

HORMORA

Nutrient Database

The Science Behind Your Hormones

Hormonal Impact • Functions • Sources • Tips

31 nutrients • 6 hormone systems • Evidence-based

hormora.com

How to Use This Guide

Each nutrient card covers its hormonal impact, key functions, best food sources, deficiency signs, depletion factors, and practical tips. Use the hormone badges to quickly identify which nutrients support specific hormone systems.

Nutrient Type Guide

-  Vitamins (13)
-  Minerals (11)
-  Amino Acids (4)
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Hormone System Guide

Cortisol

Insulin

Thyroid

Estrogen Balance

Testosterone

Growth Hormone

Important Disclaimers

Medical: This guide is for educational purposes only and is not medical advice. Always consult a qualified healthcare provider before making dietary changes.

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Vitamin A (Retinol)

Vitamin

Cortisol

Thyroid

Estrogen Balance

Testosterone

HORMONAL IMPACT

Clears estrogen, supports thyroid (T4/T3 conversion), supports progesterone balance, works synergistically with cholesterol to make steroid hormones, supports testosterone production (which opposes cortisol)

OTHER KEY FUNCTIONS

Vision, skin health, immunity, digestion, gut mucosal barrier

BEST SOURCES

Beef liver, whole milk, egg yolks, grass-fed butter, oysters (synergistic with copper/zinc)

DEFICIENCY SIGNS

Night blindness, dry/rough skin, frequent infections, poor wound healing, acne

DEPLETED BY

Low-fat diets, zinc deficiency, alcohol, poor gut health/malabsorption, liver dysfunction

TIPS & WARNINGS

Do not supplement with synthetic vitamin A (retinyl palmitate or acetate) – can be toxic. Avoid beta-carotene reliance – conversion to usable retinol is low and inconsistent. Balance intake with vitamin D, vitamin K2, and zinc for optimal absorption.



Vitamin B1 (Thiamine)

Vitamin

Cortisol

Insulin

HORMONAL IMPACT

Improves insulin sensitivity, improves carbohydrate metabolism, supports adrenal resilience

OTHER KEY FUNCTIONS

Critical cofactor for carbohydrate metabolism, nervous system function, mitochondrial ATP production

BEST SOURCES

Pasture-raised pork, wild boar, beef liver, pineapple, potatoes, nutritional yeast, spirulina

DEFICIENCY SIGNS

Fatigue, brain fog, irritability, poor memory, muscle weakness, rapid heart rate, anxiety

DEPLETED BY

Chronic stress, alcohol, coffee/caffeine, refined carbohydrates, PUFA/seed oil consumption

TIPS & WARNINGS

Avoid thiamine mononitrate (common synthetic form in fortified foods). If supplementing, use benfotiamine or TTFD. Works synergistically with magnesium and potassium. Do not consume bacon or conventional pork due to high PUFA/omega-6 fatty acid content.

B2

Vitamin B2 (Riboflavin)

Vitamin

Thyroid

Estrogen Balance

HORMONAL IMPACT

Supports thyroid hormone production and conversion (T4/T3), supports estrogen metabolism

OTHER KEY FUNCTIONS

Energy production, reduces oxidative stress, converts other B vitamins (B6, niacin, folate) to active forms

BEST SOURCES

Beef liver, beef, egg yolks, raw dairy, spirulina, nutritional yeast, mushrooms

DEFICIENCY SIGNS

Cracked lips, mouth sores, red/swollen tongue, light sensitivity, red/itchy eyes, fatigue

DEPLETED BY

Low-carb/high-fat diets, alcohol, oral contraceptives, intense exercise

TIPS & WARNINGS

Include with selenium and iodine for thyroid synergy. Riboflavin-5-phosphate is the active form if supplementing. B2 demand increases on lower carbohydrate diets due to greater reliance on fat oxidation.

B3

Vitamin B3 (Niacinamide)

Vitamin

Cortisol

Insulin

Testosterone

HORMONAL IMPACT

Essential for sex hormone synthesis, regulates insulin sensitivity, modulates cortisol response

OTHER KEY FUNCTIONS

NAD+ regeneration/cellular energy production, DNA repair, skin health, brain function and neurotransmitter balance

BEST SOURCES

Beef liver, beef, lamb, shrimp, whole milk, egg yolks, potatoes

DEFICIENCY SIGNS

Fatigue, brain fog, depression, poor circulation, skin rashes, digestive issues

DEPLETED BY

Alcohol, chronic stress, B6/B2 deficiency, poor protein intake

TIPS & WARNINGS

If supplementing, use niacinamide (non-flushing). Avoid high-dose synthetic niacin unless supervised - may deplete methyl groups. Works synergistically with thiamine, riboflavin, and magnesium.

B5

Vitamin B5 (Pantothenic Acid)

Vitamin

Cortisol

Estrogen Balance

Testosterone

HORMONAL IMPACT

Required for cholesterol and all steroid hormone production (testosterone, cortisol, progesterone, estrogen). Supports adrenal gland health during chronic stress

OTHER KEY FUNCTIONS

Cellular energy production (TCA cycle), skin barrier function, wound healing, fatty acid metabolism

BEST SOURCES

Beef liver, egg yolks, raw dairy, shiitake mushrooms, salmon, avocados, potatoes, collagen-rich cuts of meat

DEFICIENCY SIGNS

Fatigue, irritability, numbness/tingling in hands and feet, muscle cramps, insomnia

DEPLETED BY

Chronic stress, overtraining, alcohol, low-fat diets, caffeine

TIPS & WARNINGS

Pair with biotin and B2 for synergistic energy support.

B6

Vitamin B6 (P5P)

Vitamin

Estrogen Balance

Testosterone

HORMONAL IMPACT

Estrogen detox, supports progesterone balance, reduces prolactin levels, required for neurotransmitter synthesis (dopamine, serotonin, GABA)

OTHER KEY FUNCTIONS

Mood regulation, immune function, lowers homocysteine (cardiovascular support)

BEST SOURCES

Beef liver, egg yolks, potatoes, bananas, carrots, pasture-raised pork shoulder, wild boar

DEFICIENCY SIGNS

PMS, mood swings, water retention, carpal tunnel, peripheral neuropathy, low energy, vivid dreams

DEPLETED BY

Oral contraceptives, chronic stress, high-protein diets without cofactors, alcohol, aging

TIPS & WARNINGS

Food sources preferred, but P5P form is appropriate for targeted support (progesterone balance, high prolactin). Avoid high-dose B6 (neurotoxic >100mg/day). Works synergistically with magnesium, zinc, and B2.

B7

Vitamin B7 (Biotin)

Vitamin

Insulin

HORMONAL IMPACT

Supports blood sugar balance and insulin sensitivity

OTHER KEY FUNCTIONS

Hair, skin, nail health, fatty acid metabolism, nerve health, supports mitochondria

BEST SOURCES

Egg yolks, beef liver, raw milk, salmon, pasture-raised pork, cooked mushrooms

DEFICIENCY SIGNS

Hair thinning/loss, brittle nails, dry scaly skin, fatigue, depression

DEPLETED BY

Raw egg whites (avidin), long-term antibiotics, gut dysbiosis, pregnancy

TIPS & WARNINGS

Use food sources. May be helpful to supplement during pregnancy or if deficient. Avoid raw egg whites - avidin binds to biotin and inhibits absorption.

B9

Vitamin B9 (Folate)

Vitamin

Estrogen Balance

HORMONAL IMPACT

Supports estrogen detox, progesterone balance, and methylation (gene expression, neurotransmitter synthesis, hormone detox)

OTHER KEY FUNCTIONS

DNA synthesis, red blood cell production, pregnancy support, manages homocysteine levels

BEST SOURCES

Beef liver, cooked egg yolks, white potatoes, citrus fruit, cooked spinach/asparagus, avocado, papaya

DEFICIENCY SIGNS

Fatigue, mouth sores, premature gray hair, poor concentration, neural tube defects (pregnancy), elevated homocysteine

DEPLETED BY

Alcohol, oral contraceptives, chronic stress, metformin, poor gut health

TIPS & WARNINGS

Do not supplement with folic acid (synthetic). Use food-based folate or 5-MTHF if supplementing. Combine with B2, B6, B12, and choline for optimal methylation and detox.



Vitamin B12

Vitamin

Cortisol

Thyroid

HORMONAL IMPACT

Supports energy metabolism. May support thyroid and adrenal function indirectly through cellular energy production

OTHER KEY FUNCTIONS

Nerve health, red blood cell formation, DNA synthesis and repair

BEST SOURCES

Beef liver, beef, clams, salmon, egg yolks, raw dairy

DEFICIENCY SIGNS

Fatigue, numbness/tingling, brain fog, depression, anemia, balance issues, pale skin

DEPLETED BY

PPIs/antacids, metformin, alcohol, vegan/vegetarian diets, aging (reduced intrinsic factor)

TIPS & WARNINGS

Use methylcobalamin or adenosylcobalamin. Avoid cyanocobalamin (synthetic). Deficiency can cause neurological symptoms even without anemia.



Vitamin C

Vitamin

Cortisol

Estrogen Balance

HORMONAL IMPACT

Buffers cortisol, enhances progesterone synthesis, balances estrogen dominance

OTHER KEY FUNCTIONS

Antioxidant, collagen synthesis, immune health, wound healing, regenerates other antioxidants, supports skin health (especially when combined with collagen-based proteins like bone broth or gelatin)

BEST SOURCES

Kiwi, citrus fruit, pineapple, berries, camu camu powder, acerola cherry powder

DEFICIENCY SIGNS

Frequent illness, slow wound healing, bleeding gums, easy bruising, fatigue, dry rough skin

DEPLETED BY

Chronic stress, smoking, high blood sugar, illness/infection, environmental toxins

TIPS & WARNINGS

Take with meals. Avoid synthetic ascorbic acid. Heat degrades vitamin C - prioritize fresh or lightly cooked sources.



Vitamin D

Vitamin

Cortisol

Insulin

Estrogen Balance

Testosterone

HORMONAL IMPACT

Supports testosterone production, reduces excess cortisol, reduces estrogen dominance, improves insulin sensitivity and leptin signaling

OTHER KEY FUNCTIONS

Immune support, calcium absorption, bone health, cardiovascular function, prevents autoimmune disease

BEST SOURCES

Sunlight, salmon, liver, egg yolks, sardines, raw dairy, grass-fed butter

DEFICIENCY SIGNS

Fatigue, bone/joint pain, muscle weakness, depression, frequent illness, hair loss

DEPLETED BY

Lack of sunlight, indoor lifestyle, sunscreen overuse, obesity, aging, dark skin pigmentation

TIPS & WARNINGS

Get 30-60 min sun daily without sunscreen. If supplementing, use liquid D3 in olive oil. Avoid softgels or dry D3. Always pair with vitamin K2 (directs calcium to bones, not arteries) and magnesium (required to convert vitamin D to its active form).



Vitamin E

Vitamin

Cortisol

Insulin

Estrogen Balance

Testosterone

HORMONAL IMPACT

Reduces estrogen dominance, protects steroid hormones (testosterone, progesterone) from oxidative damage, lowers prolactin, improves insulin sensitivity, buffers excess cortisol

OTHER KEY FUNCTIONS

Antioxidant, cardiovascular support, skin health, fertility

BEST SOURCES

Egg yolks, grass-fed butter, beef liver, shrimp, avocado, extra virgin olive oil, red palm oil

DEFICIENCY SIGNS

Muscle weakness, vision problems, immune dysfunction, dry skin, poor wound healing, easy bruising

DEPLETED BY

Seed oils/PUFA consumption, oxidative stress, low-fat diets, poor bile flow/fat malabsorption

TIPS & WARNINGS

Avoid seed oils - they are high in oxidized PUFAs and actively deplete vitamin E. Do not supplement with synthetic dl-alpha-tocopherol. If supplementing, use mixed (whole) tocopherols + tocotrienols for the full spectrum. Whole food sources naturally contain all 8 forms. Works synergistically with selenium and vitamin C.



Vitamin K2

Vitamin

Insulin

Testosterone

HORMONAL IMPACT

Supports testosterone, balances calcium signaling, improves insulin sensitivity (pro-mitochondrial)

OTHER KEY FUNCTIONS

Bone health, cardiovascular protection, dental health, gut health (antibacterial, anti-inflammatory, supports intestinal barrier and mucus production), liver support

BEST SOURCES

Liver, grass-fed butter, aged cheese

DEFICIENCY SIGNS

Easy bruising, arterial calcification, poor dental health, osteoporosis, slow bone healing

DEPLETED BY

Antibiotics (disrupt K2-producing gut bacteria), low-fat diets, statins, poor bile flow

TIPS & WARNINGS

If supplementing, prioritize MK-4 or MK-4/MK-7 combo. Avoid soy-based MK-7. Essential partner for vitamin D3. Higher doses (20-40mg+ MK-4) may support gut healing and insulin sensitivity. Consider supplementation if liver enzymes are elevated (ALT, AST, GGT, ALP).



Boron

Mineral

Estrogen Balance

Testosterone

HORMONAL IMPACT

Increases testosterone (by reducing SHBG), supports healthy estrogen metabolism, extends Vitamin D half-life

OTHER KEY FUNCTIONS

Bone health, cognitive support

BEST SOURCES

Raisins, prunes, avocado, dates, honey, apples, pears, 1 brazil nut

DEFICIENCY SIGNS

Poor bone density, hormonal imbalances, cognitive sluggishness, arthritis symptoms

DEPLETED BY

Low fruit intake, poor soil quality in modern agriculture

TIPS & WARNINGS

Do not megadose. 3-6 mg/day. Especially useful in postmenopausal women and aging men.



Calcium

Mineral

Cortisol

Thyroid

Estrogen Balance

Testosterone

HORMONAL IMPACT

Modulates parathyroid hormone (PTH). High PTH is associated with hormonal imbalances including lower testosterone and higher cortisol. Calcium deficiency increases aromatase activity, which converts testosterone to estrogen

OTHER KEY FUNCTIONS

Bone density, nerve conduction, fertility

BEST SOURCES

Raw milk, cheese, sardines (with bones)

DEFICIENCY SIGNS

Muscle cramps, numbness/tingling, brittle nails, poor sleep, osteoporosis, tooth decay

DEPLETED BY

Low dairy intake, vitamin D deficiency, excess phosphorus (soda), caffeine, high oxalate foods

TIPS & WARNINGS

Avoid calcium carbonate. Prioritize dairy over supplements. Vitamin D lowers PTH which is why it's hormone supportive. Magnesium, vitamin K2, vitamin D, and calcium are synergistic. Dark leafy greens contain calcium but lack bioavailability due to antinutrients.



Copper

Mineral

Thyroid

Estrogen Balance

HORMONAL IMPACT

Essential for estrogen metabolism and thyroid function (T4/T3 conversion)

OTHER KEY FUNCTIONS

Iron transport, antioxidant defense, mitochondrial function, collagen status, neurotransmitter synthesis (dopamine to norepinephrine)

BEST SOURCES

Beef liver, oysters, shrimp, dark chocolate (optional)

DEFICIENCY SIGNS

Anemia despite adequate iron, fatigue, frequent illness, poor collagen/skin quality, early gray hair

DEPLETED BY

Long-term zinc supplementation, high-dose vitamin C, antacids, excess fructose

TIPS & WARNINGS

Avoid copper oxide. Whole food copper is best. Balance with zinc - long-term zinc supplementation can deplete copper.



Iodine

Mineral

Thyroid

Estrogen Balance

HORMONAL IMPACT

Essential for thyroid hormone production (T3 and T4).
Supports healthy estrogen metabolism

OTHER KEY FUNCTIONS

Breast health, immune function, cognitive development

BEST SOURCES

Sea vegetables (dulse, kelp, nori), wild-caught fish, shellfish,
egg yolks, raw dairy

DEFICIENCY SIGNS

Fatigue, cold intolerance, unexplained weight gain, brain fog,
dry skin, goiter, thinning hair

DEPLETED BY

Fluoride, chlorine, bromide (competitive halides in water/food), soy consumption, low-salt diets

TIPS & WARNINGS

Start low and increase gradually. Pair with selenium to protect thyroid during iodine intake. Excess iodine can worsen autoimmune thyroid conditions (Hashimoto's).



Iron

Mineral

Thyroid

HORMONAL IMPACT

Supports thyroid, oxygen delivery

OTHER KEY FUNCTIONS

Energy, red blood cell production

BEST SOURCES

Red meat (beef, lamb, venison), beef liver, oysters

DEFICIENCY SIGNS

Fatigue, pale skin, cold hands/feet, dizziness, brittle nails,
restless legs, shortness of breath

DEPLETED BY

Menstruation, low stomach acid, excessive tea/coffee with meals, phytates/oxalates, intense exercise

TIPS & WARNINGS

Never supplement with ferrous sulfate - it can cause oxidative stress and disrupt gut health. Consume heme-iron only from food. The human body only excretes 1-2 mg of iron per day, so excess accumulates easily. Menstruating women should prioritize heme-iron from beef, liver, and oysters. Iron requires adequate copper for proper transport.



Magnesium

Mineral

Cortisol

Insulin

Thyroid

Testosterone

HORMONAL IMPACT

Supports insulin sensitivity, reduces cortisol, essential for thyroid function (T4/T3 conversion), supports testosterone

OTHER KEY FUNCTIONS

300+ enzymatic reactions, sleep, muscle relaxation, energy production, blood pressure

BEST SOURCES

Bone broth, beef or lamb heart, magnesium glycinate supplement

DEFICIENCY SIGNS

Muscle cramps/twitching, insomnia, anxiety, heart palpitations, constipation, migraines, chocolate cravings

DEPLETED BY

Chronic stress, caffeine, alcohol, sweating, refined sugar, PPIs/antacids, intense exercise

TIPS & WARNINGS

Take magnesium glycinate or malate with dinner. Avoid magnesium oxide (poorly absorbed). Nuts, seeds, and leafy greens contain magnesium but have antinutrients (phytic acid, oxalates) that block absorption.



Manganese

Mineral

Insulin

HORMONAL IMPACT

Improves glucose metabolism, reduces oxidative stress (supports overall hormonal balance)

OTHER KEY FUNCTIONS

Antioxidant defense, bone formation, enzyme activation

BEST SOURCES

Beef liver (trace), shellfish (mussels, oysters, clams), egg yolks, pineapple, spinach (cooked)

DEFICIENCY SIGNS

Blood sugar dysregulation, poor bone health, skin rashes, mood disturbances (rare overt deficiency)

DEPLETED BY

Excess iron or calcium supplementation, antacids, high phytate diets

TIPS & WARNINGS

Avoid synthetic manganese supplements unless supervised. Stick to food-based sources.



Potassium

Mineral

Cortisol

Insulin

HORMONAL IMPACT

Improves insulin sensitivity and adrenal balance

OTHER KEY FUNCTIONS

Fluid balance, nerve conduction, muscle contraction

BEST SOURCES

Coconut water, potatoes (cooked/peeled), ripe fruit (oranges, pomegranate, bananas), dairy, squash

DEFICIENCY SIGNS

Muscle cramps/weakness, fatigue, constipation, heart palpitations, water retention, sugar cravings

DEPLETED BY

Sweating, diuretics, chronic stress/high cortisol, low-carb diets, excess sodium without potassium

TIPS & WARNINGS

Spread intake throughout the day. Do not megadose potassium salts. Balance with sodium – if eating whole foods, you likely need more of both.



Selenium

Mineral

Thyroid

HORMONAL IMPACT

Supports thyroid hormone production and converts T4 to T3, supports thyroid resilience

OTHER KEY FUNCTIONS

Antioxidant defense, fertility, immune function

BEST SOURCES

Eggs, seafood (sardines, shrimp, oysters), beef liver, 1 brazil nut occasionally

DEFICIENCY SIGNS

Thyroid dysfunction, weakened immunity, hair loss, fatigue, brain fog, muscle weakness

DEPLETED BY

Heavy metals (mercury), poor soil quality, smoking, excess iodine without selenium balance

TIPS & WARNINGS

Keep supplementation at approximately 200mcg/day or less. Do not rely on multivitamins containing inorganic selenium (sodium selenite) – prefer food-based or selenomethionine if supplementing. Pair with vitamin E for synergistic thyroid protection.



Sodium

Mineral

Cortisol Thyroid

HORMONAL IMPACT

Supports adrenal health, lowers cortisol, supports thyroid function. Low sodium triggers aldosterone release which disrupts hormonal balance

OTHER KEY FUNCTIONS

Nerve impulse transmission, glucose transport, muscle contraction, fluid balance

BEST SOURCES

High-quality sea salt (microplastic free/low in heavy metals), mineral rich water

DEFICIENCY SIGNS

Fatigue, dizziness, muscle cramps, brain fog, low blood pressure, sugar/salt cravings, headaches

DEPLETED BY

Sweating, chronic stress/high cortisol, low-carb diets, excess water intake, diuretics

TIPS & WARNINGS

If not consuming processed foods, consume salt regularly throughout the day. Stress, low-carb diets, and sweating all increase sodium needs. Consume a pinch of mineral-rich salt in the morning with water for better hydration. Balance with potassium.



Zinc

Mineral

Thyroid Estrogen Balance Testosterone Growth Hormone

HORMONAL IMPACT

Boosts testosterone and aromatase inhibition (reduces conversion of testosterone to estrogen), may support thyroid function

OTHER KEY FUNCTIONS

Immune function, wound healing, taste and smell, gut repair, healthy dopamine levels

BEST SOURCES

Oysters, beef, lamb, egg yolks, beef liver

DEFICIENCY SIGNS

Loss of taste/smell, slow wound healing, frequent illness, acne, hair loss, white spots on nails

DEPLETED BY

Chronic stress, phytates (grains/legumes), excess copper, alcohol, sweating, oral contraceptives

TIPS & WARNINGS

Balance with copper if supplementing long-term. Best to consume beef and occasional beef liver. If supplementing, use zinc bisglycinate, picolinate, or carnosine (for gut healing). Avoid zinc oxide.



Collagen Amino Acids

Amino Acid (Proline, Hydroxyproline, Threonine)

Cortisol

Insulin

HORMONAL IMPACT

Supports progesterone, supports gut health which reduces cortisol. High source of glycine (buffers cortisol, supports estrogen clearance, liver detox, improves insulin sensitivity)

OTHER KEY FUNCTIONS

Joint health, skin elasticity, mucin (gut lining) production, heals leaky gut

BEST SOURCES

Bone broth, gelatin, collagen, beef, dairy

DEFICIENCY SIGNS

Joint pain/stiffness, loose/aging skin, brittle nails, weak hair, gut permeability (leaky gut)

DEPLETED BY

Aging, high-sugar diets, UV/sun damage, chronic stress, low vitamin C intake

TIPS & WARNINGS

Critical for gut health - many hormone issues start with gut dysfunction. Pair with vitamin C to support antioxidant production and collagen synthesis. Ideal for connective tissue and skin repair.



Glycine

Amino Acid

Cortisol

Insulin

Estrogen Balance

Growth Hormone

HORMONAL IMPACT

Buffers/reduces cortisol, supports estrogen clearance, supports liver detoxification, improves insulin sensitivity

OTHER KEY FUNCTIONS

Promotes sleep, collagen formation, antioxidant production (glutathione)

BEST SOURCES

Bone broth, gelatin, collagen

DEFICIENCY SIGNS

Poor sleep quality, accelerated aging, low glutathione, gut issues, elevated inflammation, anxiety

DEPLETED BY

High muscle meat intake without collagen/bone broth (methionine imbalance), stress, detox demands

TIPS & WARNINGS

Pair with muscle meats to balance methionine. Can be taken before bed to improve sleep. Pair with magnesium glycinate for even better sleep.



Taurine

Amino Acid

Cortisol

Insulin

Thyroid

Estrogen Balance

HORMONAL IMPACT

Supports insulin sensitivity, adrenal (cortisol) regulation, estrogen clearance, and thyroid function

OTHER KEY FUNCTIONS

Bile flow and digestion, heart rhythm, fluid balance, gut health (halts inflammation, reverses leaky gut, antimicrobial, supports bile acid production)

BEST SOURCES

Eggs, beef, shellfish (scallops, clams, shrimp), beef liver

DEFICIENCY SIGNS

Poor bile flow, bloating after fatty meals, anxiety, heart palpitations, poor sleep, exercise intolerance

DEPLETED BY

Chronic stress, vegan/vegetarian diets, alcohol, intense exercise, aging

TIPS & WARNINGS

Take with meals for improved bile flow and digestion. Can support sleep and anxiety. Powerful gut healer. Caution if H2S bacterial overgrowth is present.



Tyrosine

Amino Acid

Thyroid

HORMONAL IMPACT

Builds dopamine and thyroid hormones

OTHER KEY FUNCTIONS

Boosts mood, motivation, alertness

BEST SOURCES

Eggs, beef, beef liver, dairy (especially aged cheese), fish, pasture-raised pork

DEFICIENCY SIGNS

Low motivation, brain fog, depression, cold sensitivity, weight gain, low dopamine symptoms

DEPLETED BY

Chronic stress (burns through dopamine), low protein intake, phenylalanine deficiency

TIPS & WARNINGS

Take in the morning or pre-workout. Avoid if hyperthyroid or anxious.



Omega-3s (DHA/EPA)

Fatty Acid

Insulin

HORMONAL IMPACT

Can modulate inflammation. Unlike omega-6s (linoleic acid), does not contribute to linoleic acid tissue accumulation. However, still a PUFA prone to oxidation which may impair thyroid function.

OTHER KEY FUNCTIONS

Brain health, cardiovascular support

BEST SOURCES

Small fatty fish (sardines, mackerel) 1-2x/week max. Avoid supplements.

DEFICIENCY SIGNS

Dry skin, poor concentration, joint stiffness, mood instability

DEPLETED BY

Excess omega-6/seed oil consumption, oxidative stress, high inflammation

TIPS & WARNINGS

Avoid all fish oil supplements (highly oxidized). Omega-3s do not break down into linoleic acid, making them preferable to seed oils, but still contribute to total PUFA load. Prioritize saturated fats (butter, tallow, coconut oil) as primary fat sources.



Choline

Nutrient

Estrogen Balance

HORMONAL IMPACT

Supports estrogen detox and liver methylation (clearance of hormones, toxins, and neurotransmitters)

OTHER KEY FUNCTIONS

Brain function, cell membrane integrity, supports bile flow

BEST SOURCES

Eggs, beef liver, beef, salmon, turkey, scallops, dairy

DEFICIENCY SIGNS

Brain fog, fatty liver, poor memory, muscle damage/weakness, mood instability

DEPLETED BY

Low egg/liver intake, alcohol, high estrogen levels, pregnancy/breastfeeding

TIPS & WARNINGS

Aim for food sources only. Do not rely on soy lecithin.



CoQ10

Nutrient

Insulin

Thyroid

HORMONAL IMPACT

Supports mitochondrial energy production (foundational for all hormone synthesis), may support thyroid function and insulin sensitivity

OTHER KEY FUNCTIONS

Cellular energy (ATP), cardiovascular health, antioxidant, supports fertility (egg and sperm quality)

BEST SOURCES

Beef heart, beef liver, sardines, pasture-raised pork, egg yolks

DEFICIENCY SIGNS

Fatigue, muscle weakness, poor exercise recovery, heart issues, cognitive decline

DEPLETED BY

Statins, aging (natural production declines after ~30), intense exercise, oxidative stress

TIPS & WARNINGS

Use ubiquinol form (active, better absorbed) over ubiquinone. If on statins, supplementation is essential.