



Food & Nutrition

Nutrition can be defined as: 'the act or process of nourishing, while **Nutrients** is that which nourishes'.

If what we eat, does not nourish; it cannot be classified as having any nutritional value. Besides, this concept is the ground rule for any healthy eating routine.

A simple question - why eat anything which has no nutritional value, why gear up the digestive process to cope with something which is of no value to the body? To answer this, I will analysis the 6 types of nutrients, and these include carbohydrates, proteins, fat, vitamins, minerals and water. *Only the first three have calories.*

1. Carbohydrates

What is most important; is the type of carbohydrate you choose to eat because some sources are healthier than others. The amount of carbohydrate in the diet – high or low – is less important than the type of carbohydrate in the diet. For example, healthy, whole grains such as whole wheat bread, rye, barley and quinoa are better choices than highly refined white bread or Potatoes fries/ chips. I sometimes get confused about carbohydrates, however I always keep in mind that it's more important to eat carbohydrates from healthy foods.



Carbohydrates are found in a wide array of both healthy and unhealthy foods—bread, beans, milk, popcorn, potatoes, cookies, spaghetti, soft drinks, corn, and pies. They also come in a



variety of forms. The most common and abundant forms are sugars, fibers, and starches. Foods high in carbohydrates are an important part of a healthy diet. Carbohydrates provide the body with glucose, which is converted to energy used to support bodily functions and physical activity. But carbohydrate quality is important; some types of carbohydrate-rich foods are better than others:

- The healthiest sources of carbohydrates—unprocessed or minimally processed whole grains, vegetables, fruits and beans—promote good health by delivering vitamins, minerals, fiber, and a host of important phytonutrients.
- Unhealthier sources of carbohydrates include white bread, pastries, sodas, and other highly processed or refined foods. These items contain easily digested carbohydrates that may contribute to weight gain, interfere with weight loss, and promote ill health.

2. Proteins



Protein is found throughout the body—in muscle, bone, skin, hair, and virtually every other body part or tissue. It makes up the enzymes that power many chemical reactions, and the haemoglobin that carries oxygen in your blood. At least 10,000 different proteins make us what we are and keep us the way we are.

The Institute of Medicine recommends that adults get a minimum of 0.8 grams of protein for every kilogram of body weight per day (or 8 grams of protein for every 20 pounds of body weight). The Institute of Medicine also sets a wide range for acceptable protein intake—anywhere from 10 to 35 percent of calories each day. Beyond that, there's relatively little solid information on the ideal amount of protein in the diet or the healthiest target for calories contributed by protein. In the United States, the recommended daily allowance of protein is 46 grams per day for women over 19 years of age, and 56 grams per day for men over 19 years of age.



Around the world, millions of people don't get enough protein and protein malnutrition leads to the condition known as kwashiorkor. Lack of protein can cause growth failure, loss of muscle mass, decreased immunity, weakening of the heart and respiratory system, and death.

All Proteins Are Not Alike

Protein is built from building blocks called amino acids. Our bodies make amino acids in two different ways: Either from scratch, or by modifying others. A few amino acids (known as the essential amino acids) must come from food.

- Animal sources of protein tend to deliver all the amino acids we need.
- Other protein sources, such as fruits, vegetables, grains, nuts and seeds, lack one or more essential amino acids.

Vegetarians need to be aware of this. People who don't eat meat, fish, poultry, eggs, or dairy products need to eat a variety of protein-containing foods each day in order to get all the amino acids needed to make new protein.

3. Fat



Fats are used to build cell parts and supply energy for cellular activities. In fact, fat molecules can supply more energy, gram for gram than carbohydrates molecules. But before fats can be used as an energy source, they must be converted to glycerol and fatty acids. Rather than adopting a low-fat diet, it's more important to focus on eating beneficial "good" fats and avoiding harmful "bad" fats. Fat, is an important part of a healthy diet. Choose foods with "good" unsaturated fats, limit foods high in saturated fat, and avoid "bad" trans-fat.



- “Good” unsaturated fats — Monounsaturated and polyunsaturated fats — lower disease risk. Foods high in good fats include vegetable oils (such as olive, canola, sunflower, soy, and corn), nuts, seeds, and fish.
- “Bad” fats — trans-fats — increase disease risk, even when eaten in small quantities. Foods containing trans-fats are primarily in processed foods; made with trans-fat from partially hydrogenated oil.
- Saturated fats, while not as harmful as trans-fats, by comparison with unsaturated fats negatively impact health and are best consumed in moderation. Foods containing large amounts of saturated fat include red meat, butter, cheese, and ice cream. Do bear in mind that saturated fat is the form that is linked strongly to heart disease and cancer.

Dietary fat also ensures that we can absorb the vital vitamins that are stored in fat, namely Vitamin A, D, E, F and K. We do need fat in our diets but not nearly as much as is generally consumed.

4. Vitamins



Essentially, vitamins are chemicals that assist the processing of other nutrients as they promote a wide range of chemical reactions in the body.

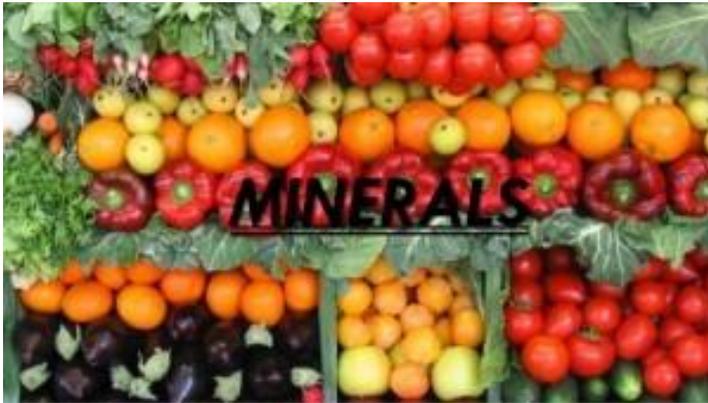
Vitamins are essential for health, for- B - Vitamins help break down sugars into energy.

- Vitamin A is needed for healthy skin, eyes and digestion
- Vitamin B2 helps the body use oxygen efficiently
- Vitamin B12 is essential for the nervous system
- Folic acid is essential for the production of red blood cells and the nervous system
- Vitamin C is needed for healthy tissue



- Vitamin K helps prevent fatty acid from oxidising in the blood

5. Minerals



There are 21 essential minerals. Some are produced from gases and required in large quantities; for example, hydrogen, carbon, oxygen and nitrogen.

Some are required in small quantities but are essential such as calcium, potassium, magnesium and sodium. Others are required in minute quantities like nickel, iron, copper, manganese, molybdenum and selenium. These are referred to as trace elements. These minerals are needed because these minerals enable electrical activity to take place in your body. *A basic rule to remember is that if a molecule lacks a carbon atom, it is inorganic and usually electrolytes and those molecules which contain carbon and hydrogen atoms are organic and are usually non - electrolytes.* Minerals also help store and distribute water as well as help to facilitate the chemical reactions that take place in your body and brain every minute of every day. Minerals also regulate muscle activity (salt intake and cramps).

6. Water



Water is the most abundant compound in cells, and serves as a solvent in which chemical reactions occur. Water also transports chemicals and heat as well as responsible for the efficient functioning of the elimination processes, i.e. the excretion of waste products and toxins. We can live for up to 50 days without food but would die after five days without water. Everyday 5 pints (2.5l) of water is lost through bodily functioning of excretion, loss in perspiration and exhalation from the lungs.

Together the body requires 45 nutrients and they all need to work together. To say that a particular nutrient will clear up health problems is like saying that a symphony created for an orchestra will sound better if only played on one instrument. The full complement of the orchestra needs to play together. In the same way, the full complement of the intricate interrelated bodily functioning needs to work together. To be healthy; which requires to be in control of your weight, you needs all the nutrients in the correct balance, working harmoniously together. This requires eating a wide range of food to ensure that you get all the necessary nutrients, but controlling that there is not an excess of any specific nutrients.

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