

# **The Microbiome, Hormones and Young Plasma Transfusions**

**A Triad for Optimal Healthy Aging**  
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Aging refers to the process of becoming older, a process that does have a basis in our genes, but is predominately affected by the environment. There is increasing evidence that the trillions of bacteria in our gut, also known as the microbiome, lies at the core of many age-associated changes. A healthy gut plays a key role in longevity across all species. Aging has large effects on both the host and the microbiome itself. These host–microbiota interactions may very well determine how healthy we are as we age. [1]

The microbiome is a principal factor in determining the strength of our immune system and its response to infection. Progression of aging involves a gradual weakening of the immune system, resulting in an imbalance between pro-inflammatory and anti-inflammatory activity. High levels of continuous inflammation increase the risk for chronic diseases and disabilities, including cardiovascular disease, brain decline, diabetes development, weakness, and even mortality. Varied and balanced gut microbes can communicate with the brain via the “gut–brain axis” safeguarding that robust brain and memory health will continue into our older years, while ensuring good nutrients for strong muscle and energy building. [2]

The composition and function of the gut microbiota is strongly influenced by both short-term and long-term dietary habits, as well as optimal hormone balance. Maintaining a balanced diet in older age may be a key factor in promoting longevity. Foods consisting of resistant starches, for example, would likely promote healthy cells in the intestines as well as decrease gut inflammation. [3]

Testing of the microbiome is simple and valuable. Evaluation of the level of the healthy bacteria, along with ensuring the functioning of all the parts of digestion are optimal, enables the body to have the building blocks for stamina and growth. Understanding the specific needs of everyone through a simple test can bring valuable information how to maximally support your bio-individual microbes.

The aging process also brings loss of hormones. Both men and women strive to maximize their healthy hormone levels and balance, but production decreases with age despite all the best efforts. Hormone testing and then replacement has been shown to restore body composition, brain cognition and memory and overall, the love of life that feels drained as we age.

Microbiome and hormone level optimization are complimented by the addition of youthful factors in young Fresh Frozen Plasma (yFFP®) for an overall regenerative effect on the system. Plasma from young, sex identified donors 18-25 years of age, who are carefully screened and with a young protein profile, high levels of growth factors, antioxidants, anti-inflammatory balance, brain stimulating neuroprotective factors and more, can be added via a simple and safe IV infusion, injection or exchange. [4]

Molecular pathways lost in aging appear to be reinstated by "the transfer of youthful factors into relevant neural niches". In the brain of mice, young plasma has been reported to reverse a variety of age-related changes. [5]

The safety of transfusions with plasma from young donors is already established. The American Red Cross estimates 6,500 units of plasma are used daily in the United States. Approximately 20% of all blood donations come from the 18-25 year age group. The FDA in its most analysis (2019) reported that out of 2.1 million transfusions of plasma that year, only one plasma-related and completely avoidable fatality occurred (TRALI – Spectrum Plasma tests all females for HLA).

[1] The Gut Microbiome, Aging, and Longevity: A Systematic Review.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7762384/>.

[2] The Microbiome and Musculoskeletal Conditions of Aging: A Review of Evidence for Impact and Potential Therapeutics.

<https://asbmr.onlinelibrary.wiley.com/doi/10.1002/jbmr.2765>.

[3] Microbiota and aging.

<https://pubmed.ncbi.nlm.nih.gov/26560527/>.

[4] Castellano JM, Kirby ED, Wyss-Coray T. et al. Blood-borne revitalization of the aged brain.

<https://pubmed.ncbi.nlm.nih.gov/26237737/>.

[4] Zhao Y, Qian R, Zhang J, Liu F, Iqbal K, Dai CL, et al. Young blood plasma reduces Alzheimer's disease-like brain pathologies and ameliorates cognitive impairment in 3×Tg- AD mice. <https://alzres.biomedcentral.com/articles/10.1186/s13195-020-00639-w>.

[5] Young plasma attenuates cognitive impairment and the cortical hemorrhage area in cerebral amyloid angiopathy model mice.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7867917/>.

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