



Hinz Medical Foods™ For the management of Drug-induced hyposerotonergic™ conditions



Recommended daily starting dose:
two tablets, three times a day
To be used under the supervision of a licensed caregiver

Drugs that work with serotonin do not work if there are not enough (depleted) serotonin.™
When SSRIs deplete serotonin, the only way to increase the synthesis of the total number of serotonin molecules in the system is by administering the required nutrients as found in R&R™.

THE PROBLEM - SSRI-induced serotonin depletion

Platelets contain 99% of whole blood serotonin¹

Medical science literature documents the magnitude of SSRI-induced serotonin depletion:

- SSRIs may deplete™ 80% of platelet serotonin in two weeks²
- SSRIs may deplete 90% of platelet serotonin in three weeks³
- Eventually, lab assay of platelet serotonin may become undetectable⁴

For a more in-depth depletion bibliography, go to <https://hinzmedicalfoods.com/bibliography-1/>

A POTENTIAL SOLUTION - R&R™

R&R™ can achieve serotonin concentrations higher than a modified normal diet alone while addressing the ability of serotonin precursors to deplete dopamine (catecholamines) and glutathione (thiols).

**To order for the clinic, pharmacy, or to authorize online ordering by the patient contact NeuroResearch Centers, Inc. +1-218-626-2220
1150 88th Ave W, Duluth, MN | Brenda@NeuroAssist.com**

R&R is a medical food administered enterally under the supervision of a healthcare professional for the specific dietary management of hyposerotonergic conditions or states.

¹McCloskey, D. et al. Selective Serotonin Reuptake Inhibitors (SSRIs): Measurement of Effect on Platelet Function Transl Res. 2008 March; 151(3): 168-172

²Jordan, S. et al. Serotonergic agents increase the incidence of GI bleeds in patients with continuous-flow left ventricular assist devices J heart and lung tpol 05 Jan 2016, 35(6):823-824

³Wagner, A. et al. Effects of fluoxetine treatment of platelet 3H-imipramine binding, 5-HT uptake and 5-HT content in major depressive disorder, J of Affective Disorders, 20 (1990) 101-113

⁴Mauer-Spurej E. et al. The influence of selective serotonin reuptake inhibitors on human platelet serotonin Thromb Haemost 2004;91:119-28



Hinz Medical Foods™ / NeuroResearch Centers, Inc.™
1150 88th Ave. West - Duluth, MN +1-218-626-2220 | www.HinzMedicalFoods.com

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.™

Hypogluthionemia™ 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.

A MEDICAL FOOD APPLICATION - MANAGING **HYPOSEROTONERGIC™** CONDITIONS CAUSED BY **SSRI-INDUCED SEROTONIN DEPLETION**



PERSPECTIVES

SSRI MEDICATIONS MAY DEplete SEROTONIN.

- Platelets contain 99% of whole blood serotonin.
- SSRIs may deplete™ 80% of platelet serotonin in two weeks
- SSRIs may deplete 90% of platelet serotonin in three weeks
- Eventually, lab assay of platelet serotonin may become undetectable

HOW SSRI-INDUCED SEROTONIN DEPLETION MAY CAUSE TACHYPHYLAXIS

- SSRI drugs that work with serotonin do not work if there is not enough serotonin due to depletion.™
- The only way to increase the synthesis of the total number of serotonin molecules in the system is by administering the required nutrients.™

R&R may be administered concomitantly with SSRIs to address SSRI-induced serotonin depletion (see below).

R&R BENEFITS:

1. R&R can establish peripheral and central serotonin concentrations higher than is possible by modifying a normal diet.
2. Administering only the serotonin precursors L-tryptophan or 5-L-hydroxytryptophan can deplete dopamine (catecholamines), glutathione (thiols), and their associated metabolites.
 - a. Specially formulated, R&R contains the nutrients required to address the depletion of dopamine and glutathione by serotonin-related nutrients.
 - b. Specially formulated, R&R provides concomitant administration of properly balanced nutrients required to optimize serotonin, dopamine, and glutathione concentrations higher than is possible by modifying a normal diet.

R&R POTENTIAL INDICATIONS:

1. R&R is for the management of SSRI-induced serotonin depletion.
2. R&R manages depleted, low, not enough, deficient, suboptimal, or inadequate serotonin concentrations.
3. R&R addresses serotonin precursor-induced dopamine and glutathione depletion.
4. R&R is for the management of suboptimal or depleted glutathione concentrations.

SYMPTOMS OF SSRI-INDUCED SEROTONIN DEPLETION

1. Inadequate serotonin concentrations may cause SSRI drugs to quit working.
2. Serotonin depletion may cause a relapse of serotonin-related symptoms.
3. Low or depleted serotonin may cause SSRIs to not work at the initiation of care.
4. SSRI-induced serotonin depletion may cause coagulopathy (increased bleeding times).

R&R DOSING: Recommended daily dosing is two tablets three times a day with or without SSRI medication.

SIDE EFFECTS: There are no known irreversible side effects associated with R&R. When properly managed, there are no known side effects that require permanent discontinuation of R&R. **The SSRI prescribing information posted on the FDA website reveals no serotonin syndrome warnings relating to concomitant SSRI administration with R&R or any its ingredients.** In addition, with over twenty years of experience in multiple medical clinics, there have been no reported cases of serotonin syndrome with concomitant administration of SSRI drugs and R&R or the ingredients found in R&R. For side effect management assistance, call +1-218-626-2220.

For full R&R product information as submitted to the FDA, go to: <https://hinzmedicalfoods.com/product-information/>