

## The Lord's Law of Health

"A healthy person has a thousand dreams. A sick person has only one!"

"Get some rest. If you haven't got your health, then you haven't got anything."

- the cruel Count to Prince Humperdink, Princess Bride

Matt 9:12 They that be whole need not a physician, but they that are sick [do].

I believe it pleases our Creator when we do our best to care for His wonderful gift of a physical body. It would be a mark of rebellion to deface or defile one's body, or abuse it, or fail to do what one can to pursue a healthy lifestyle. (Oct. 2024)



### Elder D. Todd Christofferson

#### The relationship between our bodies and our spirits

- Will of God
- Temporal salvation
- The weakest
- Designs & conspiracy



- Health
- Wisdom & knowledge
- Revelation
- Protection

**D&C 89:2** To be sent greeting; not by commandment or constraint, but by revelation and the word of wisdom, showing forth the order and will of God in the temporal salvation of all saints in the last days—

**3** Given for a principle with promise, adapted to the **capacity of the weak and the weakest** of all saints, who are or can be called saints.

4 Behold, verily, thus saith the Lord unto you: In consequence of evils and designs which do and will exist in the hearts of conspiring men in the last days, I have warned you, and forewarn you, by giving unto you this word of wisdom by revelation

18 And all saints who remember to keep and do these sayings, walking in obedience to the commandments, shall receive health in their navel and marrow to their bones;

19 And shall find wisdom and great treasures of knowledge, even hidden treasures;

20 And shall run and not be weary, and shall walk and not faint.

**21** And I, the Lord, give unto them a promise, that the destroying angel shall pass by them, as the children of Israel, and not slay them. Amen.

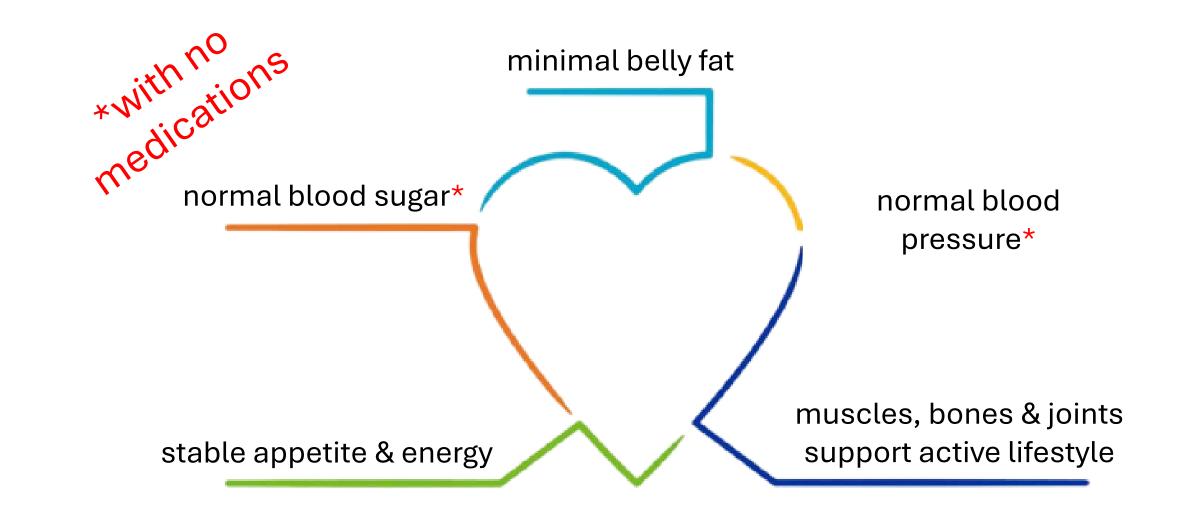


The Lord's Law of Health is vital for revelation and survival. "A fundamental purpose for the word of wisdom has to do with revelation."

- lies to this land, as they shall <sup>a</sup>counsel between themselves and me
- 26 For behold, it is not meet that I should command in all things; for he that is <sup>a</sup>compelled in all things, the same is a <sup>b</sup>slothful and not a wise servant; wherefore he receiveth no reward.
- 27 Verily I say, men should be <sup>a</sup>anxiously engaged in a good cause, and do many things of their own free will, and bring to pass much righteousness;
- 28 For the power is in them, wherein they are <sup>a</sup>agents unto themselves. And inasmuch as men do good they shall in nowise lose their <sup>b</sup>reward.
- 29 But he that adoeth not anything until he is commanded, and receiveth a commandment with bdoubtful heart,

- We shouldn't have to be 'commanded!'
- To be 'compelled' is to be slothful not wise; no reward!
- Use agency to make better choices.

## What is Metabolic Health?



## The Law of Knowledge

Moro 5:5 And by the power of the Holy Ghost ye may **Know** the truth of all things.

Jarom 1:11 Wherefore, the prophets, and the priests, and the teachers, did labor diligently, exhorting with all long-suffering the people to diligence; teaching the law of Moses, and the intent for which it was given; persuading them to look forward unto the Messiah, and believe in him

to come as though he already was. And after this manner did they teach them.

## KnoWhy / KnoHow

Forget not the "why" of the gospel.

Sometimes, in the routine of our lives, we unintentionally overlook a vital aspect of the gospel of Jesus Christ ..., We focus on what the Lord wants us to do and how we might do it, but we sometimes forget why.



President Dieter F. Uchtdorf
October 2011

### The Lord's Law of Health

## The Law of Antecedents

**D&C 130:21** And when we obtain any blessing from God, it is by obedience to that law upon which it is predicated.

**D&C 132:5** For all who will have a blessing at my hands shall abide the law which was appointed for that blessing, and the conditions thereof, as was instituted from before the foundation of the world.

**D&C 82:10** I, the Lord, am bound when you do what I say; but when ye do not what I say, ye have no promise."





**D&C 130:21** And when we obtain any blessing from God, it is by obedience to that law upon which it is predicated.



Physical - health Spiritual - revelation

#### Resilience

Responsive Fit



# Disease

#### The Lord's Law of Disease

## The Law of Antecedents

**D&C 130:21** And when we obtain any [cursing] blessing from God, it is by obedience to that law upon which it is predicated.

Physical - sick Spiritual - dark

### Fragile

Deut 28:21-22
Pestilence
Consumption
Fever
Inflammation
Burning

Chronic - Degenerative
Acute - Pandemic
Brittle





Health

**Antioxidants** Anti-inflammation Increased energy Insulin sensitivity Fat burning DNA & cell repair Cell clean up Detox Healthy gut

> Inflammation Disease Cell death

Physical - health Spiritual - revelation

#### Resilience



#### Gene **Expression**





Health

DNA Mitochondria **Cell Communication** Redox Signaling Hormesis

> Nrf2 **AMPk ATG** SIRT

NF-*k*B JAK/STAT **MAPK** 

**Antioxidants** Anti-inflammation Increased energy Insulin sensitivity Fat burning DNA & cell repair Cell clean up Detox Healthy gut

> Inflammation Disease Cell death

Physical - health Spiritual - revelation

#### Resilience



## Lifestyle W of W



Ultra-Processed Tobacco Alcohol Drugs

Redox Clean



## **Gene Expression**







od DNA ition Mitochondria rbs Cell Communication

Redox Signaling Hormesis

> Nrf2 AMPk ATG SIRT

NF-kB JAK/STAT MAPK Antioxidants
Anti-inflammation
Increased energy
Insulin sensitivity
Fat burning
DNA & cell repair
Cell clean up
Detox
Healthy gut

Inflammation
Disease
Cell death

Physical - health Spiritual - revelation

#### Resilience



## Lifestyle W of W

Food
Nutrition
Herbs
Exercise
Fasting
Sleep
Stress
Gut health
Oral health
Redox Clean

Ultra-Processed Tobacco Alcohol Drugs



## Gene Expression







Health

od DNA
ition Mitochondria
rbs Cell Communication
cise Redox Signaling

Nrf2 AMPk ATG SIRT

Hormesis

NF-kB JAK/STAT MAPK Antioxidants
Anti-inflammation
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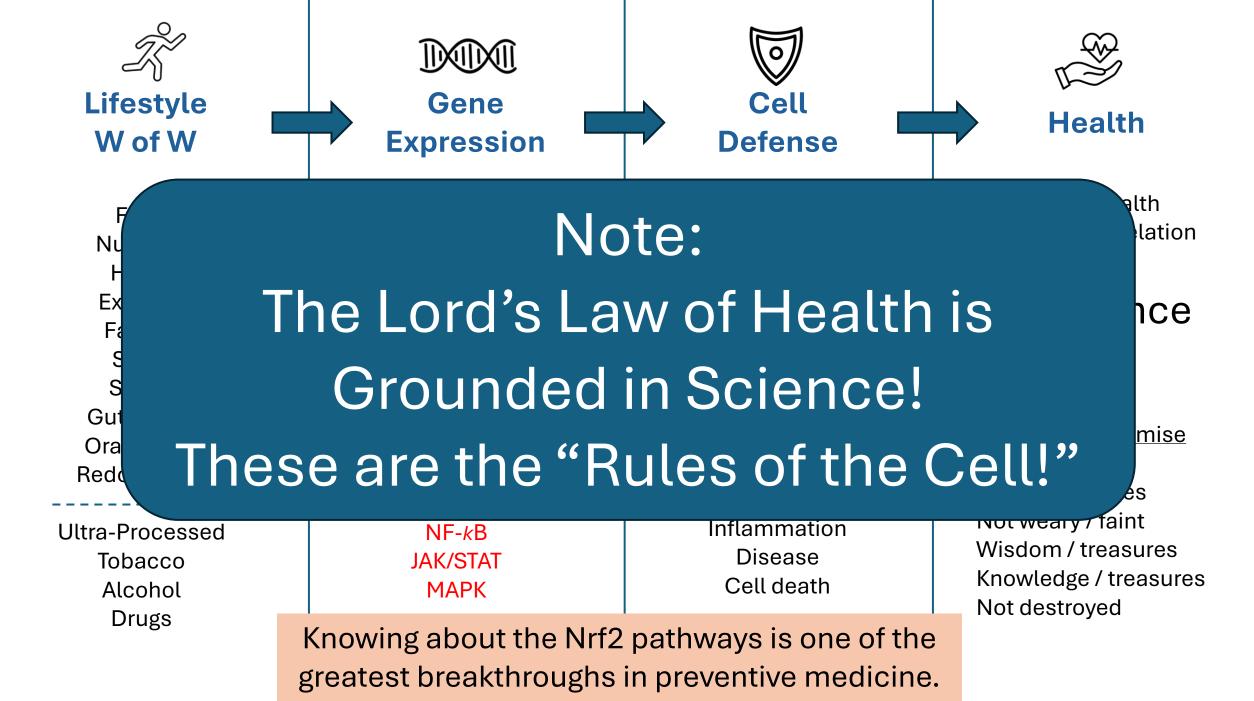
Inflammation
Disease
Cell death

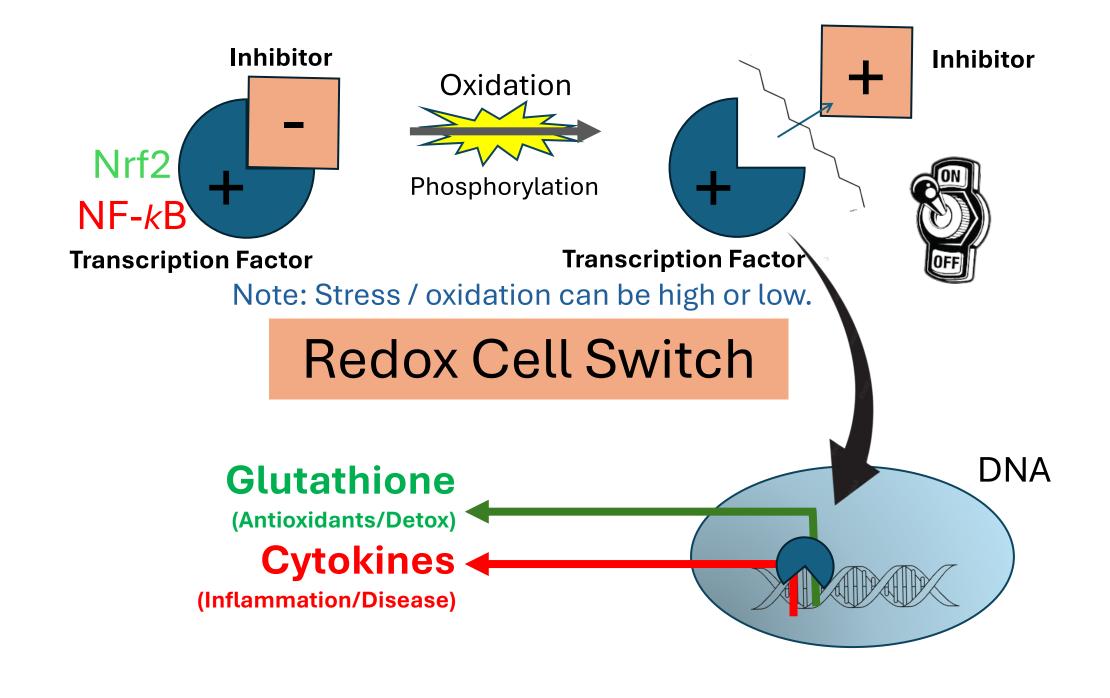
Physical - health Spiritual - revelation

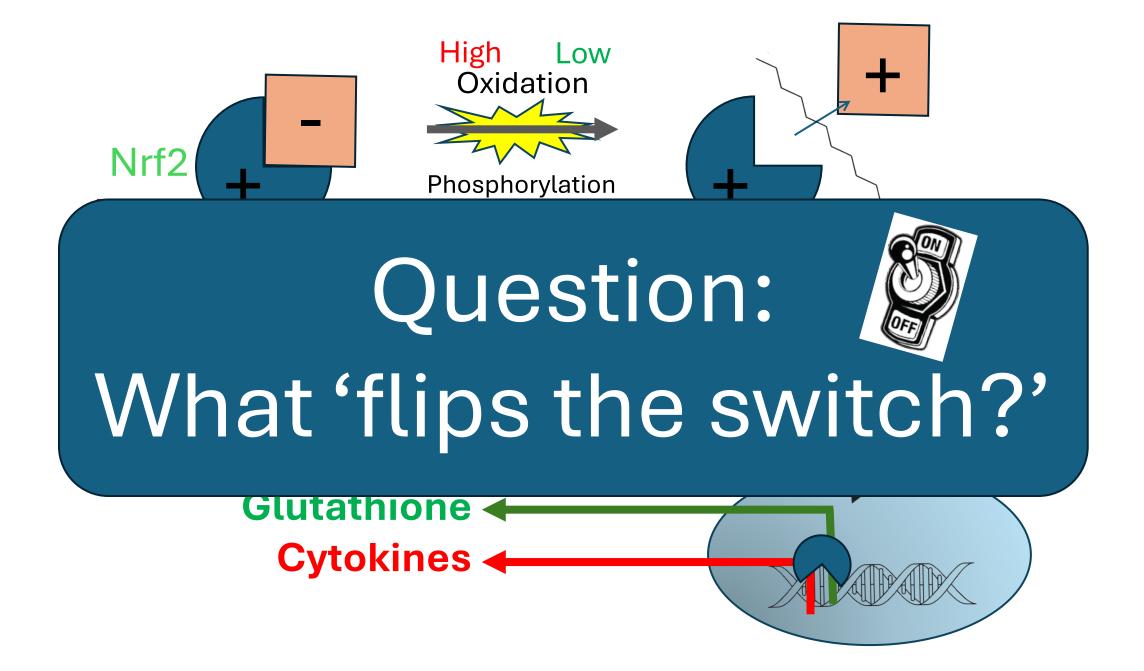
#### Resilience

D&C 89 Promise
Health in navel
Marrow in bones
Not weary / faint
Wisdom / treasures
Knowledge / treasures
Not destroyed

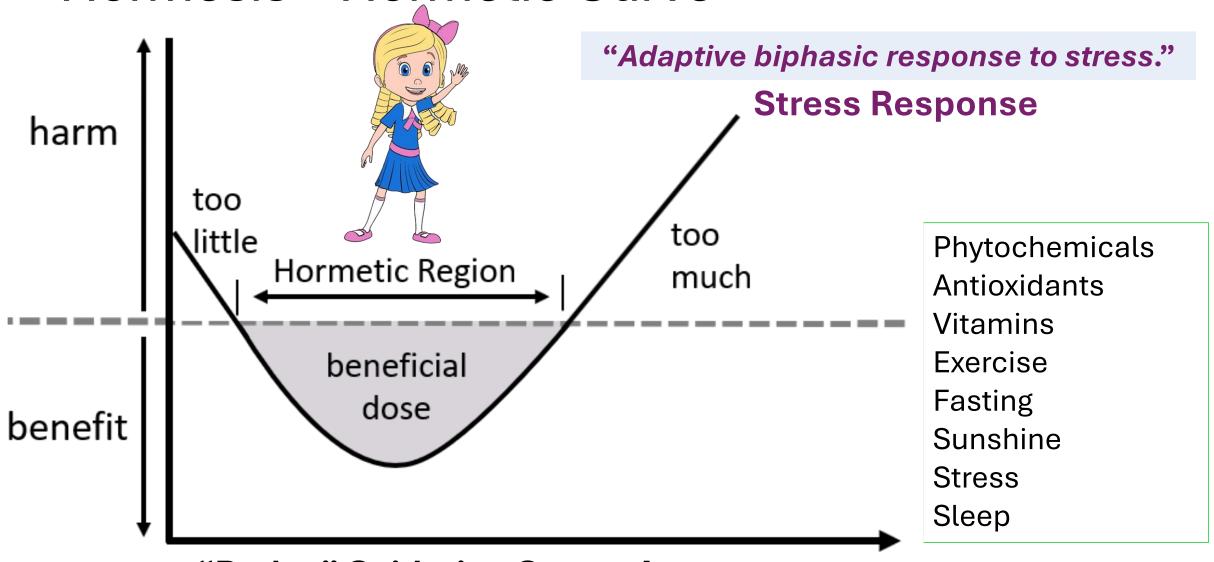
Knowing about the Nrf2 pathways is one of the greatest breakthroughs in preventive medicine.





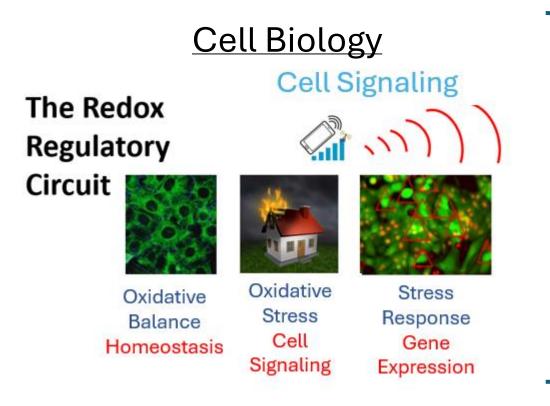


## Hormesis – Hormetic Curve



"Redox" Oxidation State - Amount

## Cellular Health, Resilience, & Antiaging



Word Of Wisdom

The Lord's Law of Health

- Adaptive Response
- Stress Resilience

Note: Stress / oxidation can be high or low.

## Cellular Health, Resilience, & Antiaging

### Redox Cell Biology

The Redox Regulatory



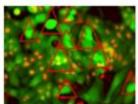
Oxidative Balance Homeostasis

Cell Signaling





Oxidative Stress Cell Signaling



Stress Response Gene Expression

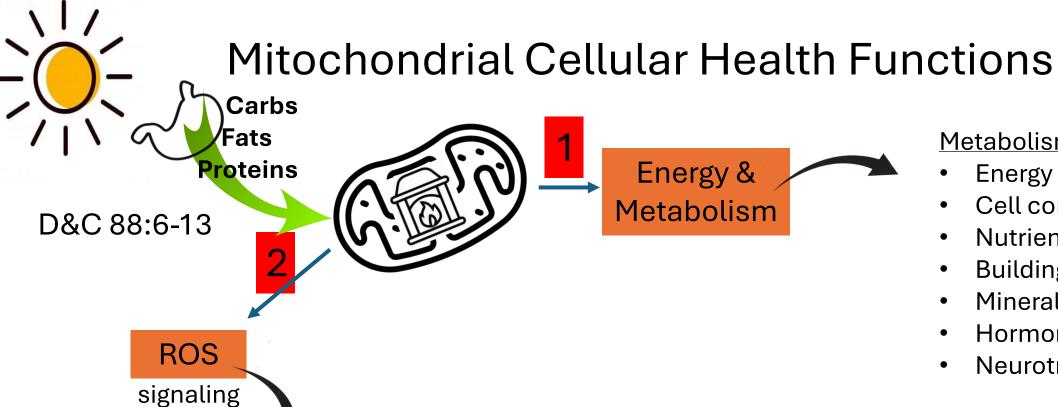
## The Lord's Law of

Word of Wisdom

Health

- Diet Whole Nutrition
  - macronutrients
  - micronutrients
- Physical activity
  - Work / Labor
- Sleep
  - · early to bed
- Fasting
- Peace / Managed Stress
- Sunlight
  - Vit D; Circadian
- Gut health
- Clean





#### **Metabolism**

- Energy
- Cell components
- **Nutrients**
- **Building blocks**
- Minerals & Electrolytes
- Hormones
- **Neurotransmitters**

#### Communication - Signaling

molecules

- Cell Function
- Gene Expression
  - Survival and Longevity
- Inflammatory Response
- Immune Function
- Cell Cycle

#### Mitochondrial Based Functions Carbs Fats **Proteins** Energy & Metabolism D&C 88:6-13 **Word of Wisdom** Diet - Whole Nutrition ROS macronutrients

#### Metabolism

- Energy
- Cell components
- **Nutrients**
- Building blocks
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signaling molecules

#### Communication - Signaling

- **Cell Function**
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- micronutrients
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## Phytochemicals

- Induce 'stress response'
  - activate cell defense and repair
- Antioxidant activity
- Anti-inflammatory
- Hormone regulation
- Immune support
- Anti-cancer



## Phytochemicals

Indu

• Anti

• Anti

• Hor

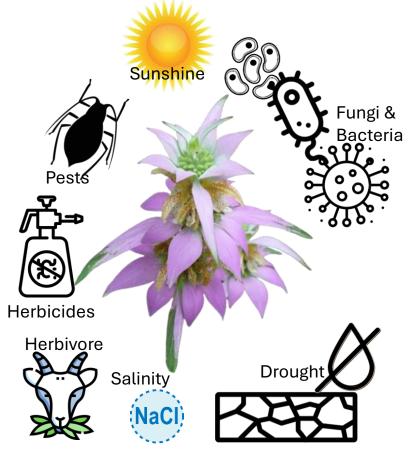
• Imm

Anti-cancer



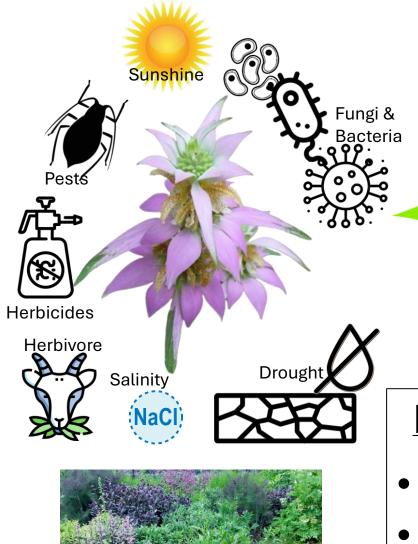
Where do phytochemicals

come from?



### **Environmental Stress**





Phytochemicals

Terpenes

**Phenolics** Polyphenols

Sulfur

compounds

compounds/

- Plant growth
- **Immunity**

Terpenes

- Monoterpenes
- Diterpenes
- **Triterpenes**
- Carotenoids
- Flavonoids
- Isoflavonoids
- Lignin
- **Tannins**
- Chalcones, Coumarin
- **Alkaloids**
- Glucosinolates
- **Alkaloids** Nitrogen
  - Cyanogenic glycosides, Non-protein amino acids
  - **Phytoalexins**

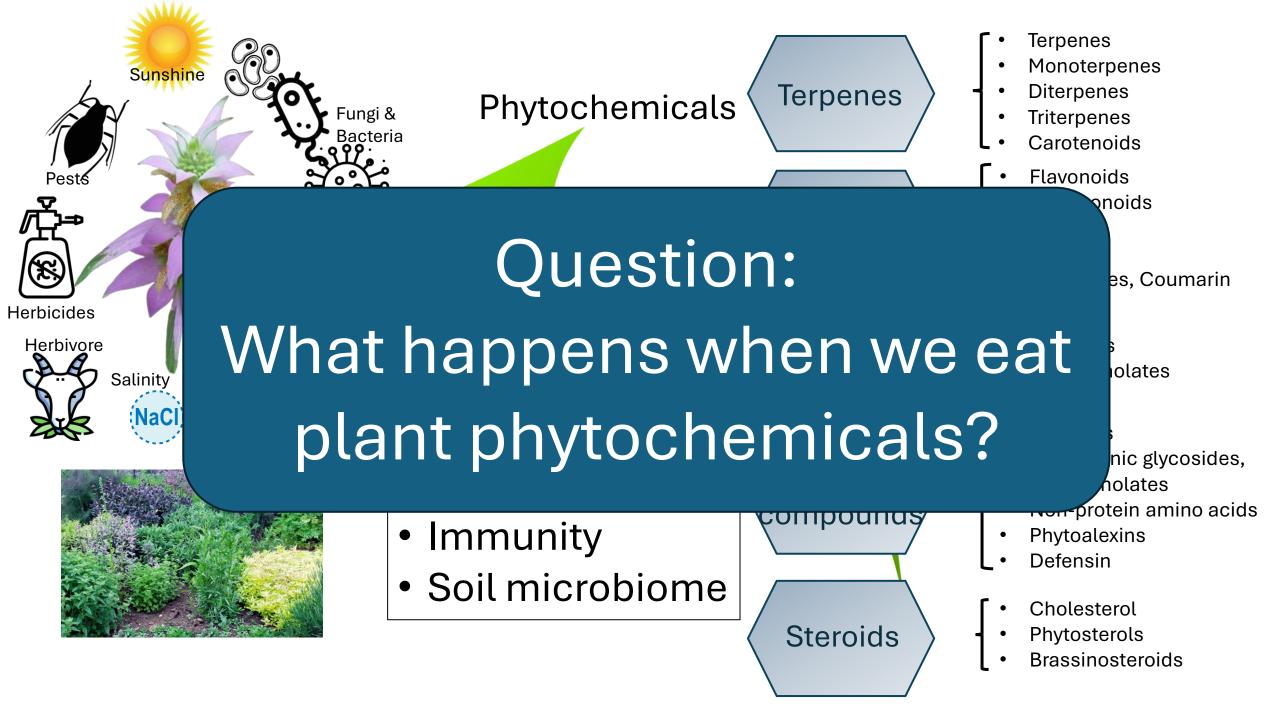
  - **Defensins**

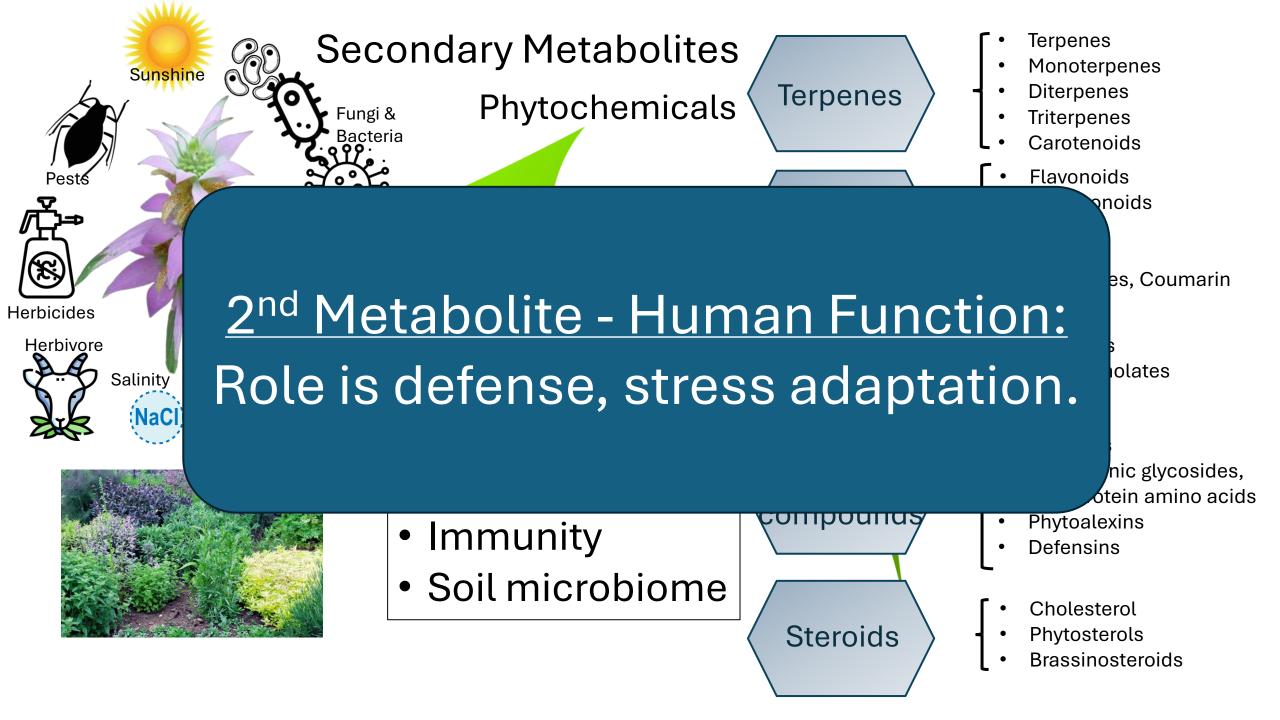
Cholesterol **Steroids** 

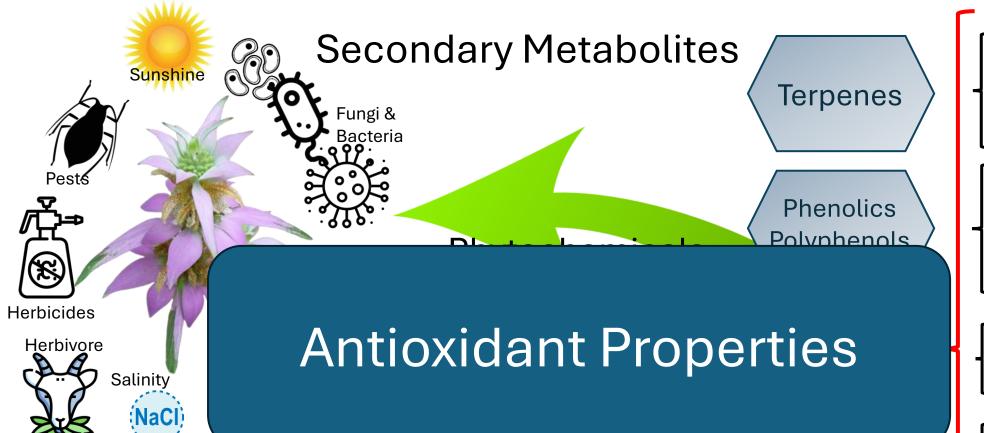
- **Phytosterols**
- Brassinosteroids

**Plant Functions:** 

Soil microbiome







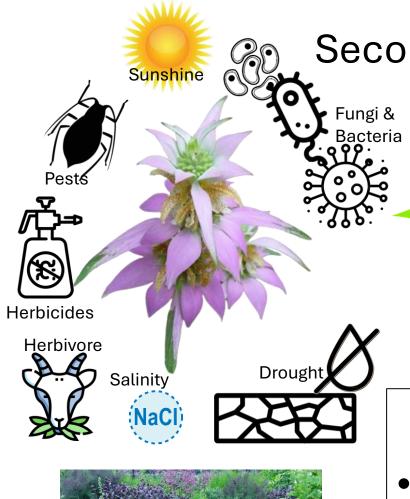


- Plant growth
- Immunity
- Soil microbiome

/ Nitrogen \ compounds/

**Steroids** 

- Terpenes
  - Monoterpenes
- Diterpenes
- Triterpenes
- Carotenoids
- Flavonoids
- Isoflavonoids
- <mark>Lignin</mark>
- Tannins
- Chalcones, Coumarin
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- Cyanogenic glycosides,
- Non-protein amino acids
- Phytoalexins
- Defensins
- Cholesterol
- Phytosterols
- Brassinosteroids



Secondary Metabolites

Phytochemicals

Terpenes

Phenolics Polyphenols

Sulfur \
compounds

∕ Nitrogen \ ∕compounds⁄

Steroids

• Terpenes

- Monoterpenes
- Diterpenes
- Triterpenes
- Carotenoids
- Flavonoids
- Isoflavonoids
- Lignin
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- Cholesterol
- Phytosterols
- Brassinosteroids

#### **Functions:**

- Plant growth
- Immunity
- Soil microbiome

## **Secondary Metabolites**

#### **Phytochemicals & Detox from Fruits/Vegetables**

#### **Sulphorophane**

**Apples Oranges** Lemons Spinach Grapefruit **Beets Pears** Lettuce Rhubarb Chicory Mango Mizuna Avocado Corn Peach Peas **Nectarine** Carrots Grapes **Potato Dates Tomato** Figs

**Apricot** 

**Blueberries** Raspberries Plum Pumpkin Squash **Green beans** Watermelon Cantaloupe Honeydew **Strawberries** Oregano Basil Cardamon Cinnamon Cloves Pepper

Watercress **Bok choy** Cauliflower Collards Cabbage **Turnips Brussels** Leeks Garlic sprouts Chives Arugula Kale Onion Kohlrabi Broccoli Chinese Daikon cabbage Red radish Horseradish

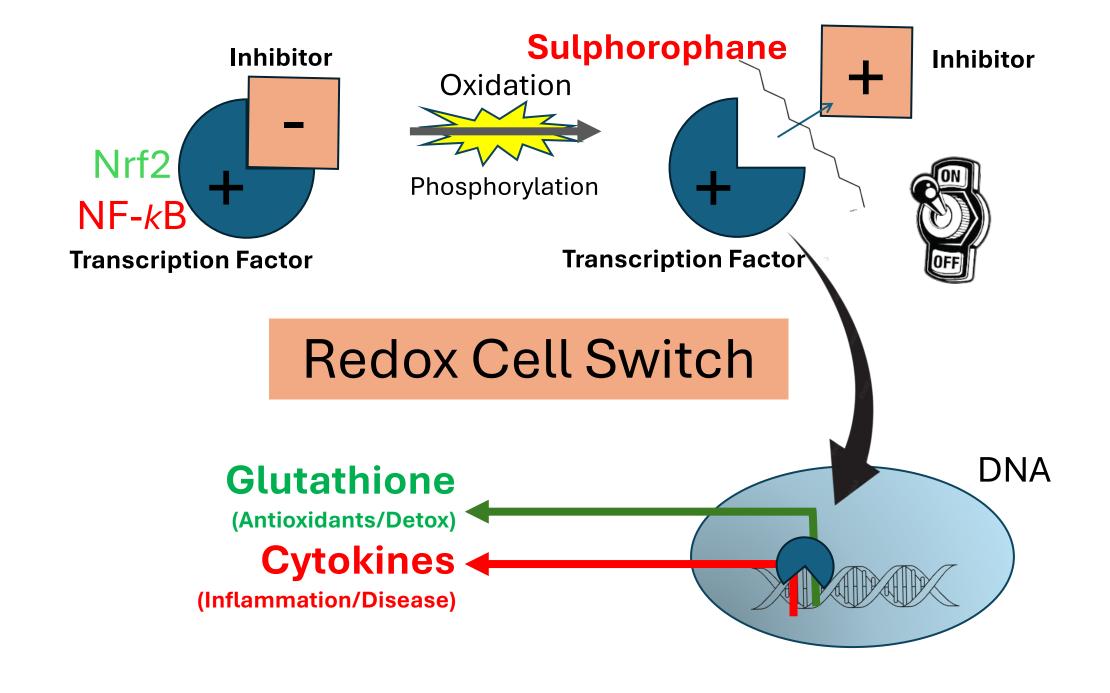
Cruciferous vegetables

# Cruciferous vegetables, have the highest concentration of glucoraphanin, the precursor to sulforaphane

In plants, glucoraphanin deters insect predators and acts as a selective antibiotic.

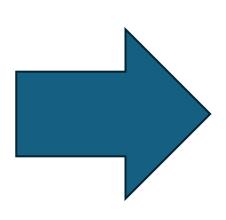
In humans, sulforaphane mimics oxidative stress, and is a Nrf2 activator.

Boddupalli. Induction of Phase 2 antioxidant enzymes by broccoli sulphorphane. Frontiers in Genetics 3(7):7 Jan 2012. Fahey, et al. Sulforaphane Bioavailability from Glucoraphanin-Rich Broccoli: Control by Active Endogenous Myrosinase. PLoS One. 2015 Nov 2;10(11):e0140963. O'Mealey, et al. Sulforaphane is a Nrf2-independent inhibitor of mitochondrial fission. Redox Biol. 2017 Apr11:103-110.



## **Processed Foods**









## **Ultra-Processed Foods**

- Mechanically processed & altered
  - fractionated minimal whole food
  - bleached, fried (seed oils), etc.
  - hyperpalatable engineered taste/texture
  - energy dense / nutrient poor
- Food science chemical additives
  - taste, appearance, handling
  - preservatives for increased shelf life
  - enriched w/ synthetic vitamins
- Consumer-grade
  - hidden confusing names
  - sophisticated packaging
  - aggressive marketing
  - convenience ready (> 50% of diet)

- Anti-foaming
- Bulking
- Carbonating
- Colors
- Emulsifiers
- Flavor enhancers

- Foaming
- Gelling
- Glazing
- Salts
- Sweeteners
- Thickeners

# WALLET CUTOUT CARD

#### **Ultra-processed Defined**

Substances with no nutritional value, and with no or rare culinary use. Includes various sugars, modified oils, proteins, and starches.

Used almost exclusively in industrial manufacture of ultra-processed foods.

## Ultra-Processed Ingredients to Avoid

#### Sugars

- -Glucose
- -Corn syrup
- -High-fructose corn syrup / HFCS
- -Dextrose
- -Maltose
- -Molasses
- -Agave
- -Fruit nectar
- -Juice concentrate
- -Brown rice syrup
- -Beet syrup
- -Corn sweetener
- -Fruit juice

#### Oils

- -Seed oil
- -Interesterified
- -Vegetable oil
- -Corn oil
- -Soybean oil
- -Canola oil
- -Cottonseed oil
- -Sunflower oil
- -Peanut oil
- -Safflower oil
- -Hydrogenated
- -Partially hydrogenated
- -Margarine

#### **Proteins**

- -Hydrolyzed proteins
- -Soy protein isolate
- -Hydrolyzed soy isolate
- -Wheat gluten
- -Textured vegetable protein
- -Hydrolyzed corn protein
- -Sodium caseinate
- -Casein protein
- -Milk protein isolate
- -Milk protein concentrate
- -Hydrolyzed casein

#### **Starches**

- -Corn
- -Modified corn starch
- -Modified food starch
- -Corn starch
- -Corn syrup solids
- -Corn flour
- -Maltodextrin
- -Potato flour
- -Wheat and wheat flour
- -Rice flour
- -Tapioca flour
- -Dextrin



#### Unprocessed & Minimally Processed

#### Processed

& **Ultra-Processed** 



#### Increased Healthspan

#### Shortened Less-healthy Lifespan

More Intervention



#### Less Intervention

- Fruit
- Vegetables
- Nuts / Seeds
- Whole grains, cereals
- Meat
- Legumes
- Dairy

- No added salt, sugar, fats
- Drying
- Crushing
- Grinding
- Fractioning
- Roasting
- Boiling
- Pasteurization
- Refrigeration
- Freezing
- Packaging
- Fermentation

#### White bread

- Crackers (simple)
- Refined flour/grain
- Juices
- Yogurt (flavored)
- Pizza
- French fries
- Cereals
- Canned fruits
- Pasta

- Soft drinks
- Fast foods
- Breakfast cereals
- Packaged snacks
- Frozen meals
- Frozen desserts
- Processed meats
- Cookies, crackers, chips, cakes, pastries, pretzels,
- Condiments, sauces, dressings
- Candy
- Syrups, jams





## Nov 24 – Jan 20

Effect of preservatives School biology project

Sara Lee



Pepperidge Farm

Home made

## **Dietary Guidelines?**

## Food Industry Lies (ref: D&C 89:4)

- Modified food is equal to natural whole food.
- Added chemicals (preservatives, colorants) are neutral and harmless.
- Refined flours in limited amounts do not negatively impact cellular health.
- 'A carb is a carb is a carb;' 'all calories are equal.'
- Fructose in corn syrup is the same as fructose in fruits.
- Cane sugar and synthetic sugar (glucose syrup) are equal.
- Synthetic starch from corn is the same as starch found in fruits and vegetables.
- Low fat diets are universally healthier.
- Refined seed oils are healthy; saturated fat is unhealthy.
- Enriching modified foods (i.e., flour, pasta...) restores complete nutrition.
- Food quality can be determined by looking at the food label, 'nutritional facts.'

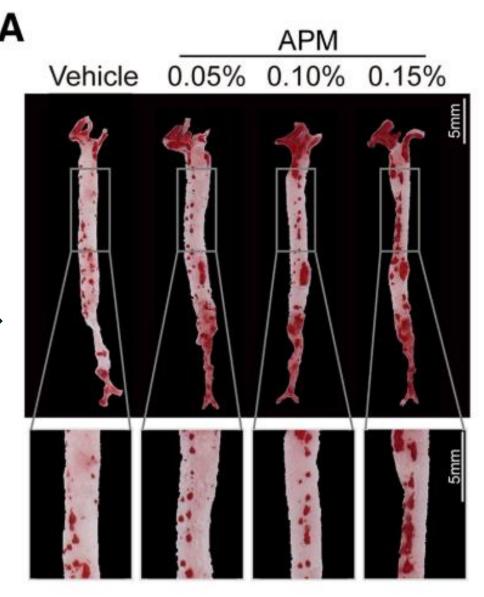
# Question: What about diet drinks?

# Exacerbation of atherosclerosis by APM supplementation



"Sweetener aspartame aggravates atherosclerosis through insulintriggered inflammation."

- Wu, et al. Cell Metabolism, Feb 2025



## Diet Soft Drink Consumption is Associated with an Increased Risk of Vascular Events in the Northern Manhattan Study

Hannah Gardener <sup>1,™</sup>, Tatjana Rundek <sup>1</sup>, Matthew Markert <sup>1</sup>, Clinton B Wright <sup>1</sup>, Mitchell S V Elkind <sup>2,3</sup>, Ralph L Sacco <sup>1,4,5</sup>

#### INTRODUCTION

An association between sugar-sweetened soft drinks and obesity, insulin sensitivity, and hypertension may be attributed to their high caloric and sugar load, and lack of nutrients. The popularity of sugar-sweetened soft drinks and rising rate of obesity underscore the need for healthier beverages. Artificially-sweetened "diet" soft drinks have been marketed as healthier alternatives due to their lack of calories. However, recent studies suggested that diet soft drink consumption may also be associated with health consequences, particularly type 2 diabetes and the metabolic syndrome, Tisk factors for cardiovascular disease (CVD), ischemic stroke, and all-cause mortality.

## The American Journal of Clinical Nutrition

Volume 119, Issue 3, March 2024, Pages 669-681

Sugar-sweetened or artificially-sweetened beverage consumption, physical activity, and risk of cardiovascular disease in adults: a prospective cohort study

### Conclusions

Higher SSB intake was associated with CVD risk regardless of <u>physical activity levels</u>. These results support current recommendations to limit the intake of SSBs even for physically active individuals.

## Grain – "the staff of life" D&C 89:14



## Primitive vs Modern

- 1. Sprouted / soaked
- 2. Whole complex
- 3. Vitamins & minerals
- 4. Low antinutrients
- 5. No herbicides

- Not Sprouted / soaked
- 2. Refined simple
- 3. Bleached
- 4. High antinutrients
- 5. Herbicides

## Phytochemicals

- Phenolic acids
- Flavonoids
- Carotenoids
- Phytosterols
- Tocopherols
- Tocotrienols
- Alkylresorcinols
- Antinutrients:
  - phytate, oxalate, lectins, glucosinolates, gluten

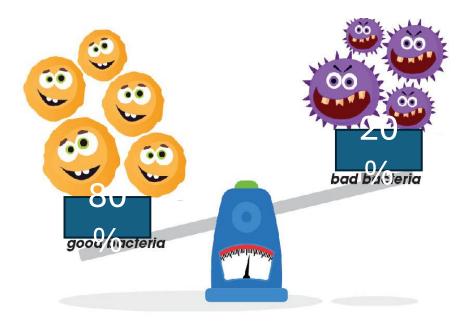




Water (soaking) activates enzymes which break down antinutrients; releases minerals; bioavailable

#### Breakdown:

- Phytase
- Oxalate oxidase
- Myrosinase
- Endopeptidases / endoproteases
- Fermentation
- Water soaking
- Boiling heat

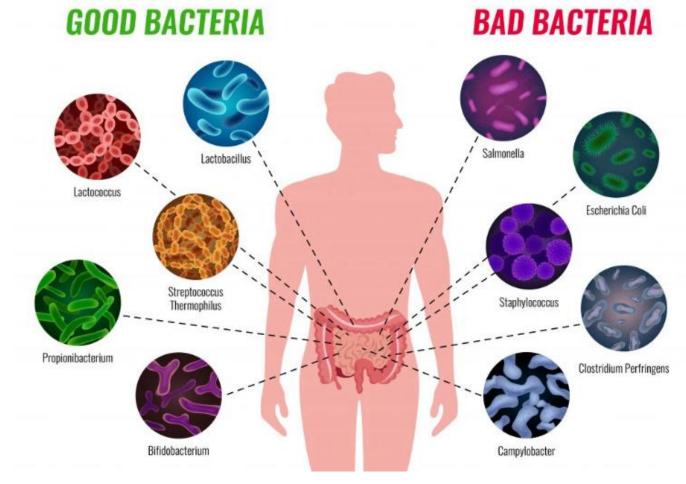


## Healthy bacteria overpower bad bacteria

#### **Symptoms of Dysbiosis**

- Diarrhea
- Constipation
- Gas & bloating
- Burping
- Abdominal discomfort
- Fatigue / tiredness
- Inflammation

## The 80/20 Rule



Q: How to favor probiosis over dysbiosis?

**Prebiotics:** Non-digestible fiber

(insoluble/soluble); growth of healthy bacteria.

**Probiotics:** Live microorganisms beneficial to

gut and overall health.

**Dysbiotic:** Unhealthy bacteria - imbalance in

the gut microbiome.

## Foods that contribute to probiosis:

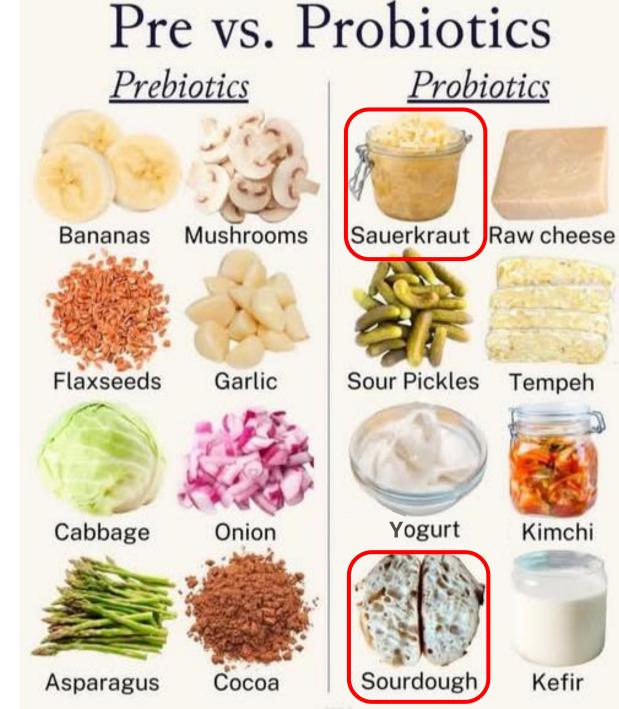
- Chia seeds
- Fruits & berries
- Legumes
- Nuts/seeds
- Grains: whole

# Foods that contribute to dysbiosis:

- Refined carbs
- Sugar
- Refined grains
- Processed foods
- Low fiber

## Gut-Brain Axis

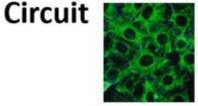
Serotonin
Gamma-aminobutyric acid (GABA)
Dopamine
Norepinephrine
Acetylcholine
Short-chain fatty acids



## Cellular Health, Resilience, & Antiaging

## Redox Cell Biology

The Redox Regulatory



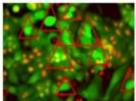
Oxidative Balance Homeostasis

Cell Signaling





Oxidative Stress Cell Signaling



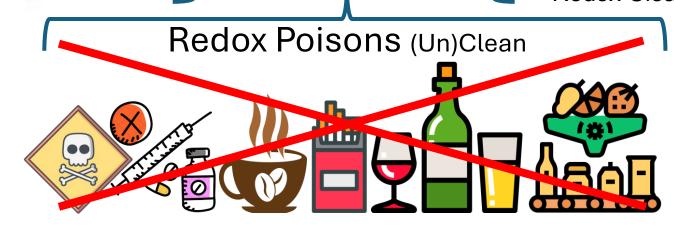
Stress Response Gene Expression

Word Of

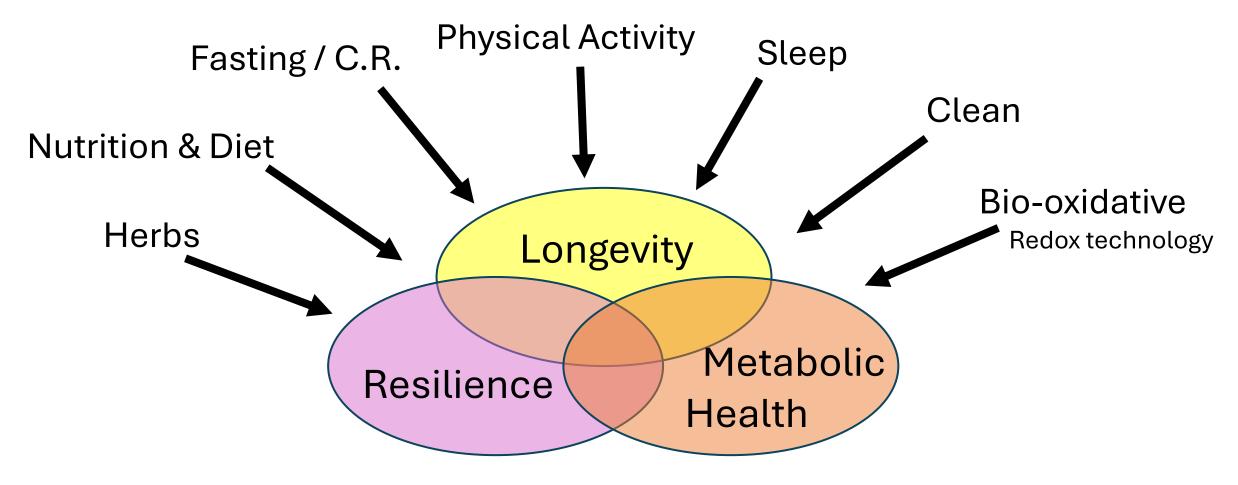
## Wisdom

The Lord's Law of Health

- Diet Whole Nutrition
  - nutrients
  - antioxidants
  - vitamins/minerals
- Sleep
- Physical activity
- Work / Labor
- Fasting
- Gut health
- Peace / Managed Stress
- Temperature changes
- Circadian Light
- Redox Clean



## "Word of Wisdom" - Lifestyle



Activate Cell Defense & Antiaging