



# Happy Out Nutrition



**Vitamins & Minerals!**



**A quick reference guide!**



# What are Vitamins & Minerals?

Vitamins are organic compounds made by plants & animals that can be broken down by heat, air or acid.

There are fat & water soluble, meaning some dissolve better with fats (avocado or dairy) & the others with just water!

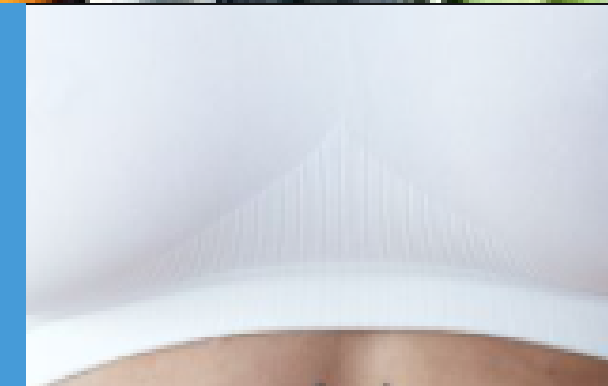
Minerals are a chemical element required as an essential nutrient by organisms to perform functions necessary for life. In short they help our body develop & function.

Both are necessary for:

Energy production, immune function, blood clotting, growth & development

Some macronutrient metabolism (carbs, fat, proteins)

Teeth, skin, hair & bone growth, digestive & nervous system function



# Vitamins B1, B2, B3

## B1 - Thiamine

- Helps convert nutrients to produce energy
- Helps provide feelings of calmness
- Helps to metabolize glucose.
- Women craving excessive carbohydrates may be thiamine deficient.

Food sources include but not limited to: fresh & dried fruits, vegetables, whole grains, nuts, seeds, legumes, seaweed, eggs, liver  
- RDA Adults >19: 1.1-1.2 mg

## B2 - Riboflavin

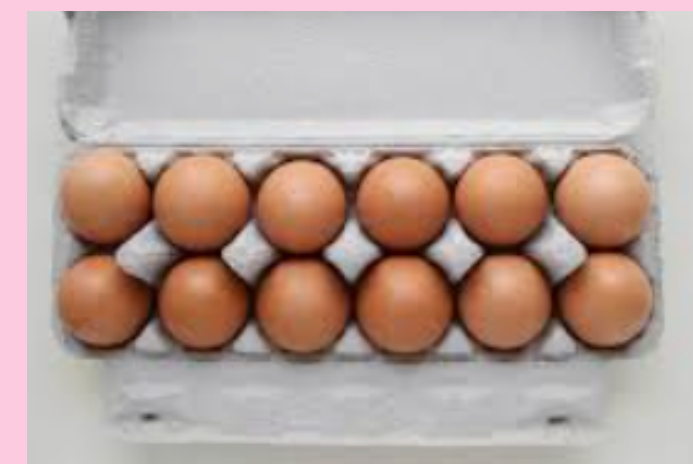
- Necessary for energy production
- Aids in cellular function & fat metabolism
- Involved in proper thyroid function
- Utilized in keeping skin & eyes healthy
- Helps with nervous system function

Food sources include but not limited to: whole grains, legumes, green leafy veggies, poultry, fish, seaweed  
- RDA Adults >19: 1.1-1.3 mg

## B3 - Niacin

- Works w other B vits to release energy from food
- Helps to regulate blood sugar levels
- Promotes the release of growth hormone
- Helps maintain nervous system function

Food sources include but not limited to: liver, peanuts, sesame & sunflower seeds, brown rice, whole grains, barley, almonds, seaweed  
- RDA Adults >19: 14-16 mg





# Vitamins B5, B6, B7

## B5 - Pantothenic Acid

- Necessary for fatty acid synthesis & conversion of food to energy
- Plays an important role in production of adrenal hormones
- Vital for coping with extreme stress.
- Ample B5 is required for the production of estrogen & progesterone
- Food sources: avocado, mushrooms, liver, soybeans, bananas, collard greens, sunflower seeds, lentils, broccoli, brown rice, eggs.
- RDA Adults >19: 5 mg

## B6 - Pyridoxine

- Helps the body release stored sugar from carbohydrates for energy
- Creates red blood cells essential for oxygen transport
- Has one of the most dramatic mood-elevating effects of all the B vitamins
- May help with depressive symptoms & heightens serotonin production
- Food sources: spinach, walnuts, eggs, fish, poultry, beans, seaweed, milk, pork, oats, soya, brown rice, potatoe

## B7 - Biotin

- Involved in the metabolism of fatty acids, amino acids, & glucose
- Plays a key role in gene regulation & cell signalling
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- Food Sources: organ meats, eggs, fish, meat, legumes, seeds, nuts like almonds & certain vegetables such as broccoli, spinach and sweet potatoes.
- RDA Adults >19: 30 mcg





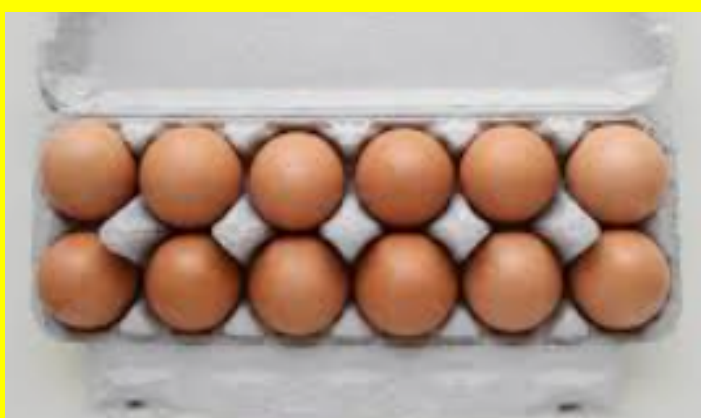
# Vitamins B9 & B12

## B9 - Folic Acid

- Also known as Folate
- Needed for cellular division & induces of several of the detoxification pathways
- Breaksdown homocysteine, a toxic & inflammatory agent produced by the liver if not properly converted
- Helps to prevent neural tube defects in pregnancy & the resulting brain & nervous system damage that could incur.

Food sources include but not limited to:  
dark leafy greens, asparagus, bananas, cantaloupes, beans, brown rice & fortified foods

- RDA Adults >19: 400 mg



## B12 - Cobalamin

- Necessary for nervous system & brain function
- Formation of red blood cells.
- Helps activate the liver detox pathway that detoxes heavy metals & histamines
- Important effects on mood, allows for a free flow of neurotransmitters
- Helps the body to secrete melatonin (think sleep)

Food sources include but not limited to:  
animal protein (especially liver), seafood, eggs, some cheeses, tempeh, sea vegetables, brewer's/nutritional yeast, blue and green algae, chlorella, seaweed, bee pollen

- RDA Adults >19: 2.4mcg



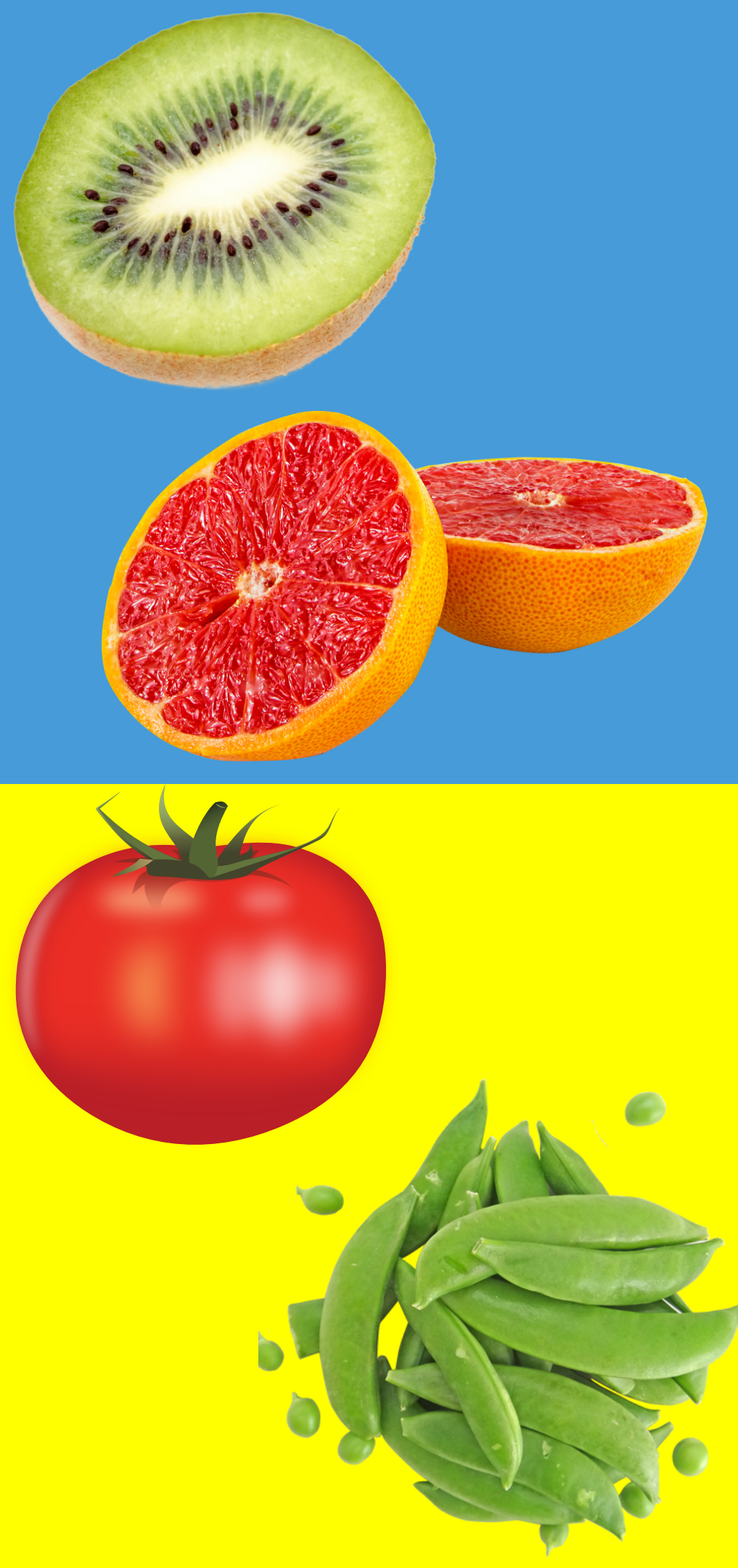
# Vitamin C

- Needed in production of collagen, a component essential in wound healing
- Involved in formation of certain neurotransmitters & protein metabolism
- Antioxidant vital for our immune system, health & maintenance of teeth, gum & bones
- Frequent colds, bleeding or tender gums, poor circulation or wound healing may indicate the need for Vit C

Food Sources included but not limited to:

tomatoes, peppers, citrus fruits, broccoli, strawberries, brussel sprouts, alfalfa, spinach, peas

RDA Adults >19: 70-90 mg





# Vitamin A

Beta Carotene (Vitamin A) is important for:

- Vision
- Healthy formation of bones, teeth & skin
- Organ function
- Aids in the growth & repair of the body from tissues to organs
- Essential in pregnancy and lactation as it can help with postpartum tissue repair
- Fat metabolism
- Immune support.

Food Sources included but not limited to:  
Colorful fruit & veg, dark leafy greens, sweet potato, oily fish, eggs dairy products like cheese & natural yogurts, beef & liver (eat max 1x wkly)

RDA Adults: >19: 700 - 900 mcg





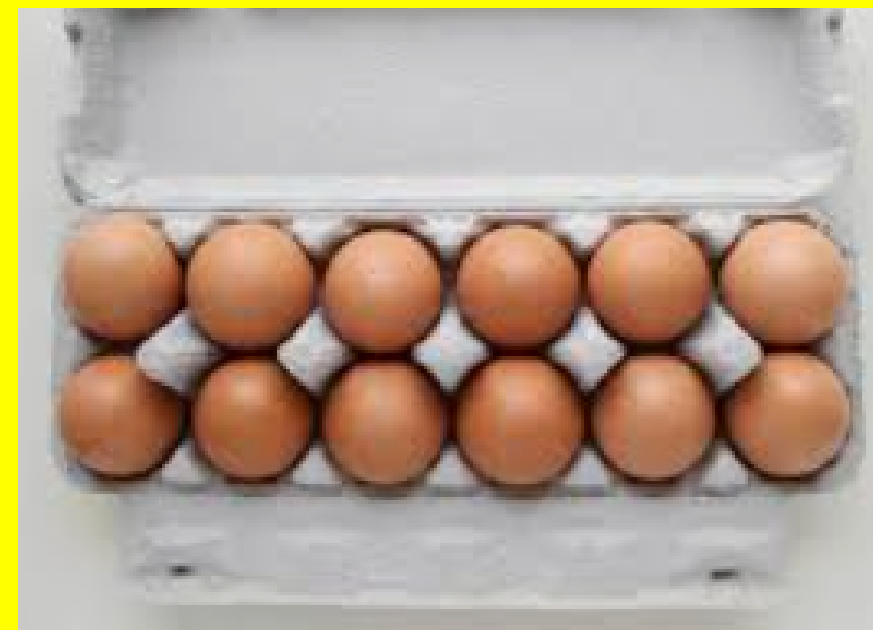
# Vitamin D

Vitamin D is important for:

- Immune support, calcium absorption & healthy growth of bones
- Provides essential maintenance for nervous system support
- Important for proper brain function as insufficient amount may play a role in depression & other mental health related issues
- Regulating insulin levels & supporting diabetes management

Food Sources included but not limited to:  
Real butter, mushrooms, egg yolks, fortified milks, salmon, tuna, fish oils, organ meats,  
**SUNLIGHT**

RDA Adults: >19: 600-800 IU daily



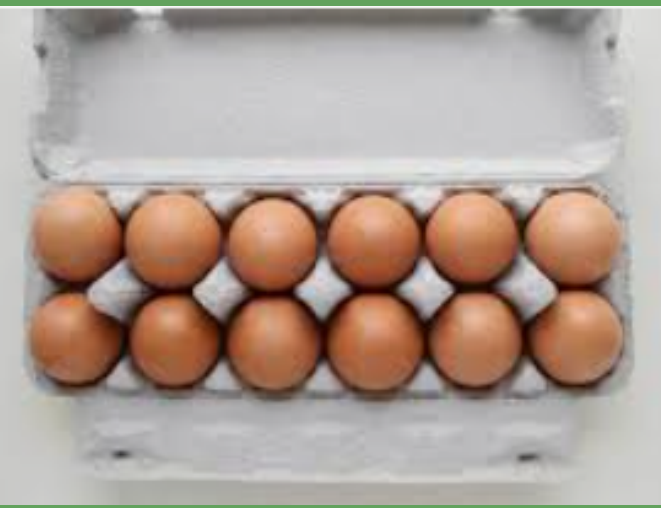


# Vitamin E

- A powerful antioxidant that helps protect cells from damage & assists in immune function
- Slows the aging process, prevents blood clots, protects red blood cells & improves male potency
- Helps to maintain healthy muscles & nerves along with hair, skin & mucous membranes (part of our body's defense system)

Food Sources include but not limited to:  
Cold pressed oils like olive, whole wheats, wheat germ, sweet potato, nuts especially almonds, dark green veg, eggs, organ meats, oatmeal, seeds & avocado

RDA Adults: >19: 15 mg





# Vitamin K

- Is required for blood clotting
- Bone formation
- Normal liver function
- Signs you may be lacking in Vit K are easy bruising, bleeding gums, heavy menstrual cycles & excessive bleeding from wounds (consult a GP)

Food Sources include but not limited to:

Dark leafy veg (spinach, broccoli, kale etc), soybeans, sunflower oil, nuts & seeds, egg yolks, milk, yogurt & fish oil

RDA Adults >19: 90 mcg





# Calcium

- Necessary for the development of health along with strong teeth & bones (where 99% of calcium is stored)
- Assists in blood clotting, muscle function, nerve transmission & heart rhythm
- Required for vasodilation & vascular contraction.
- Hormonal secretion
- Vitamin D helps to increase calcium absorption & works synergistically to support muscle & skeletal function

## Food Sources but not limited to:

Dark leafy green veg, milk, cheese, yogurt, shellfish, bone meal, almonds, tofu, soymilk, salmon, liver & some fortified foods also

RDA Adults: >19: 700 to 1,000 mg





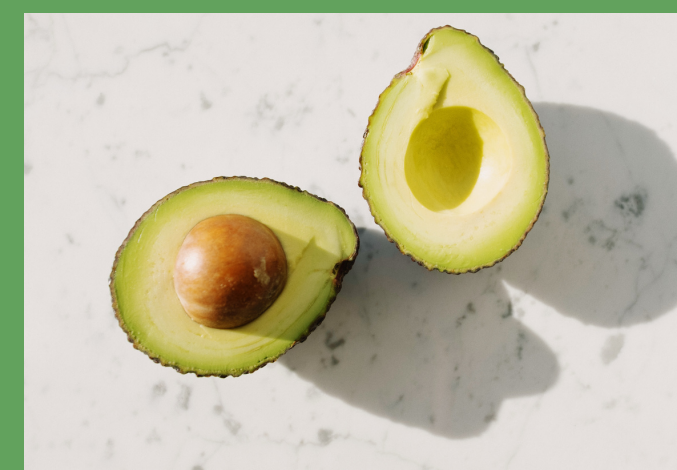
# Magnesium

- Cofactor in over 300+ enzymatic reactions that help to regulate many functions in the body
- Needed for muscle & nerve function
- Blood pressure to energy production
- Blood glucose control
- Development of bone & the synthesis of DNA & RNA
- Helps to transport Calcium & Potassium across cell membranes which is important for nerve impulse control, muscle contractions & normal heart rhythm
- Muscle spasms, sore or weak muscles, insomnia, nervousness, constipation & depression can all be signs you may need more Mg (check w a GP first)

## Food Sources included but not limited to:

Almonds, black beans, cashews, dark green leafy veg, avocado, bananas, legumes, seeds like pumpkin or chia, fatty fish, dairy, meat, whole grain breads & cereals

RDA Adults: >19: 310 - 400 mg





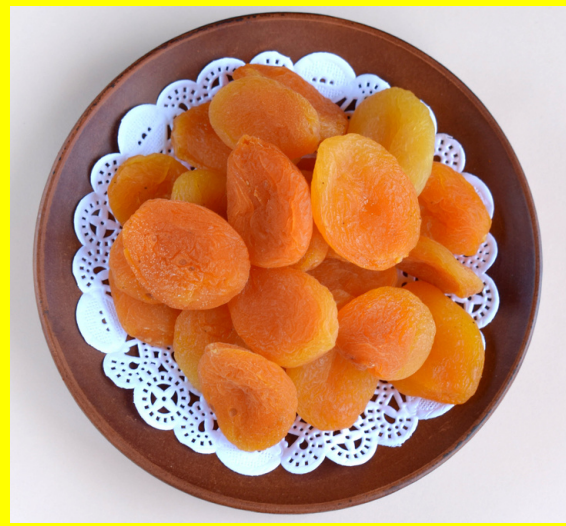
# Potassium

- A vital electrolyte that helps to maintain cellular fluid levels
- Works with Ca & Mg to aid in muscle contractions & functions, along with nerve transmission
- May help with reducing blood pressure & water retention when consumed in large amount through diet (not supplements)
- Helps to enhance calcium reabsorption
- Extreme fatigue, muscle spasms or weakness, irregular heartbeat, constipation & nausea MAY be signs of low potassium (check w a GP or health practitioner first)

## Food Sources included but not limited to:

Dried apricots (1,100mg per 1/2 cup), lentils, dried prunes, acorn squash, raisins, potato, orange juice, beans like kidney or soy, bananas, spinach, milk, chicken breast, yogurt, broccoli, tomatoes, apples, salmon plus many more

RDA Adults: >19: 3,400 mg M & 2,600 mg F





# Iron

- Helps to provide oxygen to muscles through the formation of hemoglobin (a protein responsible for O<sub>2</sub> transport) this means better energy levels
- Essential for physical growth, neurological development & cellular function
- Promotes protein metabolism & growth for skin, teeth, hair & bones
- Supports hormone production, disease resistance & our stress response
- Excessive intake of coffee, tea or zinc can inhibit absorption while Vit C, B12, Ca & Folate can help enhance it.

## Food Sources included but not limited to:

Heme iron comes from lean meat & seafood like oysters  
Nonheme iron comes from tofu, spinach, dark chocolate, white beans, dried fruits, nuts & fortified grain products

RDA Adults: >19: 8 mg M & 18 mg F ( 27 mg if pregnant )





# Zinc



- Essential in the burn & wound healing process
- Helps with normal growth & development during pregnancy, childhood & adolescence
- Plays a role in immune function, digestion & the metabolism of carbohydrates, proteins & phosphorus.
- A component of insulin & male reproductive fluids
- Required for proper smell & taste
- Proper intake is required daily because the body has no storage system for zinc unlike other vitamins & minerals
- Phytates & polyphenols, present in whole-grain breads, cereals, & legumes, other foods, coffee & tea can inhibit the absorption of zinc. This also applies to iron, calcium & magnesium.

Food Sources included but not limited to:

Oysters, beef, organ meats, legumes, soybeans, spinach, mushrooms, pumpkin or sunflower seeds & chickpeas

RDA Adults: >19: 11 mg M & 8 mg F ( 11 mg if pregnant )



# Selenium

- Works with Vitamin E to help protect cells from free radical damage as both have strong antioxidant effects
- Helps with tissue elasticity
- Promotes thyroid health due to its ability to help remove free radicals that could damage thyroid gland function & thyroid hormone metabolism
- Selenium is also required for the enzyme that helps convert T3 to the active form T4

## Food Sources but not limited to:

Brazil nuts, organ meats, seafood, fortified grains & cereals, dairy products, poultry, eggs, brown rice, oatmeal, baked beans, & ham

RDA Adults: >19: 55 mcg (60 mcg if pregnant & 70 mcg if lactating)

