Genital Herpes May Never Go Dormant

WEDNESDAY, Nov. 18 (HealthDay News) -- Herpes, the sexually transmitted disease that causes genital lesions, never truly goes into a dormant state, new research suggests.

As a matter of fact, even when it's not causing an outbreak, the virus is shedding tiny bits of itself in the genital tract.

While the study did not specifically address whether or not the very small amounts of virus being continually shed are enough to infect someone else, the findings have the potential to change the way in which scientists view the life cycle of the disease.

The herpes virus is believed to hide out in the neurons around the spine during latent periods, then periodically travel down neurons that end in the genital tract, where it infects the skin cells, causing a lesion.

The accepted view is that the virus was largely inactive during latent periods, said study author Dr. Joshua Schiffer, a senior fellow at the University of Washington in Seattle.

"We've known for many years that herpes maintains a latent state in the nerves around the spinal cord. In effect, it hibernates there," Schiffer said. "The older idea was that it didn't do much while it was there ... But what our model suggests is the virus is continually being released from the neurons."

The study appeared in the Nov. 18 issue of Science Translational Medicine.

The study looked at herpes simplex 2 virus, not even when they were asymptomatic.

The data was then put into a mathematical model to determine the probable rate of shedding. According to the study, 85 percent of shedding episodes were asymptomatic, or did not cause a lesion. About 60 percent lasted less than 12 hours.

About 45 million Americans, or one in five over the age of 12, are infected with the genital herpes virus in the United States, according to the U.S. Centers for Disease Control and Prevention. But many of them aren't aware they are infected because they've never had, or have never been aware of, their lesions.

"Within their skin there is this constant battle going on within the virus and the immune system," Schiffer explained.

Typically, patients are counseled to avoid having sex during an outbreak and to use a condom to prevent transmission when they are not having symptoms.
for research. But it's too soon to suggest that low levels of viral DNA necessarily mean a person can still infect another.

She noted that the researchers tested for viral DNA, which is only a portion of the virus and doesn't in and of itself mean a person is infectious. "The presence of viral DNA does mean you are infected, but it doesn't necessarily mean you have an infectious particle there," Sawtell said.

Secondly, because the neurons themselves were not examined, it's possible the viral DNA that's present could have originated from somewhere else in the body. Previous animal studies have shown herpes does indeed go into an inactive state.

"It would be really nice to be able to look at the neurons in this human model to determine that the virus is coming from the spine, and wasn't just present in the genitalia and missed by an earlier swab," Sawtell said.

Couples trying to avoid infecting one partner should continue to take the same precautions they did prior to the study, including using condoms even when asymptomatic.

"I wouldn't panic over it," Sawtell said. "We have a lot to learn about how infectious these low levels of viral DNA actually are."

**More information**

There's more on herpes at the [U.S. Centers for Disease Control and Prevention](http://www.cdc.gov).

**SOURCES:** Joshua Schiffer, M.D., research associate, Fred Hutchinson Cancer Research Center, and senior fellow, University of Washington, Seattle; Nancy Sawtell, Ph.D., researcher, division of infectious diseases, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio; Nov. 18, 2009, *Science Translational Medicine*