



Hinze Medical Foods™ / NeuroResearch Centers, Inc.™
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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 dopamine 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 a 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 S1: Abstracts of the 21th European Congress of Psychiatry , 2013 , pp. 1

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.

