

Coming in contact with someone with a venereal disease plagues sexually active people. Aside from the recent outbreak of AIDS, herpes has been a cause for panic. But what most don't realize is that herpes cannot be categorized as a single disease because it has many forms. So that Meredith students may learn more about this multi-disease and thus know the symptoms, the *Meredith Herald* is producing a series of articles about herpes.

To most people, "herpes" means one disease — genital herpes. In fact, herpes is not one disease, but a family of five viruses that affects all of us. Herpetic diseases have been with us throughout human history. They are as familiar as cold sores and as common as chicken pox.

Knowing the facts about herpes viruses will help you answer important questions about their risk. This review will tell you how herpes viruses spread, what diseases they cause, who is most vulnerable, and how they can be controlled or treated.

The five herpes viruses and their most common, related diseases are:

1. Herpes simplex virus, type 1: cold sores, eye infections.
2. Herpes simplex virus, type 2: genital herpes.
3. Varicella-zoster virus: chicken pox, shingles.
4. Epstein-Barr virus: infectious mononucleosis.
5. Cytomegalovirus: birth defects.

Diseases caused by herpes viruses have plagued us since ancient time. Two thousand years ago, Greek physicians used the name herpes, meaning "to creep," to describe the spreading sores of several diseases including genital herpes. Hippocrates clearly described both genital herpes and shingles, and a Roman emperor banned public kissing, apparently to control the spread of nononucleosis.

Like all viruses, a herpes virus is not much more than a package of genetic material that enters a living cell and takes over the cell's genetic matter (DNA).

The five viruses in the herpes family look very much alike under a microscope. They all stay in the body permanently after the first infection. This is important, because it means that all five viruses can cause recurring infections. Most herpes infections heal by themselves, just as chicken pox and cold sores do. The body's natural defenses gradually defeat the infection and build up antibodies to help ward off a second attack.

But herpes viruses can lie asleep inside host cells. In this sleeping state, called latency, the virus does not cause symptoms, and a person is not ill. Latent virus may stay quiet for a lifetime, or it may awaken to cause another active infection.

Life Cycle of a Herpes Virus

Herpes viruses spread from person to person by direct physical contact. People contract herpes infections by touching the eyes, lips, mouth or genitals of an infected person. Genital herpes is a sexually transmitted disease.

Herpes viruses do not survive long outside the body. Some experiments have shown that the herpes simplex virus can survive for up to 90 minutes on a plastic surface. But experts believe it is extremely unlikely that such a virus could infect someone.

The virus usually enters the body through mucous membranes (like mouth or genital tissue). The viral

HERPES:



A FAMILY OF VIRUSES THAT AFFECTS US ALL

DNA takes over the DNA in the cell and directs the production of more viruses.

In some herpes infections like genital herpes, cold sores and shingles, the virus travels down nerve pathways to the skin surface and a rash or sores break out. During this active infection, live virus is shed (excreted) from the sores, skin and in secretions (like saliva) of the mucous membranes. This is how the virus spreads from person to person through skin contact.

As the infection spreads, chemical signals go out to the body's immune system. Antibodies are made and, together with special white blood cells, they attack the invading virus. In people with impaired natural defenses, called immune compromised patients, herpes infections can be serious, even life threatening. But in most people, the immune system stops the infection.

The immune defenses do not win completely, though. Latent virus will remain, usually in nerve cells called ganglia near the brain and at the base of the spinal cord. If triggered, latent virus will begin the cycle again and cause another infection. But recurrent herpes infections are usually much milder than the first, or primary infection. The immune system is ready for the second attack and stops the infection faster.

Herpes Simplex Virus (HSV) Type 1

There are two types of herpes simplex virus. HSV type 1 is primarily responsible for cold sores. Less common herpes infections affect the eye (keratitis), the brain (encephalitis) and the fingers (whitlow).

The cold sore, called oral or labial herpes, is one of the most common herpes infections. It is estimated that 98 million Americans suffer from these painful, blister-like sores on the lips and inside the mouth. Blisters may be preceded by a tingling or itching sensation. They usually heal in about one week.

Recurrence is very common. Blisters may reappear infrequently or as often as once a month. Recurrent cold sores are often triggered by exposure to sun or wind. They also may appear when you are fighting another infection, and the immune system is less able to prevent an outbreak.

Oral herpes is spread by direct contact with the lips and mouth of an infected person. Most people are infected as children when they are kissed by adults or other children who have active cold sores. Dentists and medical professionals are especially at risk because of frequent exposure to the virus.

Cold sores also can be caused by HSV type 2, the virus responsible for genital herpes, and genital herpes can

be caused by HSV type 1. Such cross over is fairly rare. Only 5 percent of oral herpes comes from type 2 virus. Type 1 oral herpes can be spread to the genitals and (type 2 genital herpes to the mouth) by oral sex and by self inoculation — that is, by touching the sore with your fingers and then touching another susceptible part of the body.

Cold sores are a minor problem for most people and usually heal by themselves. But HSV type 1 can cause serious infections in immune compromised patients, such as cancer and organ transplant patients, and newborns who have not yet developed immunity. For these patients, new antiviral drugs are an important mode of treatment.

How Much Do You Really Know About Genital Herpes?

Herpes, some of us joke about it. Some of us have it. Many of us may even dread it. For all of the nervous laughter and anxiety, it is amazing how little many of us really know about genital herpes. Here's your chance to pass Genital Herpes 101. Take the test below and grade yourself. Could be you'll ace the course.

1. Which of the symptoms listed below are associated with genital herpes?
 - (a) genital pain and itching
 - (b) blisters, or lesions, in the genital area
 - (c) fever
 - (d) muscular pain or headaches
 - (e) "a" and "b" only
 - (f) all of the above
2. How long after intimate contact with an infected and contagious partner can the first manifestation of herpes occur?
 - (a) 4 days
 - (b) a week
 - (c) a month
 - (d) varies greatly from person to person
 - (e) six months
3. Herpes outbreaks tend to recur. On the average, a person with herpes can expect a new attack
 - (a) every two to three weeks
 - (b) several times a year
 - (c) once a month
 - (d) once a year

Answers

1. F
Pain, itching, lesions, fever, muscular aches and headaches are all symptoms associated with initial outbreak of the disease. Not everyone who has genital herpes experiences all of these symptoms. Each virus is usually less severe and rarely involve the full-blown symptoms of a primary infection.

2. D
The incubation period for genital herpes is usually between 2 and 4 weeks.

3. B
On the average, a person with genital herpes can expect a new attack several times a year.