

# OSR: A New Way to Detoxify



**F**ive years ago, Woody McGinnis, MD wrote about the role of oxidative stress in autism spectrum disorders. (See 9:2,6.) Since then, new options for relieving oxidative stress are available. One of these is **OSR#1™** developed by biochemist Boyd Haley, Ph.D.

## Oxidative Stress and Glutathione

As a quick review, oxidative stress is a condition in which the body's natural defenses are overwhelmed by toxins known as oxidants, which enter the body from the environment, and are natural by-products of normal metabolism. Certain toxins cause the formation of free radicals which are considered to be the major contributor to oxidative stress.

The body fights oxidants and free radicals with anti-oxidants. A key anti-oxidant is glutathione, (See 10:2,7) the body's pivotal detoxification tool to reduce oxidative stress. If insufficient glutathione and other antioxidants are available, the body suffers from free radical damage and oxidative stress. Such damage can increase retention of toxins. Clinicians have been frustrated that available options for reducing oxidative stress are either inefficient at removing oxidants, have toxic side effects, or both.

The following is excerpted from a phone presentation Dr. Haley gave to a parent group in New York.

### What is OSR#1™?

**OSR#1™** is a patented compound that acts as an antioxidant. It is produced by combining two non-toxic compounds which are products of human catabolism. Testing done on test animal organs using dosages thousands of times higher than recommended for human use proves **OSR#1™** to be very non-toxic.

**OSR#1™** is an antioxidant that works at the cellular level by scavenging free radicals, consequently salvaging and maintaining healthy levels of glutathione. It is fat-soluble and can thus permeate cell phospholipid membranes. **OSR#1™** spares minerals, and thus does not impair essential mineral status.

### How OSR#1 Works

**OSR#1™**, due to its solubility in lipids, has the ability to penetrate the membranes of cells and possibly the mitochondria, where toxins may be stored and where hydroxyl free radicals do their damage. Two -SH groups on **OSR#1™** may scavenge hydroxyl free radicals. In the process, glutathione is salvaged, as it is the -SH group of glutathione that reacts with hydroxyl free radicals causing the oxidation and consumption of this vital antioxidant. Maintaining a healthy glutathione level, which **OSR#1™** can accomplish, is vital to proper detoxification. Because **OSR#1™** is not rapidly excreted, it remains in the body longer than water soluble antioxidants, and appears more effective at scavenging hydroxyl free radicals.

### Determining Appropriate Candidates for OSR#1™

Run two laboratory tests to obtain baseline data prior to using **OSR#1™**. First, measure blood glutathione to establish whether adequate levels are present. Use **OSR#1™** only when GSH is inadequate. Also, run a urinary porphyrin profile to determine the presence and type of toxicity. **OSR#1™** is not recommended for children under 55 pounds nor pregnant or lactating mothers. Future safety studies are necessary to reverse this recommendation.

Those with known sensitivities to sulfur and sulfur-containing substances should not use **OSR#1™**, as it has a high affinity for disulfide compounds. Because some common yeast conditions release toxic byproducts that contain disulfide bonds, **OSR#1™** may theoretically bind to them, changing their properties. As a precaution, those with suspected yeast problems and individuals taking antifungal medications should avoid **OSR#1™** until their yeast conditions are under control. Healthcare professionals must closely monitor people with diseases associated with low glutathione levels who take **OSR#1™**.

### Dosing

Haley recommends 100 mg/day. While effective, this recommended amount may not be optimal for everyone. Always begin slowly, and wait at least one month before increasing intake, and only after consulting with a qualified licensed clinician. When increasing supplementation of **OSR#1™**, increase by a maximum of 100 mg per day. For example, if your doctor or nutritionist advises 300 mg of **OSR#1™** daily, three months are necessary to achieve that amount. Start low and go slowly, using the smallest dosage to achieve benefit. Daily intake should not exceed 500 mg per day.

### Evaluating the Effects of OSR#1™

Haley makes no claims, nor has the FDA approved **OSR#1™** for treatment of any illness or medical condition, including autism. Objective measures are healthy blood glutathione levels and improved porphyrin profiles. Changes in stool – less odorous, sticky, and slimy – also occur because of changes in bile production. Subjective measures include decreased intestinal pain, more restful sleep, and improved eye contact. Positive effects of **OSR#1™** may be evident within two weeks.

**OSR#1™** does not replace a healthy diet or recommended supplements such as melatonin or methyl B12. Haley urges patients to work with their doctors on what supplements, including other antioxidants, to take with **OSR#1™**. Because it does not leach essential minerals, such as zinc and copper, **OSR#1™** does not increase the need for additional supplements. Individuals undergoing chelation, should only take **OSR#1™** as an antioxidant under the expertise of an experienced clinician.

### OSR#1™ Side Effects

No foods or supplements are safe for everyone. If a reaction occurs, stop taking **OSR#1™** immediately, and report symptoms to the prescribing healthcare professional. Use activated charcoal, available over-the-counter, to bind **OSR#1™**.

Reported reactions, though rare, short-lived and quickly abated, include rashes, fever, diarrhea, and constipation. As noted above, for those with unstable digestive function, yeast overgrowth could occur, or reactions could be a response to healthy glutathione levels stabilizing. Thyroid function can also show improvement due to decreased oxidative stress.

### Bottom Line

Clinicians practicing functional medicine should view **OSR#1™** as a new tool for detoxification. As more individuals use it, benefits and issues will become more apparent. For more information, go to [www.ctscience.com](http://www.ctscience.com).

*The following people contributed to this article: Nancy McPartlin-Gardella who transcribed Dr. Haley's talk and Laura Lagano, MS, RD, Functional Nutritionist, who edited it.*