

RE-SET THE AGING CLOCK

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These research results will astound you. They unequivocally show that you have the power, with specific nutrition supplementation, to reverse the aging process. An outrageous claim? Not at all. The science of Gerontology proves it. Consider just one study, supplementing older adults with only 2 of the supplements Gerontologists call “Rejuvenins” ... (8, 9, 14, 15)

At baseline, older adults (OA), with an average age of approximately 71, were compared to younger adults (YA), with an average age of approximately 26. Imagine these rejuvenating benefits to OA after only 16 weeks:

- 71-year-olds at baseline had extreme elevations of age-accelerating inflammatory cytokines compared to 26-year-olds: Interleukin-6 820% higher, Tumor Necrosis Factor-alpha 290% higher, and C-Reactive Protein 100% higher, along with a lower level of the anti-inflammatory cytokine Interleukin-10. After 16 weeks of supplementing with just 2 Rejuvenins, IL-6 was lowered by 78%, TNF- α by 54%, and CRP lowered by 41% as IL-10 increased by 94%. Those are the astounding facts – quantified and irrefutable.
- OA had 66% lower muscle Glutathione, which increased 164% to the same level as YA.
- Markers of oxidative damage were 424% higher in OA, yet came all the way down to the level of YA.
- In physical function tests, OA were extremely deficient relative to YA in gait speed, grip strength, chair-rise test, and 6-minute rapid walk test. The 6-minute rapid walk test showed significant improvement from supplementation, and the other tests were brought up to the performance level of YA.
- OA compared to YA had significantly higher body weight, BMI, fat mass, and waist circumference. All those parameters improved, with a particularly significant improvement in waist circumference, achieved with no attempt at weight loss.
- Rejuvenin supplementation significantly lowered systolic blood pressure in OA.
- Mitochondrial energy production was evaluated using muscle fatty acid oxidation as a marker. OA were 42% lower than YA, yet muscle fatty acid oxidation improved by 78% to the same mitochondrial efficiency as YA.
- OA showed poor glycemic control, with significantly higher insulin resistance and fasting plasma insulin, which supplementation decreased by 64% and 65%, respectively, to the same level as YA. In the process, supplementation significantly increased Muscle Glucose Transporter-4 and Sirtuin expression.

- DNA damage was elevated to an extreme in OA, yet was decreased by 73%. Both mitophagy and autophagy (critical youth-preserving processes) were improved.
- Other measures of stem-cell exhaustion, cellular senescence, and telomere health were vastly improved by 16 weeks of supplementation.
- Two markers of endothelial function, and thus the tendency toward atherosclerosis, were elevated by 271% and 124%, and they were decreased to the same level as YA. The triglyceride level was decreased by 16%.

Having read this far, you need to ask yourself, “Do the supplements I recommend have the power to decrease the inflammatory state (INFLAM-AGING) of my 71-year-old patients to the level of a healthy 26-year-old? Do my supplements stoke the fire of their mitochondria to maximize the burn of fat and carbs to match the energetics of a young adult? Are my recommendations restoring grip strength and muscular stamina even without the benefit of an exercise regimen?” It may be time to redefine yourself, no longer as a Clinical Nutritionist, but as a Metabolic Therapist. (3)

Noteworthy regarding the research study you just read is that the test subjects were supplemented with only 2 Rejuvenins – Glycine and N-acetylcysteine. There are other supplements classified as Rejuvenins that yield similarly astounding benefits. Of further interest is that while Glycine and NAC have favorable metabolic benefits when administered singly, only in combination in the proper proportions are the results you just read about achieved. (8, 9, 14, 15)

That concept of synergistic benefits of supplements Gerontologists classify as “Rejuvenins” or as “Senolytics” applies to other supplement combinations. For example, when Lipoic Acid and Acetyl-L-Carnitine are tested together in cell cultures, their anti-aging benefits are achieved at 1/1000th of the concentration of either administered separately. Simultaneous and ideally proportioned administration is critical. (6)

The list of Rejuvenin nutrients is short, which allows you to give patients a concise and affordable yet powerful blend of supplements. These nutrients include:

- Carnosine (1, 5, 18)
- Alpha Lipoic Acid (6, 7, 17)
- Quercetin (2, 16)
- The combination of Glycine plus N-Acetyl-Cysteine (--- but only in combination, since NAC is toxic when not combined with Glycine) (4, 12)
- NAD (+) (--- but only in small quantities) (10, 11)

With these Rejuvenins, you can target specifically the underlying forces that drive the aging process. While other Alternative Healthcare Practitioners offer merely nutrition remedies for the consequences of the aging process, you can target the causative factors, the foundational Immuno-Neuro-Endocrine Stresses. It is these metabolic stresses that accelerate age-related decline at the cellular level.

The quantum leap in Gerontology research was the discovery that there are actually two parallel aging processes. After decades of analyzing the breakdown in tissue structure and function resulting from Oxidative Stress (OxS), researchers finally discovered that there is a second aging pathway driven by Reductive Stress (RedS), which has far more relevance in life extension than does the OxS pathway.

While OxS stresses the immune system, the nervous system, the hormonal system, and virtually every cellular function from the moment of conception, RedS does not activate until we are fully mature, at about age 23. From that point on, RedS supplants OxS as the driving force of aging decline. Further research reveals the alarming truth that excess supplementation with antioxidants will actually exacerbate the RedS-driven aging process. (2, 3, 13, 16)

From that historical turning point in Gerontology research, Gerontologists began to discover the incredible benefits on INFLAM-AGING of what they came to call Rejuvenins.

Carnosine heads the above list of Rejuvenins for good reason. It has sweeping rejuvenating effects, particularly benefiting the health of the brain, the immune system, the autonomic nervous system, and the cardiovascular system, and in preserving glycemic control. As a powerful protector against INFLAM-AGING, Carnosine is a major player in both health span and life span, protecting a broad array of cellular functions that erode with aging. In fact, the term “Rejuvenin” may have first been coined by Gerontologists when researching Carnosine. (5, 18)

Carnosine is found in its highest concentrations in the brain, the heart, and in muscle tissue. In the brain, Carnosine protects against cross-linking, glycation, excitotoxic brain cell destruction, zinc- and copper- mediated neurotoxicity, and a broad array of OxS and RedS damage to mitochondrial structure and function. (1)

Perhaps the most versatile of the Rejuvenins is Alpha Lipoic Acid. It plays a critical role in energetic metabolism, as well as protection from mitochondrial damage resulting from both OxS and RedS. It is critical in maintaining youthful function of the liver, a plaque-free endothelium, sympathetic/parasympathetic balance, and cardiac function, while protecting against Prostaglandin-mediated inflammation. (6, 7, 17)

The key concept to grasp is that your patients need Rejuvenin supplementation, not to fragmentally treat the myriad of Age-Related Diseases, but to be holistically and synergistically fed what they need to control the process of aging itself. Your clinical results will astound you.

References – RE-SET THE AGING CLOCK
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