

35) Yoshida K, Hirokawa J, Tagami S, et al. Weakened cellular scavenging activity against oxidative stress in diabetes mellitus: regulation of glutathione synthesis and efflux. Diabetol 1995;38:201-210.

36) Grimble RF. Effect of antioxidative vitamins on immune function with clinical applications. Intl J Vit Nutr Res 1997;67:312-320.
37) Sen CK. Glutathione homeostasis in response to exercise training and nutritional supplements. Mol Cell Biochem 1999;196:31-42.
38) Meister A. Mitochondrial changes associated with glutathione deficiency. Biochim Biophys Acta 1995;1271:35-42.
39) Kidd PM. Parkinson's disease as multifactorial oxidative neurodegeneration: implications for integrative management. Altem Med Rev 2000;5:502-529.

40) Witschi A, Reddy S, Stofer B, et al. The systemic availability of oral glutathione. Eur J Clin Pharmacol 1992;43:667-669. 41) Hagen TM, Wierzbicka GT, Sillau AH, et al. Bioavailability of dietary glutathione: effect on plasma concentrations. Am J Physiol 1990;259:G524:529.

42) Vincenzini MT, Favilli F, lantomasi T. Intestinal uptake and transmembrane transport systems of intact GSH; characteristics and possible biological role. Biochim Biophys Acta 1992;1113:13-23.
43) Aw TY, Wierzbicka G, Jones DP. Oral glutathione increases tissue glutathione in vivo. Chem-Biol Interact 1991;80:89-97.

AURO GSH®

PATENTED TECHNOLOGY TO STABILIZE GLUTATHIONE

IN THE REDUCED FORM

FOR MULTIPLE USE.

44) Perlmutter D. BrainRecovery.com. Naples, FL: The Perlmutter Health Center; 2000.

45) Faintuch J, Aguilar PB, Nadalin W. Relevance of N-acetylcysteine in clinical practice: fact, myth or consequence? Nutrition 1999; 15: 177-179.
46) Traber J, Suter M, Walter P, et al. In vivo modulation of total and mitochondrial glutathione in rat liver. Biochem Pharmacol 1992;43:961-964.

47) Bridgeman MM, Marsden M, Selby C, et al. Effect ofNacetyl cysteine on the concentrations ofthiols in plasma, bronchoalveolar lavage fluid and lung tissue. Thorax 1994;49:670-675.

48) Fuchs J, Schofer H, Milbradt R, et al. Studies on lipoate effects on blood redox state in human immunodeficiency virus infected patients. Arzneimittelforschungl 993 ;43: 1359-1362.

 Packer L, Witt EH, Tritschler HJ. Alpha-lipoic acid as a biological antioxidant. Free Rad Biol Med 1995; 19:227-250.
 Kalayijan RC, Skowron G, Emgushov R-T, et al. A phase I/II trial of

intravenous L-2-oxothiazolidine-4-carboxylic acid (procysteine) in asymptomatic HIV-infected subjects. J Acq Immune DefSyndr 1994;7:369-374.

51) Vita JA, Frei B, Holbrook M. L-2-0xothiazolidine-4-carboxylic acid reverses endothelial dysfunction in patients with



"Where Science Meets Results."



www.bWellNetwork.com

2121 E. Lambert st, Ste 307, La Habra, CA 90631 P: 1-833-883-3999 | www.bWellNetwork.com **bWell**

Immunity Builder

Activated by patented AURO GSH® The Only Water Soluble, Topical Glutathione Spray on the Market.

Patented Sub-Nano Technology to Stabilize Glutathione in the Reduced Form For Multiple Use



bWell

Immunity Builder

Activated by Auro GSH⁴

1.0 fl cz (30mL) Made in USA

bWellNetwork.com

P: 1-833-883-3999 | www.bWellNetwork.com

These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease. Individual results may vary

What is Glutathione (GSH)?

- Glutathione is labeled the "Master Antioxidant" for its ability to aggressively recycle the other antioxidants, and its powerful detoxification capabilities. The main job of GSH is to protect our bodies from free radicals.
- Glutathione is a tripeptide protein molecule that is produced naturally all the time in your body. The GSH molecule is a combination of three simple building blocks of protein or amino acids— cysteine, glycine and glutamine.
- Natural production levels of glutathione decline as early as age 12, due to growing environmental toxins and stressors, and are lower in individuals who suffer from chronic disease.
- Intravenous (IV) glutathione is now commonly administered by doctors and Nutrition IV clinics, and is increasingly popular as part of a high-end health regime delivered without prescription.
- Other less effective liposomal glutathione delivery systems, including (oral) pill form supplements and sublingual drops, are also available, but are considered largely ineffective.

What is that Smell?

Sulfur is the Secret!

We refuse to dilute the efficacy of Auro GSH® with artificial fragrances. Instead we encourage you to embrace the smell of sulfur! It's found in nature and it won't hurt you. In fact, sulfur plays a critical role in the skin-based elimination of free radicals that cause oxidative stress.

Auro GSH's sulfur smell is similar to what you'd encounter in a sulfur-rich environment, such as the famous Blue Lagoon Bio-thermal hot springs in Iceland, or a natural bog. Some people are highly sensitive to this smell and find it unpleasant, while many others appreciate that it signifies its potency, and the powers of Auro GSH®. If your glutathione does not have a slight rotten egg smell, you should question it's authenticity.

Why is bWell[™] Network your most trusted source for effective Glutathione?

Auro GSH® is the only patented water soluble topical glutathione, and offers the highest skin absorption rate available, delivering maximum results through its unprecedented patented sub-nano technology.

 "We are in a situation where our manufacturing and our recycling of glutathione is maxed out," "We just can't detoxify fast enough."
 David Perlmutter, MD, FACN, ABIHM, author of Power Up Your Brain:

The Neuroscience of Enlightenment .



Recommended Use:

The 30ml bWell[™] Spray is designed to support twice daily applications for one month. Results vary between individuals, but most start to feel effects within days.

- Spray four pumps twice daily for dermal detoxifying benefit. (Totaling 8 pumps).
- Spray in palm of hand, and then rub on the desired area. A good area to apply the bWell[™] is on the stomach, as it is an absorbent area.
- · For aesthetic or facial anti-aging purposes, apply directly on desired target area.
- Allow to dry. bWell's sulfur smell dissipates in approximately 5 minutes from the time of application.
- You can wash the area after 30 minutes to eliminate trace smell or residual stickiness from the sticky molecule.
- The key is to leave the bWell[™] on your skin for 30 minutes before washing off, or you may apply lotion over it after the 30 minute period.

External / Aesthetic Applications of bWell™:

Glutathione (GSH) has also been shown to have demonstrative external results in the areas of anti-aging and various skin issues.

Aging:

The aging process is associated with deterioration of GSH homeostasis. Data suggests that higher GSH levels correlate with better health, regardless of age, and that subjects with chronic disease have poorer GSH status than those free of disease. Exercise training can also strengthen GSH homeostasis. With progressively more disease states being associated with GSH deficiency, supplementing our GSH levels is a viable, preventative and therapeutic anti-aging strategy.

Skin-based Detoxifier:

bWell[™] is an energizing skin-based detoxifier that will accelerate your body's own elimination of free radicals and protect against oxidative stress. Glutathione is commonly called the "Master Antioxidant" and is known for its incredible ability to assist in cellular regeneration.

Some areas that Glutathione has been shown to have numerous benefits, and abilities, with skin issues:

- 1) The appearance of wrinkles
- 2) Soothing sunburns all burns
- 3) Stretch marks
- 4) Evening out skin tone/skin lifting
- 5) Eczema
- 6) Overall skin quality, and elasticity
- 7) Melasma and dark spots

8) Acne

- 9) Natural incision healer
- 10) Skin brightener
- 11) Skin redness
- 12) Is a natural sunscreen
- 13) Athlete's Foot (Skin Fungi)

14) Cold Sore relief (Including Herpes Simplex 1&2)

For rejuvenating anti-aging affects, bWell[™] can be used as a powerful 30 minute face mask.

•Spray 4 pumps of the bWell[™] into the palm of your hand, and then dab the GSH all over your face, including your neck and décolleté, if you so choose.

•You may dab the GSH around your eyes, in the crow's feet area, and above your eyelids, below your eyebrows. But be careful to not get it in your eyes. It will not hurt your eyes, but it could possibly sting a little.

•Leave the GSH on for 30 minutes, and then rinse off with lukewarm water, or the cleanser of your choice. Follow up with your favorite moisturizer, or one of the Auro Skin Protocol antiaging creams.

ACNE - AURO GSH® Case Study

May 2016 ACNE RELIEF WITH AURO GSH®



TRANSDERMAL AURO GSH® DELIVERS THE "MASTER ANTIOXIDANT" IN A REVOLUTIONARY NEW WAY.

DID YOU KNOW?

- Glutathione was discovered in 1888 by Sir Frederick Gowland Hopkins. But the GSH molecule has been long regarded as an unstable large molecule, and most in the medical field could not identify how to re-introduce it back into our bodies, in a reduced and absorbable delivery mechanism.
- Glutathione is the second most abundant molecule in our bodies—second only to water!
- Every cell in our body makes Glutathione, and many in the Medical field have nicknamed it "The Beginning of Life," as all humans and most other organisms need glutathione to survive.
- Glutathione is the ONLY Endogenous antioxidant. Meaning it is produced, and originates within our bodies. All other antioxidants, including vitamin C and vitamin E, etc., are all introduced to the body externally.
- Glutathione is the ONLY antioxidant that provokes Telomere growth (the tail end of our DNA). Other antioxidants can perform DNA maintenance, but they cannot provoke Telomere growth or lengthening. This data supports that glutathione aids in the systemic anti-aging process.
- One of Glutathione's secret powers is the sulfur (SH) groups it contains. Sulfur is a sticky, smelly molecule. It acts like fly paper and all the bad things in the body stick onto it, including free radicals and toxins like mercury and other heavy metals.
- Glutathione is sometimes also nicked named the "Mother" of all antioxidants, for its job to not only protect other antioxidants, but also it's ability to recycle all other antioxidants and bring them back to life.
- Glutathione from an intravenous source only lasts in your system about 3 hours, as it depletes itself quickly with its many responsibilities of killing off toxins and free radicals, etc.
- Glutathione functions as an Army General, and lends out its own electrons, allowing itself to be sacrificed, while neutralizing and killing off free radicals.
- Glutathione has been the most researched supplement online for the last three years in a row, far surpassing all other antioxidants.
- Glutathione targets micro-toxins and has the ability to kill Athlete's Foot (fungus).
- In recent studies, glutathione has shown to be the only antioxidant that has the ability to kill tuberculosis.

Danish Study to Encourage Glutathione Supplementation

Research data concludes that more glutathione means better detoxification, so people with the highest levels of GSH should live the longest. That was the theory that drove Danish researchers to enroll 41 centenarians in a study of glutathione levels. Their results, published in the "Journal of Age and Aging," found that glutathione levels were highest in the healthiest seniors. Additionally, they discovered that the centenarians had higher levels of glutathione than people 20 to 40 years younger, hinting that glutathione may be one reason why their subjects had lived to such a ripe age.

What about all these other delivery forms of Glutathione out there? How do they compare to the patented, topical AURO GSH®?

AURO GSH® is water soluble and the patented sub-nano delivery mechanism offers maximum absorption.

The three other main delivery mechanisms of Glutathione are:

1) Oral supplements (capsules):

Very ineffective due to the fact that the enzymes in our digestive tract gobble up most of the glutathione before it has had a chance to absorb into our system and enter the bloodstream.

2) Liposomal:

Ingredients that are encapsulated in a spherical vessel (bubble) that are intended to deliver or carry ingredients into the skin. Offering a very limited absorbability and bio-availability. Liposomes are usually delivering ingredients through the lipid channels, and not the water channels which drastically reduces the potential for absorbability.

3) Sublingual:

Under the tongue delivery mechanisms are not water soluble, and also oil based. Therefore, any GSH is not thoroughly absorbed through the mucous membranes of the mouth.

[•] LOW IEVEIS OF YIURALI IIOTE ALE PLESETIL IIT TIOSI AII UISEASE STALES.

"At first I thought that this was just a coincidental finding, but over the years I have come to realize that our ability to produce and maintain a high level of glutathione is critical to recovery from nearly all chronic illness—and to preventing disease and maintaining optimal health and performance. The authors of those 90,000 medical articles on glutathione I mentioned earlier have all found the same thing!

Glutathione (GSH) is the most critical and integral part of our detoxification system. Toxins, including carcinogens and heavy metals, stick onto glutathione. Which then carries them into the bile and stool, and then out of the body." ~ Dr. Mark Hyman

GSH plays a key role against the damaging effects of bacteria and viruses. It also helps with hormone regulation, DNA regulation, Nitric oxide regulation, Cellular function and energy, Prostaglandin synthesis, cellular transport, the movement of calcium throughout the body, respiratory function, and weight management and fat metabolism.

In the current 140,000 research articles about GSH, all of them conclude: Glutathione actually interrupts common mechanisms that destroy cells and cause many types of degenerative change that cause so many diseases. Some of the disease states that GSH has shown to improve or directly affect are:

In Addition to GSH Helping Build the Immune System, it May Also Help With:

Viral Illness

- · Autoimmune diseases (Hashimoto disease, Lupus)
- Athlete's Foot/ Micro-toxins Gastrointestinal
- Immflamuation Chron's Disease
- · Brain trauma/ Brain health Neurodegenerative Disease
- Epilepsy/Seizures
- TMJ/ Jaw inflammation
- Cardiovascular disease
- Tuberculosis
- Cancer
- Parkinson's disease
- Liver disease and hepatitis Alzheimer's / Dementia
 Heart disease and high cholesterol
- Heart disease and n
 Pulmonary disease
- Diabetes type 2
- Multiple sclerosis

- Lyme disease
- · Lung disease, asthma and cystic fibrosis
- Digestive diseases
- Ear, nose, eyes, throat, and teeth conditions
- Kidney failure
- Psycho neurobiology
- Skin disorders and shingles Female reproduction issues
- Male infertility and prostate problems
- Herpes Simplex 1&2
- Erectile Dysfunction
- · Arthritis and inflammatory disease
- Heavy metal disease and removing toxins
 (carcinogens)
- · Pain management and inflammation
- Depression/Chronic Fatigue
- Autism/ ADHD
- Obesity
- Premature aging
- PTSD
- HIV/Aids

Testimonials:

Jessica S (Age 29)

I've been using Auro GSH as a facemask for about six months now, and my skin has never looked so good, and I will never again go without my Auro GSH! My skin seems to be thicker and brighter, and it has completely evened our my skin tone. Plus, the Auro GSH just helps me feel better all around. I'm a believer!

Katherine T (Age 35)

I started using Auro GSH on my knees after a car accident, and I wasn't even sure how or why it was working, but it just soothed the swelling, and allowed me to be mobile while awaiting surgery. Then I started using it as a facemask because I was so curious about what it could do. I have never in my life gotten compliments on my skin—until I started using the Auro GSH. Now almost daily someone tells me how bright and beautiful my skin looks.

Kevin G (Age 56)

I recently retired from a 33 year long career as a FireFighter and Officer. I have long been searching for ways to fight the commutative effects of all of the carcinogens from smoke that has undoubtedly built up in my system over all of these years of fighting fires. When I started applying the Auro GSH topically, I almost instantly felt more energetic. I then started researching glutathione for myself, and was blown away by all of the medical articles and studies explaining how the glutathione literally rushes the carcinogens out of your body.

Kathy J (Age 65)

I recently retired from a 40 year career as an elementary school teacher. I am a two-time cancer survivor, and was recently diagnosed with Parkinson's disease. I was so excited when I found Auro GSH, and saw almost immediate results. I don't know exactly how it works, but I had tons more energy, and felt more alert. I am also sleeping better, and I am hoping that it will continue to help curb my Parkinson's symptoms. I will be a lifetime GSH user, and just started using the Auro Skin Protocol anti-aging creams also. People are telling me that these Auro creams must be bringing the color back to my skin now— after all of the chemotherapy!

Rita S (Age 72)

My daughter originally ordered me a bottle of Auro GSH, and she was raving about everything the GSH had done in her life. When I first tried it, I did not like the smell at all, so I left it on my shelf for months. But one day my hands were really hurting from my arthritis, so I sprayed it on my hands. And within two days, I could open up a jar of pickles. That might sound silly, but it had been several years since I had been able to open up a jar of anything. I am now humbled by the power of glutathione, and use it in several areas of my life.

Kenneth S (Age 81)

My wife started spraying the glutathione on a sunburn I had, to soothe the burn. But what I noticed was that every time she sprayed the glutathione on me, I had a little kick of energy, and just felt better in general. I started connecting the dots, that the glutathione was what was making me feel more energetic and clear minded. From there, I started researching everything I could get my hands on concerning the glutathione, and I was blown away that this powerful master antioxidant existed, but yet I had never heard of it, until now.

Glutathione May Help Patients With:

Acetaminophen Toxicity

1) Salgia AD, Kosnik SD. When acetaminophen use becomes toxic. Treating acute accidental and intentional overdose. Postgrad Med. 1999 Apr:105(4):81-4, 87, 90. PMID: 10223088

2) Vendemiale G. Grattagliano I. Altomare F. Turturro N. Guerrieri F. Effect of acetaminophen administration on hepatic glutathione compartmentation and mitochondrial energy metabolism in the rat. Biochem Pharmacol. 1996 Oct 25-52(8)-1147-54 PMID: 8037421

3) Lauterburg BH. Analgesics and glutathione. Am J Ther. 2002 MayJun;9(3):225-33. PMID: 11941382

Alcoholism

4) Moreno Otero R, Cortés JR. [Nutrition and chronic alcohol abuse]. Nutr Hosp. 2008 May;23 Suppl 2:3-7. PMID: 18714405

5) Yeh MY, Burnham EL, Moss M, Brown LA. Non-invasive evaluation of pulmonary glutathione in the exhaled breath condensate of otherwise healthy alcoholics. Respir 15:24(5):699-704. PMID: 9586798 Med. 2008 Feb:102(2):248- 55. Epub 2007 Oct 30. 17977706

6) Joshi PC, Guidot DM. The alcoholic lung: epidemiology, pathophysiology, and potential therapies. Am J Physiol Lung Cell Mol Physiol. 2007 Apr;292(4):L813-23. Enub 2007 Jan 12 PMID: 17220370

7) Fernandez-Checa JC, Kaplowitz N. Hepatic mitochondrial glutathione: transport and role in disease and toxicity. Toxicol Appl Pharmacol. 2005 May 1;204(3):263-73.PMID: 15845418

Alzheimer's Disease

8) Liu H. Harrell LE. Shenvi S. Hagen T. Liu RM. Gender differences in glutathione metabo5lism in Alzheimer's disease. J Neurosci Res. 2005 Mar 15:79(6):861-7. PMID: 15693022

disease with antioxidants: prevention of oxidative stress. Mol Aspects Med. 2004 Eeh-Anr:25(1-2):117-23 PMID: 15051321

10) Woltier RL Nohiem W Maezawa L Milatovic D Vaisar T Montine KS Montine TJ. Role of glutathione in intracellular amyloid-alpha precursor protein/carboxyterminal fragment aggregation and associated cytotoxicity. J Neurochem, 2005 May:93(4):1047-56, 15857408

Autism

11) James SJ, Melnyk S, Jernigan S, Hubanks A, Rose S, Gaylor DW. Abnormal transmethylation/transsulfuration metabolism and DNA hypomethylation among parents of children with autism, J Autism Dev Disord, 2008 Nov:38(10):1966-75. Epub 2008 May 30, PMID: 18512136

Cancer & Chemotherapy

12) Cascinu S, Catalano V, Cordella L, Labianca R, Giordani P, Baldelli AM, Beretta GD. Ubiali F. Catalano G. Neuroprotective effect of reduced glutathione on oxaliplatin-based chemotherapy in advanced colorectal cancer: a randomized, double-blind, placebo-controlled trial. J Clin Oncol. 2002 Aug 15;20(16):3478- 83. PMID: 12177109

13) Smyth JF, Bowman A, Perren T, Wilkinson P, Prescott RJ, Quinn KJ, Tedeschi M. Glutathione reduces the toxicity and improves guality of life of women diagnosed 33) Connola L. Grassia A. Giunta R. Verrazzo G. Cava B. Tirelli A. D'Onofrio F. Ann Oncol. 1997 Jun;8(6):569-73.PMID: 9261526

14) Friesen C, Kiess Y, Debatin KM. A critical role of glutathione in determining apoptosis sensitivity and resistance in leukemia cells. Cell Death Differ. 2004 Jul;11 Suppl 1:S73-85 PMID: 15105835

15) Di Re F, Bohm S, Oriana S, Spatti GB, Zunino F. Efficacy and safety of highdose cisplatin and cyclophosphamide with glutathione protection in the treatment of bulky advanced epithelial ovarian cancer. Cancer Chemother Pharmacol. 1990;25(5):355-60. PMID: 2306797

16) Richie JP Jr. Kleinman W. Marina P. Abraham P. Wynder EL, Muscat JE, Blood iron, glutathione, and micronutrient levels and the risk of oral cancer. Nutr Cancer, 2008;60(4):474-82. PMID: 18584481

Chronic Fatigue Syndrome

17) Bounous G, Molson J. Competition for glutathione precursors between the immune system and the skeletal muscle: pathogenesis of chronic fatigue syndrome. Med Hypotheses, 1999 Oct:53(4):347-9.PMID: 10608272 18) Logan AC, Wong C. Chronic fatigue syndrome: oxidative stress and dietary modifications. Altern Med Rev. 2001 Oct;6(5):450-9. PMID: 11703165

Cystic Fibrosis

19) Lands LC, Grey V, Smountas AA, Kramer VG, McKenna D. Lymphocyte glutathione levels in children with cystic fibrosis. Chest. 1999 Jul;116(1):201-5. PMID: 10424526

20) Hudson VM. New insights into the pathogenesis of cystic fibrosis: pivotal role of glutathione system dysfunction and implications for therapy. Treat Respir Med 2004-3(6)-353-63 PMID: 15658882

21) Visca A, Bishop CT, Hilton SC, Hudson VM. Improvement in clinical markers in CF patients using a reduced glutathione regimen; an uncontrolled, observational study. J Cyst Fibros. 2008 Sep;7(5):433-6. Epub 2008 May 21. PMID: 18499536 22) Zhang Y. Duan K. Glutathione exhibits antibacterial activity and increases tetracycline efficacy against Pseudomonas aeruginosa. Sci China C Life Sci. 2009 Jun;52(6):501-5. Epub 2009 Jun 26. PMID: 19557326

23) Samiec PS, Drews-Botsch C, Flagg EW, Kurtz JC, Sternberg P Jr, Reed RL, Jones DP. Glutathione in human plasma: decline in association with aging, agerelated macular degeneration, and diabetes. Free Radic Biol Med. 1998 Mar

24) Morocutti A, Sethi M, Hayward A, Lee A, Viberti G. Glutathione reverses the growth abnormalities of skin fibroblasts from insulindependent diabetic patients with nephropathy. J Am Soc Nephrol. 1998 Jun;9(6):1060-6.

25) Lu SC. Regulation of glutathione synthesis. Mol Aspects Med. 2009 Feb-Apr;30(1-2):42-59. Epub 2008 Jun 14. PMID: 18601945

Gastrointestinal

26) Sido B, Hack V, Hochlehnert A, Lipps H, Herfarth C, Dröge W. Impairment of intestinal glutathione synthesis in patients with inflammatory bowel disease. Gut. 1998 Apr;42(4):485-92. PMID: 9616308

27) Jantomasi T. Marraccini P. Favilli F. Vincenzini MT. Ferretti P. Tonelli F. 9) Viña J, Lloret A, Orti R, Alonso D. Molecular bases of the treatment of Alzheimer's Glutathione metabolism in Crohn's disease. Biochem Med Metab Biol. 1994 Dec:53(2):87-91 PMID: 7710773

28) Biagioni C, Favilli F, Catarzi S, Marcucci T, Fazi M, Tonelli F, Vincenzini MT, lantomasi T Redox state and O2*- production in neutrophils of Crohn's disease patients. Exp Biol Med (Maywood). 2006 Feb;231(2):186-95.PMID: 16446495 29) Stojiljković V, Todorović A, Pejić S, Kasapović J, Saicić ZS, Radlović N, Pajović SB. Antioxidant status and lipid peroxidation in small intestinal mucosa of children with celiac disease. Clin Biochem. 2009 Sep;42(13-14):1431-7. Epub 2009 Jun 25. PMID: 19560448

30) Maor I, Rainis T, Lanir A, Lavy A. Oxidative stress, inflammation and neutrophil superoxide release in patients with Crohn's disease: distinction between active and non-active disease. Dig Dis Sci. 2008 Aug;53(8):2208-14. Epub 2008 Feb 6, PMID: 18253831

Heart Disease & Stroke

- 31) Shimizu H, Kiyohara Y, Kato I, Kitazono T, Tanizaki Y, Kubo M, Ueno H, Ibayashi S, Fujishima M, Iida M. Relationship between plasma glutathione levels and cardiovascular disease in a defined population: the Hisayama study. Stroke. 2004 Sep;35(9):2072-7. Epub 2004 Jul 15. PMID: 15256685 32) Paterson PG, Juurlink BH. Nutritional regulation of glutathione in stroke.
- Neurotox Res. 1999 Dec;1(2):99-112. PMID: 12835106
- with ovarian cancer treated with cisplatin: results of a double-blind, randomised trial. Glutathione (GSH) improved haemostatic and haemorheological parameters in atherosclerotic subjects, Drugs Exp Clin Res, 1992;18(11-12);493-8, PMID;
 - 1308476 34) Kharb S. Low blood glutathione levels in acute myocardial infarction. Indian J Med Sci. 2003 Aug;57(8):335-7. PMID: 12944689 35) Kugiyama K, Ohgushi M,
 - Motoyama T, Hirashima O, Soejima H, Misumi K, Yoshimura M, Ogawa H, Sugiyama S, Yasue H. Intracoronary infusion of reduced glutathione improves endothelial vasomotor response to acetylcholine in human coronary circulation. Circulation. 1998 Jun 16;97(23):2299-301. PMID: 9639372
 - 36) Arosio E, De Marchi S, Zannoni M, Prior M, Lechi A. Effect of glutathione infusion on leg arterial circulation, cutaneous microcirculation, and pain-free walking distance in patients with peripheral obstructive arterial disease: a randomized, double-blind, placebocontrolled trial. Mayo Clin Proc. 2002 Aug:77(8):754-9.PMID: 12173710

37) Ashfaq S, Abramson JL, Jones DP, Rhodes SD, Weintraub WS, Hooper WC, Vaccarino V, Harrison DG, Quyyumi AA. The relationship between plasma levels of oxidized and reduced thiols and early atherosclerosis in healthy adults. J Am Coll Cardiol. 2006 Mar 7;47(5):1005-11. Epub 2006 Feb 9. PMID: 16516085

Heavy Metal Toxicity

38) Patrick L. Mercury toxicity and antioxidants: Part 1: role of glutathione and alpha-lipoic acid in the treatment of mercury toxicity. Altern Med Rev. 2002 Dec;7(6):456-71. PMID: 12495372

39) Kromidas L, Trombetta LD, Jamall IS. The protective effects of glutathione against methylmercury cytotoxicity. Toxicol Lett. 1990 Mar:51(1):67-80, PMID: 2315960

40) Zalups RK. Molecular interactions with mercury in the kidney. Pharmacol Rev. 2000 Mar;52(1):113-43. PMID: 10699157 41) Stohs SJ. Bagchi D. Oxidative mechanisms in the toxicity of metal ions. Free Radic Biol Med. 1995 Feb;18(2):321-36. PMID: 7744317

HIV

42) Pace GW, Leaf CD. The role of oxidative stress in HIV disease. Free Radic Biol Med. 1995 Oct:19(4):523-8.PMID: 7590404 43) Herzenberg LA, De Rosa SC, Dubs JG, Roederer M, Anderson MT, Ela SW, Deresinski SC, Herzenberg LA. Glutathione deficiency is associated with impaired survival in HIV disease. Proc Natl Acad Sci U S A. 1997 Mar 4;94(5):1967-72. PMID: 9050888

44) Aukrust P. Müller F. Svardal AM. Ueland T. Berge RK. Frøland SS. Disturbed glutathione metabolism and decreased antioxidant levels in human immunodeficiency virus-infected patients during highly active antiretroviral therapy--potential immunomodulatory effects of antioxidants. J Infect Dis. 2003 Jul 15:188(2):232-8. Epub 2003 Jun 9. PMID: 12854078 45) Sung JH, Shin SA, Park HK, Montelaro RC, Chong YH. Protective effect of glutathione in HIV-1 lytic peptide 1-induced cell death in human neuronal cells. J Neurovirol. 2001 Oct;7(5):454-65. PMID: 11582518

Influenza

46) Cai J. Chen Y. Seth S. Eurukawa S. Compans RW. Jones DP. Inhibition of influenza infection by glutathione. Free Radic Biol Med. 2003 Apr 1;34(7):928-36. PMID: 12654482

47) Eropkin Mlu, Gudkova TM, Konovalova NI, Shchekanova SM, laglovskaja IB, Eropkina EM, Kiselev OI, [Antiviral action of some antioxidants/antihypoxants and their combinations with remantadine against human influenza A(H3N2) virus studied in in vitro models]. Eksp Klin Farmakol. 2007 Sep-Oct;70(5):33-7. PMID: 18074805 Kidney/Renal & Liver/Hepatic Function

48) Barbaro G, Di Lorenzo G, Soldini M, Parrotto S, Bellomo G, Belloni G, Grisorio B. Barbarini G. Hepatic glutathione deficiency in chronic hepatitis C: quantitative evaluation in patients who are HIV positive and HIV negative and correlations with plasmatic and lymphocytic concentrations and with the activity of the liver disease. Am J Gastroenterol. 1996 Dec:91(12):2569-73, PMID: 8946988

49) Amano J, Suzuki A, Sunamori M. Salutary effect of reduced glutathione on renal function in coronary artery bypass operation. J Am Coll Surg. 1994 Dec;179(6):714-20. PMID: 7952483

50) Chawla RK, Lewis FW, Kutner MH, Bate DM, Roy RG, Rudman D, Plasma cysteine, cystine, and glutathione in cirrhosis. Gastroenterology. 1984 Oct;87(4):770-6. PMID: 6468868

51) Golling M, Kellner H, Fonouni H, Rad MT, Urbaschek R, Breitkreutz R, Gebhard MM, Mehrabi A, Reduced glutathione in the liver as a potential viability marker in non-heart-beating donors. Liver Transpl. 2008 Nov;14(11):1637-47. PMID: 18975272

52) Kloek J, Mortaz E, van Ark I, Lilly CM, Nijkamp FP, Folkerts G. Glutathione prevents the early asthmatic reaction and airway hyperresponsiveness in guinea pigs. J Physiol Pharmacol. 2010 Feb:61(1):67-72, PMID: 20228417

53) Cantin AM, Hubbard RC, Crystal RG. Glutathione deficiency in the epithelial lining fluid of the lower respiratory tract in idiopathic pulmonary fibrosis Am Rev Respir Dis 1989 Eeb:139(2):370-2 PMID: 2913886 54) Behr J, Maier K, Braun B, Schwaiblmair M, Vogelmeier C. Evidence for oxidative stress in bronchiolitis obliterans syndrome after lung and heart-lung transplantation. The Munich Lung Transplant Group. Transplantation, 2000 May 15:69(9):1856-60, PMID: 10830222 55) Bibi H, Schlesinger M, Tabachnik E, Schwartz Y, Iscovitz H, Iaina A. Erythrocyte glutathione peroxidase activity in asthmatic children. Ann Allergy. 1988 Nov;61(5):339-40. PMID: 3189960

56) Rahman I. Regulation of glutathione in inflammation and chronic lung diseases. Mutat Res. 2005 Nov 11;579(1-2):58-80. Epub 2005 Jul 27. PMID: 16054171

57) Rahman I, MacNee W. Oxidative stress and regulation of glutathione in lung inflammation, Eur Respir J. 2000 Sep:16(3):534-54, PMID: 11028671

58) Rahman I, MacNee W. Lung glutathione and oxidative stress: implications in cigarette smoke-induced airway disease. Am J Physiol. 1999 Dec;277(6 Pt 1):L1067-88. PMID: 10600876 59) Luppi F, Aarbiou J, van Wetering S, Rahman I, de Boer WI, Rabe KF, Hiemstra PS. Effects of cigarette smoke condensate on proliferation and wound closure of bronchial epithelial cells in vitro: role of glutathione. Respir Res. 2005 Nov 25;6:140.PMID: 16309548

60) Clark Bishon, Valerie M, Hudson, Sterling C, Hilton and Cathleen Wilde, A Pilot Study of the Effect of Inhaled Buffered Reduced Glutathione on the Clinical Status of Patients With Cystic Fibrosis, Chest 2005: 127: 308-317

61) Lamson D, Brignall M. The Use of Nebulized Glutathione in the Treatment of Emphysema: a Case Report, Alternative Medicine Review: Volume 5, Number 5: 2000- 420-431

62) Prousky J. The Treatment of Pulmonary Diseases and RespiratoryRelated Conditions with Inhaled (Nebulized or Aerosolized) Glutathione. Advance Access Publication 17 May 2007;pages 27-35.

Mold/Mycotoxins

63) Farombi EO. Nwankwo JO. Emerole GO. The effect of modulation of glutathione levels on markers for aflatoxin B1-induced cell damage. Afr J Med Med Sci. 2005 Mar;34(1):37-43. PMID: 15971552

64) Novi AM. Regression of aflatoxin B1-induced hepatocellular carcinomas by reduced glutathione. Science. 1981 May 1;212(4494):541-2. PMID: 6782675 65) Wang YM, Liu JB, Peng SQ. Effects of Fusarium mycotoxin butenolide on myocardial mitochondria in vitro. Toxicol Mech Methods. 2009 Feb;19(2):79-85. PMID: 19778250

Oxidative Stress & Aging

66) Chang D, Wang F, Zhao YS, Pan HZ. Evaluation of oxidative stress in colorectal cancer patients.PMID: 18837290

67) Morrison JP, Coleman MC, Aunan ES, Walsh SA, Spitz DR, Kregel KC. The significant changes in antioxidant enzyme activity after GSH depletion suggest that thiol status can influence the regulation of other antioxidant enzymes. Biomed Environ Sci. 2008 Aug;21(4):286-9. PMID: 15947071

68) Erden-Inal M. Sunal E. Kanbak G. Age-related changes in the glutathione redox system. Cell Biochem Funct. 2002 Mar;20(1):61- 6. PMID: 11835271 69) Lang CA, Mills BJ, Lang HL, Liu MC, Usui WM, Richie J Jr, Mastropaolo W, Murrell SA. High blood glutathione levels accompany excellent physical and mental health in women ages 60 to 103 years. J Lab Clin Med. 2002 Dec:140(6):413-7. PMID: 12486409

70) Carlo MD Jr, Loeser RF. Increased oxidative stress with aging reduces chondrocyte survival: correlation with intracellular glutathione levels. Arthritis Rheum, 2003 Dec:48(12):3419-30, PMID: 14673993 71) Fraternale A. Paoletti MF, Casabianca A, Nencioni L, Garaci E, Palamara AT, Magnani M. GSH and analogs in antiviral therapy. Mol Aspects Med. 2009 Feb-Apr;30(1-2):99-110. Epub 2008 Sep 27. PMID: 18926849

72) Giblin FJ. Glutathione: a vital lens antioxidant. J Ocul Pharmacol Ther. 2000 Apr;16(2):121-35. PMID: 10803423

Parkinson's Disease

73) Schulz JB, Lindenau J, Seyfried J, Dichgans J. Glutathione, oxidative stress and neurodegeneration. Eur J Biochem. 2000 Aug;267(16):4904-11. PMID: 10931172 74) Jenner P, Dexter DT, Sian J, Schapira AH, Marsden CD. Oxidative stress as a cause of nigral cell death in Parkinson's disease and incidental Lewy body disease. The Royal Kings and Queens Parkinson's Disease Research Group, Ann Neurol, 1992;32 Suppl:S82-7, PMID: 1510385,75) Kidd PM Parkinson's disease as multifactorial oxidative neurodegeneration: implications for integrative management. Altern Med Rev. 2000 Dec;5(6):502-29. PMID: 1113/075

76) Chinta SJ, Kumar MJ, Hsu M, Rajagopalan S, Kaur D, Rane A, Nicholls DG, Choi J. Andersen JK. Inducible alterations of glutathione levels in adult dopaminergic midbrain neurons result in nigrostriatal degeneration. J Neurosci. 2007 Dec 19:27(51):13997-4006. PMID: 18094238

77) Di Monte DA, Chan P, Sandy MS, Glutathione in Parkinson's disease; a link between oxidative stress and mitochondrial damage? Ann Neurol. 1992;32 Suppl:S111-5, PMID: 1510368

78) Sechi G, Deledda MG, Bua G, Satta WM, Deiana GA, Pes GM, Rosati G. Reduced intravenous glutathione in the treatment of early Parkinson's disease Prog Neuropsychopharmacol Biol Psychiatry. 1996 Oct;20(7):1159-70.PMID: 8938817

79) 79. Papi A, Contoli M, Gasparini P, Bristot L, Edwards MR, Chicca M, Leis M, Ciaccia A, Caramori G, Johnston SL, Pinamonti S. Role of xanthine oxidase activation and reduced glutathione depletion in rhinovirus induction of inflammation in respiratory epithelial cells. J 80) Biol Chem. 2008 Oct 17;283(42):28595-606. Epub 2008 Aug 4. PMID: 18678861