Vitamin A

Prof. Ashraf Zaghloul

Vitamin A, also known as retinol

Important for:

Helping in the **body's natural defense** against illness and infection (the immune system).

Vision in dim light **(Vitamin A plays an important role in vision. To see the full spectrum of light, eye needs to produce certain pigments for the retina to work properly. Vitamin A deficiency stops the production of these pigments, leading to night blindness)**

Keeping skin and the lining of some parts of the body, such as the nose, **healthy**

Sources of vitamin A

Cheese

Eggs

Liver and liver products

Sources of beta-carotene which the body can convert into retinol

- Yellow, red and green **(leafy)** vegetables, such as spinach, carrots, sweet potatoes and red peppers

- Yellow fruit, such as mango, papaya and apricots

Daily requirements

The total vitamin A content of a food is usually expressed as **micrograms (µg)** of retinol equivalents (RE).

The amount of vitamin A adults aged 19 to 64 need is:

700 µg a day for men

600 µg a day for women

Any vitamin A the body does not need immediately, ……

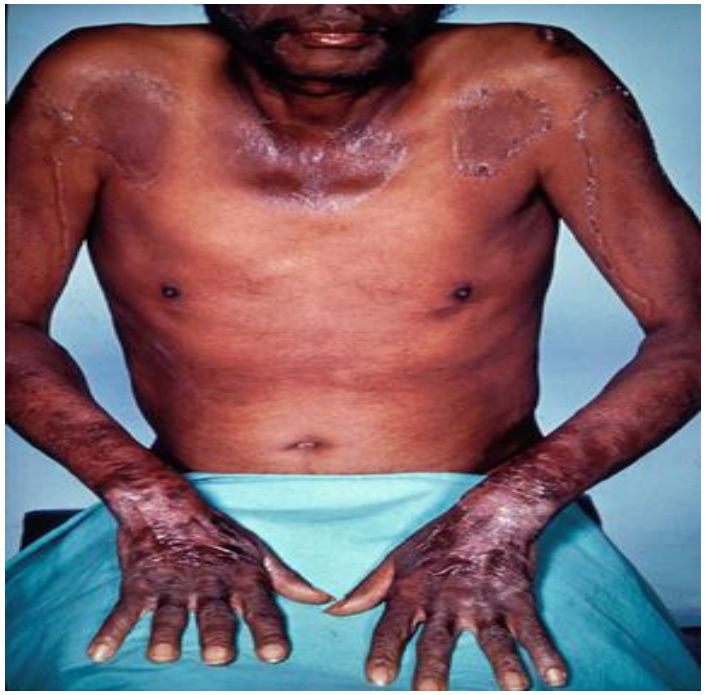
is stored for future use.

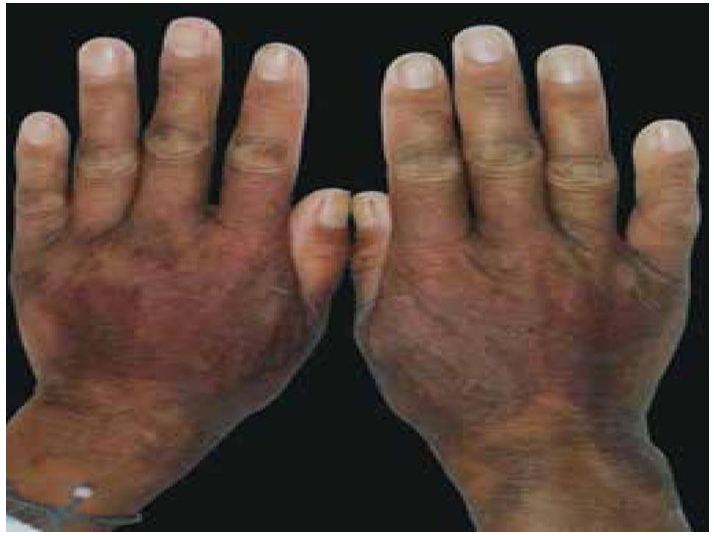
This means you do not need it every day

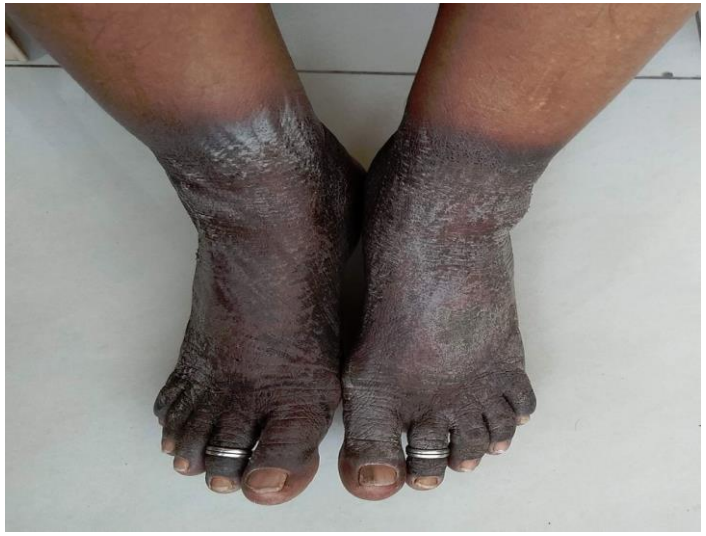
Deficiency

Niacin deficiency, known as **pellagra**, much more common in developing countries where people commonly follow diets that lack diversity.

The main symptoms of pellagra include inflamed skin, mouth sores, diarrhea, insomnia and dementia. **Like all deficiency diseases, it is fatal without treatment.**







High supplemental doses of niacin may cause **niacin flush,** nausea, vomiting, stomach irritation and liver damage.

Folate
Vitamin B9

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Vitamin B9 was first discovered in yeast, but later isolated from spinach leaves.

For this reason, it was given the names folic acid or folate, words derived from the Latin word folium, meaning “leaf.”

Vitamin B9 comes in several different forms

Folate

Folic acid

L-methylfolate

Role and Function

Vitamin B9 acts as a coenzyme and is **essential for cell growth, DNA formation and amino acid metabolism**.

It is **very important during periods of rapid cell division and growth, such as in infancy and pregnancy**.

Additionally, it is **required for the formation of red and white blood cells, so deficiency may lead to anaemia**.

Pernicious Anemia **is one of the classic symptoms of vitamin B9 deficiency**. It is indistinguishable from the anemia associated with vitamin B12 deficiency.

Lack of vitamin B9 may also lead to **birth defects of the brain or neural cord, collectively known as neural tube defects**