

Guillermou

Several studies have shown that nicotinamide (NAM) could offer benefit in various diseases and pathological conditions. NAM is a neuroprotective mainly due to increasing NAD⁺ levels. Therefore, NAM could have a therapeutic role against trauma, ischemia and neurodegeneration, in addition to neuropsychological disorders including depression and schizophrenia. Likewise, NAM could be beneficial against diabetes, HIV infection and glaucoma. Regarding cancer, NAM has already demonstrated clinical efficacy against non-melanoma skin cancer and resistance to radiotherapy due to tumor hypoxia.

NAM has demonstrated the ability to counteract UV-induced immunosuppression. Topical administration of NAM reduced immunosuppression and suppressed tumor formation in UV-irradiated animal models. There is also evidence for the chemopreventive role of NAM in other types of cancer. A previous study demonstrated that intraperitoneal NAM suppressed breast cancer volume in animal models.

Accumulating evidence suggests that NAM plays a role in cancer chemoprevention and therapy. Phase III clinical trials have demonstrated the effectiveness of NAM in chemoprevention in the treatment of head and neck, larynx and urinary bladder cancers, incorporating their results into clinical practice.

More references in the link . www.mdpi.com/.../477 (2020).----- onlinelibrary.wiley.com/.../mc.23673 (2024).--- Mitochondrial dysfunction is caused by poor nutrition. highly processed and pesticide-contaminated diet, load of sugars and additives, vaccines, fluoridated and contaminated water, stress, etc., NAD⁺ increases mitochondrial energy and its deficiency is an essential factor in chronic diseases and aging. www.liebertpub.com/.../ars.2017.7445 (2018).

Posted On 02/27/2024

Guillermou

Individual metabolic processes to produce NAD may be different depending on age, diseases and genetics. The "raw materials" or "building blocks" (metabolic precursors) that the body needs to produce (synthesis) NAD+: 1.- Nicotinamide riboside (NR) 2.- Nicotinic acid 3.- Nicotinamide 4.- Nicotinamide mononucleotide (NMN) www.ncbi.nlm.nih.gov/.../PMC4112140 (2014).-----
pubmed.ncbi.nlm.nih.gov/19286518 (2009) Additional support for mitochondrial function includes acetyl-L-carnitine, nicotinamide, Q10, pyrroloquinoline quinone, vitamin C, choline, NADH, -lipoic acid, -ketoglutaric acid, resveratrol, N-acetylcysteine, magnesium, and a multivitamin and quality mineral.

In the following link more references: 33 NATURAL WAYS TO IMPROVE MITOCHONDRIAL FUNCTION selfhacked.com/blog/natural-ways-to-improve-mitochondrial-function/ (2022). .---
onlinelibrary.wiley.com/.../full (2017).--- www.annualreviews.org/doi/abs/10.1146/annurev-pharmtox-010716-104908 (2018).-- link.springer.com/.../10.1007%2F978-3-319-73344-9 (2018).---

Posted On 02/27/2024

juststeve

Gui, a good B complex is a personal workhorse of benefits and have found Doc's has worked out exceptionally well. Just checked the B3 levels and it's only around 10 mgs so it should not interfere with staying within the limits of beneficials of B3 addressed in the article. Very happy to know I'll have no need to buy a bunch of separate B's to hit my personal needs.

Posted On 02/27/2024

cedricpermaculture

Very informative as usual, Gui. We must remember that niacinamid/niacin is acting mostly by NAD, so we need the rest of the part NAD->adenosine. Adenosine can be donated by digestion of high nucleotide products or as supplementation of inosine or synthesized de novo from ribose, glycine, aspartate, glutamine, methyl groups. en.wikipedia.org/.../Purine_metabolism Adenosine is important for FAD, ATP, nucleic acids, CoA, active mitochondrial B12, SAME. FAD activates v. B6, B9, but also NAD, B12, and cooperates with other vitamins/antioxidants.

"No Aging Diet" - a may be forgotten book by dr Benjamin Frank supports that idea. Shortening of telomeres is in reality losing of nucleotides, , above all -purines. Methylxanthines from coffee save them, blood donation lowers iron/spares purines. It is not only niacinamid, but NAD as a whole cofactor that matters so we must remember about purines. Thymine is metabolised by methylmalonate mutase. en.wikipedia.org/.../Methylmalonyl-CoA_mutase Niacinamid uses methylation, as well as lysine-to keep it in mind.

Posted On 02/27/2024

Guillermou

Very true, Mr. Farmer. Neurotropic B vitamins play crucial roles as coenzymes and more in the nervous system. In particular, vitamin B1, B6 and B12 essentially contribute to the maintenance of a healthy nervous system. Their importance is highlighted by many neurological diseases related to deficiencies in one or more of these vitamins, but they can improve certain neurological conditions even without a proven deficiency. Evidence suggests that a significant proportion of the population suffers from deficiencies and insufficiencies of one or more of these neurotropic B vitamins.

The importance of B vitamins in the context of nervous function is highlighted by the numerous neurological diseases, depression, beriberi, seizures, subacute combined degeneration of the spinal cord or peripheral neuropathy (PN), which are related to a deficiency of one or more of these neurotropic B vitamins. Table 1 provides an overview of the main implications of the overlap of important biochemical pathways for the nervous system, pointing out a synergistic effect as a logical consequence of these overlaps. [onlinelibrary.wiley.com/.../cns.13207](https://onlinelibrary.wiley.com/doi/10.1111/cns.13207) (2019).----- Vitamin B1 acts as an antioxidant, vitamin B6 balances nervous metabolism, and vitamin B12 maintains myelin sheaths.

The presence of vitamins B1, B6 and B12 paves the way for the next important regeneration by supporting the development of new cellular structures. Additionally, vitamin B1 facilitates the use of carbohydrates for energy production, while vitamin B12 promotes the survival and remyelination of nerve cells. The absence of these vitamins will promote permanent nerve degeneration and pain, eventually leading to peripheral neuropathy. [www.hindawi.com/.../9968228](https://www.hindawi.com/doi/10.1155/2021/9968228) (2021)

Posted On 02/27/2024

Guillermou

Interesting reference Doctor cedricpermaculture. Patients with TBD often experience bone marrow failure. We investigated the effect of NAD supplementation with the NAD precursor, nicotinamide riboside (NR), on the characteristics of the health period interrupted by telomere deterioration. Our results revealed that NR improved body weight loss and improved telomere integrity and systemic inflammation induced by telomere dysfunction. Additionally, NR alleviated villous atrophy and inflammation in the small intestine. Taken together, our findings support NAD intervention as a potential therapeutic strategy to improve aspects of health compromised by telomere attrition.

link.springer.com/.../s11357-023-00752-2 (2023).--- NAD is highly involved in several metabolic functions, such as glucose and fat regulation, and polymorphisms in these genes have been associated with the development of obesity, type 2 diabetes, cancer, cardiovascular diseases. illness and longevity. Nutraceuticals such as resveratrol, quercetin, kaempferol and curcumin and other therapies such as sirtuin-activating compounds, NAD, nicotinamide mononucleotide) are being explored as potential therapies in sirtuin and point to promising treatments to promote metabolic health and reduce obesity and age-related diseases.

journals.lww.com/jaanp/Abstract/2021/05000/Genomics_of_aging_The_role.. (2021) NRPT is a combination of nicotinamide riboside (NAD+), found in milk, and pterostilbene, a polyphenol found in blueberries, was administered to a population of 120 healthy adults between the ages of 60 and 80 years. The study consisted of three treatment groups: placebo, a recommended dose and another double dose group. The NAD+ concentration increased by approximately 40% in the double administration group and approximately 90% in the double administration group after 4 weeks.

www.nature.com/.../s41514-017-0016-9 (2017)

Posted On 02/27/2024

wallguy

Gui, can you suggest or reference any food items to add to a daily menu (besides Blueberry) I've not done milk for decades. Just some basics to bump up the intake as to offer an accumulative benefit. T
Thanks/ Randy

Posted On 02/27/2024

Guillermou

Hi wallguy. Quercetin and apigenin increase NAD+ levels through the inhibition of the multifunctional protein CD38 that is present in the mitochondria, with a Sirt3-dependent mechanism. CD38 levels increase in tissues with age and correlate with decreased NAD

www.timelesslifemag.com/index.php/2016/06/29/quercetin-apigenin-may-sl.. (2016).----

www.sciencedirect.com/.../S1550413116302248 (2016).--- Nrf2 diet promotes mitochondrial function, activating the Nrf2 transcription factor, which induces the expression of particular genes, which promote powerful antioxidants such as NAD, quinone oxidoreductase and glutathione S-transferases, and many others.

The Nrf2 genes protect the body from oxidative damage that can result from inflammatory responses and combat chronic and degenerative diseases. Sulforaphane is a great enhancer of the Nrf2 pathway. www.selfhacked.com/blog/about-nrf2-and-natural-ways-to-increase-it/ (2021).--- Exercise boosts the conversion of tryptophan to NAD+. Exercise can effectively reprogram pre-established inflammatory and metabolic pathologies in aging with the benefit of disease prevention.

www.jimmunol.org/.../904.abstract (2021).--- Calorie restriction (CR) prolongs lifespan in a wide variety of species.

CR induces an increase in the NAD(+)/NADH ratio in cells and results in the activation of SIRT1, an NAD(+)-dependent protein deacetylase that is believed to be a metabolic master switch related to the modulation of hope. of life. CR also affects the expression of peroxisome proliferator-activated receptors (PPARs) that regulate different physiological functions such as energy metabolism, insulin action and inflammation, and apparently act as important regulators of longevity and aging.

pubmed.ncbi.nlm.nih.gov/20148352 (2010)

Posted On 02/27/2024

cedricpermaculture

Just recently Chris Masterjohn has written excellent articles about molybdenum/testosterone and niacin/4PY chrismasterjohnphd.substack.com/p/nmn-probably-wont-make-you-live-fore..

chrismasterjohnphd.substack.com/p/the-unknown-testosterone-nutrient

Posted On 02/27/2024

Guillermou

The appropriate dose for each person and pathology is the basis for health. The potential impact of the link between gut microbiota and NAD⁺ metabolites on overall health is noteworthy. Although the microorganisms that inhabit the intestine play a role in the metabolism of NAD⁺ and its metabolites, NMN and NR also affect the composition of the intestinal microbiota, reversing dysbiosis and promoting beneficial effects both at the intestinal and extraintestinal levels. Furthermore, it is worth mentioning the role of the microbiota in the synthesis of NAD⁺. Unlike mammals, bacteria present in the intestine have enzymes that convert NMN into nicotinic acid mononucleotide (NAMN) through a deamidation process.

After that, NAMN follows the Preiss-Handler pathway to the synthesis of NAD⁺. Clinical trials have reported that a single oral dose of NMN (100 to 500 mg) was metabolized safely and effectively in healthy subjects. . Although NAM has been shown to be effective in increasing NAD⁺ in tissues, it also exerts an inhibitory effect on the activity of sirtuin and PARP. This could lead to a reduction in DNA and protein methylation and, as a consequence, alter gene expression patterns and protein activity, since DNA methylation in gene promoter regions is generally associated with transcriptional repression.

Proposed as a nutraceutical to prevent age-related physiological decline, NMN has been shown to improve diabetes and Alzheimer's disease, improve aerobic capacity, and exhibit cardio- and vasoprotective actions. It inhibits inflammation and reduces oxidative stress, preventing arterial and endothelial dysfunction and protecting against heart failure, ischemia and reperfusion.

link.springer.com/.../s13668-023-00475-y

Posted On 02/27/2024

GreekPrincess77

Hi Gui, What is the best way to take niacinamide? I take the recommended dose by Dr. M 2 or 3 times a day in water. It's quite bitter.

Posted On 02/27/2024

Guillermou

Hi GreekPrincess. I understand that you have to consider: 1) the dose of the various forms of Niacin contained in your personal diet, 2) that it is a water-soluble vitamin and 3) . Niacin acts in the body as a coenzyme, on which more than 400 enzymes depend for various reactions. Niacin and nicotinamine help convert nutrients into energy, create cholesterol and fats, create and repair DNA, and exert antioxidant effects. For this reason, it seems appropriate to take 2 or 3 doses with food to enable the action of the food, The generic term niacin or vitamin PP refers to nicotinic acid, its amide (nicotinamide) and all biological derivatives that can be transformed into biologically active compounds.

The two most common forms of niacin in foods and supplements are nicotinic acid and nicotinamide.

TOP FOODS HIGH IN NIACIN

www.medicinenet.com/23_foods_that_are_high_in_niacin_vitamin_b3/articl.. .---

www.webmd.com/.../foods-high-in-niacin-b3 .--- Different forms of niacin are contained in foods (animal and plant origin), found as niacinamide, nicotinic acid, which are absorbed in the small intestine, subsequently pass into the circulation and from them NAD and NADP, active forms of niacin, are synthesized.

the vitamin. These are stored as NAD and NADP mainly in the liver and erythrocytes. Niacin is a precursor to the coenzymes nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide phosphate (NADP). NAD is necessary to catabolize fats, carbohydrates, proteins and alcohol. And NAD is involved in cell signaling and DNA repair. NAD is also converted to NADH, which is the primary electron carrier in transforming the foods in our diet into energy. This energy is stored as adenosine triphosphate (ATP).

Posted On 02/27/2024

Guillermou

Metabolism is dynamically regulated to accompany immune cell function, and altered immunometabolism can lead to impaired immune responses. At the same time, pharmacological manipulation of metabolic processes offers an opportunity for therapeutic intervention in inflammatory disorders. Nicotinamide adenine dinucleotide (NAD⁺) is a critical metabolic intermediate that serves as an enzymatic cofactor in redox reactions, and is also used as a cosubstrate by many enzymes such as sirtuins, adenosine diphosphate ribose transferases, and synthases. Through these activities, NAD⁺ metabolism regulates a broad spectrum of cellular functions such as energy metabolism, DNA repair, regulation of the epigenetic landscape, and inflammation.

Therefore, manipulation of NAD⁺ availability using pharmacological compounds such as NAD⁺ precursors may have immunomodulatory properties in inflammation. Here, we discuss how NAD⁺ metabolism contributes to the immune response and inflammatory conditions, with a focus on multiple sclerosis, inflammatory bowel diseases, and inflammation.

bpspubs.onlinelibrary.wiley.com/.../bph.15477 (2022).--

Posted On 02/27/2024

jil6890

I am a 79 year old female. When I was in my early 40s I found myself with very painful knee problems after riding in a car for several hours at a time (actually driving from Michigan to Florida for vacation or a lengthy stay). My doctor said I had osteoarthritis. I happened to read an article in David Williams Alternative Medicine newsletter claiming 1500 mg of niacinamide taken 500mg 3 times a day took care of this problem. Indeed it did and I was extremely diligent about taking my 3 doses, which I did for at least 25 years. When I moved to another city in Michigan I started going to an alternative/holistic doctor who ask me what supplements I took.

In my list I added "and I take niacin amide for my knees" and she said "a lot of people don't know about that"; and to this day I don't have knee problems and am one of the very few who never had the painful opportunity to "enjoy" a knee replacement. I certainly exceeded my limit of 150-200mg/day but am now taking the lesser dose. I do have a pacemaker but am inclined to blame EMFs more than excessive niacinamide for this anomaly. I am very healthy but don't know if I've messed up other biological functions in my "save the knees" quest.

Posted On 02/27/2024

Segstar

God save the knees :)

Posted On 02/27/2024

idruid

Yes, taking excessive doses of one vitamin can also create artificial deficiencies in others. A good quality multivitamin/mineral can help there. I also prefer the actual niacin, rather than the amide. The sunburn (radiation poisoning?) restimulation disappears after a few days. If you do experience the red itchy flush from the niacin, stand in front of a mirror and you can see the areas the sun did not burn, such as the outline of a bikini top and its straps- unless one is a naturist, of course. This may be worth some research for those with the time, resources and money - some suspect niacin may be what the body uses to combat excessive sun/radiation. The body has defenses for pretty well most things, it would be weird if it didn't have a way of handling excessive sun or other radiations considering we live in a sea of it 24/7.

Posted On 02/27/2024

Guillermou

Yes, niacinamide (NIA) is a water-soluble vitamin that is widely used in the treatment of skin diseases. In this review, the biological activities and cosmeceutical properties of nicotinamide are reported taking into account its metabolic pathways. Nicotinamide supplementation restores cellular NAD⁺ reserve and mitochondrial energy, attenuates oxidative stress and inflammatory response, improves the extracellular matrix and skin barrier, and inhibits the pigmentation process in the skin. Topical nicotinamide treatment, alone or in combination with other active ingredients, reduces the progression of skin aging and hyperpigmentation in clinical trials.

Nicotinamide applied topically is well tolerated by the skin. This substance is presumed to contribute to maintaining skin homeostasis by regulating the redox state of cells along with various metabolites produced from it. Therefore, it is suggested that nicotinamide will be useful in attenuating skin aging and hyperpigmentation, especially in elderly people or patients with reduced NAD⁺ reserve in the skin due to internal or external stressors. www.mdpi.com/.../1315 (2021).---- Additionally, NIA shows antioxidant effects and helps repair damaged DNA. Recent studies demonstrated that 2.5 particles (PM 2.5) induced reactive oxygen species (ROS), causing alteration of DNA, lipids and proteins, mitochondrial depolarization and apoptosis of skin keratinocytes.

In this study, it was found that NIA could inhibit the generation of ROS induced by PM 2.5, as well as block the oxidation of molecules induced by PM 2.5, such as lipids, proteins and DNA. Furthermore, NIA alleviated PM 2.5-induced cellular Ca²⁺ accumulation, which caused cell membrane depolarization and apoptosis, and reduced the number of apoptotic cells. Taken together, the findings show that NIA can protect keratinocytes www.ncbi.nlm.nih.gov/.../PMC6824628 (2019)

Posted On 02/27/2024

Guillermou

Nutraceuticals are brand names but, in combination with vitamins that prevent skin damage, they are useful. Various types of vitamins are used to protect the skin from damage, such as vitamin A, B3, B5, C, E and K. Skin health in relation to lifestyle choices and chronic diseases, thyroid disorders.

maintaining with iodine, silicon, sulfur, potassium, magnesium, iron, copper, selenium, zinc (minerals and) complex B,K,D,E,C,A, individual contributions to highlight healthy skin

[www.taylorfrancis.com/chapters/edit/10.1201/9781003414025-17/vitamins-..](http://www.taylorfrancis.com/chapters/edit/10.1201/9781003414025-17/vitamins-.) (2024) .----

urfjournals.org/open-access/factors-influencing-skin-health-from-withi.. (2024).--- Astaxanthin has been reported to exhibit multiple biological activities to preserve skin health including skin cancer chemoprevention.

Extensive research over the past two decades has revealed the mechanism by which continued oxidative stress leads to chronic inflammation, which in turn mediates most chronic diseases, such as cancer and skin damage.

Astaxanthin provides antioxidant and anti-inflammatory protection with health, cardiovascular and visual benefits, stabilization of blood sugar levels, strengthening of the immune system, reduction of inflammation and associated diseases, and helps fight cancer, absorbent UVB rays and reduces DNA damage, protecting against burns. Astaxanthin has been shown to: ASTAXANTHIN IN SKIN HEALTH, REPAIR, AND DISEASE: A COMPREHENSIVE REVIEW www.ncbi.nlm.nih.gov/.../PMC5946307

Posted On 02/27/2024

ghfinn

First time I am scratching my head, too much, too little. Cancer commonality was excess; but no specific's on what excess is. Then the benefits associated with it driving NAD; but at a much higher level. Maybe a re-read will help.

Posted On 02/27/2024

richRichard

I been on 1000mgs a day of niacin for 15 years for the control of cholesterol. For me it is working very good, and all my numbers all very good. I was taking 1500mgs a day for the first six years and adjusted downward to see if it would still work. It did and just had my blood tested and very close to what I was getting at 1500mg. My doctor says it has to be niacin because niacinamide has less cholesterol-lowering and circulatory benefits than niacin. So, I will keep on taking it.

Posted On 02/27/2024

Cabocho

To summarise these forms of vitamin B3 - Nicotinamide, Niacin, Nicotinamide Riboside (NR), and Nicotinamide Mononucleotide (NMN) are similar but not quite the same. Nicotinamide (or Niacinamide) converts food into energy, is important for supple skin, preventing eczema, acne; guards against intestinal permeability and promotes good digestion. Niacin (or Nicotinic Acid) converts food into energy but may cause temporary flushing, increases HDL cholesterol and lowers triglycerides. Deficiency is linked to cognitive decline and neurodegeneration. Its coenzymes NAD(nicotinamide adenine dinucleotide) and NADP (nicotinamide adenine dinucleotide phosphate) regulate metabolism, energy production, DNA repair, and other essential functions.

Nicotinamide Riboside (NR) is a precursor to NAD which may increase NAD+ an essential co-enzyme for energy production and DNA repair. NAD+ levels decline with age, impact general health and mitochondrial function because of "inflammaging". Therefore increasing NAD+ with NR supplementation has anti-aging effects, improved glucose and lipid management in metabolic syndrome. NMN is derived from ribose and nicotinamide, plays a role in the synthesis of NAD+ which could in theory extend lifespan as NAD+ is found in all living cells.

Without sufficient levels, markers of ageing may increase - fatigue, weight gain, loss of blood sugar control, muscle loss, memory, cognitive, sight and hearing loss. Small wonder then that the FDA is trying to have NMN reclassified as a drug and banning its sale as a supplement. It must be very effective. If as the pharmaceutical and orthodox medicine lobby has always maintained, nutrients are irrelevant, why are they anxious to take it on board? Polyphenols such as quercetin and resveratorol can also counteract the effects of inflammaging. healthnews.com/longevity/longevity-supplements/fda-b-nmn-can-no-longer..

Posted On 02/27/2024

Cabochoh

The denizens of niacin therapy in mental health such as Dr Abram Hoffer, who took an orthomolecular approach to even severe mental illness showed that levels of niacin in schizophrenia patients were extremely low and therefore could be effectively treated and prevented with high doses of nutritional supplements. "The neurocognitive symptoms in patients with severe niacin deficiency are always present, and they can be very pronounced clinically. Both Alzheimer's disease and Parkinson's disease typically have depleted NAD levels in the affected tissue, and some of their symptoms can be lessened with increased niacin intake.

Other CNS symptoms, including disorientation, memory loss, confusion, dementia, poor sleep, and even frank psychosis can be seen in the severely niacin-deficient patient. Of note, the statistical risk of Parkinson's disease is lessened in individuals having an increased consumption of niacin-containing foods." "The levels of niacin in schizophrenic patients are always low, oftentimes severely so. This also means that their cellular ATP levels are significantly depressed as well.

It has been clearly shown that high doses (relative to RDA or DRI recommendations) of niacin or a niacin vitamer often completely resolves schizophrenia, even in its advanced stages. And when clinical resolution is not complete, significant improvement in the major symptoms of schizophrenia is nearly always seen." www.doctoryourself.com/hoffer_niacin.html; orthomolecular.org/.../index.shtml; "Niacin: The Real Story " (2nd Edition) eBook : Saul, Hoffer, et al. Amazon.co.uk.

Posted On 02/27/2024

Katy69

Interesting post, Cabochon. And thanks for the useful summary. I have recollections of similar attempts to hijack natural products by the pharmaceutical industry - namely red yeast rice and the natural sweetener Stevia. As they must know, natural substances cannot be patented and therein lies the problem. Stevia became a mixture of patented and the natural sweetener. Bottom line: there is no such thing as bad publicity. Now there will be a rush on remaining NMN supplements. Perhaps it's a ploy to increase sales and big Pharma bosses have shares in the supplements industry! The drug pirates must hold NMN and other niacin derivatives in high regard otherwise why bother to ban it? What would happen if the natural products industry denizens tried to ban statins?

Posted On 02/27/2024

Sherryld

I started taking niacinamide after Dr Mercola's last article on niacin which was about 5 months ago? I saw many comments from people that they take it for their osteoarthritis so I thought I would give it a try since I have it in my hips and distal joints in my fingers both becoming worse from menopause. I was taking a 500 mg capsule daily but have recently cut back to every other day. I've noticed that my finger joints have shrunk and I'm hoping that the niacinamide and the loss of 25 lbs due to diet change have helped. I'm 56 and don't want this osteoarthritis consuming my life and I do not want surgery. Maybe that and the other supplements I take along with exercise will help. The Epoch times ran an article recently about niacin and possible connection to cardiovascular issues. Makes you wonder if those people are the ones who eat cereal and grains regularly and are already in bad health.

Posted On 02/27/2024

Guillermou

PRECLINICAL CHARACTERIZATION OF PHARMACOLOGIC NAD+ BOOSTING AS A PROMISING THERAPEUTIC APPROACH IN RHEUMATOID ARTHRITIS Boosting NAD + with intermediate NAD + precursors (boosters) has been shown to be an effective and safe strategy to increase NAD + levels, promoting beneficial effects to prevent and treat various pathological conditions (14). As a result, several clinical trials are currently underway to evaluate the therapeutic effects of NAD+ boosters on a wide variety of physiological outcomes, including insulin sensitivity, glucose metabolism, immune function, autoimmunity. , cardiovascular function and cognitive function.

Reduced levels of NAD+ appeared to be related to upregulation of genes involved in its uptake, such as PARP, SIRT, CD38, and CD157, as well as downregulation of genes involved in NAD+ biosynthesis, such as NMNAT. PARP, SIRT, and CD38 levels have also been shown to be upregulated in other inflammatory conditions, and their roles as key modulators of immune and inflammatory processes have been widely documented (22). In line with these findings, we also confirmed the increased activity of NAD+ consuming systems in PBMC from RA patients. This study identified reduced NAD+ levels in RA patients and altered expression of genes involved in NAD+ biosynthesis and degradation.

The alteration of NAD+ metabolism was directly related to the inflammatory and activated state of the disease, which was reversed by anti-TNF therapy. Restoration of NAD + levels by NMNAT and NAMPT using NAM and NR boosters reduced the oxidative, apoptotic, and proinflammatory status of RA leukocytes. Combining NAD+ boosts with NAD+ transmembrane efflux blockade may represent a complementary strategy to further reduce the inflammatory secretome of leukocytes from RA patients. acrjournals.onlinelibrary.wiley.com/.../art.42528 (2023).---

Posted On 02/27/2024

ms.libby

Grossly missing here are the writings of Dr. Jonathan Wright, and his use of Niacinamide for arthritis relief.

Posted On 02/27/2024

Guillermou

A NATURAL TREATMENT FOR ARTHRITIS JONATHAN WRIGHT, M.D. SAYS: SAY GOODBYE TO MOST ARTHRITIS PAIN FOR GOOD IN EIGHT STEPS OR LESS

static1.squarespace.com/static/58ed2b092e69cfaf9ab031cd/t/59b2e63de3df..

Posted On 02/27/2024

DeeCee2

My brother took B3 niacinamide as a supplement in low doses and experienced nightmares and night terrors. He is a doctor, experienced in supplements, and tested himself a couple of times. Apparently this is a rare but not uncommon side effect in men regardless of age but more prevalent over 50. During one night terror episode when away from home, he bumped into a night stand, hit his forehead just above his eyebrow, and needed medical attention to mend the cut and bruise the next day. He was not taking large doses either. His diet is lots of veg, low dairy, with some meat, exercises daily (2mi fast walk), and is normal weight. Dr. Mercola, you should look into this as B3 is being put into anti-aging creams and serums--and this may be a significant side effect for men even at low doses.

Posted On 02/27/2024

ghfinn

Thank you, I have the nightmares, melatonin seems to erase or eliminate them.

Posted On 02/27/2024

lav9421

After Dr M's last report on this I added to my daily regimen and it helped me with my grief malaise. I just seemed to be able to push thru mentally a little easier. I am always concerned about a multi B because I worry with MTHFR the 12 and the 6 just accumulate and make me feel worse. I prefer single addiction approach to supplementing.

Posted On 02/27/2024

Ronald_H

lav9421, you must avoid cheap multivitamins and search for the version of folate and B-12. Many people are MTHFR and the wrong versions of those two occupy and stay in the receptor sites and block the version that your body can use. They are not present in most multivitamins because they are more expensive. Eliminate the wrong ones and never use them again. Be sure to get methyl folate and methylcobalamin.

Posted On 02/27/2024

teknical100

I've just started taking it along with Bromelain and Tumeric.

Posted On 02/27/2024

Guillermou

A good action against cancer of curcumin in addition to other recommendations associated with nicotinamine. Extensive research over the past two decades suggests that curcuminoids belonging to the diferuloylmethane class of natural products, the main components of turmeric (*Curcuma longa*), interfere with multiple cell signaling pathways, providing support for the potential role of curcumin in the modulation of carcinogenesis. These pathways include the following:---- 1) Cell cycle (cyclin D1 and cyclin E). ----2) Apoptosis (activation of caspases and downregulation of antiapoptotic gene products). -----3) Proliferation (human epidermal growth factor receptor 2 [HER-2], epidermal growth factor receptor [EGFR], and activating protein-1 [AP-1]).

----4) Survival (phosphoinositide 3-kinase [PI3K]/protein kinase B [AKT]) invasion (matrix metalloproteinase-9 [MMP-9] and adhesion molecules). -----5) Angiogenesis (vascular endothelial growth factor [VEGF]). -----6) 'Metastasis (CXC-4 chemokine receptor [CXCR-4]). -----7) 'Inflammation (nuclear factor kappa B [NF-kappa B], tumor necrosis factor [TNF], interleukin-1 [IL-1], interleukin-8 [IL-8], interleukin-12 [IL-12] , cyclooxygenase-2 [COX-2] and 5-lipoxygenase [5-LOX]).

www.ncbi.nlm.nih.gov/.../NBK568018 (2021)

Posted On 02/27/2024

RJC2001

I tried the Mercola niacinamide and it was wonderful. It gave me a nice boost of energy for one thing. However I started having more frequent nosebleeds. I realize this may have been a coincidence but the timing seems to indicate it might be related. The root cause of my nosebleeds is related to a slightly deviated septum and normal winter dryness. So my question is does niacinamide have any relation to nosebleeds? I did see a recent study that niacin can cause blood vessel damage, but that may be at much higher dosages.

Posted On 02/28/2024

johnnymars

It's like a health orgasm in a bottle!

Posted On 02/27/2024

PhotoGirl4.0

I have been taking niacinamide ever since Dr Mercola's first article about it this past year. From a recommendation from someone here, I bought from the company The Life Giving Store. Their little scoop is 80 mg instead of 50 mg. Pretty hard to figure out three 50 mg from this scoop so I do two 80 mg scoops a day. I hope that still makes it effective. If anyone on here thinks it's not, please let me know! It does last a very long time. I bought it for \$20 end of Nov and it's still got a long way to go!

Posted On 02/27/2024

mpm6191

I was so happy to see so many comments for this article, hoping someone would have already asked a question I have but am embarrassed because I am awful at math and want to make sure to get the Goldilocks dose correct!! I bought niacinamide in a powder because I question everything now in pill/tablet/ soft gel capsule form.....I bought mini measuring tsps and thought that 1/64th tsp was about right for 50 mg....now I think it's closer to 1/40th of a tsp. Am I in trouble? Should I adjust? Can someone versed in mathematics tell me how much powder equals 50 mg.?? Thank you to anyone who can help!!

Posted On 02/27/2024

Dr. Mercola

1/64 tsp of niacinamide powder is 50 mg

Posted On 02/27/2024

izi2498

You recommend 50 mg three times a day and how much do you recommend for the calcium?

Posted On 02/27/2024

Horsea

For those who don't want to take B-complex pills, you can try non-fortified nutritional yeast. I take "Foods Alive" brand. I take B12 sublingual separately, as there is none in the unfortified yeast. Still and all, I think that vitamin "deficiencies" can sometimes be caused by blockages and obstructions of various kinds in the body. Looking into that might be a worthwhile project. That is why some people go for parasite removal/liver flushes whether mild or full-bore/lavender oil/bowel cleanouts, etc. and heaven knows, there's a lot of other purges out there. Got to be careful with the strong ones, though. Do your research!

Posted On 02/27/2024

Ronald_H

Horsea, Regarding specifically this part: "... vitamin "deficiencies" can sometimes be caused by ..." The old experiments, in a quest to determine (stupid) "minimum daily requirements" and deficiency results, individual vitamins were singularly missing in diet on test subjects. But, with the B vitamins, that was not practical since foods that have one B vitamin typically also contains others, so to artificially create a deficiency of just one, they gave large doses of all the others except that one. When the body eliminated the B vitamins, it also eliminated the one not supplied in large doses. That forced the unnatural deficiency of just the one B vitamin for the misguided study.

Knowing this, I mostly avoid supplementing the B vitamins on a regular basis like daily because I don't trust that a formulator can decide the precise dosage of each to not artificially induce deficiencies in the ones at lower doses particularly knowing individuals are different. I still take them like once every couple weeks, but in between I get my B vitamins naturally like from beef liver. The exception is daily supplementation of methylcobalamin and methyl folate. I also read labels to avoid the non-methylated versions (see my other posts in this article for details on that).

Posted On 02/27/2024

Horsea

"...but in between I get my B vitamins naturally like from beef liver. The exception is daily supplementation of methylcobalamin and methyl folate." @Ronald H. I am curious as to why you would avoid supplementing with B vitamins yet make an exception for folate and B12? You said you eat liver, and beef liver does contain plenty of B12 and folate.

Posted On 02/27/2024

Horsea

"Niacinamide can help while you're clearing stored PUFAs from your cells, as it's an anti-lipolytic agent." I read in a health book that ingesting (organically grown) lavender essential oil can also remove the buildup of poor quality oils. ONE DROP! In water or olive oil. No more - this is powerful.

Posted On 02/27/2024

Stephanie360

I found some Niacinamide in 500mg pill /doses, after taking it I noticed my sense of smell came back. Which is a mixed blessing, but worth it!

Posted On 02/27/2024
