



# NUTRITION 101





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# Carbohydrates

There are 2  
types of Carbs:

Simple Carbs

Monosaccharide  
s

Disaccharides

Complex  
Carbs

Polysaccharide

# Simple Carbohydrates:

## Monosaccharides:

- Simplest form of carbs
  - Glucose (Grains/Pasta)
  - Fructose (Fruit/Honey)
  - Galactose (Dairy)

## Disaccharides:

- 2 Monosaccharides bound chemically.
  - Lactose (Glucose and Galactose) (Dairy)
  - Sucrose (Glucose and Fructose) (Sugar beet/Cane sugar)
  - Maltose (Glucose x 2) (Molasses/beer)

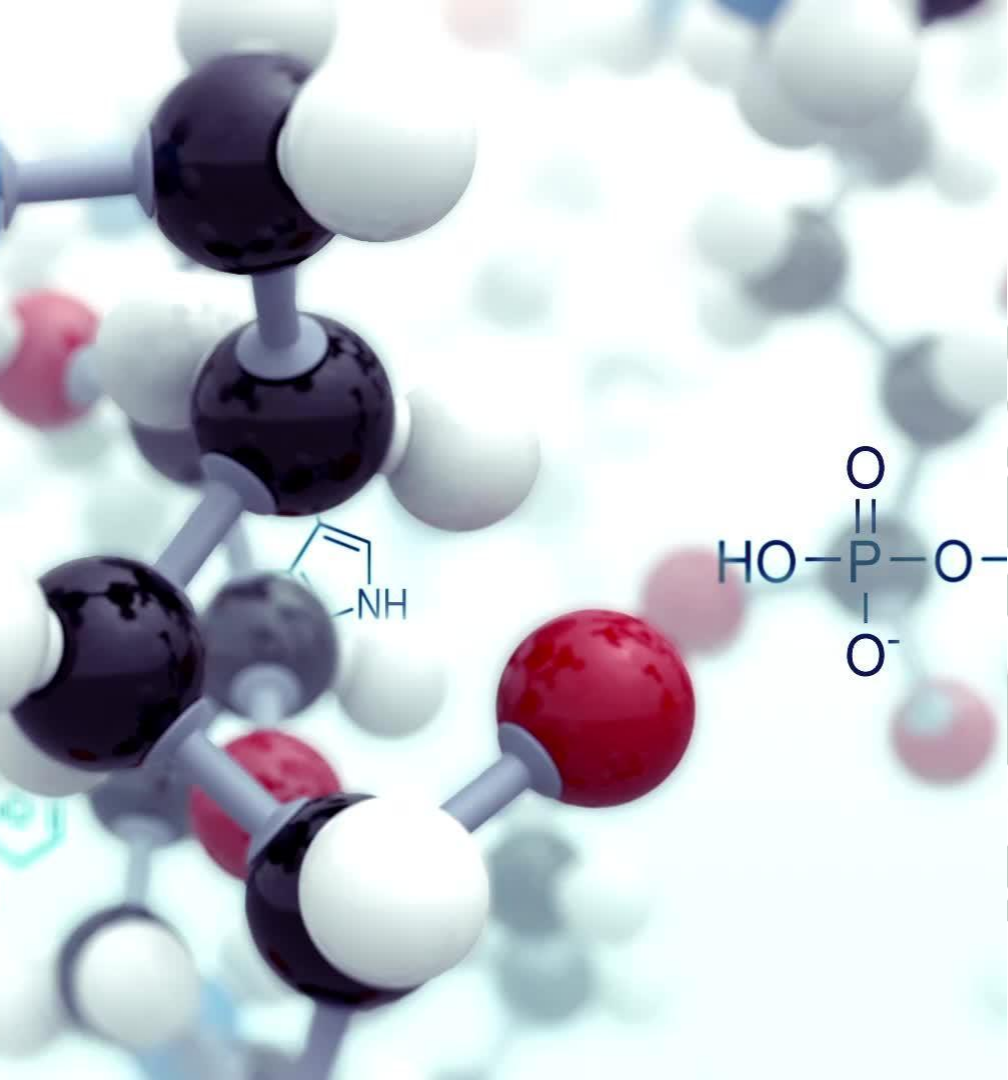
# Complex Carbohydrates

## Polysaccharide

- Can consist of hundreds, or even thousands of monosaccharides.

## Sources:

- Many Vegetables, Beans, Lentils, Whole grains



# Amino Acids

- There are 20 amino acids that your body uses.
  - There are 9 essential amino acids (that your body doesn't make)
    - **Histidine**
    - **Isoleucine**
    - **Leucine**
    - **Lysine**
    - **Methionine**
    - **Phenylalanine**
    - **Threonine**
    - **Tryptophane**
    - **Valine.**

# Complete Proteins (9 essential)

## Animal-Based

- Dairy Products (Milk, Yogurt, Cheese)
- Eggs
- Fish
- Meat

## Plant-Based

- Quinoa
- Soy
- Hemp

# Incomplete Proteins



Here are some ways you can take incomplete proteins to get all 9 essential amino acids:

Peanut butter + Whole grain bread

Hummus + Bread/Crackers

Baked beans + Whole grain toast

Noodles + Peanut sauce

Bean burgers + bun

Lentils/Beans + Pasta

Lentils + Rice

Oats + Nuts

Brown rice + Black beans



# Fat

There are 3 main types of Fat:

Monounsaturated Fats (Good)

Polyunsaturated Fats (Good)

Saturated Fats (Bad.. In excess)

# Monounsaturated Fat

## Health Benefits:

- Reduced risk of heart disease and diabetes.

## Sources:

- Avocados, nuts, seeds, canola oil, fish oils, olive oil, and nut oils.

# Polyunsaturated Fat

## Omega-3 and Omega-6 are polyunsaturated fats.

- Omega-3 is crucial in the production of hormones, health of the immune system, preventing blood clotting, and promoting cellular growth.
- Omega-6 is good for your heart in moderation.
- Most people consume enough Omega 6 but not nearly enough Omega 3.
- Ideally people could eat Omega 6 to Omega 3 in a 3:1 ratio, but it sometimes ends up being a 15:1 or 16.7/1 ratio.
- (evidence is starting to say that a 2:1 ratio or 1:1 ratio can be even better for our health)

## Health Benefits:

- Reduces chances of neurodegenerative disease, heart disease, and diabetes.

## Sources:

- Omega-3: oily fish, flaxseeds, or walnuts.
- Omega-6: almond, cashews, spinach, eggs, meat, whole-grain bread, most vegetable oils.

# Saturated Fats

## Health Disadvantage:

- Saturated fats should make up no more than 5-6% of your total intake of calories.
- Though it should be in your diet, in excess it has been linked to heart disease.

## Sources:

- Animal sources (Butter, cheese, etc.)
- Usually solid at room temperature
- coconut oil

# Cholesterol

Fatty substance used by the body to build cells.

Two main types:

- High-Density Lipoproteins (HDL) > Good Cholesterol
- Low-Density Lipoproteins (LDL) > Bad Cholesterol

Ideally you would have more HDL than LDL

# Low-Density Lipoproteins (LDL) (Bad)

## Purpose:

- Carries cholesterol to the cells.

## Dangers:

- In excess it can get stuck to the inside walls of your arteries leading to heart conditions and stroke due to blood flow being limited.

# High-Density Lipoproteins (HDL) (Good)

## Purpose:

- The Purpose of HDL is to carry LDL cholesterol away from arteries to the liver.
- Also has anti-inflammatory properties.

## Increasing HDL while decreasing LDL:

- Purple fruits
- Oily Fish (1-2 times a week)
- Olive Oil
- Whole grains (Lowers LDL cholesterol)
- Nuts (Lowers cholesterol)
- Avocados (Lowers cholesterol)
- Legumes (Lowers LDL)

# Vitamins

## Two Main Groups

### Water Soluble

- These vitamins are easily lost through bodily fluids (and cooking)
- \*Must be replaced daily\*

### Fat Soluble

- Accumulate within the body, not needed on daily basis.
- If you consume more than needed 1 day the next day you can consume less, and it will even out.



# Water Soluble Vitamins

B1  
(Thiamine)

B2  
(Riboflavin)

B3  
(Niacin)

B5  
(Pantothenic  
Acid)

B6  
(Pyridoxine)

B7  
(Biotin)

B9  
(Folic Acid)

B12  
(Cobalamin)

C  
(ascorbic Acid)

# B1

## (Thiamine)

Immune system

### Purpose:

- Essential for formation of Adenosine triphosphate (ATP), used by cells for energy.
- Helps strengthen the immune system.

### Sources:

- Pork, legumes, organ meats, bananas, nuts, and whole grains

# B2 (Riboflavin)

Antioxidant  
Red Blood Cells  
Makes B9 and B6 usable

## Purpose:

- Antioxidant vitamin, counteracts free radical effects.
- Works with Folic Acid (B9) and Pyridoxine (B6) and converts them to useable energy.
- Along with Cobalamin (B12) and Pantothenic acid (B5) it helps the production of red blood cells.

## Sources:

- Whole grains, wheat germ, almonds, organ meats, spinach ,mushrooms, broccoli, milk, eggs, and wild rice

# B3 (Niacin)

Hormone production  
Circulation

## Purpose:

- Hormone production and aiding circulation

## Sources:

- Salmon, beef liver, peanuts, tuna, and sunflower seeds
- Tryptophan can be converted into niacin, so eggs, poultry, dairy, meat, and bananas can increase Niacin level.

# B5

## (Pantothenic Acid)

Red Blood Cells

Lowers LDL

Wound healing

Aids B Vitamins use

### Purpose:

- Works with Riboflavin (B2) and Cobalamin (B12) in red blood cell formation.
- It also aids in the use of the other B vitamins.
- Helps to lower LDL and raise HDL.
- Aids in wound healing.

### Sources:

- Avocados, brewer's yeast, corn, cauliflower, kale, organ meats, sweet potatoes, eggs, mushrooms, tomatoes, and oily fish (trout, salmon, and tuna)

# B6

## (Pyridoxine)

Neurotransmitters  
Brain function  
Hormone production

### Purpose:

- Essential in production of neurotransmitters.
- Important for brain function, helping to produce hormones such as serotonin, melatonin, and norepinephrine.

### Sources:

- Chicken, turkey, oily fish, shrimp, cheese, lentils, spinach, carrots, sunflower seeds, bananas, milk, and whole-grain flour

B7  
(Biotin)  
Embryo growth

Purpose:

- \*Mainly important for pregnancies\*
- Supports growth of the embryo.

Sources:

- Tree nuts, whole grains, mushrooms, and bananas

# B9 (Folic Acid)

Brain function  
Fetal development  
Mental health  
Red blood cell  
RNA/DNA  
Tissue growth

## Purpose:

- Important for healthy brain function, fetal development, and mental health.
- Essential for development of RNA, DNA, red blood cells, and tissue growth.

## Sources:

- Legumes, whole grains, avocados, edamame beans, broccoli, and salmon



# B12 (Cobalamin)

Most important  
DNA/RNA development  
Healthy blood cells

## Purpose:

- Most Important B Vitamin.
- Key role in DNA and RNA development.
- Helps formation of healthy blood cells, providing energy, and controlling homocysteine levels in the blood.

## Sources:

- Primarily in animal-based food sources.
- Meat, poultry, fish, organ meats, and dairy products

# C (Ascorbic Acid)

Antioxidant

Reduce duration of colds

Tissue growth/repair

## Purpose:

- Antioxidant that fights free radicals and used in multiple important functions. (slows aging)
- Helps to reduce duration of colds.
- Used for tissue growth and repair.

## Sources:

- Brightly colored fruits and vegetables.
- Red bell peppers, oranges, grapefruit, kiwis, broccoli, strawberries, bananas, and brussel sprouts.

# Fat Soluble Vitamins



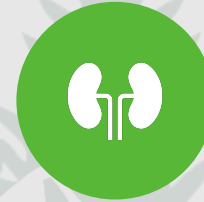
**A**LL



**D**OGS



**E**AT



**K**IDNEYS

**Vitamin A**  
Vision  
Immune function  
bones and teeth growth  
cell growth  
Heart/Kidney/Lungs

### Purpose:

- Two types of chemicals in this group:
  - Preformed Vitamin A
    - The body can use this form right away (Vitamin A from animal sources)
  - Provitamin A
    - Substances that the body converts into vitamins. (Carotenoids are a source of provitamin A)
- The vitamin is a piece of a protein in the eye that helps vision in dark/low light environments.
- Slows age-related macular degeneration.
- Boosts immune function.
- Supports growth of bones and teeth.
- Promotes cell growth.
- Maintains the heart, kidneys, and lungs.

### Sources:

- Preformed vitamin A is only from animal sources.
- Provitamin A comes from both including fish oils, milk, yogurt, cheese, salmon, eggs, leafy green vegetables, fortified cereals, sweet potato, carrots, broccoli, cantaloupe, pumpkin, bell peppers, mangos, black-eyed peas, and squash.

# Vitamin D

Calcium Absorption  
Immune System

## Purpose:

- (Most is synthesized from the sun)
- Promotes calcium absorption. (essential for bone health)
- Adequate levels help protect against some cancers.
- Adequate levels lower risk of heart attack and strokes.
- Helps nervous system and immune system.

## Sources:

- 10-15 minutes outside each day with skin exposure.
- Salmon, tuna, mushrooms, egg yolks, cheese, fortified foods and milks

# Vitamin E

Antioxidant  
Immune response

## Purpose:

- Antioxidant, helps fight against damage caused by free radicals.
- Reduced rate in development of cancer.
- Reduced risk of heart disease
- Keeps immune response strong.
- Provides protection against age-related vision degeneration.

## Sources:

- Eggs, tree nuts, sunflower seeds, dark leafy greens, avocados, sweet potatoes, and liver

# Vitamin K

Blood clot

Prevents hemorrhages

Helps calcium

Works with Vitamin D

## Purpose:

- Necessary for blood to clot which is important in preventing hemorrhages.
- Helps your body in using calcium to build and mineralize bones which increases bone strength.
- Works with Vitamin D to improve bone density and mineralization.
- May help minimize calcification in arteries (leads to heart attack and heart disease) \*more studies needed\*

## Sources:

- Dark leafy greens, parsley, broccoli, brussel sprouts, cabbage, celery, green beans, summer squash, winter squash, vegetable oil, and raspberries

# Minerals



There are 2 groups of Minerals:



Greater-Quantities

Calcium  
Chloride  
Magnesium  
Phosphorous  
Potassium  
Sodium



Trace-Quantities

Iodine  
Iron  
Selenium  
Zinc  
Manganese



# Greater-Quantities

Calcium

Chloride

Magnesium

Phosphorous

Potassium

Sodium

# Calcium

## Purpose:

- Vital component of bone and teeth.
- Key nutrient for the nervous system, muscles, and heart.
- Absorption rate of calcium is around 30% (without adequate vitamin D its 10-15%)
- Caffeine and Alcohol reduces absorption and increases excretion.

## Sources:

- Dairy, sardines, dark leafy greens, almonds, broccoli, fortified cereals, white beans, soybeans, bok choy, black-eyed peas, oranges, sesame seeds, okra, green beans, fortified orange juice, dried figs, rhubarb, and salmon

# Chloride

## Purpose:

- Crucial for electrolyte and fluid balance that helps maintain healthy blood pressure and blood volume.
- Regulates distribution of fluids in body.
- Important component of gastric juice, which breaks down nutrients.

## Sources:

- \*Usually get adequate amounts from salt, but it isn't the best source\*
- Kelp, olives, rye, cocoa, tomatoes, lettuce, cheese, legumes, whole grains, and celery

# Magnesium

## Purpose:

- Plays a role in over 300 reactions within the body.
- Needed so that every cell can function efficiently.
- The body absorbs between 20-50% of Magnesium ingested.
- 48% of American's don't get enough Magnesium.
- Used for immune system, energy metabolism, normal blood pressure, muscle function, protein synthesis, cardiovascular system, nerve functions, blood sugar level regulation, strong bones, synthesis of DNA/RNA, transportation of calcium and potassium, muscle contraction.

## Sources:

- Avocados, dark leafy greens, legumes, whole grains, nuts and seeds, squash, quinoa, bananas, avocados, tuna, scallops, papaya, beets, broccoli, tofu, almonds, Brussel sprouts, raspberries, tomatoes, cabbage, strawberries, and bok choy

# Phosphorus

## Purpose:

- Helps to build strong bones.
- Helps to release energy from food.
- Helps to repair tissues and cells.
- Needed for DNA/RNA production.

## Sources:

- Red meat, dairy, fish, poultry, oats, bread, nuts, and legumes

# Potassium

## Purpose:

- Blood pressure control
- Fluid balance
- Muscles and nerve function

## Sources:

- Bananas, spinach, potatoes, apricots, beans, avocado, and winter squash

# Sodium

## Purpose:

- 20-40% of resting energy goes toward regulating sodium and potassium concentrations.
- Blood pressure, regulation of pH of the blood, and waste removal from cells.

## Sources:

- Canned and frozen foods, processed meats, breads, cheeses, pickled foods, pasta sauces, condiments, cereals, snack foods, tomato juice, nuts, and sardines

# Trace-Quantities



Iodine



Iron



Manganese



Selenium



Zinc



# Iodine

## Purpose:

- Essential in Thyroid function and production of thyroid hormones.
- Important for growth, brain development, and bone maintenance.

## Sources:

- Fish, dairy products, eggs, seaweed, and chicken

# Iron

## Purpose:

- Improved immune system and brain function.
- Increases the ability for blood to carry oxygen.

## Sources:

- Shellfish, broccoli, red meat, tofu, eggs, iron-fortified cereals, oysters, spinach, and legumes

# Manganese

## Purpose:

- Making and activating enzymes in the body that breakdown food.
- Crucial for bone growth, healthy nerves, immune system functioning, and blood sugar regulation.
- Absorption rate is between 1-4%

## Sources:

- Unprocessed organic food is the best way to get more manganese in your diet.
- Refining process for grains deplete manganese by about 90%.
- Whole grains, cinnamon, cloves, strawberries, pineapple, dark leafy greens, legumes, alfalfa, nuts, tea, and coffee

# Selenium

## Purpose:

- Prevents damage to cells and tissues.
- Promotes reproductive system health.
- Helps immune system.
- Produces white blood cells.
- Helps metabolize fats

## Sources:

- Brazil nuts, organ meats, seafood, whole grains, poultry, eggs, meat, dairy, green peas, carrots, asparagus, flaxseed, lettuce, bananas, tofu, potatoes, mushrooms, sesame seeds, spinach, lentils, garlic, and cashews
- \*Due to having such a wide variety of foods you can get it from, you usually already get adequate amounts in your diet\*

# Zinc

## Purpose:

- Immune system, Hormone production, fertility.
- Improves wound healing, reduces skin inflammation, and protects against UV damage.
- Reduces duration and severity of colds.

## Sources:

- Shellfish, red meat, eggs, chickpeas, chicken, lamb, cashews, garbanzo beans, oats, cheese, crabs, and lobsters

# RECOMMENDED DAILY AVERAGES (VITAMINS)

NUTRIENT	Male	Male	Female	Female
	19-50 Yrs	>50 Yrs	19-50 Yrs	>50 Yrs
<b>RDA Vitamins (Per Day)</b>				
vitamin A – retinol	900 µg	900 µg	700 µg	700 µg
vitamin C – ascorbic acid	90 mg	90 mg	75 mg	75 mg
vitamin D #1 #5	5* µg	10* µg	5* µg	10* µg
vitamin E	15 mg	15 mg	15 mg	15 mg
vitamin K	120* µg	120* µg	90* µg	90* µg
vitamin B1 – thiamin	1.2 mg	1.2 mg	1.1mg	1.1 mg
vitamin B2 – riboflavin	1.3 mg	1.3 mg	1.1 mg	1.1 mg
vitamin B3 – niacin	16 mg	16 mg	14 mg	14 mg
vitamin B5 – pantothenic acid	5* mg	5* mg	5* mg	5* mg
vitamin B6 – pyridoxine	1.3 mg	1.7 mg	1.3 mg	1.5 mg
vitamin B12 #2	2.4 µg	2.4 µg	2.4 µg	2.4 µg
biotin	30* µg	30* µg	30* µg	30* µg
choline	550* mg	550* mg	425* mg	425* mg

# RECOMMENDED DAILY AVERAGES (MINERALS)

NUTRIENT	Male	Male	Female	Female
	19-50 Yrs	>50 Yrs	19-50 Yrs	>50 Yrs
Recommended Daily Allowances for Minerals				
calcium	1000* mg	1200* mg	1000* mg	1200* mg
chromium	35* µg	30* µg	25* µg	20* µg
copper	900 µg	900 µg	900 µg	900 µg
fluoride	4* mg	4* mg	3* mg	3* mg
iodine	150 µg	150 µg	150 µg	150 µg
iron	8 mg	8 mg	18 mg	8 mg
magnesium #4	400/420 mg	420 mg	310/320 mg	320 mg
manganese	2.3* mg	2.3* mg	1.8* mg	1.8* mg
molybdenum	45 µg	45 µg	45 µg	45 µg
phosphorus	700 mg	700 mg	700 mg	700 mg
selenium	55 µg	55 µg	55 µg	55 µg
zinc	11 mg	11 mg	8 mg	8 mg
potassium	4.7* g	4.7* g	4.7* g	4.7* g
vanadium #5	1.5*	1.0*	1.5*	1.0*

# Electrolytes

## What are they?

- Electrolytes consist of minerals that are electrically charged, these electrical charges assist in muscle contraction, improves nervous system signal's ability to travel, and regulates internal PH.
- They are integral for staying healthy, hydrated, and happy during physical activity and even when you aren't active.

## Which minerals are they?

- Potassium (Muscle and Nerve function)
- Chloride (Regulates fluid in body, crucial for electrolyte and fluid balance)
- Magnesium (important in over 300 reactions)
- Sodium (blood pressure, waste removal from cells)
- Calcium (Key nutrient for muscles/heart/nervous system)
- Phosphate (balances calcium/keeps bones/muscles healthy)
- Bicarbonate (Essential for ph)

## Extra Info:

- Potassium, Chloride, Magnesium, and Sodium all work towards controlling muscle contractions.
- Phosphate helps to keep the balance of calcium within the body.
- Calcium absorption is 30%, but has increased absorption with adequate Vitamin D.
- Magnesium absorption can range anywhere from 20-50%.



# Electrolytes

## Benefits of Adequate Potassium

- Helps to maintain a healthy amount of sodium.
- Adequate blood potassium levels keep nerve signals strong allowing for muscle contractions to occur without issues.

## Benefits of Adequate Chloride

- Having adequate amounts helps the body stay hydrated, it also helps to move nutrients across cell membranes.
- Helps maintain the balancing between potassium and sodium inside and outside of a cell.

## Benefits of Adequate Magnesium

- 50% of American's don't get enough Magnesium, having a diet adequate in magnesium can help by preventing muscle cramps, lowering lactate acid, and helping with recovery post physical activity. \*Magnesium can also help with sleep due to its relaxing properties\*

## Benefits of Adequate Sodium

- Sodium is important in not only muscle contractions but also cognitive function and absorption of nutrients.
- Maintain sodium levels throughout an activity can possibly provide a significant improvement over past exertions with inadequate sodium levels.

# Electrolytes

## Benefits of Adequate Calcium

- Adequate calcium is required to contract the heart muscle, which pumps blood throughout the body.
- Important for strong bones.

## Benefits of Adequate Phosphate (Phosphorus)

- Important component of bones and DNA/RNA
- Vitamin D helps to regulate the metabolism of Phosphate.

## Benefits of Adequate Bicarbonate

- It is integral to digestion, which helps to slow lactic acid buildup during exercise as well as reducing the acidity within dietary components.

# Sleep

- For optimal performance and health 7-9 hours of sleep is recommended for adults.
- Some research has suggested that athletes may require between 9-10 hours of sleep for adequate recovery. (mainly for intense sessions)
- Though duration is important one factor that possibly could be more important is the quality of sleep.
- A study done by Eur J Appl Physiol had 11 male athletes complete a 30-minute self-paced treadmill test after normal sleep and inadequate sleep in a randomized order.
  - In this study they found that even though the oxygen consumption and thermoregulatory function were the same in both cases having inadequate sleep led to a decrease in distance traveled.
- After sleep deprivation pre-exercise muscle glycogen storages decrease, which can negatively affect aerobic activities.
- Having deprived sleep seems to alter your perception of exertion sometimes leading to earlier fatigue.
- In a study of adolescent elite athletes by Scand J Med Sci Sports it was found that athletes who slept less than 8 hours per night were 70% more likely to get injured than athletes who slept adequately.

# Before Sleeping

Don't use your phone 30 minutes before sleeping

Avoid foods such as spicy foods and caffeine.

(Try) Eating a small snack that contains protein/carbohydrates.

**Try eating food that contains Tryptophan (amino acid), which promotes sleep.**

- Needs to be consumed with a carbohydrate food to have a sedative effect.
- Tryptophan is used to make serotonin and melatonin, which help regulate and help induce sleep.
- Can be found in eggs, soybeans, poultry, meat, fish, bananas, and cheese.
- Tryptophan is the same thing in turkey that makes people sleepy after a Thanksgiving meal.

# Calories

Calorie intake varies depending on gender, height, weight, activity level.

Some ways to be able to figure out how many calories you should be consuming you can use online calorie calculators.

There are multiple macro-nutrient splits depending on what you want.

- Endurance athletes macro-split can look something like 55% carbs, 15% protein, 30% fat while more elite endurance athletes lower the fat percentage and increase the carb percentage.
- For losing weight some macro-splits recommend 40% carbs, 40% protein, 20% fat.
- For gaining lean muscle some macro-splits recommend 45% carbs, 35% proteins, 20% fat.

Proteins are 4 calories per gram, Carbs are 4 calories per gram, and Fat is 9 calories per gram.

# Calories (Weight)

Staying active or increasing activity can be a good way to gain weight as muscle instead of fat and lose weight while also building muscle.

It is safe to lose or gain between 1-2lb of fat per week though the important factor is being active, purely changing the number of calories that you consume doesn't lead to long-term fat loss, it leads to temporary fat loss and when you change your diet back you gain that weight back.

- 121% of recommended calories = Weight gain (1 lb/week)
- 111% of recommended calories = Mild weight gain (0.5 lb/week)
- 100% of recommended calories = Maintain weight
- 89% of recommended calories = Mild weight loss (0.5 lb/week)
- 79% of recommended calories = Weight loss (1 lb/week)

# Hydration



7-9 glasses of fluids are recommended each day.

These can consist of ideally water, but tea, coffee, or sugar-free drinks also count.



You end up getting some water through a healthy diet that includes fruits and vegetables.



If you are an athlete your water intake should be higher to make up electrolytes and water lost through sweat.



Hydration is important, but it is also important to make sure you take in enough electrolytes to sufficiently fuel your body and keep your muscles working optimally.

# Healthy Eating (including meat and fish)

## 4-5 portions of fruits

- 1 portion
- 1 banana, apple, orange, pear, kiwi, or peach.
- ½ grapefruit, mango, or avocado.
- 16 grapes
- 4 strawberries
- ½ in thick wedge of sliced watermelon.

## 4-5 portions of fruits and vegetables

- 1 portion
- 1 medium carrot or 1 small corn ear.
- 1 cup raw kale, lettuce, spinach, or greens.
- ½ bell pepper, squash, potato, or zucchini.
- 5-8 florets of broccoli or cauliflower.

## 3-4 portions of starch carbohydrates

- 1 portion
- 2 handfuls dried rice / pasta / couscous
- 1 fist-sized baked potato
- 2 slices of bread

## 2-3 portions of protein

- 1 portion
- Half a handful salmon / chicken / steak
- 4oz cooked beans / lentils
- 1 oz / palm-size nuts or seeds
- 3 oz tofu

## 2-3 portions of dairy and alternative

- 1 portion
- 1oz / 2 thumbs cheese
- 7oz low-fat cow's milk or unsweetened dairy alternative (4oz on cereal)
- 4 oz low-fat yogurt

## < 1 small amount of fat

- 1 teaspoon to cook a meal



# Healthy Eating (vegan diet)

Being Vegan requires extra work to make sure you get all 9 amino acids (complete protein) and B12

2 ½ cups  
vegetables

- **Per Day**
- Diversifying the colors and types of vegetables you have throughout your day can help to get different essential nutrients as well as fibers.

2 cups  
fruit

- **Per Day**
- 1 portion
- 1 banana or 1 apple
- 85g of fruit.

3 ½ oz  
Whole grains

- **Per Day**
- 1 portion
- 1 oz (30g) of grains.
- 1 slice of whole wheat bread.
- Brown rice, whole wheat pasta, quinoa, buckwheat, barley, farro, and sprouted grains provide protein and fiber, as well as nutrients that are lost in processed grains.

1 ½ cups  
Leafy greens

- **Per week**
- 1 portion
- 3oz (85g) of leafy green vegetables such as kale, spinach, cabbage, and broccoli.
- These are densely packed with minerals, antioxidants, and vitamins.

6 cups  
legumes

- **Per week**
- 1 portion
- 125g of peas, beans, or lentils.
- High in protein, and low in fat.

1 fat  
Per day

- **Per day**
- 1 oz (27g) of oil, nuts, or half an avocado.
- Dairy substitutes like soy and almond are healthy sources of fat, but not in excess.

# \*Healthy Eating\*

These are just some examples. If you are looking to follow a diet or try to eat healthier there are multiple options.

- Some diets that have been proven to lower risks of some diseases and promote healthy living are the Mediterranean diet, the Nordic diet, and the Japanese diet.

There are many diets and you can find a ranked list of them at [Best Diets Overall 2022 - Expertly Reviewed | U.S. News \(usnews.com\)](#) which ranks the Mediterranean diet as the #1 best diet overall and has done so for multiple years.

- To learn more about a wide variety of diets you can type them into google or look at the ranking list to see why they are ranked where they are.

# Healthy Diet Examples

One option is the **Mediterranean diet**, which has been linked to lower levels of chronic diseases and healthier living.

- This diet is usually seen as one of the easiest to switch to due to its meals tasting good and having a wide variety to pick from.
- Its core focus is fresh, seasonal produce.
- It consists of plant-based eating with healthy unsaturated fats from olive oil.
- Vegetables, legumes (beans and lentils), whole grains, and nuts make up most of the meals.
- Moderate animal protein comes from oily fish and poultry, with low intake of cheese, yogurt, eggs, and red meat.

Another option is the **Nordic diet**, which was initially created due to rising obesity rates and was focused on trying to help people in their region eat more sustainable and locally produced foods.

- Majority of calories within this diet come from plant-based foods, therefore making it fiber-rich.
- The main sources of protein within this diet come from sea and lake fish, as well as lean game meats.
- Canola oil is used in cooking due to it being a healthy source of fat, which consists mostly of monounsaturated fat.

One diet which comes from a nation among the lowest obesity rates and highest life expectancies globally is the **Japanese diet**.

- This diet mainly emphasizes plant-based eating such as soybean-based foods like tofu and miso, leafy greens, and grains such as rice and noodles.
- Animal protein comes mainly from fish and pork.

# Sources

## (Overall sources)

Frazier, Karen. *Nutrition Facts : The Truth about Food*. Berkeley, Rockridge Press, 2016.

- Some good information though some information is outdated.

Lambert, Rhiannon. *Science of Nutrition : Debunk the Diet Myths and Learn How to Eat Responsibly for Health and Happiness*. Dorling Kindersley Publishing, Incorporated, 2022.

- Pretty good source, has some nice metrics and graphs that help to describe it in a good way, though not super in-depth with vitamins and minerals.

## (Sources for sleep slides)

Oliver, Samuel J., et al. "One Night of Sleep Deprivation Decreases Treadmill Endurance Performance." *European Journal of Applied Physiology*, vol. 107, no. 2, 20 June 2009, pp. 155–161,

10.1007/s00421-009-1103-9.

von Rosen, P., et al. "Multiple Factors Explain Injury Risk in Adolescent Elite Athletes: Applying a Biopsychosocial Perspective." *Scandinavian Journal of Medicine & Science in Sports*, vol. 27, no. 12, 29

Mar. 2017, pp. 2059–2069, 10.1111/sms.12855. Accessed 1 June 2019.

Watson, Andrew M. "Sleep and Athletic Performance." *Current Sports Medicine Reports*, vol. 16, no. 6, 2017, pp. 413–418,

journals.lww.com/acsm-csmr/fulltext/2017/11000/sleep\_and\_athletic\_performance.11.aspx, 10.1249/jsr.0000000000000418.

# Recommended book

- Nutrition for Dummies (Carol Ann Rinzler)
  - Lots of information, 400 pages of more information than you would ever need to know, has a lot of information about smaller things such as multiple pages about the impact of menstruation and menopause on nutrition.
  - Very good book to use for reference or to just learn a lot about nutrition.