Hinz Medical Foods™ / NeuroResearch Centers, Inc.™
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Hyposerotonergic™ conditions occur when serotonin concentrations are not enough, low, inadequate, delpeted, 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 **hyposerotonergic™ conditions** or states that may accompany

Insomnia

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

A **hyposerotonergic** condition or state often accompanies insomnia (see the right column).

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

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

Management of the **hyposerotonergic** condition or state which may accompany insomnia requires establishing serotonin concentrations higher than are possible with modification of the normal diet.

"A positive relationship existed between serotonin and sleep stage 3+4 ($r = 0.24$, $P = .01$) and REM ($r = 0.48$, $P = .01$)." Gottschlich, M. et al. An Evaluation of the Neuroendocrine Response to Sleep in Pediatric Burn Patients JPEN J Parenter Enteral Nutr OnlineFirst, published on February 17, 2009 as doi:10.1177/0148607108325180

"Since near the time of its discovery over 40 years ago, the serotonergic system has been implicated in the regulation of the sleep-wake cycle. While early studies indicate that (low) serotonin (5-HT) was associated with the initiation and maintenance of sleep, later studies indicate that serotonergic neurons also play a role in inhibiting sleep." Dugovic, C. et al. Revue Neurologique, 01 Nov 2001, 157(11 Pt 2):S16-9

"Free plasma tryptophan is the precursor of the cerebral neurotransmitter serotonin, and Jouvet has proposed that serotonin depletion by pharmacological means leads to insomnia." Thomson, J. et al. Effect of oestrogen on the sleep, mood, and anxiety of menopausal women British Medical_Journal, 1977, 2, 1317-1319

"The index of serotonin in blood plasma platelets was determined because the serotoninergic system is involved in the regulation of sleep and wakefulness. Low serotonin levels are believed to be linked with depression, insomnia; when levels of serotonin are brought up to normal sleep falls into place." Vashadze, S. et al. Insomnia, serotonin and depression Georgian Med News 2007 Sep;(150):22-4."

"It is known that serotonin plays a prominent role in induction of sleep and that this neurotransmitter may cause the inhibition of REM sleep." Pries, G. et al. Is serotonin responsible for the relationship between sleep debt and suicide? A comment on Kohyama's hypothesis Medical Hypotheses 75 (2010) 674–684

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 **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.