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Movement is Medicine

Movement Was Our First Medicine

Modern medicine has identified physical inactivity as one of the greatest public health challenges of our time. More than half of an individual's health status is influenced by lifestyle behaviors, with physical inactivity standing alongside **poor diet** and **smoking** as a major contributor to chronic disease and premature mortality.

The consequences of inactivity extend far beyond reduced fitness. Conditions such as cardiovascular disease, diabetes, obesity, and pulmonary disorders have all been closely linked to sedentary lifestyles, while regular exercise has consistently been shown to aid in both prevention and treatment.



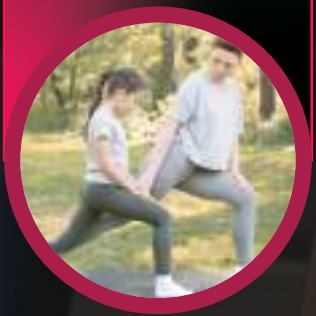




Recognizing the growing impact of inactivity, the American College of Sports Medicine launched the **Exercise is Medicine** initiative in 2007, emphasizing physical activity as an essential component of healthcare.



Medical Advice



Exercise Adoption

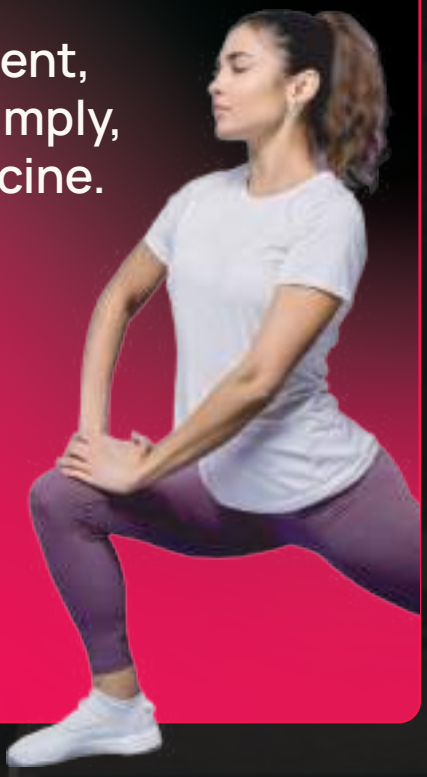
The initiative aimed to bridge the gap between medical advice and exercise adoption, reinforcing a simple yet powerful message: movement should be considered part of disease prevention and treatment. (7)

In 2009, Dr. Steven Blair described physical inactivity as **"the biggest public health problem of the 21st century."**

Findings from the Aerobics Center Longitudinal Study demonstrated that cardiorespiratory fitness was a stronger predictor of longevity than several traditional health markers, with improvements in aerobic fitness significantly reducing the risk of premature mortality. (7)

The evidence is clear. Exercise is more than a lifestyle choice; it is one of the most powerful interventions for improving health and extending life.

Movement, quite simply, is medicine.



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The Great Slowdown

For the first time in human history, a large proportion of the world is moving less than ever before. Despite decades of evidence supporting the benefits of physical activity, physical inactivity continues to rise across every age group and population.

1.8 B

A recent study found that nearly one third **(31%)** of the world's adult population, **1.8 billion adults**, are physically inactive. That is, they do not meet the global recommendations of at least 150 minutes of moderate-intensity physical activity per week. [8]

5%

This is an increase of 5 percentage points between 2010 and 2022. [8]

35%

If this trend continues, the proportion of adults not meeting recommended levels of physical activity is projected to rise to 35% by 2030. [8]

5%

Women are less active than men by an average of 5 percentage points. This has not changed since 2000. [8]

81%

81% of adolescents **(aged 11–17 years)** were physically inactive [8]

The question is no longer whether the world is moving less.

The question is: Why?



The Body Was Never Designed to Sit Still

Unlike previous generations, whose daily routines demanded movement, the modern individual can spend

8–10 hours



Work, entertainment, and even social interactions increasingly take place while sitting. The rise of remote work has further normalized prolonged sitting, with dining tables becoming workstations, sofas serving as office chairs, and laptops being used for hours without ergonomic support.

A body designed to move does not adapt well to prolonged stillness

Pain, once largely associated with ageing or injury, has become an increasingly common part of everyday life. Today, it is often not injury but routine itself, the way we sit, work, and live, that shapes how our bodies respond. Conditions once associated with later life are now appearing among individuals in their 30s and even late 20s.

Sedentary behaviour has become one of the defining characteristics of modern life.



The human body was built to move. When movement disappears, the systems designed to support it gradually begin to slow down.

The Cost of Inactivity

The consequences of inactivity extend far beyond fitness, affecting nearly every major system of the body.



7

7 cancers have been linked to a physically inactive lifestyle. [7]

17 M

Depression affects 17 million Americans and has been directly linked to insufficient physical activity. [7]

95%

In the United States alone, more than **30 million** adults are estimated to have diabetes, 95% of whom have **type 2 diabetes (T2DM)**. Underlying the vast majority of T2DM are unhealthy lifestyle behaviours (poor nutrition and insufficient physical activity leading to overweight and obesity). [7]

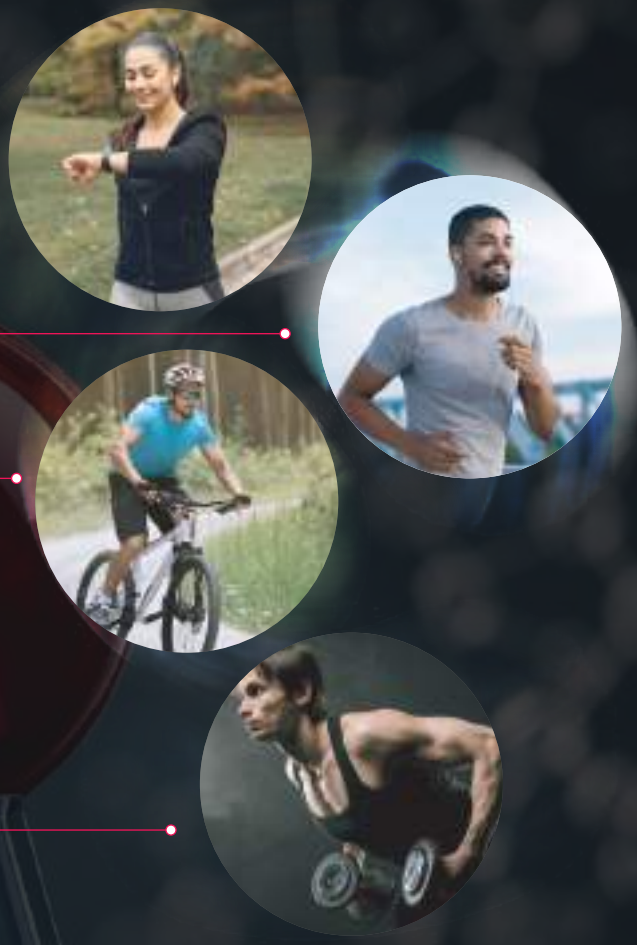
21

A new case of diabetes is diagnosed every 21 seconds in America [7]

$327 B

Diabetes is the most expensive disease in America, coming in at a price tag of $327 billion annually. [7]

Movement Is Powered by More Than Muscles



Choosing to move is only the first step. Whether it's a **brisk walk**, a **morning run**, a **cycling session**, or an **intense workout**, every movement places greater demands on the body.

As physical activity begins, working muscles require a continuous supply of oxygen and nutrients to produce the energy needed for sustained movement. At the same time, metabolic by-products generated during exercise must be efficiently removed to delay fatigue and maintain performance. (1)

Meeting these demands depends on one small but remarkably powerful molecule,

Nitric oxide (NO)



Nitric oxide is a naturally occurring signalling molecule involved in numerous regulatory processes throughout the body. Although it exists for only milliseconds to a few seconds, it is continuously produced because of its essential physiological functions. (1)

One of its most important roles is regulating blood flow. Nitric oxide promotes the relaxation of vascular smooth muscle, allowing blood vessels to widen through a process known as **vasodilation**. This occurs when nitric oxide activates the enzyme guanylate cyclase, leading to the formation of cyclic guanosine monophosphate (cGMP), which lowers intracellular calcium levels and enables blood vessels to relax. [1]

The result is improved circulation, allowing oxygen and nutrients to reach working muscles more efficiently while supporting the removal of metabolic by-products generated during exercise. [1]

But nitric oxide's role extends beyond blood flow. Greater nitric oxide availability has also been associated with improved aerobic and anaerobic metabolism, enhanced mitochondrial efficiency, improved muscle contractility, and a reduction in the oxygen and ATP cost of exercise. [1]

In other words, nitric oxide helps the body perform the fundamental task that movement demands-delivering energy where it is needed, when it is needed.



Can We Support Nitric Oxide from the Outside?

While the body continuously produces nitric oxide, its short half-life means it cannot be stored and must be synthesized constantly. For many years, it was believed that nitric oxide could only be produced through the **L-arginine–nitric oxide synthase (NOS)** pathway, making endogenous synthesis the only recognized source of this important signaling molecule. [4]

However, research over the past two decades has transformed this understanding. Scientists now know that **dietary nitrate** can also serve as a source of nitric oxide through an alternative **nitrate–nitrite–NO pathway**. Rather than being an inactive end product, nitrate can be converted to nitrite and subsequently to nitric oxide within the body. [4]

This alternative pathway has attracted considerable scientific interest because it may complement the traditional L-arginine–NOS pathway, particularly under conditions of **low oxygen availability**, where NOS activity may be reduced. [4]

This discovery has opened new opportunities for nutritional strategies that naturally support nitric oxide production and, in turn, exercise performance.





Introducing

OXYSTORM®



Oxystorm® is the **world's first nitrate-enriched extract of Amaranthus**, one of nature's richest sources of dietary nitrates. Developed to naturally support nitric oxide production, Oxystorm® helps optimize blood flow, improve oxygen availability, and reduce fatigue, enabling athletes and active individuals to perform at their best.

9%

Delivering 9% Nitrate, OXYSTORM® delivers the best in class NOx

Overcoming Nitric Oxide's Biggest Challenge

To evaluate how efficiently Oxystorm® is absorbed and utilized, a **randomized, placebo-controlled crossover pharmacokinetic study** was conducted in healthy adults. Researchers monitored nitrate and nitrite levels over time to assess its bioavailability. (6)

100%

Oxystorm rapidly increased plasma nitrate levels by 100% within one hour, with concentrations remaining elevated for up to eight hours.

200%

Salivary nitrate levels increased by approximately 200% within 2.5 hours and were also sustained for eight hours

100%

Breath nitric oxide levels increased by approximately 100% compared to placebo

OXYSTORM® Built for When Oxygen Runs Low

During exercise, the body's demand for oxygen increases rapidly. As intensity rises, oxygen availability gradually declines, creating **hypoxic conditions** within working muscles.

Most conventional performance ingredients-including caffeine, ginseng, green tea extract, guarana, L-carnitine, tyrosine, taurine and other popular energy ingredients-primarily support performance under **normoxic (oxygen-sufficient) conditions.** Their mechanisms rely on normal oxygen availability to deliver their intended benefits.

However, nitric oxide follows a different path.

When oxygen becomes limited, the body's oxygen-dependent nitric oxide synthase (NOS) pathway becomes less effective. Instead, the body can switch to an **alternative nitrate–nitrite–nitric oxide pathway, where dietary nitrates are converted into nitric oxide without relying on oxygen-dependent NOS activity.**

This is where **Oxystorm®** stands apart.

Derived from nitrate-rich **Amaranthus**, Oxystorm® supplies dietary nitrates that support nitric oxide production through this alternative pathway, helping maintain blood flow, oxygen delivery, and performance **even when oxygen availability is reduced.**



Beyond Beetroot: The OXYSTORM® Advantage

For years, beetroot has been the preferred source of dietary nitrates in sports nutrition. However, continued research into nitrate-rich botanicals has identified **Amaranthus** as a superior alternative. Harnessing this botanical, **Oxystorm®** was developed to provide a concentrated, standardized, and nutritionally advanced source of dietary nitrates for endurance and performance.



Why OXYSTORM® Stands Apart

Oxystorm has
9% dietary nitrates (HPLC)

VS

conventional beetroot-based ingredients with **<2%** Low Nitrates Measured by (HPLC)



Oxystorm has
8–14% Potassium

VS

conventional beetroot-based ingredients with **<2%** Potassium



Clinically Proven Benefits of Oxystorm®

Clinical studies demonstrate that Oxystorm® enhances nitric oxide availability through the nitrate–nitrite–nitric oxide pathway, translating into measurable improvements in exercise performance, blood flow, and muscle efficiency.

The evidence supporting Oxystorm® includes improvements in multiple performance parameters:

7.3%

Delays ventilatory threshold by 7.3%, enabling sustained exercise at higher intensities. [5]

13.7%

Increases blood flow by 13.7% [3]

6 min

Improves 4 km cycling time trial performance by approximately 6 minutes. [2]

4 W

Increases power output by 4 W during exercise. [2]

1AU

Reduces muscle fatigue by 1 AU, helping maintain performance during prolonged activity. [2]

19%

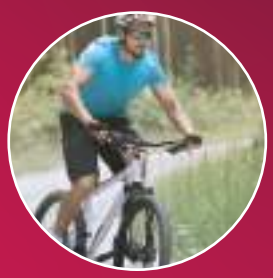
Improves high-intensity exercise tolerance by 19%. [2]

90%

Increases exhaled nitric oxide levels by approximately 90% [2]









The Right Dose for Lasting Performance

Clinical studies have demonstrated efficacy with a

single daily dose of 500–1000 mg of Oxystorm

providing sustained nitric oxide availability for up to

8 hours.



The ingredient is available as a

Water-Dispersible

allowing easy incorporation into capsules, tablets, stick packs, beverages, gels, gummies, and functional nutrition formulations.

Proven Safe. Designed for Daily Performance.

Clinical efficacy is only meaningful when supported by a strong safety profile. Alongside its demonstrated benefits in enhancing nitric oxide bioavailability and exercise performance, Oxystorm® has undergone comprehensive toxicological evaluation to establish its safety for regular use.

Safety Profile

OECD

Oxystorm® has been evaluated in accordance with internationally accepted OECD safety guidelines.

Acute Toxicity Study (OECD 423)

No treatment-related toxicity was observed at doses up to 2000 mg/kg in rats, with the LD_{50} estimated to be greater than 2000 mg/kg.

28-Day Repeated Dose Toxicity Study (OECD 407)

Daily administration of Oxystorm® at 1000 mg/kg showed no mortality, no significant changes in biochemical or hematological parameters, and established a No-Observed-Adverse-Effect Level (NOAEL) of 1000 mg/kg.

These findings demonstrate that Oxystorm® possesses an excellent safety profile, supporting its suitability for nutritional applications.

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Clinical Benefits at a Glance

Clinical research demonstrates that Oxystorm® supports cardiovascular function and exercise performance through enhanced nitric oxide bioavailability.



- Increases nitric oxide production through the nitrate–nitrite–NO pathway
- Promotes vasodilation for improved blood flow and oxygen delivery
- Supports improvements in VO_2 peak, power output, and endurance performance
- Contributes to cardiovascular health by improving vascular function

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Why OXYSTORM®

Scientifically Proven

Covered by 7 published clinical studies

Highest NO x

Delivering 9% Nitrate , OXYSTORM® delivers the best in class NOx

From Amaranthus

Made from the leaf of Amaranthus, a plant consumed for centuries across regions.



Eco-Friendly Solvents

Made by ECO – friendly solvents

Green Energy

Manufactured completely using solar energy

Patented

Oxystorm® is protected by 11 patents

Reference

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Arjuna Natural



130+	70+	35+
International Patents	Countries	Years Legacy

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