

Overnutrition and Undernutrition of Nutrients

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Malnutrition is the condition of not getting enough or getting too much of a nutrient or nutrients. It's the largest contributor to disease across the globe.

Overnutrition is the form of malnutrition that happens when you take in more of a nutrient (or nutrients) than you need every day. Energy overnutrition is common in developed countries like the United States.

Undernutrition is the form of malnutrition that occurs when you don't get enough of a nutrient (or nutrients). Energy undernutrition is more common in under-developed countries.

Overnutrition of Energy Nutrients

Consuming too much energy over time will cause you to gain weight unless you increase your physical activity. It doesn't matter if those extra calories come from fat, carbohydrates or protein because your body can take whatever it doesn't need and store it as fat. Being overweight or obese is a risk factor for cardiovascular disease, some types of cancer, and Type 2 diabetes.

Treating this kind of overnutrition requires dietary adjustments to reduce overall calories and improve the balance of the diet to include more fruits and vegetables, whole grains calcium sources and healthful protein sources with a few fats. At the same time, it helps to increase physical activity and avoid junk foods, which are foods that are high in calories but have little nutritional value. Sometimes, medical disorders such as hypothyroidism make it harder to [lose excess weight](#).

Overnutrition of Micronutrients

It's possible to get too much of most vitamins or minerals, but usually, this happens when you take megadoses of dietary supplements. Getting too much of any micronutrient from food is rare.

Micronutrient overnutrition can cause acute poisoning, like taking too many iron pills at once, or it can be chronic, for example taking large doses of vitamin B-6 over several weeks or months.

The Institute of Medicine has established tolerable upper limits for most micronutrients, but the best way to avoid this type of overnutrition is to stay away from megadoses of dietary supplements unless directed by your healthcare provider.

Undernutrition of Energy Nutrients

Undernutrition is the form of malnutrition that people usually mean when they use the word 'malnutrition.' Energy undernutrition, or protein-energy malnutrition (PEM), occurs when you don't get enough energy. Children who are undernourished suffer from weight loss and difficulties with learning and school. Underweight women frequently give birth to babies who are also underweight.

There are two forms of PEM. Starvation, sometimes called *marasmus*, is a severe form of malnutrition due to lack of total energy, resulting in poor growth, infertility, and even death. The body breaks down its own tissues to survive, and the body becomes emaciated in appearance. Another form of PEM occurs from a [lack of protein](#) even though there is some carbohydrate or fat in the diet. This condition is called *kwashiorkor*. People with kwashiorkor have thin arms and legs and bloated abdomens.

Energy nutrition undernutrition occurs when people don't eat enough food because they don't have enough food or can't or don't want to eat. Certain diseases, such as some types of cancer, can result in undernutrition.

Undernutrition requires medical care and often special therapeutic foods are needed.

Undernutrition of Micronutrients

Vitamin or mineral deficiency occurs when your diet is out of balance, and it can happen whether or not you're getting enough calories. [Iron](#) and [calcium](#) are often insufficient in the typical diet. In some cases, the deficiency is due to a disease, such as pernicious anemia that results in a lack of vitamin B-12. Symptoms usually don't occur immediately, but problems arise over time. Micronutrient deficiencies can be treated by correcting the diet, adding dietary supplements or treating any underlying disorders.

Article Sources

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