

## WHO?

Our energy levels and nitric oxide decrease as we mature. By the age of 40, men produce about 50% of the nitric oxide they did in their teens and 20s. Women only produce about 35% of what they did in their 20s.

Men who are in their 40's need more nitrates than women in that age. Individuals who do not exercise regularly, who have lower stomach acid, use medication such as PPI's NSAID's, antibiotics; people who use antibacterial mouthwash; individuals who have high heavy metals levels in their system, will need more other nitrates in their body to produce nitric oxide.

In general, general population might benefit more from natural nitrates than any elite athlete. Likely because she/he still has a greater potential or opportunity to improve daily performance, and their energy levels

Nathan Bryan, PhD believes that administration of roughly 500 mg nitrate for four weeks to older population with increased cardiovascular risk profiles can reverse vascular dysfunction.

## **HOW MUCH & WHEN?**

Nitrate, when consumed through the diet, reaches peak blood levels in about an hour. The levels will remain elevated for about 5 to 6 hours.

To obtain sufficient nitrate levels for improved physical performance, a minimum of 400 mg of nitrate needs to be provided at least 1-2 hours prior to any physical activity in order to allow sufficient time for the uptake and metabolism of nitrate to nitrite and nitric oxide.

A large majority of people tend to have a dietary insufficiency of green, and red leafy vegetables, which only exacerbate the issue. There is a relatively large range of nitrate dosing that has been studied in humans that provide clear therapeutic benefit without any signs of toxicity.

## WHAT?

The question then becomes how many vegetables do I need to consume to get enough nitrate and nitrite in my diet to achieve these results. The science is clear that one needs about 400 mg of nitrate in a single serving to achieve the positive benefit of nitric oxide in regard to blood pressure management, and enhanced daily performance. Nathan Bryan compared conventionally grown vegetables to organically grown vegetables what he found out with his group of scientists really surprised them. There was a greater than 10x difference in the nitrate content in specific vegetables from one city to another, also organically grown vegetables had less nitrate done conventionally grown.

So organic may be better for you since they contain no herbicides or pesticides, but they do not assimilate nitrogen into nitrates, most due to insufficient nitrogen in the soil from organic farms. Most people in United States are consuming only half of the amount over 2 to 3 meals, and not as a single serving. The US diet is depleted in the nitrate. As a result Americans are in nitrate deficient society. We see many issues with heart conditions with people in middle age.

Evidence strongly suggests that US society needs more natural nitrates in their diet along with the antioxidants that account for the effects to produce nitric oxide.

A glass of beetroot juice however is not enough.

We need at least 2 glasses of beetroot a day to maintain heart health.

32oz. of Beet Juice

