



# True Cellular Detox

The Science of Living Longer

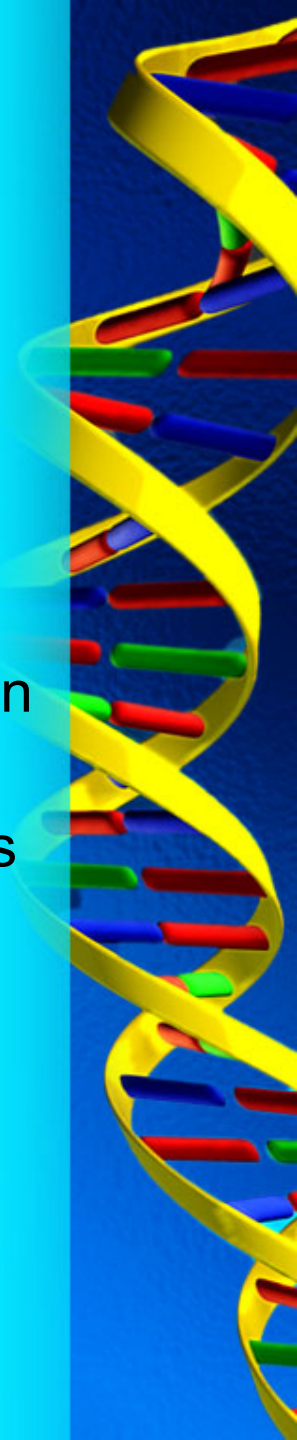
# The Many Roles of GSH

- **DNA** synthesis and repair (**epigenetics**)
- Protein synthesis
- Helps make **hormones**
- Amino acid transport
- Metabolism of toxins and carcinogens (**DETOX**)
- **Immune system** enhancement
- **Prevents oxidative damage and inflammation**  
(the mother of all anti-oxidants)
- Needed to make **ATP** (**ATP production is limited by the amount of GSH available**)



# How I Explain GSH To Patients...

- It's the **strongest anti-oxidant in the world** because its what your own body produces
- **It's in every cell in your body** and if levels drop too much the cell dies
- Your **cells can live longer without O<sub>2</sub>, H<sub>2</sub>O and food** than without GSH
- **GSH is 5000x stronger** than any other anti-oxidant such as **vitamin C and E (known as the "master anti-oxidant")**
  - Vitamin C has 5 extra electrons to donate
  - Vitamin E has 3 extra electrons to donate
  - GSH has **1 million**
- Glutathione is **how your cells get rid of toxins**
- Glutathione is **why you don't get cancer**



# GSH and Disease

It has been said that...

GSH is the strongest anti-oxidant in the world and its depletion is a component of every chronic disease or inflammatory condition, including aging!

It's known as the “defender of the cell”



# Low GSH Levels Linked To

- Accumulation of toxins leading to organ failure
- Aids
- Alzheimer's
- Atherosclerosis
- Autism related disorders
- Cancer
- Cataracts
- Complications of pregnancy
- Hepatitis
- Infertility
- Mental disorders
- Multiple Sclerosis
- Parkinson's
- Thyroid conditions

Search PubMed and you will find **102,347** studies on GSH

**Studies show your intracellular GSH levels predict how long you live. WOW**

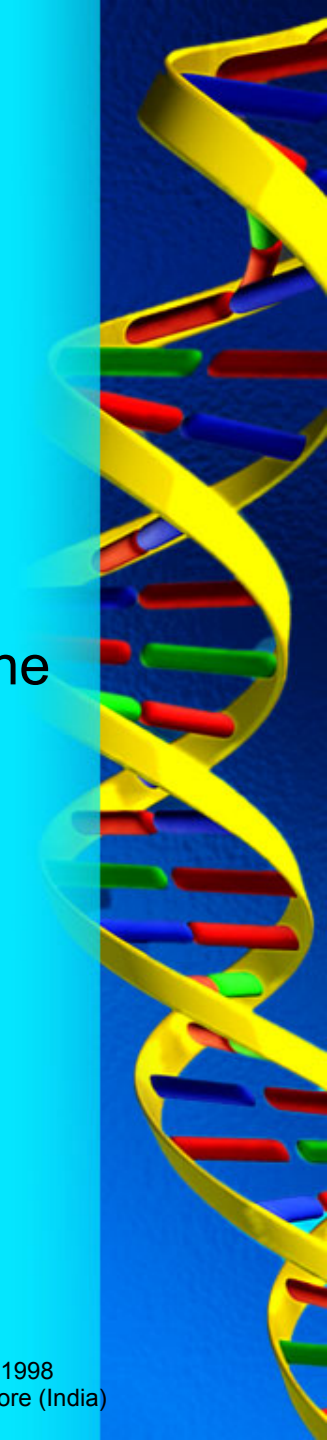


# GSH and Aging

PubMed search finds **2806 research articles** on glutathione's effect on aging...

- The more toxic we become the faster we age
- GSH levels **drop 10-15% per decade** due to toxins, diet, stress, chronic infections radiation etc.
- However, some of the **highest GSH levels** are found in the **healthiest elderly** population
- It is considered the **leading bio marker for aging** (especially in the brain) due to its effect on oxidation/ inflammation
- It's estimated that by age **50 there is a 50% decline in cognitive function** and GSH is our best protection
- GSH **changes gene expression** for aging and disease

**GSH is the genetic key to the secret of anti-aging**



# Time Magazine Stated...

Glutathione can be decreased if any or all of the following are present:

- MTHFR gene, homozygous or heterozygous for mutation.
- Deficient in vitamin B12.
- Deficient in folate and/or B6.
- Celiac disease and/or other condition that leads to low vitamin B12 (lack of absorption and lack of re-absorption in the recycling of B12).
- Mercury.
- Tylenol.
- Low vitamin C status.
- Increased oxidative stress due to other factors.

“If glutathione is low, then it is possible that methylation may be compromised. This can affect EPIGENETICS”.



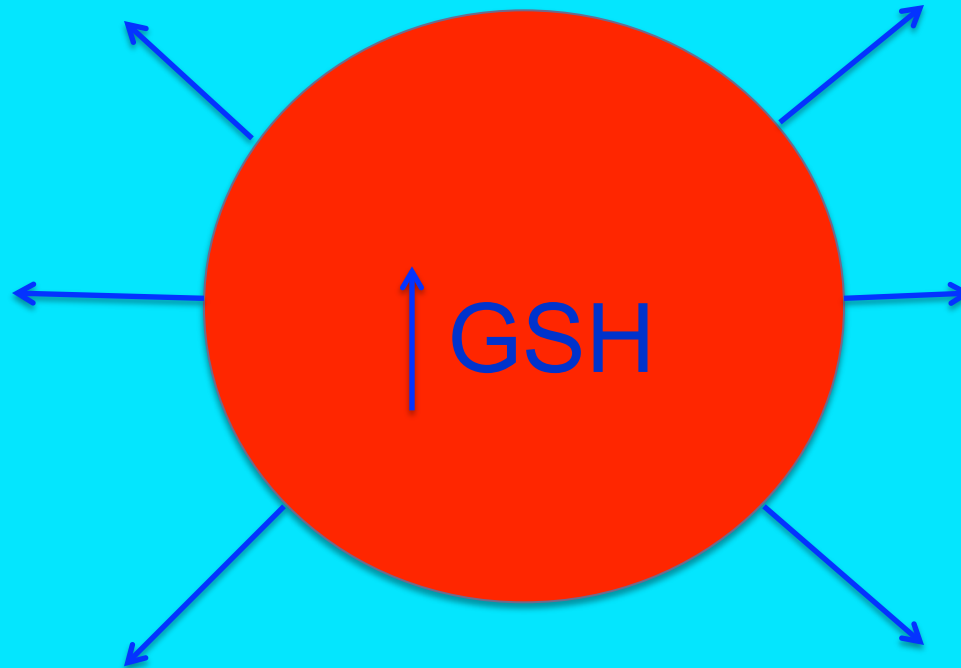
## **Aging**

- Decreases Oxidative Stress
- Increases ATP
- Changes Gene Expression

## **Decreases Inflammation**

- Effects All Chronic Disease

## **Changes Gene Expression**



## **Detox**

- Effects All Cell Function
- Aging
- Gene Expression

## **Increases ATP**

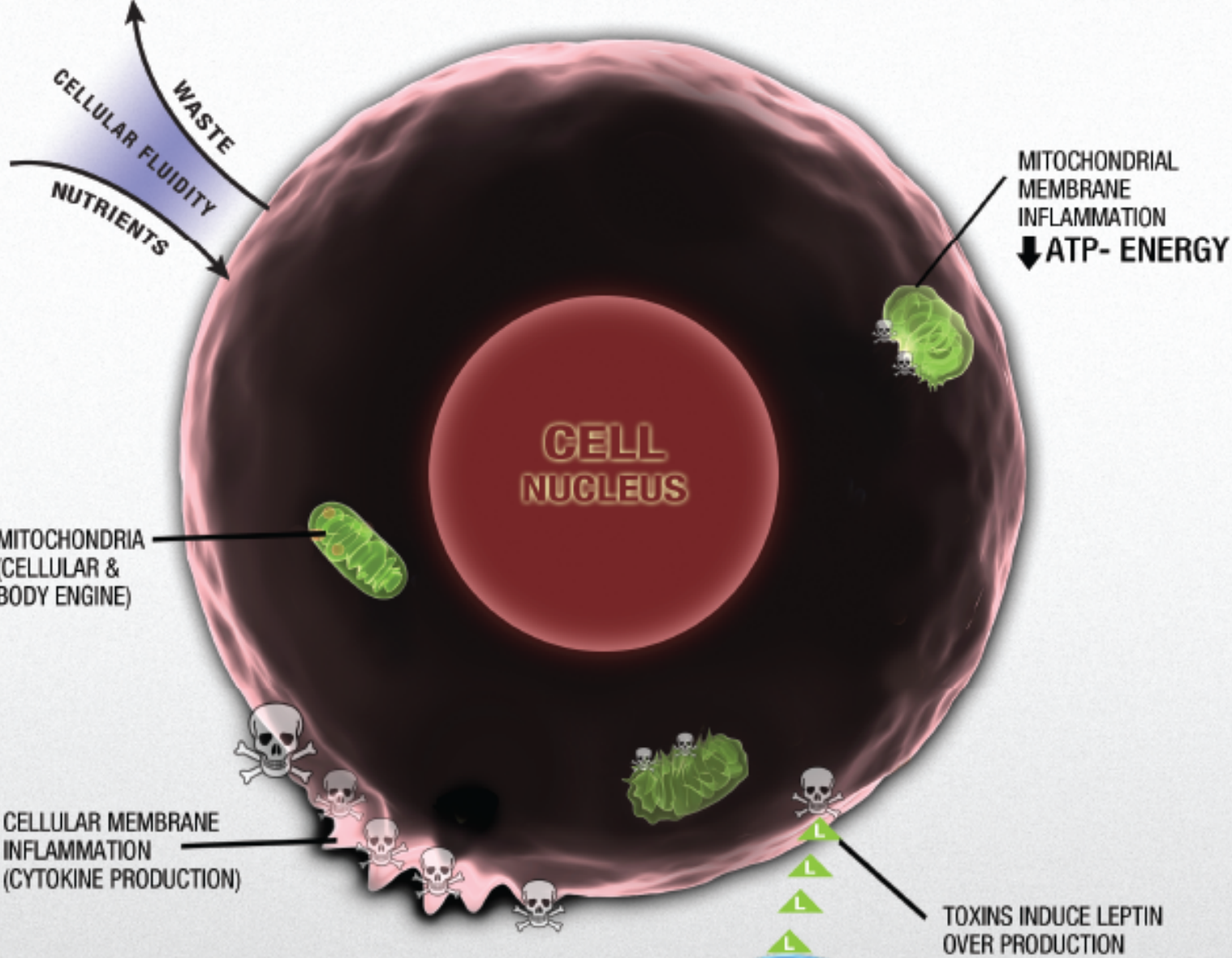
- Effects Cognitive Function
- Slows Aging
- Increases Stamina & Energy

## **Reduces Oxidative Stress**

- Master Anti-oxidant
- Slows Aging
- Prevents Age Related Diseases



# CELLULAR TOXICITY



# AVOID RE-ABSORPTION OF TOXINS

