

Glutathione, Turmeric, Selenium

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Glutathione (asparagus) benefits cataracts, glaucoma, Alzheimer's, and Parkinson's. Turmeric in curry protects diabetic eyes. Selenium (Brazil nuts) is an antioxidant.

Antioxidants are the antidote to oxidative stress in the tissue. Oxidative stress can be thought of as body rust because oxidation also causes metals exposed to the elements to rust. Oxidative stress shows up in areas where free radical molecules irritate the cells and cellular structure.

Glutathione in Alzheimer's Disease and Cataracts

Deficiencies of glutathione are seen in conditions of oxidative stress, including cataracts, Parkinson's disease, glaucoma, and Alzheimer's disease. Chronic glutathione deficiencies are associated with certain immune disorders, HIV, development of cataracts, and an increased incidence of certain types of cancers. Glutathione deficiencies are also seen in toxicity issues such as an overdose of medications, decreased liver function or in cases where overall nutrients are lacking in the diet as in some eating disorders and malnutrition.

A potent antioxidant, glutathione is produced in the human body from the synthesis of three key amino acids - [cysteine](#), [glycine](#), and [glutamic acid](#).

Nutrients to increase glutathione levels and activity include lipoic acid, vitamins E and C, and [selenium](#) (Brazil nuts, meat, seafoods). The B vitamin riboflavin (sunflower seeds, spinach, avocados) appears to play an essential role as a precursor co-factor for glutathione.

Asparagus is a leading source of glutathione. Broccoli, avocado and spinach are also known to boost glutathione levels. Garlic helps to maintain optimal glutathione levels. Other foods with naturally high levels of glutathione are grapefruit, squash, potatoes, cantaloupe, peach, zucchini, spinach, watermelon, and strawberries.

Fish, meat, and foods which yield sulfur containing amino acids (e.g. eggs) are preferred sources for maintaining and increasing bodily glutathione levels.

Turmeric, Diabetic Cataracts, Neuropathies

Turmeric, an Indian curry spice has been used in the treatment of brain cells called astrocytes. It has been found to increase expression of the glutathione S-transferase, protect neurons exposed to oxidant stress and has other benefits as well. "[Curcumin](#), an active ingredient of turmeric (*Curcuma longa*), inhibits proliferation and induces apoptosis in cancer cells, but the sequence of events leading to cell death is poorly defined." The spice's affect on diabetic cataracts as well as another visual problem, diabetic retinopathy has also been documented.

Selenium and Cataracts

The evidence surrounding selenium and cataracts is anything but clear. A 1995 study put it this way, "[Cataractogenesis](#) [the formation of cataracts] may be caused either by the excess or deficiency of this trace element."

Selenium studies suggest it may play a role in decreasing the risk of certain cancers, affect the immune system and thyroid activity. This is all good. However, too much selenium can cause some toxic effects including gastrointestinal upset, brittle nails, hair loss and mild nerve damage.

The amount of selenium in meats and plant foods depends on the levels of selenium in the soils. Many food production areas are selenium deficient. A very high source of selenium is brazil nuts. This essential trace mineral is also found in fish, eggs and dairy.

A 2006 [study](#) noted that people with the most opaque and colored cataracts had the most selenium in the lens and the least selenium in the blood. In diabetics, changes in the levels of selenium in the lens and in the blood were detectable before the onset of severe symptoms.

Smokers have decreased selenium levels in both the lenses and the blood, perhaps due to the anti-inflammatory effect of nicotine. Researchers are also looking at nicotine as an anti-Alzheimer's disease drug because of its effect on [Beta Amyloid Proteins](#). While smoking has been associated with increased cataract formation.