

# Support for Healthy Cognitive Function

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

## The Physiology of Cognition

Cognition refers to the mental processes involved in acquiring knowledge and understanding through sensory input, experience, and thought. Cognitive processes encompass a range of high-level intellectual functions such as attention, memory, language, planning, judgment, and decision making.

Cognitive processes start with sensory input processed by neurons that communicate through electrical signals and chemical neurotransmitters. Key brain regions involved in cognition include the prefrontal cortex for planning and decision making, the hippocampus for memory formation and spatial navigation, and the parietal lobe for sensory integration. Neurotransmitters like dopamine, serotonin, and acetylcholine are essential in cognitive function.

Cognitive impairment is not limited to one disease or condition. It may be one of several manifestations of an underlying condition. Cognitive difficulties can be short-term or progressive and permanent. Cognitive decline often involves damage to neuronal tissue and disruptions in neurotransmitter systems. Exposure to toxicants, infection, ischemia, or trauma can promote cognitive decline. Neurodegenerative diseases such as Alzheimer's, Parkinson's, and multiple sclerosis are often associated with damage from inflammatory and immunological processes.

Comprehensive lifestyle and nutritional support can support the health of neurons and neurotransmitter systems and may support healthy inflammatory and immunological processes.

## Supportive Lifestyle Practices

- Promote healthy sleep habits to help protect cognitive function. Sleep deprivation reduces hippocampal synthesis of proteins associated with neuroplasticity and impairs hippocampal neurogenesis.<sup>1</sup> It is associated with poor attention span and deficits in working memory, altered dopamine signaling, and negative emotional states.<sup>2</sup>
- Encourage patients to engage in mentally stimulating activities to support healthy cognition. Learning, traveling, playing music, art, reading, and speaking a second language can help maintain late-life cognitive function.<sup>3</sup>

## Whole Foods Nutritional Recommendations

- Encourage patients to cook with turmeric root: a culinary spice that supports cognitive processes like attention and memory. Compounds in turmeric have demonstrated the ability to promote healthy oxidative and inflammatory responses in the brain, modulate neurotransmitters, and support healthy HPA and gut-brain axis function.<sup>4</sup>
- Encourage the consumption of foods that are rich in omega-3 fatty acids such as calamari, salmon, sardines, and mackerel. EPA and DHA play a role in maintaining cognitive function and memory.<sup>5,6</sup> They regulate the function and structure of neurons, endothelial cells, and glial cells in the brain, and can modulate thrombotic and inflammatory processes.
- Promote consumption of foods rich in vitamin B<sub>6</sub> such as chickpeas, tuna, salmon, chicken, turkey, and banana. B<sub>6</sub> acts as a key coenzyme in the synthesis of neurotransmitters and is essential for healthy cognitive function.<sup>7</sup>

# Dietary Supplement Regimen



## NeuroRegenex

Suggested Use: **2 tablets 3 times daily**

MediHerb® NeuroRegenex offers a specialized extract of curcumin with FenuMAT™ technology for enhanced bioavailability; along with Boswellia with FenuMAT™, Bupleurum, and Gotu Kola, which is standardized for key constituents. The herbs in NeuroRegenex work to:

- To provide antioxidant activity\*
- To support a healthy inflammatory response\*
- To tonify the brain and support healthy mental clarity, cognition, and memory function, as used traditionally in Ayurveda\*
- Rejuvenate and support the body's natural ability to adapt to temporary stress, as used traditionally in Ayurveda\*



## Calamari Omega-3 Liquid

Suggested Use: **1 teaspoon (5 mL) per day**

Calamari Omega-3 Liquid is a calamari oil supplement that supports brain health and cognitive function and healthy inflammatory processes.\*



## Bacopa Complex

Suggested Use: **1 tablet 3-4 times daily**

Bacopa Complex contains Bacopa, Schisandra, Eleuthero, and the essential oil of Rosemary. These herbs have been traditionally used in herbal preparations to:

- Enhance mental clarity and support healthy cognitive function\*
- Support normal memory function\*
- Support healthy memory and concentration as a brain tonic\*
- Ease the effects of temporary and occasional stress\*



## Neurotrophin PMG®

Suggested Use: **1 tablet 3 times per day**

Neurotrophin PMG® contains porcine brain PMG™ extract, a proprietary Protomorphogen™ blend.

- PMGs contain a unique profile of nucleotides and peptides from porcine brain.

## Assessment of Cognitive Health

## In Office/Physical Exam

- Key Labs: hormone panel, cardiometabolic markers, nutrient status, environmental toxicant screening, comprehensive hormone panel, autoimmunity markers
- Medical Hx: trauma, surgery, metabolic health, sleep quality, mood and cognitive issues
- Omega-3 Plus Index Test
- Mental Status Examination
- Consider referral for neuropsychological testing
- Brain imaging in appropriate patients

## REFERENCES

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3. Livingston, G., et al. (2020). Lancet (London, England), 396(10248), 413–446.
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