulline may increase Nitric Oxide levels.
- Studies also show nitric oxide has a role in regulating activities in essentially all your organs. Nitric oxide may help to promote cardiovascular health and support your immune system.
- Nitric oxide is most popular among athletes for its potential muscle-building benefits. The increased blood flow may contribute to quicker muscle recovery and growth while delivering more nutrients to muscle tissue. A preliminary study on cyclists suggests that nitric oxide may improve endurance and promote longer, harder workouts by combating lactic acid buildup, the main cause of muscle fatigue during intense training exercises.
  - The potential increased circulation from citrulline and nitric oxide may also contribute to improved neural functions. Research indicates that greater circulation to the brain means more blood and nutrients to vital neural tissue, which may encourage the growth of nerve cells. This may result in improved memory, both short- and long-term, and memory recall.

In Mother Nature, NITRIC OXIDE is produced naturally during the electrical discharges of lightning in thunderstorms. In humans, NITRIC OXIDE is an important cellular signalling molecule involved in many physiological and pathological processes.

## NITRIC OXIDE PRODUCTION

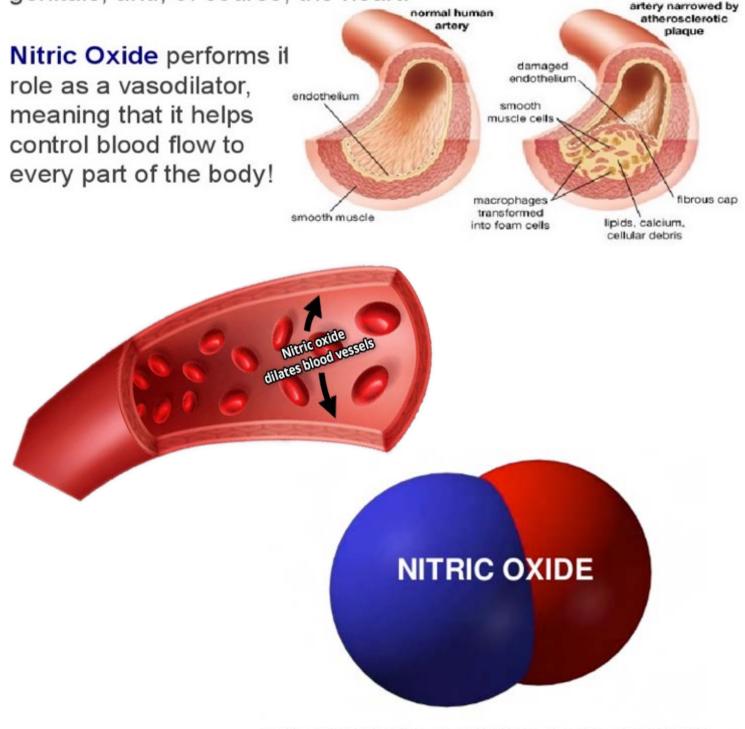
Opens Blood Vessels By 62%





## NITRIC OXIDE PRODUCTION

Nitric Oxide influences the functioning of virtually every bodily organ, including the lungs, liver, kidneys, stomach, genitals, and, of course, the heart.



N-O, produced in the endothelium, sends a signal to the smooth muscle of the blood vessels, telling them to relax and expand (vasodilator)



## 80% OF HEART DISEASE CAN BE PREVENTED

Heart Disease is the No. 1 killer of women in the United States, claiming more lives than all forms of cancer combined

#### Heart health support

L-arginine can help to support healthy heart function and circulation. Additional conditions that may be benefited by I-arginine include discomfort in the chest.

#### Exercise recovery

L-arginine may also help reduce the recovery from exercise. This use of I-arginine is often combined with eicosapentaenoic acid (EPA) and ribonucleic acid (RNA).

#### Exercise performance

L-arginine may also increase your tolerance for exercise, especially if you frequently experience chest discomfort.

#### Muscle discomfort

L-arginine is often taken to help relieve muscle discomfort. This regimen typically lasts for at least eight weeks.

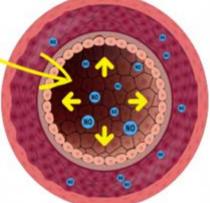
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# HEART HEALTH

## Normal Artery + L-Arginine = Healthy Artery

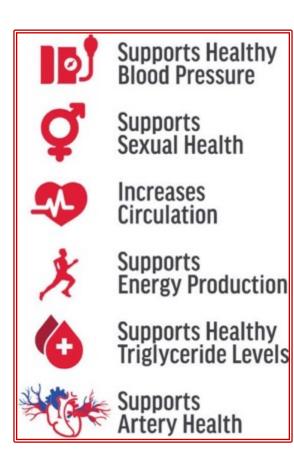
Adding L-arginine to your diet increases Nitric Oxide production in your body.



## Take Your First Step Towards...

Nitric Oxide Enlarges Blood Vessels and Increases Blood Flow

- ✓ Healthy Blood Pressure Levels
- Healthy Cholesterol Levels
- ✓ Healthy Circulation
- Everything You Need For a Lean Energetic Body!





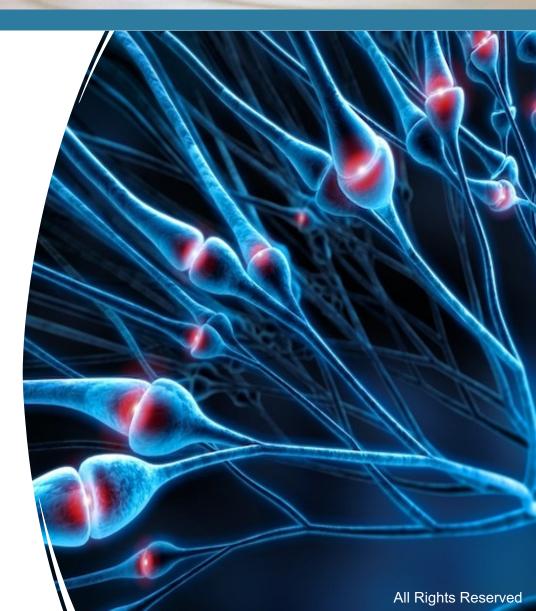


### NEUROPATHY RELIEF

### WHAT IS NEUROPATHY ?

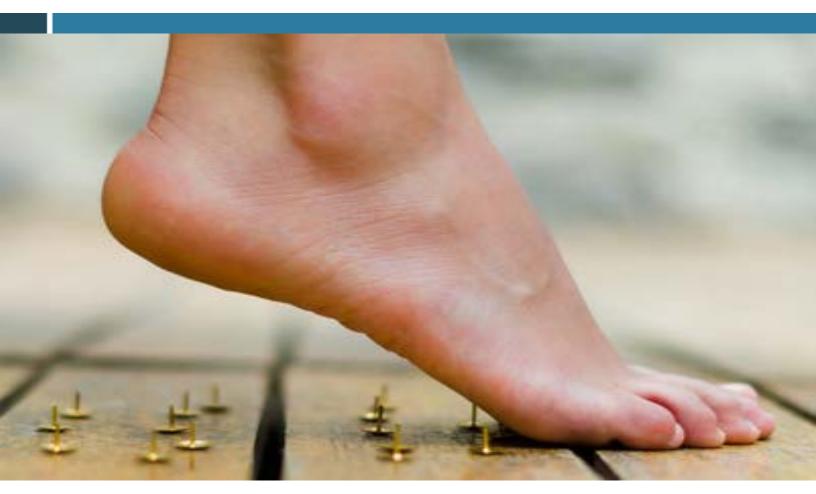
**Neuropathy** is damage or dysfunction of one or more nerves that typically results in numbness, tingling, muscle weakness and pain in the affected area.

Neuropathies frequently start in your hands and feet, but other parts of your body can be affected too.



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## NEUROPATHY RELIEF



### WHAT DOES NEUROPATHY FEEL LIKE ?

If you have neuropathy, the most described feelings are sensations of numbness, tingling ("pins and needles"), and weakness in the area of the body affected.

Other sensations include sharp, lightening-like pain; or a burning, throbbing or stabbing pain.



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# NEUROPATHY RELIEF

# HOW COMMON IS NEUROPATHY ?

Neuropathy is very common. It is estimated that about 25% to 30% of Americans will be affected by neuropathy. The condition affects people of all ages; however, older people are at increased risk.

About 8% of adults over 65 years of age report some degree of neuropathy. Other than age, in the United States some of the more common risk factors for neuropathy include diabetes, metabolic syndrome (high blood pressure, high cholesterol, obesity, diabetes), and heavy alcohol use.



People in certain professions, such as those that require repetitive motions, have a greater chance of developing mononeuropathies from trauma or compression of nerves.

## HOW DOES L-ARGININE / L-CITRULLINE HELP?

- L-Citrulline and L-Arginine taken together lead to better circulation.
- By combining L-Citrulline and L-Arginine, the chances of improving nitric oxide production and blood flow levels increase.
- Enhanced blood circulation leads to better vascular health and overall satisfaction.

# 22 Reasons To use L-Arginine

The nitric oxide derived from arginine is directly or indirectly implicated in practically every cellular response and health condition imaginable, from the cardiovascular system to the immune system, and hormone function to nerve function. Although an exhaustive list of possible applications for the amino acid is not included, the following are the primary scientifically backed reasons why anyone – even healthy people – should consider adding the arginine to their health and wellness regimen.

1. It is one thousand times more powerful than any naturally occurring antioxidant in the body. Arginine's antioxidant properties support various body systems and may protect against heart disease, stroke, cancer, and diabetes, as well as slowing premature aging.<sup>1,2</sup>

 It offers wide-ranging cardiovascular support, including controlling blood pressure <sup>3,4</sup> and plaque formation. Nitric oxide keeps arteries relaxed and pliable for normal blood pressure, preventing hypertension and angina.<sup>5</sup>

3. It enhances memory,<sup>6</sup> particularly long-term memory, and may help to reverse the effects of dementia and Alzheimer's disease.<sup>7</sup>

 It boosts human growth hormone (HGH) production, which has antiaging properties.<sup>8</sup>

5. It enhances communication of messenger cells between nerves and the brain.<sup>9</sup>

6. It may help improve immune function<sup>10</sup> and fight bacterial infections. <sup>11</sup>

7. It may help in the treatment and prevention of diabetes since many disease complications, including poor circulation and blindness, are vascular in nature. Arginine is also found to regulate insulin secretion in the pancreas. <sup>12,13</sup>

8. It may inhibit the division and proliferation of cancer cells. 14,15

 It helps with cholesterol control by lowering serum and LDL cholesterol levels.<sup>36</sup>

 It enhances male sexual performance by treating vascular erectile dysfunction (ED).<sup>17</sup> 11. Its anticoagulant abilities reduce clotting to lower heart attack and stroke risk.<sup>18</sup>

 It reduces pregnancy-related hypertension, a risk factor for both the expecting mother and the unborn child.<sup>19</sup>

13. It is useful in the treatment of asthma by opening pulmonary pathways for easier breathing and the treatment of lung disorders. 20, 21

 It relaxes hypertonic sphincter muscles, preventing and healing hemorrhoids.<sup>22</sup>

15. It boosts lean muscle mass and preserves bone density by encouraging HGH production,<sup>23</sup> which also leads to a reduction in fatty tissue. Because af these properties, it may be useful in weight management and strength training.

16. It can help offset cardiovascular and lung damage caused by tobacco use,<sup>24</sup> since nitric oxide levels in smokers are less than half of those found in nonsmokers.<sup>25</sup>

17. It helps to accelerate wound healing<sup>26</sup> and postsurgery recovery.<sup>27</sup> Research has shown it is useful in treating burn wounds<sup>28</sup> and stimulates wound healing in the elderly.<sup>29</sup>

18. It may be useful in enhancing athletic performance due to its ability to boost exercise tolerance,<sup>30</sup> its beneficial effect on the lungs, and its effect on HGH levels. Which helps with building lean muscle tissue.

19. It may be used to improve the function of the prostate.31

20. It may prevent and possible reverse the effects of osteoporosis by positively affecting bone mass.<sup>32</sup>

 It has been used in the treatment of irritable bowel syndrome<sup>33</sup> and to reduce the occurrence of ulcers – especially stress- related – without affecting gastric acid production.<sup>34,35</sup>

22. It may improve renal function and slow the progression of renal disease and age-related chronic renal failure.<sup>36,37</sup> Arginine's protective effect on the kidneys may also benefit those with diabetes.

## SCIENTIFIC VALIDATION



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### NATURAL HEART HEALTH

### What We Hope We Accomplished

Our mission is simple, to educate and inform people suffering from heart health issues about their options, all their options and to provide frequent, useful transparent information in simple terms everyone can understand.

We hope we provided a few insights on how the healing benefits of these Amino Acids; L-Arginine / L-Citrulline help support natural heart health. Bottom line...our goal is to prevent anyone who's suffering from heart issues from losing hope.

Of course, we can't know everything. Therefore, as we continue to research and learn more everyday, we'll bring you the latest information and benefits as soon as we find them. Together, we'll go through this journey to provide powerful blood vessel and heart health information that's worth every heartbeat.