Vitamin A Deficiency

What is vitamin A deficiency?

Vitamin A is found in many foods like:

- leafy green vegetables
- orange vegetables (carrots, sweet potatoes, pumpkin)
- eggs, and
- cantaloupes

Vitamin A plays an important role in your vision. To see the full spectrum of light, your eye needs to produce certain pigments for your **retina** to work properly. Vitamin A deficiency stops the production of these pigments, leading to night blindness. Your eye also needs vitamin A to nourish other parts of your eye, including the **cornea**. Without enough vitamin A, your eyes cannot produce enough moisture to keep them properly lubricated.

Vitamin A deficiency is the leading cause of preventable blindness in children worldwide. An estimated 250,000 to 500,000 children become blind every year because of vitamin A deficiency. Half of these children die within a year of losing their sight.

In pregnant women, vitamin A deficiency causes night blindness and may contribute to maternal mortality. Vitamin A deficiency also harms the immune system (the body's ability to fight disease). This increases the chance of death from malaria, measles and diarrhea.

A lack of access to a balanced diet with enough vitamin A can lead to vitamin A deficiency.

Eye Words to Know

Retina: Layer of nerve cells lining the back wall inside the eye. This layer senses light and sends signals to the brain so you can see.

Cornea: Clear, dome-shaped window of the front of your eye. It focuses light into your eye.

Conjunctiva: Clear tissue covering the white part of your eye and the inside of your eyelids.

Who is at risk for vitamin A deficiency?

Vitamin A deficiency is a big problem in developing nations in Africa and Southeast Asia. Young children and pregnant women in low-income countries are at highest risk.

What are symptoms of vitamin A deficiency?

The main symptom of vitamin A deficiency is vision loss and blindness.

Vision loss often begins as a problem adjusting to seeing in the dark, or night blindness. People with night blindness do not see well in the dark. But they can see normally if enough light is present. As the vitamin A deficiency worsens, the **conjunctiva** (the covering on the white of the eye that helps lubricate your eye) dries out. Then corneal ulcers (open sores) appear. If untreated it eventually leads to vision loss and blindness.

How is vitamin A deficiency diagnosed?

Vitamin A deficiency is diagnosed by an eye exam and by reviewing medical history. A blood test can measure the amount of vitamin A in the blood. But because vitamin A deficiency is most common in areas with limited medical access, the diagnosis is often made informally. For example, a parent may mention their child's night blindness—a common sign.

How is vitamin A deficiency treated?

Vitamin A deficiency can be treated with vitamin A supplements. The amount of supplements depends upon the age of the child. Vitamin A supplements can reverse night blindness. It can also help the eyes become lubricated again. But vision loss caused by scarring from corneal ulcers cannot be reversed.

There are organizations working to stop vitamin A deficiency in developing nations. They promote prevention through a balanced diet and taking vitamin supplements.

Summary

People get vitamin A deficiency when they do not eat a balanced diet with enough vitamin A. If you have vitamin A deficiency, you may have trouble seeing at night (night blindness). If untreated, it can lead to corneal ulcers and permanent blindness. Vitamin A deficiency is treated with vitamin A supplements.

If you have any questions about your eyes or your vision, speak with your ophthalmologist. He or she is committed to protecting your sight.

Get more information about vitamin A deficiency from EyeSmart—provided by the American Academy of Ophthalmology— at **aao.org/vitamin-a-deficiency-link**.

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