Glossary

ANCA protein

A protein produced when carcinogens invade the nucleus of the cell. The presence of ANCA proteins signals that the cell is abnormal, and triggers an immune system response to eliminate it.

Angiotensin II

A blood protein that works to raise blood pressure by squeezing the arterial wall. It also activates the adrenal gland to signal to the kidneys to retain sodium, which causes fluid from the body to enter the blood vessels and blood pressure to rise.

Calcium

A mineral found in bone tissue that keeps bones strong and flexible. The amount of calcium in bone tissue naturally declines after age 25.

Cancer

A disease in which abnormal cells grow and divide uncontrollably. Cancer has four stages of progression and is one of the most common causes of death.

Stage one

Abnormal cells begin dividing and become a small packet, forming a localized lump that can be eliminated by the immune system or surgery.

Stage two

The localized lump of abnormal cells gets larger but remains within a single tissue, and must be removed through surgery.

Stage three

Abnormal cells begin to slough off the lump and travel to other parts of the body through the lymph supply or bloodstream.

Stage four

Abnormal cells have spread throughout the body and to multiple tissues, growing rapidly and making surgery insufficient. Treatment, if possible, requires chemotherapy or radiation.

Carcinogen

Any substance that can cause cancer. Carcinogens can be found in foods, cigarettes, or substances produced by the body such as bile.

Collagen

An abundant protein responsible for maintaining cellular structures, muscle activity, and connective tissues.

Cruciferous vegetables

Class of bitter vegetables that are known for their strong correlation with cancer prevention. Cabbages, broccoli, and brussels sprouts fall into this category.

Daily reference intakes (DRIs)

A complex set of values that describe how much of a nutrient to consume based on how much is necessarily to prevent both deficiencies and chronic diseases. This system replaced the RDA, and is made up of four individual values: AI, EARs, RDA (adjusted), and ULs.

Adequate intake (AI)

A variable determined by nutrition experts that guesstimates a sufficient consumption level for each nutrition based on limited available data.

Estimated average requirements (EARs)

The amount of a nutrient necessary for about half of the population.

Recommended daily allowance (RDA)

The amount of a nutrient necessary to prevent deficiency and minimize diseases in 98% of the population. (See other listing for *Recommended daily allowance* for a definition of the original RDA system.)

Tolerable upper intake levels (ULs)

The upper limit of a nutrient that can be safely consumed without the nutrient becoming toxic.

Diuretics

A form of medication used to treat hypertension that blocks the reabsorption of sodium in the kidney. When sodium is removed from the bloodstream, blood volume and therefore blood pressure decreases.

Hypertension

A condition characterized by sustained, abnormally high blood pressure.

Lycopene

A form of vitamin A found in some red fruits and vegetables such as tomatoes that has been correlated with a lower risk of prostate cancer.

Metastasis

The process through which abnormal cells begin to grow in tissue removed from the original malignant site. Takes place in stages three and four of cancer.

Oncogenes

Genes that have been mutated by carcinogens and facilitate the growth of cancer.

Osteoblasts

Cells that produce bone tissue and enable bones to mend after injury or after tissue has been broken down.

Osteoclasts

Cells that break down bone tissue, reducing the structure and hardness of bones. This process allows bones to remodel over time, but also leaves bones vulnerable to osteoporosis.

Osteoporosis

A condition in which bone density decreases and bones become brittle. Osteoporosis is typically caused by normal aging processes combined with a lack of calcium.

Parathyroid hormone

Hormone released by the parathyroid when blood calcium gets low. It causes the release of calcium from bone tissue, increases calcium reabsorption in the kidney (limiting the amount of calcium loss in urine), and activates Vitamin D, which increases the absorption of calcium as food passes through the intestinal lumen.

Recommended daily allowance (RDA)

A system that described how much of each nutrient it is necessary to consume to avoid deficiencies for the majority of the population, as calculated by the US government. (See *Daily reference intakes* for the more current use of RDAs.)

Thyroid gland

Gland in the throat that produces a hormone called calcitonin when blood calcium gets high. Calcitonin decreases calcium levels by inhibiting the release of calcium from bone tissue and decreasing calcium reabsorption in the kidney (increasing the amount of calcium lost in urine).

Vitamin A

A vitamin essential to bodily functions like vision, growth, reproduction, and immunity. The body gets vitamin A in two main forms: preformed vitamin A (from meats), and carotenoids or provitamin A (from plants). Both forms are stored in the liver as retinol.

Vitamin C

A powerful antioxidant correlated with lower cancer rates and vital to the production of collagen.

Vitamin D

A vitamin critical to cell differentiation, growth, immune function, and inflammatory response that comes from the sun and certain foods. Low levels are correlated with diseases such as colon, prostate, and breast cancers, tuberculosis, influenza, heart disease, and rickets.