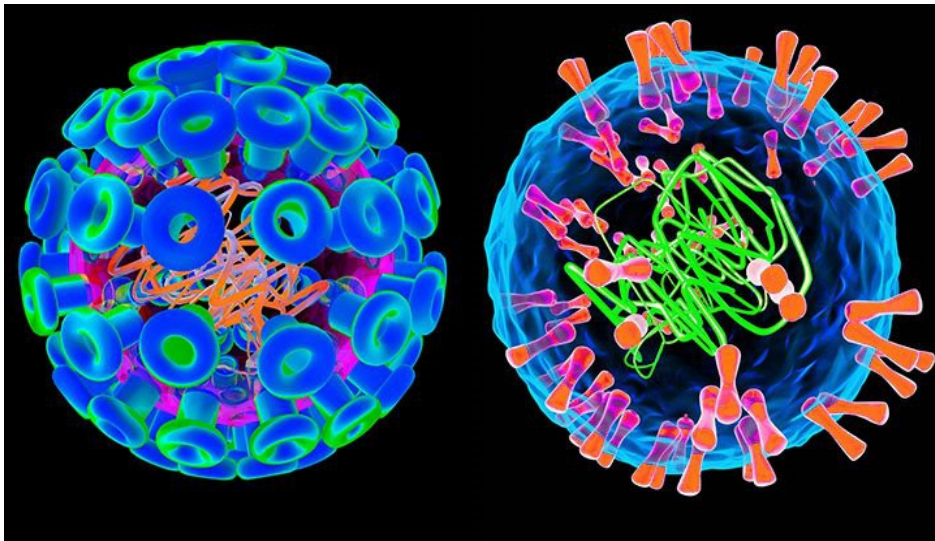


Herpes simplex virus HSV1/2



Herpes simplex virus (HSV)-1 and HSV-2 are members of the Alphaherpesviridae subfamily. HSV is an enveloped virus with a capsid containing viral DNA. Although HSV-1 and HSV-2 are closely related, the 2 viruses are serologically and genetically distinct.

HSV-1 and -2 are common causes of dermal and genital infections; however, in some cases, infection with HSV may result in central nervous system (CNS) disease that is considered a medical emergency. HSV infection of the CNS may result in encephalitis (more commonly associated with HSV-1) or meningitis (more commonly associated with HSV-2). HSV-1 encephalitis is more common in adults, and HSV-2 encephalitis is more common in neonates.

Causes

The viruses that cause herpes are highly contagious and transmitted by direct contact. Generally, after the initial infection, the viruses remain dormant, meaning inactive, and can be reactivated at a later time.

HSV type 1 is spread by **contact such as kissing or sharing cups**, which makes it difficult to identify where you might have acquired the infection. Because of the mode of transmission, it's easy for people of all ages to acquire the infection. About 85 percent of the population is infected with HSV type 1 at some time.

HSV type 2 is **sexually transmitted**, so only those who engage in sexual contact with someone who has the virus are at risk. HSV-2 is less common, though many people who have it do not know that they are infected—and potentially passing it along to others. Pregnant women can also transmit HSV type 2 to their babies during birth, sometimes with serious consequences.

It is possible to have an HSV type 2 infection of the mouth or an HSV type 1 infection of the genital area. This can occur with transmission through **oral sex**. In these instances, it is not possible to distinguish which virus you have based on your symptoms, as they are very similar.

Because the virus dies quickly outside of the body, it's nearly impossible to get the infection through contact with toilets, towels or other objects used by an infected person

Frequent Symptoms

There are some similarities among the symptoms of HSV 1 and HSV 2:

- **Severity:** Cold sores and genital herpes tend to cause more noticeable and extensive symptoms during the first infection. Generally, recurrences are milder.
- **Asymptomatic intervals:** Cold sores and genital herpes are caused by viruses that enter through the skin and travel to the nerves, where they remain dormant (inactive) before recurring. These asymptomatic intervals can last for weeks, months, or even years.
- **Warning signs of reactivation:** Pain, tingling, or burning can occur prior to a recurrent episode of herpes. This is due to inflammation and irritation of the nerves in the infected area. These warning signs of another outbreak, often referred to as prodromal symptoms, mean that you are very contagious even if you do not have any visible sores.

The vast majority of the time, HSV types 1 and 2 cause superficial symptoms of the skin in the specific areas mentioned. In exceptional circumstances, more severe symptoms can involve other parts of the body.

The main difference between symptoms of the two types is where sores occur, though there are some other nuances worth noting.

Cold Sores (HSV 1)

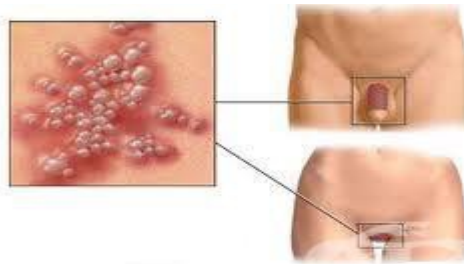


Cold sores can appear on the outside of the mouth or lips, inside the mouth, or on the tongue. Symptoms of HSV 1 include:

- Open, blistery or crusted sores;
- Pain with chewing, swallowing, or talking;
- Itchiness of the sores and the area around them;

The symptoms may last for about three to 10 days, and recurrent sores generally affect the same area.

Genital Herpes (HSV 2)



Typical symptoms of genital herpes include:

- Internal and external blisters and sores that are small, fluid-filled, and often occur in clusters;
- Itching or burning feeling in the genital or anal area;
- Pain in the legs, buttocks, or genital area;
- Pain when urinating;
- Unexplained penile discharge;
- Unusual vaginal discharge;

Symptoms disappear in 10 to 21 days. Recurrent attacks usually affect the same area but are less severe.

In men, the infection can involve the penis, anal opening, buttocks, and/or thighs. In women, the sores can occur in the vaginal area, cervix, urethra (the tube that carries urine), area around the buttocks, anal opening, and/or the thighs.

Women may be more susceptible to a genital herpes infection primarily because a woman's genital area is more likely to be moistened with body fluids, which allows the virus to more easily enter the skin. Women also tend to have higher rates of complications during the first genital herpes outbreak.

Because the virus dies quickly outside of the body, it's nearly impossible to get the infection through contact with toilets, towels or other objects used by an infected person.

Complications

Complications associated with **genital herpes** may include:

- **Other sexually transmitted infections.** Having genital sores increases your risk of transmitting or contracting other sexually transmitted infections, including AIDS.
- **Newborn infection.** Babies born to infected mothers can be exposed to the virus during the birthing process. This may result in brain damage, blindness or death for the newborn.
- **Bladder problems.** In some cases, the sores associated with genital herpes can cause inflammation around the urethra. The swelling can close the urethra for several days, requiring the insertion of a catheter to drain your bladder.
- **Meningitis.** In rare instances, HSV infection leads to inflammation of the

membranes and cerebrospinal fluid surrounding your brain and spinal cord.

- **Rectal inflammation (proctitis).** Genital herpes can lead to inflammation of the lining of the rectum, particularly in men who have sex with men.

!!!Rarely, the virus can cause neonatal herpes when a woman transmits the virus to her baby during a vaginal delivery. Neonatal herpes symptoms appear during the first month of life and, if left untreated, can cause long-term damage to a baby's health. A pregnant woman who has been diagnosed with herpes may be monitored regularly prior to delivery to identify a reactivation of her infection, which would indicate the necessity for a caesarean section to avoid infecting the baby.

Diagnosis

To screen for or diagnose infection with the herpes simplex virus (HSV) different test methods are available:

- Herpes Simplex Viral Culture
- **HSV 1/2 DNA** detection by **PCR** method: for active viral infection;
- Serological: HSV-1 or HSV-2 IgM or IgG;

Sample Required?

A swab or scraping from a blister or sore in the infected area or a blood sample drawn from a vein in your arm; for meningitis or encephalitis, a sample of cerebrospinal fluid.

Prevention

For **oral herpes prevention**, it's important to avoid skin-to-skin contact and sharing items with someone you know to be infected with the virus. Likewise, if you know that you're a carrier, be mindful of the contact you have with others (especially young babies and others who are immunocompromised) and items that you leave around, including towels. Frequent hand washing is also important, especially after you touch a cold sore.

The only way to **prevent the spread of genital herpes** is with safe sex precautions, particularly by using condoms. It is important to communicate with sexual partners about the possibility of sexually transmitted diseases, including herpes.