Healthi Choices

VITAMINS: AN A TO Z GUIDE

Remember the adage - an apple a day keeps the doctor a way? An age-old saying with plenty of merit! Apples contain a number of vitamins and minerals that are needed for healthy functioning of the human body. Vitamins and minerals are the micronutrients required for hundreds of functions in the body. An apple will provide your body with vitamins A, B6 and C for healthy skin, a stronger immune system and healthy eyes, as well as minerals like potassium, calcium and magnesium, all of which are important for bone health.

What are vitamins?

Vitamins are organic compounds and vital nutrients required by the body. They are classified as either water- or fat-soluble, meaning they are either directly absorbed quickly by the cells or bind to fat for storage and later use. Our bodies can make some vitamins like vitamins D and K, but most are supplied through the food we eat. Vitamins that are needed in higher doses are measured in milligrams (mg). If much smaller amounts are required, these are measured in micrograms (mcg or µg).

What are minerals?

Minerals are chemicals compounds, found naturally in the earth. The human body is made up of a percentage of minerals, but we cannot produce them ourselves, so we must get them through our diet. Minerals are required for a number of different processes of the body. They are also called trace elements as most are only needed in small quantities.

What your body needs

Scientists have calculated how much of each vitamin and mineral the average healthy person requires on a daily basis. This is given as a Recommended Dietary Allowance (RDA) - an estimate of the amount of nutrients required in order to stay health. The amounts differ for babies, children, teenagers, adult men and women and pregnant women. Some food packages list a percentage of the RDA available in the particular food. The amounts given are usually for adults, unless specified.

The most effective way for healthy adults and children to get the vitamins and minerals needed by the body is to eat a daily balanced diet with foods from all food groups. This will ensure that you get important macronutrients, like carbohydrates and protein for energy, and micronutrients, the vitamins and minerals your body needs in smaller amounts.

Too little of certain vitamins or minerals in your diet can have serious health effects. For example, too little iron causes anaemia resulting in tiredness, headaches and difficulty in concentrating, while too little iodine reduces the production of hormones by the thyroid.

Overdosing on certain vitamins can also be detrimental to your health and may even be fatal. For example, too much vitamin C can cause diarrhoea and too much selenium in your daily diet may cause hair loss, fatigue or brittle nails.

Dietary supplements

You can supplement your vitamin and mineral intake by taking a daily multi-vitamin tablet or additional supplements which can assist with any health conditions you may have. Dietary supplements are tablets, capsules or liquid taken by mouth. For example, a calcium or magnesium supplement can be taken for bone health or a vitamin B complex supplement to assist during times of stress.

Supplements are very beneficial during those periods when your body needs additional nutritional support, like during pregnancy or while breastfeeding. Athletes may require higher doses of magnesium, potassium and zinc and other vitamins or minerals. Supplements can also be beneficial during convalescence after an illness, before and during winter to boost immunity, for young children attending crèche or for the elderly.

If you wish to supplement your diet with vitamin and mineral supplements, always speak to a clinic sister or your doctor first.

Resources:
www.webmd.com
www.healhline.com
www.healthguide.com
www.kidshealth.org.

Vitamin A

There are two types of vitamin A. Beta-carotene, an antioxidant, is found in fruit and vegetables like apricots, sweet potatoes and spinach, while retinoids come from animal products like liver, eggs and whole milk.

Functions

- For good eye sight
- Healthy skin – repair and regrowth
- Strengthens immune system
- Strengthens bones

RDA

700mcg 900mcg

B-vitamins

There are a total of eight B-vitamins. They are all essential for daily bodily functions and have various roles. Thiamine (B1) is needed for the metabolism of carbohydrates and strengthens the heart, while riboflavin (B2) protects the mucus membranes. Vitamin B6 is needed in over 100 cellular functions in the body. Sources of the B-vitamins include nuts, enriched cereals, red meat, poultry, dark green vegetables, potatoes, oats, eggs and many more foods.

Other collective functions

- Metabolism
- Healthy skin/hair
- Mental wellness
- Fights stress/fatigue
- Boosts immune system

RDA

B1
1.1mg 1.2mg

B2
1.1mg 1.3mg

B3
14mg 16mg

B6
1-1.5mg

B12
2.4mg

Vitamin C

Vitamin C is an antioxidant. Good sources of vitamin C include citrus fruits, orange juice, tomatoes, potatoes, spanspek, turnips, kiwi fruit, dark leafy greens and green peppers

Functions

- Helps with iron absorption
- Strengthens immune system
- Aids wound healing
- Promotes healthy teeth/gums
- Skin/bone repair and regeneration (collagen)

RDA

75mcg 90mg

Calcium

Calcium is an important mineral for preventing osteoporosis and other degenerative bone diseases. Calcium is found in green vegetables in small doses but in much higher quantities in dairy products like milk and yoghurt. Other sources include legumes, carrots, oats and pilchards.

Functions

- Healthy bones and teeth
- Functioning of the nervous system
- Functioning of muscles

RDA

1000-1300mg 1000mg

Vitamin D

The body is able to produce, vitamin D when skin is exposed to sunlight. Good sources of vitamin D are liver, oily fish, dairy products like eggs and cheese.

Functions

- Promotes growth
- Healthy bones
- Calcium absorption
- Strengths teeth
- Strengths immune system
- Low levels are linked to depression and fatigue

RDA

15mcg

Folic acid

Folic acid is also a B-vitamin, known as B9. It is essential to promote healthy cell growth in the body. Pregnant women must take a folic acid supplement to prevent neural tube defects. Good sources include green leafy vegetables, broccoli, eggs, liver, lean beef, orange juice.

Functions

- Needed to manufacture healthy red blood cells
- Make new cells and repairs DNA
- Protects the heart

RDA

400mcg 600mcg

Iron

Iron is an element that is a component of haemoglobin, a protein in the red blood cells that carry oxygen to the cells. Good sources of iron include red meat, especially liver, green vegetables, whole grains, eggs, canned fish, tomatoes, apricots and raisins. An iron deficiency is very common and causes anaemia. Symptoms include chronic fatigue, headaches and muscle cramps.

Functions

- Used to make red blood cells
- Healthy cells – hair, skin and nails
- Mental development and cognitive functioning
- Immune functioning

RDA

15mg(menstruation) 10mg 30mg

Vitamin E

Vitamin E is an antioxidant that helps to prevent free radical damage in the body and is important for a number of body functions. Deficiencies may cause balance problems, muscle weakness, mild anaemia and cataracts. Good sources include almonds, avocado, eggs, shell fish, some cereals, wheat germ and vegetable oils

Functions

- Prevents damage to cell membranes
- Skin healing/ good for hair
- Enhances immune systems
- Helps to reduce PMS symptoms/ anxiety

RDA

15mg

Magnesium

Magnesium is a mineral that is essential to a number of body functions. It is one of the more common nutrient deficiencies in adults. Deficiencies symptoms include muscle spams, anxiety, trouble sleeping and digestive issues. Good sources include leafy vegetables, nuts, beans and whole grains.

Functions

- Enzyme activity
- Nerve and muscle function
- Natural muscle relaxant (spasms)

RDA

320mg 420mg

Zinc

Zinc is a mineral that is required in a number of functions in the body. Good sources are beef, oysters, shrimp, almonds, legumes and soya products.

Functions

- Digestion
- Fights infection/ promotes healing of the body
- Skin infections/acne
- Reproductive health

RDA

8mg 11mg