HIV, AIDS and the Eye

What is HIV?

HIV stands for human immunodeficiency virus. This virus causes the body's immune system to break down. Your immune system fights off illness and infection and is important for a healthy body.

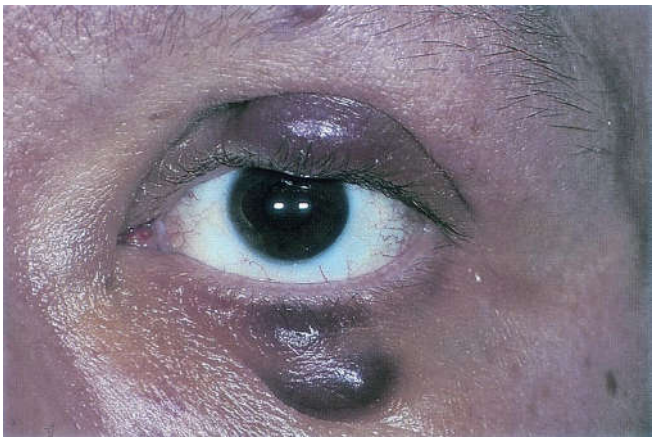
HIV attacks important white blood cells in your immune system called lymphocytes, or T-cells. T-cells identify and destroy invading organisms in the body. Once attached to the T-cell, HIV multiplies and destroys the cell. When your body loses enough T-cells, it can become very sick. It gets infections that a healthy person's immune system would normally fight off. This includes infections such as colds, flu and other viruses.

What is AIDS?

AIDS stands for acquired immune deficiency syndrome. HIV causes AIDS. Someone has AIDS when their immune system is no longer able to keep them healthy. For someone with HIV, the process of the virus destroying T-cells and multiplying may go on for years. This is why many people infected with HIV do not get sick with AIDS until years later.

How do you get HIV?

HIV lives and reproduces in human blood and other body fluids. Someone can become infected with HIV if these infected fluids enter their body.



Eye Words to Know

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

Cotton-wool spots: White spots as a result of a blood vessel blockage.

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.

These fluids can contain high levels of HIV:

- blood
- semen
- pre-seminal fluid
- breast milk
- vaginal fluids
- rectal (anal) mucous

Other bodily fluids and waste products generally don't have enough HIV in them to infect you, unless blood is present in them. This includes:

- nasal fluid
- saliva
- sweat
- tears
- feces
- urine
- vomit

HIV can be found in tears of infected people, but no cases of AIDS have ever been reported from tear contact. Ophthalmologists are careful about cleaning instruments and lenses that come in contact with tears.

How do HIV and AIDS affect the eye?

Because HIV causes a breakdown of your body's immune system, all areas of the body can get an infection. This includes the eye. People with HIV who are otherwise in good health are not likely to have eye problems related to a suppressed immune system. But an estimated 70 percent of patients with advanced AIDS experience eye disorders.

AIDS-related eye problems due to a suppressed immune system can include the following:

HIV retinopathy. This is the most common finding in people with AIDS. Cotton-wool spots and blood from broken blood vessels appear on the retina. Ophthalmologists think the HIV virus causes these changes to the small blood vessels in the retina.

CMV retinitis. CMV retinitis is a more serious eye infection that occurs in about 20 to 30 percent of people with AIDS. A virus called cytomegalovirus (CMV) causes it. It usually happens in people who have more advanced stages of AIDS in which T-cell count is very low. Symptoms include inflammation of the retina, bleeding and vision loss. If left undiagnosed and untreated, CMV can cause severe vision loss within a few months.

If you have HIV/AIDS, you should see your ophthalmologist immediately if you see:

- floating spots or "spider-webs"
- flashing lights
- blind spots or blurred vision

CMV retinitis cannot be cured, but medication can slow the progression of the virus.

Detached retina. CMV can sometimes cause detached retina. This is where the retina pulls away, or detaches, from the back of the eye. A detached retina is a serious problem that causes severe vision loss unless treated. Almost all retinal detachments need surgery to save the vision. This surgery puts the retina back in its proper position.

Kaposi sarcoma. Kaposi sarcoma is a rare form of cancer that occurs in AIDS patients. This cancer can cause purple-red lesions to form on the eyelids. It can also cause a red, fleshy mass to form on the conjunctiva. Kaposi sarcoma may look frightening, but it usually does not harm the eye, and can often be treated.

Squamous cell carcinoma of the conjunctiva. This is a tumor of the conjunctiva. Ophthalmologists believe that this condition is related to several things, including HIV/AIDS infection. It is also related to prolonged sunlight exposure and human papillomavirus (HPV) infection.

©2019 American Academy of Ophthalmology
Content last reviewed 03/19

Increased risk of various eye infections. Some eye infections may be more common in patients with HIV. These infections include:

- syphilis
- herpes virus
- gonorrhea
- Chlamydia
- toxoplasmosis
- Candida
- Pneumocystis
- microsporidia

These infections can threaten vision and must be treated by an ophthalmologist.

How are HIV-related eye diseases treated?

The treatment for HIV-related eye diseases depends upon the particular disease. Patients who keep their immune systems healthy with antiviral drugs have a lower risk for HIV-related eye diseases.

Anyone with HIV must have routine eye examinations with an ophthalmologist. It is important to detect any problems as early as possible.

Summary

HIV stands for human immunodeficiency virus. This virus causes the body's immune system to break down. AIDS stands for acquired immune deficiency syndrome. HIV causes AIDS. Someone has AIDS when their immune system is no longer able to keep them healthy. People with HIV who are otherwise in good health are not likely to have eye problems related to a suppressed immune system. AIDS-related eye problems include:

- HIV retinopathy
- CMV retinitis
- detached retina
- Kaposi sarcoma
- squamous cell carcinoma of the conjunctiva
- various eye infections

The treatment for HIV-related eye diseases depends upon the particular disease.

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 HIV/AIDS from EyeSmart—provided by the American Academy of Ophthalmology—at **aao.org/hiv-link**.

COMPLIMENTS OF:

BRYAN VEKOVIUS, M.D.

OCULOPLASTIC SURGERY AND
NEURO-OPHTHALMOLOGY

450 ASHLEY RIDGE BLVD.
SHREVEPORT, LA 71106

©2019 American Academy of Ophthalmology
Content last reviewed 03/19