

Herpes Testing Information for Healthcare Providers

Diagnosis

Helping your patients make a successful adjustment to living with genital herpes begins with an accurate diagnosis.

There are three possible ways to diagnose someone with herpes – clinical exam, swab test for herpes virus, and blood antibody tests. A good clinical exam and thorough sexual history (including information about oral and anal sex) gets you started. But in 2002, the CDC said in its STD treatment guidelines (<http://www.cdc.gov/STD/Herpes/>) that you should get a lab test to diagnose herpes, and that test should be type specific (i.e., can sort out HSV 1 from HSV 2). When clinicians make a diagnosis by exam alone, they call a genital infection ‘herpes’ when it is not up to 1 out of every 5 times. When telling someone they have a life long, highly stigmatized sexually transmitted, it’s best to be confident in the answer. There are two main categories of lab tests – genital swab tests to detect the presence of the HSV virus and blood tests to detect the presence of antibodies to the virus.

Swab tests for herpes include culture and PCR (polymerase chain reaction), and the accuracy of both is dependent on getting an adequate sample. PCR is much more sensitive than culture, but it can often be more costly to perform. Culture is better than exam alone, and a positive culture should be considered accurate for making a diagnosis. In one study, culture had a 76% false negative rate compared to PCR. And PCR doesn’t have perfect sensitivity either, but it is far better than culture and is routinely available through large labs like Quest Diagnostics.

When there is something abnormal on the genital skin that could be herpes, you should swab it. In general, the sample collection materials are the same for culture or PCR (never wood shafts or cotton tips). So why not just rely on antibody tests? First, when a person has a new herpes infection, they have no antibody present yet. Second, if the antibody test is positive for HSV 1 only and the person has no cold sore history, the HSV 1 infection could be either oral or genital (40% of new genital herpes is HSV 1). In the case of HSV 1, the antibody test can help tell you only that the person is infected but not whether it is oral or genital. Remember to ask for typing of the virus if the swab test is positive – HSV 1 and HSV 2 in the genital area are very different infections.

In addition to a clinical exam and swab tests, type-specific antibody tests can help you determine if the patient is infected with herpes virus. Up to 90% of those infected with HSV 2 are unaware of their infection. Asymptomatic patients may suspect or want to know if they have herpes – perhaps a sex partner from the past was infected and your patients wants to know if they are infected without knowing it. Or they are starting a new relationship with someone who has herpes, and they want to know if they are at risk of becoming infected. Perhaps they are presenting to your practice for STI (sexually transmitted infection) screening. Perhaps they have had symptoms they can’t sort out (and neither can you) – pain with intercourse, dysuria and pyuria but no growth on urine culture, recurrent genital itching with no yeast identified, skin splits, cracks, fissures,

Diagnosis (cont.)

irritated areas that are recurrent. Perhaps they've been told they have "recurrent shingles", a true oxymoron. Only 3% of people who get shingles ever get it again. If you order a blood test as part of an STD screen, you should order only type specific HSV IgG antibody tests. Serology testing for both HSV 1 and 2, or for HSV 2 only, is acceptable. Don't order a combined HSV 1/2 test (i.e. a test that does not look for HSV 1 and HSV 2 separately), and IgM tests' usefulness is very controversial. None of the FDA-cleared IgM tests are type-specific, so HSV IgM testing can give false positive results and is often not appropriate for diagnosing herpes. Why? There is cross-reactivity between HSV 1 and HSV 2 (you could tell someone with cold sores that they have genital herpes – in fact, new genital herpes!). In addition, there may be cross-reaction with other viruses; and finally, people with well-established herpes can periodically generate IgM antibodies so you can't reliably sort out new from old infection with HSV IgM. Basing a diagnosis of genital herpes on IgM results alone can mean a wrong – and very distressing - diagnosis for your patients. If an IgM test is inadvertently run and is positive, ask the patient to return to your office for an IgG test. If the IgG test is negative, and at least six months have passed from time of possible infection, they should be told that they don't have herpes. If less than 6 months has passed since possible infection, have them return at the appropriate time interval for retesting of IgG.

When you get the test results back, you'll see a numeric value called an index value, along with an interpretation of positive or negative. By package insert, any index value greater than 1.1 is considered positive. However, recent research has shown it not to be quite that simple. The sensitivity of the type specific IgG tests for HSV 2 in an STD clinic population is about 98% and for HSV 1, 91% (it misses about one out of 10). The specificity of the HSV 2 test is about 97%. Basically, that means there could be 3 false positives out of 100 positive tests. Studies indicate that most of the false positives occur with index values between 1.1 and 3.5 (low positives); it rarely happens with index values over 3.5. For those with low positive results, it is recommended to confirm testing by a second kind of test, perhaps herpes Western blot from the University of Washington, if enough time has elapsed since possible infection.

Not everyone develops antibody at the same rate. Typically, by 3 weeks, about 50% of people who are going to make antibody have done so; by 6 weeks, about 70%; and by six months, most everyone who is going to make detectable antibody will have done so. Testing too soon after possible infection may give you false negative results.

Remember, a positive antibody test means your patient is both infected and infectious. There is no such thing as being positive by antibody test and simply having been "exposed" to HSV.

Counseling

Herpes counseling falls into two categories – medical counseling and psychosocial counseling. There are several brief messages that patients with genital herpes should receive from their provider, and these can be delivered in a short period of time.

- 1) You are the same person you were before this diagnosis – it doesn't change the essential core of who you are inside – it's a virus, not a judgment about you as a person.
- 2) Genital herpes is common – at least 1 in 5 adults is in your same situation.
- 3) You can still be a sexual being, with some adjustments and disclosure to future partners.
- 4) You can still have or father children safely.
- 5) There are effective treatments that can reduce the risk of transmission and the frequency of recurrences
- 6) It is possible to transmit this virus when you have no outbreaks, even if you're being treated
- 7) You can come back and see me should you need more information or to get clarity about the things we've discussed

Remember that genital herpes is never just a medical diagnosis – it is an emotional, relationship, psychological and medical diagnosis all mixed up into one disease state. Patients should also be offered psychological resources should they be desired, good websites to visit, and accurate reading materials and videos to watch when they go home.



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Ms Warren has publications in the New England Journal of Medicine, the Journal of the American Medical Association, the Journal of Infectious Disease, Sexually Transmitted Diseases and Lancet. She has been investigator or subinvestigator on more than 100 clinical trials and is a coauthor of both *The Updated Herpes Handbook* and *Tender Talk: A Guide to Intimate Communication*. She has a new book that was released in April, "The Good News about the Bad News" Ms. Warren is also the responder to the herpes message board on WebMD and MedHelp message board.