

Healthy longevity cannot be bought

What we know and don't know about the aging mechanism and the industry claiming to halt it



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The medicine of healthy longevity is grounded in evidence, rules, and boundaries. So-called “biohacking,” on the other hand, usually comes with a price list. The recent death of singer Giorgos Mazonakis should not be viewed as an isolated accident, but rather as a warning of what happens when medical procedures are divorced from clinical indications, protocols, and accountability. From Hippocrates to the present day, medicine has never been a marketplace for selling promises; it is a science that serves humanity through knowledge, moderation, and the guiding principle of “Do no harm.”

Geroscience has indeed made spectacular progress. We now understand many of the mechanisms of aging – genomic instability, mitochondrial dysfunction, cellular senescence, and chronic inflammation, as well as psychosocial isolation. We possess epigenetic and proteomic “clocks” capable of estimating biological age. Yet, this scientific advancement has also spawned a parallel industry that borrows the terminology of the field without adopting its methodology.

“Blood cleansing,” “detoxification,” intravenous vitamin cocktails, peptides of dubious origin, ozone therapy, plasma from young donors, and “stem cells” are frequently marketed as shortcuts to youth. Their common feature is not that they are all equally dangerous. Rather, it is that there is no proof, derived from adequate randomized human studies, that they prolong healthy life, even though they are often promoted as if such proof already existed.

A prime example is plasmapheresis: a serious hospital-based treatment for specific autoimmune and hematological disorders, not a routine “blood cleansing” procedure for wellness. It requires a clear medical indication, a specialized team, appropriate equipment, and the capacity to immediately manage complications. Most intravenous vitamin and peptide infusions result in nothing more than expensive urine, at best. Anyone claiming that a medical procedure has no side effects or contraindications reveals a lack of medical reasoning. No treatment is without potential cost – not even aspirin.

Authentic longevity medicine begins with diagnosis, not sales. It entails taking a medical history and conducting a clinical examination, laboratory evaluation, and assessments of cardiometabolic risk, physical function, sleep, and mental health. Every intervention must address three questions: what is the indication, what is the evidence, and what is the risk? If the answer is determined instead by the “client’s” financial means, we have abandoned medicine.

Evidence, while far less spectacular, is far more robust than “miracle” regimens. Good cardiorespiratory fitness, daily physical activity, and muscle strengthening are linked to significantly lower mortality rates. The Mediterranean diet reduces cardiovascular events. Controlling blood pressure, LDL cholesterol, and blood sugar levels, along with cutting smoking, adequate sleep, vaccinations, and appropriate screening, remain our most effective interventions. These are not merely trite “lifestyle tips”; they are applied preventive medicine.

The data speaks for itself. In a study of 122,000 people, the difference in mortality between the least and most fit individuals was approximately fivefold. Even 7,000 steps a day have been linked to a significantly lower risk of death, while grip strength serves as a simple indicator of overall biological reserve. The PREDIMED study demonstrated that the Mediterranean diet can reduce major cardiovascular events by approximately 30%. These interventions lack the glamour of an exotic infusion. Yet, they possess something far more valuable: reproducible data, a known benefit, and a clearer benefit-risk profile.

Experimental approaches, such as senolytics, epigenetic reprogramming, various peptides, and the use of rapamycin or metformin in healthy individuals, currently have a legitimate place only within the framework of clinical trials: involving approved protocols, ethics committee oversight, informed consent,

and long-term monitoring. While initial human trials are exciting, they primarily investigate safety or specific diseases. An improvement in a biomarker does not automatically prove an extension of lifespan or a cure for aging.

Greece is well-positioned to take a leading role in healthy longevity. It boasts capable researchers and clinicians, a favorable natural environment, and the Mediterranean dietary tradition. Yet, despite high life expectancy, many of our fellow citizens spend years living with chronic diseases and disabilities. The goal is not merely to add years to life, but life to years: functionality, autonomy, mental clarity, social connection, and a sense of purpose. Longevity is, therefore, a matter of homeostasis and resilience, the organism's ability to adapt to changes without collapsing into a state of chronic dysfunction. It is cultivated from fetal life and childhood, within the family, at school, in the workplace, and in the community. It is simultaneously an individual responsibility and a collective social good.

Precisely for this reason, clear institutional safeguards are required: defining procedures permitted only in a hospital setting, conducting substantive checks on licensing and equipment, strictly enforcing the ban on misleading medical advertising, and ensuring scientific societies take a public stand against the misuse of the term "longevity." Silence leaves the public unprotected and allows a commercial operator to be conflated with the physician.

The future of longevity medicine is truly promising. It will emerge from the biology of aging, personalized prevention, artificial intelligence, and rigorous clinical trials. Yet, it will not arrive as a costly session offering certainties that science does not yet possess. It will come step by step, with transparency, humility, and accountability. Healthy longevity cannot be purchased as a privilege; it is cultivated throughout one's life and safeguarded by a state and a medical community that do not allow hope to be turned into exploitation.

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