

Dr. Abram Hoffer's orthomolecular medicine framework focuses on restoring mental health by using optimal doses of natural substances like **vitamin B3**, **vitamin C**, and **zinc** to correct biochemical faults in the brain. This approach directly contrasts with standard pharmaceutical treatments, which the text labels as "**toxicmolecular**" **medicine** due to its use of foreign, synthetic molecules (xenobiotics) that the body cannot easily eliminate. Here is a structured, organized summary of your notes on the biochemical causes and nutritional protocols outlined by Dr. Hoffer.



The Biochemical Hypothesis (Brain Function)

- **Adrenochrome toxicity:** Adrenaline oxidizes into adrenochrome, a highly reactive chemical that is poisonous to nerve cells.
- **Synaptic interference:** Excess adrenochrome blocks the enzymes responsible for removing neurotransmitters, overstimulating neurons and altering brain waves.
- **GABA reduction:** Adrenochrome inhibits the enzyme that creates GABA, leading to an over-excitable, irritable, and anxious brain.
- **Energy depletion:** High levels of oxidized adrenaline derivatives lower energy production in the brain, causing profound fatigue.
- **Blood-brain barrier:** A substance called taraxenin lowers this barrier, allowing toxic adrenaline derivatives to penetrate brain tissue.



Orthomolecular Treatment Protocol

Core Supplements

- **Vitamin B3 (Niacin/Niacinate):** Slows down adrenaline formation and absorbs methyl groups to prevent noradrenaline conversion (Target: **3 g per day**, split into 500 mg doses after meals).
- **Vitamin C (Ascorbic acid):** Helps convert toxic adrenochrome into non-toxic compounds and protects neurons (Target: **3 g per day**).
- **Vitamin B6:** Supports vital enzymatic processes in the brain (Target: **100 mg to 1,000 mg per day**).
- **Zinc sulfate:** Works synergistically with vitamin B6 to stabilize brain chemistry (Target: **220 mg per day**).

Secondary Nutrients

- Glutathione & Cysteine:** Amino acid derivatives that assist enzymes in neutralizing adrenochrome.
- Ceruloplasmin:** A copper-containing blood substance that mops up harmful adrenaline derivatives.
- Other vitamins:** Vitamin A, vitamin E, calcium pantothenate, folic acid, and vitamin B1 (**100 mg to 3,000 mg per day**).



Dietary & Environmental Adjustments

- Sugar elimination:** Remove all refined sugars to protect metabolic health.
- Dairy & grain removal:** Eliminate these common allergens as **50% of bipolar patients** show cerebral food allergies.
- Allergy testing:** Screen explicitly for underlying food sensitivities that trigger brain inflammation.
- Stress reduction:** Avoid psychological trauma, cruelty, and anxiety-inducing situations, as they spike adrenaline flow.