



Hypo-serotonergic™ conditions occur when serotonin concentrations are not enough, low, inadequate, depleted, deficient, or suboptimal on a modified normal diet.™

Hypo-dopaminergic™ conditions occur when dopamine concentrations are not enough, low, inadequate, depleted, deficient, or suboptimal on a modified normal diet.™

Hypo-glutathionemia™ conditions occur when glutathione concentrations are not enough, low, inadequate, depleted, deficient, or suboptimal on a modified normal diet.™

- Giving only *serotonin precursors* can deplete dopamine and glutathione.™
- Giving only *dopamine precursors* can deplete serotonin and glutathione.™
- Giving only *glutathione or glutathione precursors* can deplete serotonin and dopamine.™

The centrally acting monoamines (monoamines) are serotonin, dopamine, norepinephrine, and epinephrine.

For the management of **hypodopaminergic™ conditions** or states that may accompany

Cognitive Impairment: Alzheimer's Disease

A **hypodopaminergic condition** or state often accompanies Alzheimer's (see the right column).

After diagnosing Alzheimer's, formulate a differential diagnosis to rule out accompanying issues, including a **hypodopaminergic condition** or state.

Consider using an empirical trial of the **hypo-serotonergic-hypodopaminergic condition** starting point protocol.

Management of the **hypodopaminergic condition** or state which may accompany Alzheimer's requires establishing dopamine concentrations higher than are possible with modification of the normal diet.

Alzheimer's may be accompanied by symptoms arising from a **hypo-serotonergic™ condition** or a **hypodopaminergic condition**

“Recent studies showed low dopamine levels may mean an increased risk of Alzheimer’s disease.” Lu, M. An electrochemical sensor based on MnO₂ nanostructures modified reduced graphene oxide (rGO) for detection of dopamine Int. J. Electrochem. Sci., 16(2021) Article Number: 21109, doi: 10.20964/2021.10.12

“Alzheimer's disease (AD) is a genetically complex neurodegenerative disorder. Degeneration of the locus coeruleus and decreased cortical levels of noradrenaline (NA, precursor dopamine) were detected in AD (Alzheimer's Disease).”

Feher, A. et al. The Dopamine β-hydroxylase c-1021T Polymorphism In Alzheimer's Disease, European Psychiatry , Volume 28 , Issue 51: Abstracts of the 21th European Congress of Psychiatry , 2013 , pp. 1

“Based on a description of the role of dopamine in dementia by Bachman and Albert,' we suspected that patients with dopamine deficiency might exhibit a characteristic neurobehavioural profile that cuts across the traditional diagnostic categories of Alzheimer's disease, Parkinson's disease, and major depressive disorders. Low dopamine has been associated with extrapyramidal motor signs, cognitive impairment and depression within each of these disorders.

We suspected that low dopamine could be a common neurochemical pathology which accounts for similarities observed across these diagnostic groups.”

Wolfe, N. et al. Neuropsychological profile linked to low dopamine: in Alzheimer's disease, major depression, and Parkinson's disease, Journal of Neurology, Neurosurgery, and Psychiatry 1990;53:915-917

Hypo-serotonergic / Hypodopaminergic Condition Starting Point Protocol™

		AM	NOON	4 pm
Day-0	Level 1	3 R&R	---	3 R&R
Day-7	Level 2	3 R&R	3 R&R	2 R&R Sans
Day-14	Level 3	3 R&R	3 R&R	4 R&R Sans
Day-21 - If symptoms are still present after seven days on level 3 submit a specimen for serotonin and dopamine assay to DBS Labs, 1-877-476-7229				

Figure 1: If symptoms have resolved completely after seven days on any level, do not increase to the next level, do not order testing. Increase to the next level if symptoms are still present after seven days. **Order lab testing after seven days on level 3 if symptoms are still present. Lab testing determines if the serotonin or dopamine protocol is required.** Dosing levels 1-3 do not require lab testing. Do not increase to level 4 through level 9 or switch to the dopamine protocol without first obtaining a serotonin and dopamine assay.

