



**Hinz Medical Foods™ / NeuroResearch Centers, Inc.™**  
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**Hyposerotonergic™ conditions** occur when serotonin concentrations are not enough, low, inadequate, depleted, deficient, or suboptimal on a modified normal diet.™

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

**Hypoglutathionemia™ 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 **ADHD**

A **hypodopaminergic condition** or state often accompanies ADHD (see the right column).

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

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

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

**ADHD** may be accompanied by symptoms arising from a **hyposerotonergic™** condition or a **hypodopaminergic** condition

"We pointed out that the observed selective attention deficit was associated with dopamine depletion at the caudate level." Cammisuli DM, et al. Mild Cognitive Impairment in de novo Parkinson's Disease: Selective Attention Deficit as Early Sign of Neurocognitive Decay. Front. Psychol. 12:546476. doi: 10.3389/fpsyg.2021.546476

"Attention Deficit Hyperactivity Disorder has been associated with dysfunction in dopaminergic, and possibly, noradrenergic cortico-subcortical networks related to executive functioning and the regulation of behavior." Applied Psychophysiology and Biofeedback, Vol. 30, No. 4, December 2005

"In terms of understanding molecular mechanisms involved in human ADHD, the **hypodopaminergic** hypothesis, as observed in addictive disorders, is predictive of associated ADHD behaviors in humans." Gold, et al. Low Dopamine Function in Attention Deficit/Hyperactivity Disorder: Should Genotyping Signify Early Diagnosis in Children? Postgrad Med. 2014 January ; 126(1): 153-177.

"A leading pathophysiologic hypothesis of attention-deficit/hyperactivity disorder (ADHD) is based on the notion of a catecholamine [CA; norepinephrine (NE), epinephrine (EPI), and dopamine (DA)] dysfunction. This hypothesis suggests that the CA response to environmental stimuli is attenuated in ADHD." Wigal, S. et al. Catecholamine Response to Exercise in Children with Attention Deficit Hyperactivity Disorder, Pediatric Research 53, 756-761 (2003)

### Hyposerotonergic™ / 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 <b>DBS Labs, 1-877-476-7229</b>				

**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.

