



## Note on Important Health Benefits of Carotenoids

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### Description

The plant pigment carotenoids are responsible for the red, yellow and orange colour of many fruits and vegetables. These colours play an important role in plant health. People who eat foods that contain carotenoids experience protective health benefits as well.

Carotenoids are a class of phytonutrients (“plant chemicals”) and are found in the cells of various plants, algae and bacteria. They help plants absorb light energy for use in photosynthesis. Carotenoids also act as antioxidants in the human body. They have strong anti-cancer properties, according to the Physicians Committee for Responsible Medicine. Some carotenoids are converted by the body into vitamin A, which is essential for normal vision and development. Carotenoids also have anti-inflammatory and immune-boosting benefits and are sometimes associated with the prevention of heart disease.

Dietary carotenoids are thought to provide health benefits in reducing the risk of diseases, especially certain cancers and eye diseases. The most tested carotenoids in this are beta-carotene, lycopene, lutein, and zeaxanthin. In part, the beneficial effects of carotenoids are thought to be due to their role as antioxidants. Beta-Carotene may have additional benefits due to its ability to convert to vitamin A. The dietary sources of these compounds include various fruits and vegetables, although the main sources of lycopene are tomato and tomato products. There are more than 600 different types of carotenoids. Some can be converted to vitamin A when they are released from the body. Some of the most common carotenoids include:

- Alpha carotene
- Beta carotene
- Beta cryptoxanthin
- Lutein
- Zeaxanthin

- Lycopene

Carotenoids must be consumed through the diet. They are best absorbed through a source of fat. Foods rich in carotenoids include:

- Yams
- Kale
- Spinach
- Watermelon
- Cantaloupe
- Bell peppers
- Tomatoes
- Carrots
- Mangoes
- Oranges

### Health benefits

Carotenoids are beneficial antioxidants that can protect you from disease and improve your immune system. Provitamin A carotenoids can be converted to vitamin A, which is essential for growth, immune function, and eye health.

Eating foods rich in the carotenoids can protect the healthy cells in the eye and prevent the growth of cancer cells. One of the main causes of blindness is macular degeneration, or damage to the retina. Prolonged exposure to blue light can cause this and adversely affect sensitive parts of the eye. However, the carotenoids lutein and zeaxanthin found in the retina can help absorb blue light.

Studies show that adding at least six milligrams of lutein to your daily diet can reduce your risk of developing macular degeneration by 43 percent. Increasing the amount of lutein and zeaxanthin in your diet can also help prevent or stop current eye damage, and prevent your current condition from progressing.

Carotenoids are antioxidants, which reduce inflammation

in the body. Although still under investigation, anti-inflammatory carotenoid properties have been linked to improving cardiovascular health. Reducing inflammation helps prevent heart disease and prevents arterial walls from being blocked.

Antioxidants protect cells from free radicals, or substances that destroy or damage the cell membrane. Increasing the carotenoids in your diet can increase the amount of antioxidants and immune cells in your body.

This is important when fighting cancer and may be able to prevent the growth of cancer.

Carotenoids are associated with reduced risk of cancer, especially lung cancer. When you smoke, you are ingesting harmful chemicals that destroy healthy cells. Although mixed in the results, one study showed a slight decrease in the risk of lung cancer when you include carotenoids in your diet. It is even healthier to quit smoking and increase the carotenoids in your diet to help your lungs cool as you become addicted.