Holistic Health
MAKEOVER

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"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"

- World Health Organization

CURRENT DISCONNECT

The Current Landscape when it comes to weight loss:

• About 3 billion dollars are spent on weight loss chains such as Weight Watchers.

• Diet pills & meal replacement solutions are a $3 billion dollar market.

• Home delivery services for diet food, such as NutriSystem, are a $1 billion dollar business.

• The bulk of the money is spent on foods advertised as "diet" (for example diet cola).

4. Increase in Bariatric (Weight Loss) Surgeries, Gastric Bypass, Lap Band, Gastric Sleeves cost between $15 -$25k.

• A doctor might also recommend it if you have a BMI over 35, medical conditions such as sleep apnea, high blood pressure, heart disease, or type 2 diabetes.

• The Global Packaged Food market accounted for $2.77 trillion in 2018 and is expected to reach $4.89 trillion by 2027

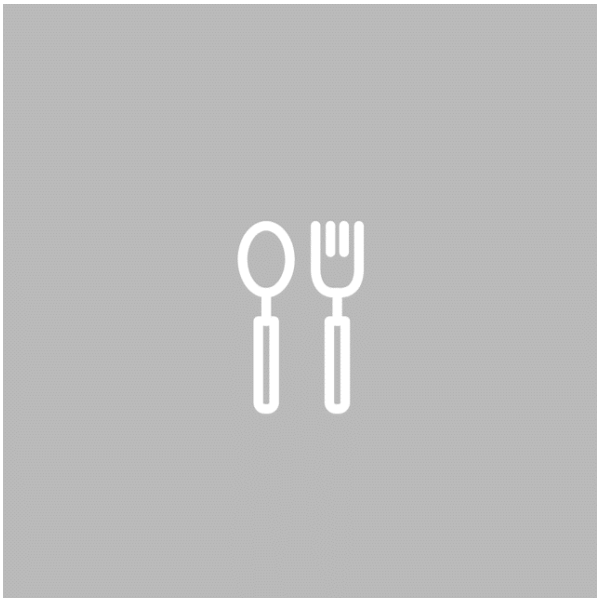
Factors affecting our health:

What the government says is the cause:

- consuming more food than your body actually needs
- not being active enough
- genetics
- your metabolism
- social factors
- economic factors
- psychological and emotional factors

I would add:

- packaging, processed and refined foods
- lack of education (there is no nutrition in schools!)
- food marketing
- chronic stress
- adrenal fatigue, hormone and blood sugar imbalances, insulin resistance
- low serotonin levels in the brain (huge factor in binge eating!)
- exposure to endocrine disruptors
- food addictions
- street, OTC and prescription drugs



10 TRUTHS

- Truth #1: Whole food is your best guarantee to a healthy life.
- Truth #2: You can not out train a bad diet.
- Truth #3: Food is nature's medicine
- Truth #4: Do NOT cut calories quickly!
- Truth #5: Skinny does not = healthy
- Truth #6: Hormones and blood sugar management matter
- Truth #7: Fat cells DO NOT decrease, they just shrink
- Truth #8: 80% of fat leaves your body through carbon dioxide
- Truth #9: Muscle is more dense than fat and takes up less space
- Truth #10: 3500 cals is said to be about 1 pound

NUTRIENTS

Nutrients are substances needed for growth, metabolism, and all bodily functions.

2 types:

- **Macro**nutrients - Provide calories or energy and we need for survival. There are three Macronutrients: **1. Carbohydrate 2. Protein 3. Fat**
- **Micro**nutrients - Micronutrients are made up of **vitamins and minerals**. They help carry out specific chemical reactions in our body, regulate hormonal function, and are vital to preventing disease

CALORIES

A calorie is the energy needed to raise the temperature of 1g of water by 1 °C

Carbohydrate provides 4 calories per gram. **Protein** provides 4 calories per gram. **Fat** provides 9 calories per gram

What Is a Calorie << Click for video

CARBOHYDRATES

Carbohydrates are the sugars, starches and fibers found in fruits, grains, vegetables and are the body's main source of energy. They are called carbohydrates because they contain carbon, hydrogen and oxygen.

SIMPLE CARBS: Refined/Processed Carbs are quickly digested and absorbed. Eating refined “simple” carbs can cause major swings in blood sugar levels. Simple carbs promote short-term fullness and have very minimal fiber, they are stripped of their nutrition.

EX: White or “refined” Bread, White Rice, Soda, Cookies, Cereal

COMPLEX CARBS: Come from plants and take time to be digested and are slower to burn for energy. Complex Carbs contain valuable fiber your body needs for every function.

EX: Peas, Beans, Whole Grains, Vegetables, Fruit, Legumes

WHY WE NEED IT?

- Are the body’s main source of fuel and energy
- Feed our good gut bacteria
- Act as communication devices: support protein and fat metabolism, immune response, bone and tissue growth, and rate of healing.

What is a Carbohydrate

FIBER

Fiber, the parts of fruits and vegetables that cannot be digested. Fiber is of vital importance to digestion; it helps the body move food through the digestive tract, reduces serum cholesterol, and contributes to disease protection

2 types:

- **In**soluble - increase bulk (like stalks, leaves and seeds) • Soluble= gel to help you absorb nutrients more slowly (like flax, psyllium husk) recommended 25-40 grams / day and during each meal.
- **Soluble** - attracts water in the intestines and gels during digestion, helping to form proper stool. It also acts as a prebiotic and feeds our good intestinal bacteria.

FOOD SOURCES OF FIBER:

•**FRUITS:** Bananas, Oranges, Apples, Mangoes, Strawberries, Raspberries

• **VEGETABLES:** Generally, the darker the color, the higher the fiber content

• **HIGH-FIBER FOODS:** Beans and legumes, Whole Grain breads, Nuts and Seeds, Quinoa, Rice, Flax etc.

PROTEIN

Your body uses protein to build and repair tissues. You also use protein to make enzymes, hormones, and other body chemicals. Protein is an important building block of bones, muscles, cartilage, skin, hair, nails and blood

WHY WE NEED IT?

- Growth (especially for children, teens, and pregnant women)
- Tissue repair
- Immune function
- Making essential hormones and enzymes
- Energy when carbohydrate is not available
- Preserving lean muscle mass

Amino Acids

- There are 9 “essential” amino acids that must be absorbed from food sources, however there are 20 amino acids all together
- Protein that comes from animal sources contains all of the essential amino acids that we need. (ex beef, chicken, poultry, fish. Etc)
- Plant sources of protein on the other hand, do not contain all of the essential amino acids. (ex. Beans. Legumes, brown rice, oats, etc)

FOOD SOURCES OF PROTEINS • Meat, Eggs, Milk, Fish, Beans, Legumes Seeds, Nuts, Hemp Seeds, Almonds, Flax Seeds, Quinoa, Rice, Grains

Fat

A main fuel source that is needed for good health and energy. Contrary to popular belief fat does not make you fat and is a vital piece to nutrition

3 Types:

• **Saturated Fatty Acids:** Saturated fatty acids are commonly found in “hard” fats and they are solid at room temperature.

WHY WE NEED THEM?

• **Energy**: EX: “medium-chain triglycerides” or MCTs, which are used for energy and are not stored as fats.

• **Gut support**: associated with feeding our good gut bacteria, and inhibiting the growth of candida in our intestines.

• **Cell membranes:** long-chain saturated fats are typically used to build the membrane surrounding every cell in our body.

Food Sources: Butter, Ghee, Coconut Oil, Coconut Flakes, Cheese, Beef, Sausages, Eggs, Cashews, Chocolate, Brazil nuts

• **Unsaturated Fatty Acids - Monounsaturated and Polyunsaturated**

Monounsaturated fatty acids are commonly found in oils and are typically liquid at room temperature

WHY WE NEED THEM?

• **Cardiovascular health**: keep arteries supple and flexible, can reduce LDL cholesterol while increasing HDL cholesterol levels

• **Improves insulin sensitivity**: helps your body use fat properly by correcting adipose tissue dysfunction

• **Improves mood**: reduces anger and depression

• **Strengthens bones**: by improving calcium absorption

• **Skin health:** monounsaturated fats are commonly found in our skin's natural oil production

FOOD SOURCES: Olives, Olive Oil, Avocado, Avocado Oil, Sesame Seeds, Sesame Oil Peanuts, Peanut oil, Cashews, Brazil nuts, Almonds, Almond Butter

Polyunsaturated Fats are usually liquid at room temperature and are referred to as "oils."

WHY WE NEED THEM

• **Cellular membrane**: Structure and Fluidity

• **Reduce inflammation:** Specifically omega 3 Fatty Acids reduce inflammation in the body that can lead to disease.

• **Cardiovascular health:** Keep arteries supple and flexible and can reduce inflammation.

• **Red blood cells:** involved in producing hemoglobin (red blood pigmentation) and help transfer oxygen into the cell.

• **Oxygen transfer:** promote oxygen transfer from the air in our lungs, through our capillaries, and into our blood cells.

• **Brain health:** essential for healthy brain development and maintenance.

• **Communication**: create prostaglandins, which are hormone-like substances that serve as messengers in the body for blood pressure, smooth muscle control and platelet stickiness

• **Metabolism:** increase the rate of metabolic reactions, improve fat burning and weight loss, and play an important role in energy transportation and creation.

• **Muscle fatigue recovery**: improve muscle recovery after exercise by helping convert lactic acid build-up in the muscles.

• **Skin health**: keep skin supple and smooth, and can speed up wound healing.

WHERE CAN WE FIND THEM? Some of the best sources of polyunsaturated fats include: • Flax seeds flax oil • Chia seeds • Walnuts • Hemp seeds • Hemp oil • Salmon • Soybeans • Brazil nuts

• Trans fat (hydrogenated..BAD!!)

Hydrogenation In the food industry, balance of saturated and unsaturated fats has gotten out of hand because many food products include Polyunsaturated fat which are too delicate to be processed, shipped and shelved for a long period of time.

To fix this problem and increase shelf life, the food industry adopted a process called HYDROGENATION to turn unsaturated fats into saturated fats.

While trans fats are banned in some countries, they are widely available in the U.S. and a manufacturer can claim “0 trans fats” as long as the product has less than 0.5g of trans fats.

HOW IT WORKS:

• Canister of hydrogen gas is placed below vat of oil

• Under control, the hydrogen gas is allowed to bubble into oil

• Oil is convinced to soak up more of the hydrogen and unsaturated oils turned into saturated

• This creates a semi solid fat (think margarine or shortening) that is less likely to go rancid called TRANS FATS

• Can increase LDL Cholestraland (hardening arteries)

WHERE CAN WE FIND THEM? • Margarine or other butter-like spreads • Shortening • Partially hydrogenated vegetable oils • Pre-packaged foods (muffins, cookies, cakes, crackers, breads, pies, doughnuts, etc.) •buttered microwave popcorn • Fried fast food • Deep fried foods, including chips, French fries • Pre-packaged frozen or refrigerated dough

OILS TO AVOID These processed vegetable oils are unnatural in such large amounts and should be avoided as much as possible they promote inflammation and are unnatural due to processing: •Soybean oil •Sunflower oil •Corn oil •Canola oil •Cottonseed oil • Safflower oil

Vitamins

Essential micronutrients which an organism needs for the proper functioning of its metabolism and must be obtained through the nutrition. Vitamin and mineral amounts are usually expressed in milligrams (mg) micrograms (mcg) or International Unit (IU)

2 forms:

Water soluble: B, C

- Lost when foods are cooked because sensitive to heat
- Sensitive to air, light, heat and time
- Lost through bodily fluids must be replaced each day.
- Work with inactive protein to make an active enzyme
- When supplementing, take with food and water

Fat soluble: A, D, E, K

- Stored in body tissue such as the liver and fatty tissue.

- Toxic levels can occur easily from regular increased intake

- When supplementing, take alone before breakfast or at bedtime with a dietary fat

Vitamin A

WHY WE NEED IT?

- **Eyesight:** prevents macular degeneration and allows us to see at night.

- **Bone Growth:** supports bone cell growth

- **Healthy skin and wound healing:** stimulates epithelial (skin) cell growth and helps cells bind together; antioxidants support healthy skin and aging.

- **Immune system support**: acts as an antioxidant, optimizes white blood cell function and regulates genes responsible for immune responses,
- Reduce inflammation: acts as an antioxidant neutralizing free radicals.

FOOD SOURCES • Carrots • Sweet potato • Kale • Spinach • Romaine lettuce • Broccoli • Red cabbage • Cantaloupe • Mango • Beef liver • Egg yolks • Cod liver oil

HOW MUCH DO WE NEED PER DAY? Recommended dietary allowance of Vitamin A per day varies by age and gender:

- Children: 300-600 mcg RE, depending on age

- Adult males (14 years old and up): 900 mcg RE

- Adult females (14 years old and up): 900 mcg RE

- Pregnant adult females: 530 mcg RE

Note: Since vitamin A is a fat - soluble vitamin , it can accumulate in our fat cells. Over - supplementation of vitamin A can lead to health issues like headaches, nausea, vomiting, and toxicity.

OTHER NAMES FOR VITAMIN A

- Retinol: the active form of Vitamin A, is found in animal products.
- Beta-carotene: needs to be converted to Vitamin A in the body, is found in colorful fruits and vegetables.

Vitamin B1

WHY WE NEED IT?

• **Supports metabolism:** aids in the production of energy, specifically in glucose metabolism.

• **Converts carbohydrates** to fat for energy or storage.

• **Supports nervous system:** helps synthesize acetylcholine (a neurotransmitter), and plays a role in development of the myelin sheath (surrounds our nerves to protect them and improve their function).

• Ensures proper muscle tone.

FOOD SOURCES • Lentils • Pork • Green peas • Brewer's yeast • Avocado • Oats • Millet • Spinach • Cauliflower • Sunflower seeds

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 500 mcg

• Children, 4-8 years: 600 mcg

• Children, 9-13 years: 900 mcg

• Adult males, 14 years and older: 1.2 mg

• Adult females, 14 years and older: 1.1 mg

NOTE: Vitamin B1 requirements can vary largely due to caloric intake, stress and other illnesses. Maintenance levels of B1 can be much higher than the quantities identified.

OTHER NAMES FOR VITAMIN B1 • Thiamin • Thiamine

Vitamin B2

WHY WE NEED IT?

• **Supports cellular energy production**: acts as the building block for two coenzymes necessary for energy production from carbohydrates and fats.

• **Cell respiration**: helps cells use oxygen more efficiently.

• **Maintains healthy** skin, hair and nails and good vision.

• **Assists in** recycling glutathione, one of our body's most potent antioxidants.

FOOD SOURCES • Liver • Oily fish (mackerel, salmon) • Nori (seaweed) • Brewer's yeast • Eggs • Wild rice • Beans • Sunflower seeds • Spinach • Broccoli

HOW MUCH DO WE NEED PER DAY?

Recommended Daily Allowance

• Children, 1-3 years: 500 mcg

• Children, 4-8 years: 600 mcg

• Children, 9-13 years: 900 mcg

• Adult males, 14 years and older: 1.3 mg

• Females, 14-18 years: 1.0 mg

• Females, 19 years and older: 1.1 mg

Note: Vitamin B2 requirements can vary largely due to lifestyle, including birth control pill and antibiotic use, as well as stress and other illnesses.

Vitamin B3

WHY WE NEED IT?

• **Supports metabolism**: helps to break down carbohydrates, fats and protein for energy, and the metabolism of select drugs and toxins

• **Stimulates circulation** ensuring nutrients and oxygen flow to tissues.

• **Can reduce cholesterol** levels in the blood (nicotinic acid form).

• **Supports a healthy nervous system** and brain function.

• Maintains health of skin, tongue and digestive tract tissues.

• Required for the synthesis of a variety of corticosteroid hormones, including sex hormones (estrogen, progesterone and testosterone).

• Required for the creation of DNA (deoxyribose nucleic acid).

FOOD SOURCES • Liver • Fish (halibut, salmon, tuna) • Chicken •Brewer's yeast • Beans • Peas • Dates • Avocados • Eggs • Whole grains (not milled or processed)

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 6 mg

• Children, 4-8 years: 8 mg

• Children, 9-13 years: 12 mg

• Adult males, 14 years and older: 16 mg

• Females, 14 years and older: 14 mg

Note: Maintenance levels of B3 can be higher than the quantities identified. High doses of vitamin B3 can result in a "niacin flush", a harmless reaction that can cause discomfort, but very high doses can stress the liver and cause stomach ulcers.

OTHER NAMES FOR VITAMIN B3

• Niacin or Nicotinic acid, Niacinamide:, Inositol hexaniacinate:

Vitamin B5

WHY WE NEED IT?

• **Supports metabolism:** helps in production of energy from carbohydrates and fats.

• **Supports adrenal glands:** also considered the “anti-stress” hormone, it increases production of adrenal hormones to improve metabolism and assist with stress.

• Promotes healthy skin by preventing aging and wrinkles.

• **Supports nervous system:** assists in the synthesis of acetylcholine, an important neurotransmitter that affects neuromuscular reactions.

• Helps to synthesize porphyrin, creating hemoglobin.

• Assists in fat transportation throughout the body by enabling acyl carrier protein (ACP).

FOOD SOURCES • Liver • Fish • Chicken • Brewer’s yeast • Beans • Green peas • Sweet potatoes • Avocados • Eggs • Cauliflower

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 2 mg

• Children, 4-8 years: 3 mg

• Children, 9-13 years: 4 mg

• Adults, 14 years and older: 5 mg

NOTE: Maintenance levels of B5 can be higher than the quantities identified, and other sources recommend between 25 to 50 mg for maintenance. Individual needs might vary depending on stress, pregnancy, and diet.

OTHER NAMES FOR VITAMIN B5 • Pantothenic acid • Pantothenate: • Pantethine: • Pantothenol

Vitamin B7

WHY WE NEED IT?

- Supports metabolism, specifically of fats, as it's required for fatty acid synthesis.
- Supports protein creation from amino acids.
- Assists in the formation of DNA and RNA.
- Supports the formation of new tissue, especially skin.

FOOD SOURCES • Eggs • Liver • Brewer's yeast • Peanuts • Almonds • Carrots • Tomato • Chard • Cabbage • Onion

HOW MUCH DO WE NEED PER DAY?

- Children, 1-3 years: 8 mcg
- Children, 4-8 years: 12 mcg
- Children, 9-13 years: 20 mcg
- Teenagers, 14-18 years: 25 mcg
- Adults, 19 years and older: 30 mcg

OTHER NAMES FOR VITAMIN B7 • Biotin

Vitamin B9

WHY WE NEED IT?

• **Supports brain health:** Properly balances neurotransmitter levels, and helps in the production of some neurotransmitters including serotonin.

• **Supports red blood cell production** by assisting with molecule creation.

• **Required in the formation of DNA and RNA.** As a result, deficiency can affect cell division

• **Can reduce high levels of homocysteine** in the blood, keeping inflammation under control.

FOOD SOURCES • Spinach • Kale • Beets • Asparagus • Broccoli • Brewer's yeast • Liver • Beans • Sweet potatoes • Whole grains

NOTE: Vitamin B9 is very sensitive and is often lost with most food processing and food preparation. Our intestinal bacteria also produce **B9.**

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 150 mcg

• Children, 4-8 years: 200 mcg

• Children, 9-13 years: 300 mcg

• Adults, 14 years and older: 400 mcg

OTHER NAMES FOR VITAMIN B9

• Folate: • Folic acid: generally considered the synthetic form of vitamin B9, often found in supplements and fortified foods. In pregnancy, supplementation with folic acid can lead to high levels of unmetabolized B9 the blood. It is best to stick with naturally occurring folate instead. • Methylfolate

Vitamin B12

WHY WE NEED IT?

• Essential for the nervous system: supports the myelin sheath covering of nerves and supports metabolism of nervous tissue.

• Improves energy levels: stimulates the body's use of macronutrients.

• Assists in formation of red blood cells.

• Supports production of DNA and RNA.

• Stimulates growth and appetite in children.

FOOD SOURCES • Liver • Fish (especially oily fish) • Chicken •Shrimp • Dairy products • Other organ meats

NOTE Vegans with no meat protein or dairy will often need additional supplementation.

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 900 pcg

• Children, 4-8 years: 1.2 mcg

• Children, 9-13 years: 1.8 mcg

• Adults, 14 years and older: 2.4 mcg

OTHER NAMES FOR VITAMIN B12 • Cobalamin: naturally occurring vitamin B12 • Methylcobalamin: the active form of vitamin B12, sometimes found in supplements. • Cyanocobalamin: commercial form of B12 containing a cyanide molecule, often found in supplements.

Choline

WHY WE NEED IT?

- **Supports fat transportation**, digestion and synthesis

- **Supports the nervous system**: Acts as a building block for acetylcholine, a neurotransmitter that supports the flow of electrical energy between nerves.

- **Helps in memory and thinking capacity.**

- **Supports the liver, gallbladder and detoxification systems** in our body.

FOOD SOURCES • Soy lecithin • Liver • Egg yolk • Brewer's yeast • Fish • Peanuts • Collard greens • Oats • Cauliflower • Lentils

HOW MUCH DO WE NEED PER DAY?

- Children, 1-3 years: 200 mg
- Children, 4-8 years: 250 mg
- Children, 9-13 years: 375 mg
- Teenage females, 14-18 years: 400 mg
- Adult males, 14 years and older: 550 mg
- Adult females, 19 years and older: 425 mg

Vitamin C

WHY WE NEED IT?

• **Supports collagen formation** and maintenance: collagen, found in skin, ligaments, cartilage and bones, is essential to support the body, heal wounds and maintains healthy blood vessels.

• **Supports metabolism**: helps metabolize tyrosine, folic acid and tryptophan into essential neurotransmitters and other active forms.

• **Adrenal support**: stimulates adrenal function and supports the release of adrenaline and other stress hormones. Note that chronic stress depletes vitamin C levels.

• **Fights free radicals**: neutralizes free radicals, which can cause injury to cells and lead to disease.

• **Supports the immune system**: against bacterial, viral and fungal diseases.

FOOD SOURCES •Orange •Grapefruit •Papaya •Strawberries •Red pepper •Broccoli •Spinach •Asparagus •Brussels sprouts •Tomatoes

NOTE: Vitamin C is very unstable, and is often destroyed in cooking, oxidized when exposed to air, and sensitive to light. Maintenance levels of vitamin C can be higher than the quantities identified. Vitamin C is only active in the body for 3 - 4 hours

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 15 mg

• Children, 4-8 years: 25 mg

• Children, 9-13 years: 45 mg

• Teenage males, 14-18 years: 75 mg

• Teenage females, 14-18 years: 65 mg

• Adult males, 19 years and older: 90 mg

• Adult females, 19 years and older: 75 mg

OTHER NAMES FOR VITAMIN C • Ascorbic acid

Vitamin D

WHY WE NEED IT?

• Bone health: it helps calcify our bones, increases absorption of calcium from our gut and regulates calcium metabolism in our bodies.

• Healthy immunity: boosts our immune system by helping to modulate our immune responses.

• Maintains blood balance of calcium and phosphorus.

FOOD SOURCES • Cod liver oil • Egg yolk • Liver • Salmon • Mackerel • Sardines • Dark leafy greens (D2) • Mushrooms (D2)

NOTE: Some foods like milk and cereal have been fortified with vitamin D, this is usually a synthetic form and not as effective. Safe sun exposure is a great way for your skin to produce vitamin D.

HOW MUCH DO WE NEED PER DAY?

• Children: 200 IU

• Adult males and females (14 years old to 50): 400 IU

• Adult males and females (50-71): 600 IU

Note: Since vitamin D is a fat - soluble vitamin, it can accumulate in our fat cells. Over - supplementation of vitamin D, or overexposure to sunlight, can lead to issues like excessive thirst, headaches, nausea, and even vitamin D toxicity. Many individuals living in northern climates experience vitamin D deficient at some point during the year, due to lack of sun exposure. Vitamin D deficiency has been linked to osteoporosis, hyperparathyroidism, chronic kidney diseases and even autoimmune diseases.

OTHER NAMES FOR VITAMIN D There are two variants of vitamin D that you can find in dietary supplements and food, and those are:

• Vitamin D3 (cholecalciferol): the form of vitamin D found from animal sources. Can be converted very quickly in the body to the active form, and is far superior to vitamin D2. • Vitamin D2 (ergocalciferol): the form of vitamin D found in plant sources, and does not have the same functions as D3. It takes much longer to convert in the body and does not show the same advantages as D3.

Vitamin E

WHY WE NEED IT?

• Antioxidant: Protects against oxidation of unsaturated fatty acids in the lipid membranes of cells.

•Protects against free-radical damage coming from eating oxidized or rancid fats as well as natural chemical reactions in the body.

• Protects skin, eyes, lungs, liver, privates from oxidation.

• Prevents oxidation of some hormones released by the body's endocrine system.

• Anti-clotting: minimizes platelet stickiness and aggregation.

• Cell-respiration: helps heart and muscle cells function on less oxygen, which may improve endurance, supports wound healing

FOOD SOURCES • Almonds • Spinach • Avocado • Wheat germ • Hazelnuts • Sweet potato • Olive oil • Sunflower seeds

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 6 mg (9 IU)

• Children, 4-8 years: 7 mg (10.5 IU)

• Children, 9-13 years: 11 mg (16 IU)

• Adult males and females (14 years and older): 15 mg (22 IU)

NOTE: Since vitamin E is a fat - soluble vitamin, some excess vitamin E can accumulate in our fat cells. Over supplementation can result in nausea, diarrhea and other symptoms. Supplementing at high doses should not be done without a medical professional.

OTHER NAMES FOR VITAMIN E As mentioned, vitamin E includes two families of compounds, tocopherols and tocotrienols.

Vitamin K

WHY WE NEED IT?

• Supports normal blood clotting: required to create blood-clotting proteins.

• Healthy bones: improves bone mineral density and reduces bone fracture risk.

FOOD SOURCES • Kale • Egg yolks • Spinach • Liver • Broccoli • Yogurt • Chard • Chicken breast • Kelp • Cheese

HOW MUCH DO WE NEED PER DAY?

• Children, 1-3 years: 30 mcg

• Children, 4-8 years: 55 mcg

• Children, 9-13 years: 60 mcg (males), 30 mcg (females)

• Children, 14-18 years: 75 mcg (males and females)

• Adult males, 19 years and older: 120 mcg

• Adult females, 19 years and older: 90 mcg

NOTE: While most excess vitamin K is excreted from the body, synthetic vitamin K (K3) can build up in the blood and can cause some toxicity symptoms including hemolytic anemia, flushing, sweating, and others. Supplementing at high doses should not be done without a medical professional.