



Nutrition Genome

George Washington

Mood / Memory

Lower GABA-sleep/calm hormone.

- Endurance exercise
- yoga
- meditation
- deep sleep
- DHA
- Green tea
- Low glycemic diet
- B6
- Taurine
- Mg
- Vitamin C
- Lithium
- Lion's Mane Mushroom
- Acetylcholine
- Bifidobacterium longum
- Progesterone
- Turmeric

Lower Gaba production: sleep / calm hormone.

- Running and biking > 30 minutes
- Strenuous hiking at high altitude
- Kaempferol: green leafy vegetables, including spinach and kale, and herbs such as dill, chives, and tarragon
- Cacao
- Genistein: Soy milk, soy flour, soy protein isolates, textured soy protein, Tempe

- Echinacea tea
- 7-hydroxyflavone (parsley, onions, berries, tea, and citrus fruits)
- Beta-caryophyllene (cloves, rosemary, hops)

Brain Health

Associated with anxiety, anorexia, PMS, depression, anxiety.

- B6 supplement

Poor histamine clearance due to food dyes and preservatives.

- Fennel
- Ginger
- Wild oregano
- Egg yolk
- Chamomile tea
- Basil
- Echinacea tea
- Vitamin C
- Choline
- Folate
- Mg
- Stinging nettle

Heart Health

Blood pressure dysregulation due to poor saturated fat processing.

- Total fat intake below 37%
- Limiting saturated fat to 22g per day
- Potassium, Vitamin D, Resveratrol, Curcumin, bilberry, grapes, allicin (raw garlic), cinnamon, jasmine

Elevated homocysteine levels associated with blood vessel inflammation and heart attacks.

- Methyl folate
- B2

Critical in CV health.

- Animal based EPA and EHA
- Omega-3 fatty acids - most important dietary measures for CV health
- Fish oil

Higher incidence of heart disease and heart attacks.

- Increase intake of fruit and vegetables

Higher BP and high fat diet.

- Decreasing overall fat intake

- Improve Nitric Oxide: Nose breathing
- phytoestrogens found in hummus, peanuts, miso soup, tahini sauce, and cruciferous vegetables
- Beet Root extract wafers

Blood pressure dysregulation due to poor saturated fat processing.

- Potassium
- Vitamin D
- Resveratrol
- Curcumin

Poor control blood pressure, atherosclerosis.

- seaweed
- L-arginine
- Cordyceps
- whey protein

Elevated homocysteine levels associated with blood vessel inflammation and heart attacks.

- Methyl folate
- B2

Superoxide dismutase dysfunction, reduced ability to reduce inflammation in the blood vessels.

- Zinc:Copper 8:1-12:1
- Choline (protect cell membrane)
- Vitamin C
- Vitamin E
- CoQ10
- Carotenoids

Higher need for optimal vitamin D levels for heart disease prevention.

- Vit D levels between 60-80

Associated with arterial calcification.

- MK7 found in natto, certain cheese, and goose liver
- MK7

Higher BP and high fat diet.

- Increasing vitamin C
- folate
- leafy green vegetables
- L-arginine
- magnesium
- Vitamin D
- DHA

Hormones

High fructose intake lowers estrogen levels.

- Omega-3
- Magnesium
- Zinc
- Vitamin D
- Fish oil
- Boron
- Higher healthy fat intake
- Weightlifting

Gut Health

Associated with increased appetite and overeating. More prone to obesity from saturated fat.

- Breakfast: protein and fiber-rich carbohydrates (especially prebiotic fiber) = most effective at suppressing ghrelin levels throughout the day
- 7-8 hours of sleep per night
- High-intensity or >1-hour aerobic exercise
- Prebiotic fiber
- Poly and monounsaturated fats
- Vitamin D
- Bifidobacterium probiotic

Associated with celiac disease.

Stress Response

Slow metabolizer of dopamine, estrogen, adrenaline. Higher IQ, creativity, better memory, drive, reading comprehension, and overall cognitive function. Body overreacts to stress - Anxiety, impulsiveness, obsessive behavior, irritability (especially under stress), ADHD, abnormal behavior.

- Lower dosages of catecholamines, quercetin, resveratrol - "Less is more"
- Weight training and sprint activities - increase testosterone (speeds up COMT) and calms brain by assisting dopamine, adrenaline, and estrogen metabolism
- Low fiber
- Eliminate xenoestrogen exposure
- Green tea for breast cancer protection (retaining polyphenols longer)
- Magnesium
- Vitamin C
- Balanced Copper

Tissue / Genetic Repair

Associated with lower VO2 Max-poor tissue oxygenation, lower life-span.

- Cold exposure
- Ashwagandha
- Eluethero root

Associated with Folic acid sensitivity. Decreased gene repair function.

- Methyl folate

General Inflammation

Excessive histamine release- poor gut histamine breakdown. Associated with histamine-related digestive disorders, nasal congestion, headaches, anxiety, arrhythmia, HTN, diarrhea, urticaria, and migraines..

- Vitamin C
- Choline
- Folate
- Chamomile tea
- Basil
- Echinacea tea
- Fennel, ginger, wild oregano
- Magnesium
- Stinging nettle and Vitamin C (D-Hist supplement)

Higher need for folate for healthier Nitric Oxide production(inflammation reduction, blood pressure control, brain function, and cancer protection).

- Methyl folate
- Vit C
- Selenium
- Mg
- B6
- L-arginine
- BH4 supplement Mood Assist from OWM

Associated with hemochromatosis.

- Cold therapy
- Low iron diet

Lower glutathione- lower protection against oxidative stress of mitochondria.

- HIIT training
- Optimal testosterone and estrogen levels
- Cold exposure
- Herbs, spices
- Melatonin

- Vitamin C and Vitamin E

Inflammation and Cancer

Tumor suppression gene suppression..

- Vitamin C
- Niacin
- Reishi
- Zinc
- Selenium

Generally associated with cancer..

- Betaine
- Choline
- B6
- B12
- Folate

Associated with lower first line of defense immune T cell production and tumor suppressor gene. Related to colon cancer for those eating processed meat compared to those with a normal genotype.

Associated with prostate, urinary, esophagus, and skin cancer..

- Glutathione precursors
- Holy Basil
- Alpha Lipoic Acid
- Vitamin C
- Vitamin E
- Magnesium

Impaired reduction of oxidative stress (inflammation in the cell). Highest correlation to prostate, breast, liver, and blood cancer..

- Deep breathing relaxation techniques (yoga, meditation, prayer) to assist catalase
- Monitoring iron levels
- Higher need for flavonoids
- Ginger, cumin, anise, fennel, caraway, cardamom
- Lion's Mane mushroom
- Boron
- Lutein
- Holy basil
- Selenium

Higher need for Vitamin D as protection against prostate cancer (men).

- Keep D levels between 60-80

- Vitamin D

Associated with breast, urinary, esophagus, and skin cancer..

- Glutathione precursors
- Holy Basil
- Alpha Lipoic Acid
- Vitamin C
- Vitamin E
- Magnesium

Associated with prostate cancer and lung cancer..

- Iodine
- Green tea
- Resveratrol

Poor clearance of carcinogens from smoke. Associated with breast and bladder cancer..

- Cruciferous Vegetables
- Unfiltered fermented drinks
- Meat and fish marinades
- Parsley
- Vitamin C

Breast cancer risk..

- Vitamin K2 MK4 from pastured eggs, grass-fed butter, meat, and numerous cheeses.
- Vitamin K2 MK4

Associated with aggressive prostate cancer..

- Cryotherapy
- Reverse osmosis water filters
- Red fruit and vegetables
- Lutein, Zeaxanthin, Carotenoids
- Manganese
- Vitamin A, C, + E
- Omega-3 Fatty Acids
- Cordyceps
- Reishi (help protect mitochondria)
- Boron
- Holy Basil

Associated with breast cancer and lung cancer..

- Iodine
- Green tea
- Resveratrol

Associated with elevated 4-hydroxyestradiol, potentially cancerous growth in the prostate..

- Rooibos tea
- Celery
- Parsley
- Quercetin
- Resveratrol

High frequencies in patients with lung cancer, breast cancer, bladder cancer, colorectal cancer, skin cancer..

- Cruciferous vegetables
- Green tea and white tea
- Vitamin C, A, and E
- Resveratrol
- Curcumin

Determines if an individual is a slow or intermediate metabolizer of caffeine..

Higher association with colon cancer.

- Garlic
- Watercress
- Ellagic acid
- Dandelion
- Green tea
- Vitamin C
- N-acetyl cysteine
- MCT oil

Coffee is more protective against ER-positive breast cancer with increased survival..

Cholesterol / Glucose Management

This genetic variant can alter fatty acid metabolism, leading to changes in lipid metabolism..

- Increasing poly and monounsaturated fats
- Astaxanthin
- Pterostilbene
- Genistein
- Tomatoes
- Cinnamon
- Gynostemma tea
- PPAR-Alpha agonist drugs
- Lion's Mane mushroom
- L-carnitine

- Zinc

This genetic variant can alter estrogen levels and increase the risk of insulin resistance and obesity..

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increased cholesterol due to poor saturated fat processing.

- Standing desks / constant movement -> stimulate LPL
- Less than 22g of saturated fat per day

Higher levels of obesity and insulin resistance..

- Coffee
- Blueberries
- Mulberries
- Cranberries
- Raw almonds
- Strawberries
- Chili peppers
- Ginger
- Rose hips
- Curcumin
- Berberine

This gene is the strongest genetic indicator of type 2 diabetes..

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- Monosaturated or polyunsaturated fats to replace saturated fat
- Fish oil
- Algae EPA/DHA

Immune System

Associated with Hashimoto's.

- Cold immersion post workout
- Supplemental Selenium

Associated with low immunity.

- Copper supplement

Reduced immune function.

- Zinc

Diet

Inability to go into ketosis.

- Lower fasting times
- Consistent intake of foods that stimulate the PPAR-alpha gene

- 3 meals and snacks throughout the day
- Decreasing saturated fat and increasing polyunsaturated fats
- Astaxanthin
- Pterostilbene
- Genistein
- Tomatoes
- Cinnamon
- Zinc
- Lion's Mane