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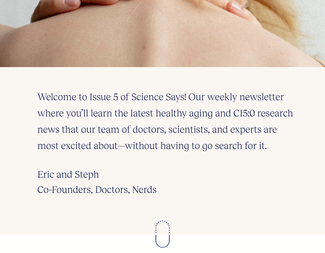
How to Slow Aging, Part IV

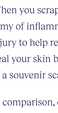
Calming Inflammation

June 26, 2022



Welcome to Issue 5 of Science Says! Our weekly newsletter where you'll learn the latest healthy aging and C15:0 research news that our team of doctors, scientists, and experts are most excited about—without having to go search for it.

Eric and Steph
Co-Founders, Doctors, Nerds



What Dr. Nik Schork, our Lead Scientist and author of over 300 peer-reviewed scientific publications, is reading.

HEALTHY AGING

Turn down the inflammation dial

For five weeks, we are covering the peer-reviewed *Trends in Endocrinology & Metabolism* paper highlighting the most exciting avenues that scientists are pursuing to slow aging and help us enjoy more healthy years.

This week, let's talk about how to turn down chronic inflammation.

When you scrape your elbow, inflammation is good. An army of inflammatory cells immediately arrives at the injury to help remove bacteria, repair damaged tissue, and heal your skin back to normal, perhaps with the exception of a souvenir scar.

In comparison, chronic, low-lying inflammation is bad. As we age, our cells become more fragile, creating cellular 'micro-injuries' that trigger an ongoing inflammatory state throughout our body.

The result? When inflammation lingers, it creates a vicious cycle that accelerates tissue damage and aging-related breakdown.

This process has a name: inflammaging.

What causes inflammaging?

In a great review paper on inflammation in aging, Bachmann et al. summarize the multitude of ways our bodies develop a persistent and hyperactive immune response, including the roles of diet, chronic stress, age, and even gender.

- *Diet.* Foods high in carbohydrates (read, sugars) can incite inflammation, so the list of reasons why you should limit your daily sugar intake just got longer. While Bachmann et al. discuss how omega-3 fatty acids can help decrease inflammation, a good review by G.D. Lawrence discusses the growing evidence that both omega-6 and omega-3s can also induce inflammation, in part due to their susceptibilities to oxidation.
- *Chronic stress.* Ongoing mental stress results in chronic inflammation, primarily due to overproduction of inflammatory cytokines. This inflammation impacts our brain, vessels, pancreas and liver, explaining why mental stress can increase our physical risk of chronic diseases, including dementia and heart disease.
- *Aging.* Oxidative stress at the cellular level exacerbates inflammation, resulting in quicker age-related breakdown…which causes more oxidative stress, more inflammation, and more breakdown.
- *Gender.* Different aspects of inflammation are tied to sex hormones and our X chromosome, resulting in different inflammatory responses between women and men. As an example, females tend to be better at making more long-term antibodies to fight infections, while males tend to release more near-term cytokines against injuries. Further, estrogen and testosterone both serve anti-inflammatory functions, and when these hormone levels decrease, inflammation increases.

Okay, got it…chronic inflammation is bad. What can I do about it?

Eat like a Greek. Eating a Mediterranean diet high in fruits, vegetables, whole grains and fish has been shown to lower pro-inflammatory cytokines that are responsible for aging-related breakdown, including IL-6 and TNF-α. Meaning, the right diet can slow aging.

Don't sit still. While sitting for long periods of time can induce chronic inflammation, exercise (especially low-impact endurance exercise) has an anti-inflammatory effect, including reducing TNF-α. Keep in mind that some exercises, like intense exercise among untrained folks, can increase inflammation.

Relax, and get those zzz's. Lowering your stress levels and getting good, deep sleep can not only help you feel happier and well-rested, but they have also been shown to lower inflammation throughout the body.

C15:0 is super-calming.

C15:0 is emerging as an essential pillar to maintaining our long-term health, including keeping our immune systems calm and balanced. Fatty15 has been proven to provide 35+ benefits at the cellular level, including decreasing cytokines (like IL-6 and TNF-alpha) that drive age-related breakdown.** Fatty15 also naturally activates receptors throughout our body and brain that help to balance our immunity, lower anxiety, provide deeper sleep, and improve joint comfort. A handful of good reasons why 2 out of 3 fatty15 customers report feeling benefits within 6 weeks.

Read more about this peer-reviewed study here.

Dive deeper into the science

READ THESE STUDIES

- Targeting aging mechanisms: pharmacological perspectives
- Inflammation in aging: multiple factors
- Roles of different dietary fats on inflammation
- Fatty15 calms overactive immune responses
- C15:0 activates PPAR receptors