Glutathione (GSH)

- The primary cell protector and a key bio-marker for your overall health
- Made in the body from 3 amino acids, limited by cysteine
- Levels decline by 10-15% per decade in healthy adults
- Low levels are associated with 74 major diseases
- 95,000+ peer reviewed scientific articles referencing GSH
- Max International’s patented technology is the first to significantly raise intra-cellular glutathione levels

PubMed.gov search results:
(US National Library of Medicine database of biomedical literature and life sciences journals)
Glutathione (GSH)

“Ask The Doctors” Glutathione FAQ

What Doctors Are Saying

John Dawson explains the importance of Glutathione
Watch on YouTube Part A Part B Part C

Medicinal chemist, Dr. Herbert Nagasawa explains the critical roles glutathione plays in your body
Watch on YouTube

Following is a small sample of quotes from the 95,000+ peer reviewed medical journal articles discussing the importance of glutathione (GSH).*

*Max product are not intended to diagnose, treat, cure or prevent any disease.
“Mitochondrial glutathione plays a key role in the protection against free radical damage associated with aging”

Glutathione, oxidative stress and aging
Journal of Biomedical and Life Sciences - Volume 19, Number 4

“These findings suggest: (i) that loss of youth, health and quality of life may be partly explained by a deficit in cysteine* and (ii) that the dietary consumption of cysteine is generally suboptimal and everybody is likely to have a cysteine deficiency sooner or later.”

Oxidative stress and ageing: is ageing a cysteine deficiency syndrome?
The Royal Society Biological Sciences – December 2005, Volume 360, Number 1464

*Cysteine is the rate limiting component in the manufacture of glutathione. Max products use patented cysteine delivery technology
“Cadmium, arsenic and lead show their toxic effects via bonding to sulphhydryl groups of proteins and depletion of glutathione.”

Advances in metal-induced oxidative stress and human disease.
Toxicology – 2011 March 14

“The process of cysteine and glutathione synthesis, which are crucial for natural mercury detoxification, are reduced in autistic children, possibly due to genetic polymorphisms”

Mercury and autism: Accelerating Evidence?
Neuroendocrinology Letters Vol.26 No.5, October 2005
“Depressed [GSH-Px] levels were observed in patients with psoriasis, eczema, atopic dermatitis, vasculitis, mycosis fungoides and dermatitis herpetiformis”

Blood glutathione-peroxidase levels in skin diseases
Acta dermato-venereologica - Volume 62, Issue 3

“The results provide further evidence that endogenous glutathione is involved in protecting human skin cells against a wide range of solar radiation damage”

Correlation between endogenous glutathione content and sensitivity of cultured human skin cells to radiation at defined wavelengths in the solar ultraviolet range
Photochemistry and Photobiology - Volume 47, Issue 3
“The profound and selective mitochondrial GSH depletion precedes the onset of alcoholic liver disease, mitochondrial lipid peroxidation, and progression of liver damage.”

Mitochondrial glutathione depletion in alcoholic liver disease.
Alcohol Journal - 10(6):469-75

“Ethanol-induced liver injury is blunted by the administration of glutathione precursors”

Binding of Acetaldehyde to a Glutathione Metabolite
Alcoholism: Clinical and Experimental Research - Volume 27, Issue 10
“The similar loss of GSH in the substantia nigra indicates that this is one of the earliest derangements to occur in the pre-symptomatic stages of PD”

Glutathione and Parkinson's disease: Is this the elephant in the room?
Biomedicine & Pharmacotherapy - Volume 62, Issue 4

“Rheumatoid arthritis was associated with significant depletion (ca. 50%) in GSH levels compared with normal control subjects”

The glutathione defense system in the pathogenesis of rheumatoid arthritis
Journal of Applied Toxicology – Volume 21, Issue 1
“A common feature of nuclear cataract is the low concentration of reduced glutathione (GSH) in the center of the lens. GSH is the principal lenticular antioxidant of the lens”

Experimental Eye Research - Volume 67, Issue 5

“A number of inflammatory lung diseases share a diminished level of glutathione... Glutathione may indeed be a radical approach to treat a number of inflammatory lung diseases”

Glutathione A Radical Treatment for Cystic Fibrosis Lung Disease?
CHEST Journal – January 2005, Volume 127, No 4
“Many of the complications of diabetes are linked to oxidative damage. We conclude that subjects with type 2 diabetes have decreased oxidant capacity, evidenced by reduced synthesis of glutathione”

Oxidative Stress and Glutathione Synthesis in Type 2 Diabetes
Diabetes Journal

“Clinical studies presented here directly demonstrate that low GSH levels predict poor survival in otherwise indistinguishable HIV-infected subjects.”

Glutathione deficiency is associated with impaired survival in HIV disease
Proceedings of the National Academy of Sciences USA – Volume 94, No 5
“It is concluded that exhaustive exercise can impose a severe oxidative stress on skeletal muscle and that glutathione systems as well as antioxidant enzymes are important in coping with free radical-mediated muscle injury.”

Responses of glutathione system and antioxidant enzymes to exhaustive exercise and hydroperoxide - Journal of Applied Physiology Vol. 72 No. 2

“GSH-deficient rats had approximately 50% reduced endurance, which suggests a critical role of endogenous GSH in the circumvention of exercise-induced oxidative stress and as a determinant of exercise performance.”

Exercise-induced oxidative stress: glutathione supplementation and deficiency
Journal of Applied Physiology - Vol. 77 No. 5
• Triple certified - Immunologist, Hematologist, Oncologist
• Americas "Top Physicians" 2003 to 2008 in Internal Medicine Immunology and Hematology by Consumers’ Research Council
• Named in the worlds “2000 Outstanding Scientists Of The 21st Century” by Cambridge International Biographical Center
• Published over 100 articles in scientific & medical journals
• Awarded multiple patents
• Served on the scientific review panels for the National Institutes of Health and the Veterans Administration
• Developed a first in class viral-host interaction inhibitor for HIV
• Developed glutathione technology over 10 years working with patients having Cancer, HIV, Hepatitis, Immune disorders etc
A Double Blind, Placebo Controlled, Cross-over Clinical Study Showed;

With only 60 days use of MaxGXL, every person had an AVERAGE;

- 276% increase of intra-cellular Glutathione
- 46% increase in DHEA, 41% increase in IGF-1 (Markers for Human Growth Hormone and biological age)
- 61% decrease in TNF (Marker for cellular inflammation)

MaxGXL was awarded a composition patent, which is normally reserved for pharmaceutical drugs

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Dr. Herbert Nagasawa

- Adjunct Professor, Center for Drug Design, University of Minnesota
- Professor of Pharmacology, Medicinal Chemistry and Toxicology departments, University of Minnesota
- Senior Medical Research Scientist, Veterans Administration Medical Center
- Senior Editor of the *Journal of Medicinal Chemistry* for 32 years
- Editorial Board of the journal, *Bioconjugate Chemistry* for 8 years
- Ad hoc grant reviewer for the NCI and National Institutes of Health
- Published over 165 papers in peer-reviewed journals
- Developed a cyanide poisoning antidote for the US govt. after 9/11
- Researched glutathione for 25 years which led to the development of RiboCeine™.
- Executive Research Scientist at Max International
Developed by Dr. Herb Nagasawa after 25 years of research, MaxONE is powered by RiboCeine™ technology

- Delivers the fragile cysteine molecule to your body’s cells for glutathione production
- Delivers Ribose for ATP (cellular energy) production
- Release-on-Demand technology
- 300% more effective than N-acetyl-l-cysteine in raising liver glutathione levels.†
- 17 peer-reviewed scientific articles funded by the National Institute of Health and the Veterans Administration

24 patents/patents pending and proprietary research exclusive to Max International

† Study performed in a liver cell system.
Benefits

Top 10 Benefits of raising Glutathione levels*

- Raises energy levels (cellular)
- Improves mental function/clarity
- Reduces aches and pains
- Detoxifies the liver & every cell
- Strengthens the immune system
- Protects cells from oxidative stress
- Better quality sleep
- Slows down the aging process
- Reduces intracellular inflammation
- Improves athletic performance and recovery

*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.