

Support for Healthy Aging

Developed and reviewed by the clinical, chiropractic, and naturopathic members of the Standard Process team

The Physiology of Aging

From a biological perspective, aging is a loss of the specific regenerative and bioprotective mechanisms that occur over time.¹ Hallmarks of aging include chronic inflammation, DNA damage, reactive oxygen species activity, changes in cellular communication, genetic instability, a decline in stem cells, telomere length attrition, and mitochondrial dysfunction.²

Mitochondrial maintenance is a critical aspect of aging and human health, not only through the generation of ATP, but also via enzymes known as sirtuins. Sirtuins play an important role in cellular homeostasis and genetic repair and are thought to influence the aging process. For example, Sirtuin 3 (SIRT3) is a sirtuin localized to mitochondria that protects against oxidative phosphorylation and functions as an activator of the key mitochondrial antioxidant enzyme superoxide dismutase. SIRT3 supports the ability of the mitochondria to balance reactive oxygen species and detoxify via antioxidants.³

The aging process is influenced by environmental, lifestyle, diet, genetic, and psychosocial factors. Developing a comprehensive treatment strategy that addresses these factors can improve quality of life and provide protection from many of the far-reaching effects of the aging process.⁴

Supportive Lifestyle Practices

- Encourage the adoption of a yoga practice. Yoga can improve coordination, balance, and frailty markers and may positively influence age-related biomarkers such as oxidative stress, total antioxidant capacity, and genomic instability.⁵ Chair yoga can be a good option for those with limited mobility.
- Educate patients about contributors to oxidative stress which plays a major role in the development of age-associated metabolic, cardiovascular, and neurological dysfunction. Pro-oxidative lifestyle factors to address include smoking, alcohol intake, and exposure to extreme sun and air pollution.⁶

- Consider intermittent fasting (IF) as an intervention to support healthy aging in your patients. Fasting supports growth hormone release, insulin sensitivity, and autophagy. Research shows that IF is protective against metabolic disorders including diabetes and cardiovascular disease.⁷ There are several ways to do IF including alternate day fasting and an extended overnight fast of 16 hours. Health status, lifestyle factors, and patient preference can help determine the best regimen for an individual.

Whole Foods Nutritional Recommendations

- Recommend a diet rich in protein and essential amino acids to support skeletal muscle health. Essential amino acids are potent stimulators of muscle protein synthesis. Quality sources include beef, poultry, eggs, dairy, and fish. Aging individuals can experience anabolic resistance — a reduction in sensitivity to amino acids — thus increasing the need for protein to maintain muscle mass and deter the gain of fat, which has less metabolic activity.⁸
- Polyphenols are known activators of sirtuins: enzymes that support cellular repair in response to oxidative stress.⁹ Polyphenols are secondary plant metabolites that exhibit antioxidant and anti-inflammatory effects. Resveratrol is a polyphenol found in grape seed and skin, red wine, peanuts, cocoa, pomegranate, and berries.
- Recommend whole food sources of CoQ10 including oily fish such as salmon and tuna, organ meats such as liver, and whole grains. The CoQ10 molecule is found in every cell of the body and is highly concentrated in mitochondria. CoQ10 serves as both a direct antioxidant and upregulates endogenous antioxidant pathways such as superoxide dismutase and glutathione.¹⁰

Dietary Supplement Regimen



B Vitality with CoQ10

Suggested Use: **3 capsules per day**

B Vitality with CoQ10, formerly Cellular Vitality, is a cellular health supplement containing coenzyme Q10 (CoQ10) to help protect cells from free radicals.*

- Contains American ginseng, an adaptogenic herb, and Cordyceps sinensis mushroom
- Contains B vitamins, to fuel cells and participate in numerous body processes that contribute to normal function*
- Provides nutrients that support antioxidant activity*
- Includes the enzyme bromelain from pineapple stems and juice that modulates pathways involved in the body's natural inflammatory response function*
- Contains coenzyme Q10, a nutrient that is essential for generation of energy within the mitochondria of cells and that helps protect cells from free radicals*



Regeneplex®

Suggested Use: **2 capsules twice per day**

Regeneplex is a cellular rejuvenation supplement scientifically proven to support the normal health and appearance of skin throughout the aging process.*

- Provides a supportive nutritional foundation for healthy skin by targeting all three layers of the skin*
- Supports skin elasticity and appearance*
- Provides support for cellular structure, function, and rejuvenation*



HerbaVital

Suggested Use: **1 tablet 2-4 times daily**

HerbaVital provides multi-action support for healthy aging and contains Japanese Knotweed, Milk Thistle, Korean Ginseng, Grape seed, and Ginkgo leaf.* These herbs have been traditionally used in herbal preparations to:

- Support and maintain the body as it ages*
- Promote vitality and stamina in older adults*
- Support healthy circulation in mature men and women*
- Work as a tonic to benefit the entire body*



Senaplex®

Suggested Use: **2 capsules per meal**

Senaplex is formulated to meet the unique physiological and metabolic needs of older adults.*

- Supports a healthy nervous system*
- Supports healthy cell functioning*
- Supports cognitive function*
- Contains a combination of key ingredients from Betacol®, Protefood®, and For-Til B12®

Assessment of Healthy Aging

In Office/Physical Exam

- Bloodwork: Fasting blood sugar, fasting insulin, high-sensitivity C-reactive protein, ferritin, hormone levels, lipids
- Cognitive assessment: Mental status examination
- Physical assessment: Body composition, muscle strength, balance, flexibility

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