

California Guidelines for the Use of Herpes Simplex Virus Type 2 Serology Tests

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New type-specific serology tests that distinguish between Herpes Simplex Virus type 1 and 2 (HSV-1 and HSV-2) significantly improve providers' ability to diagnose genital lesions caused by HSV-2 and detect asymptomatic HSV-2 infections. Because indications for the use of HSV-2 type-specific serology tests have not been well defined, the California Sexually Transmitted Diseases Controllers Association and the California Department of Health Services Sexually Transmitted Diseases Control Branch convened a committee to review the literature and develop best practice guidelines. The Guidelines are available on the [STD Control Branch website](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Genital%20Herpes.aspx) (<https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Genital%20Herpes.aspx>).

Summary of Recommendations

- Type-specific HSV-2 serology tests should be available for diagnostic purposes in conjunction with virologic tests in clinical settings where patients are evaluated for STDs.
- Screening for asymptomatic HSV-2 infection in patients at risk for STD/HIV (current or recent STD or high-risk behaviors) should be offered to select patients based on an assessment of their motivation to reduce their risk.
- Screening should be offered to HIV-infected patients.
- Screening should be offered to patients in partnerships or considering partnerships with HSV-2-infected individuals.
- Universal screening in pregnancy should not be offered.
- Screening in the general population should not be offered.
- Herpes education and prevention counseling should be provided to every patient tested or screened for HSV-2.

Background and Rationale

Genital herpes is one of the most prevalent sexually transmitted diseases (STDs), affecting more than one in five sexually active adults in the United States. After primary infection, the virus establishes latency in spinal cord ganglia. Recurrent viral reactivations can be less severe than primary genital herpes, or entirely asymptomatic. Because all individuals infected with HSV-2 shed the virus asymptotically, regardless of their history of symptomatic recurrences, the sexual contacts of individuals with symptomatic and asymptomatic HSV-2 are at risk of becoming infected. Genital herpes infection has been associated with an increased risk of HIV acquisition. Further, neonatal herpes resulting from HSV transmission from a pregnant woman to her newborn, can be a devastating disease.

At present, there is no cure for HSV-2 infection. However, antiviral medication has been shown to decrease symptomatic recurrences of genital herpes, the frequency of viral shedding, and transmission to sexual partners. Although condoms have been shown to decrease the transmission of HSV-2 to uninfected partners, effectiveness is limited by the fact that herpes can be transmitted through skin-to-skin contact from areas not covered by condoms. Because of the risk of transmission from asymptomatic shedding, condoms need to be used even in the absence of symptoms.

Diagnosis of Genital Symptoms

Because many patients with genital herpes have atypical symptoms or culture-negative genital lesions, HSV-2 infection can be challenging to diagnose. To aid in the diagnosis of genital symptoms, type-specific HSV-2 serology tests should be available in conjunction with virologic tests in clinical settings where patients are evaluated for STDs. Serology tests may be useful for the following clinical presentations: (1) culture-negative recurrent lesions, (2) history suggestive of herpes or atypical herpes in the absence of genital lesions, (3) suspected primary herpes or first presentation of genital symptoms, if culture or antigen detection testing is negative or not available. Because it takes up to six weeks for most patients to develop antibodies, negative test results are less reliable when they are conducted

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soon after acquisition. The Guidelines have a provider pull-out titled “Clinical Applications and Interpretations of Type-Specific HSV-2 Serologies by Presentation” which contains a testing algorithm outlining the recommended timing and interpretation of HSV-2 results.

The Purpose of HSV-2 Screening

The purpose of screening for HSV-2 is to identify infected patients and help them recognize symptoms, reduce transmission to others, and protect themselves from acquiring HIV and other STDs. Screening also identifies uninfected patients and helps them protect themselves from acquiring HSV-2 and other STDs. The following screening recommendations are based on currently available evidence and expert opinion. Patient education and client-centered risk-reduction counseling should always be provided in conjunction with HSV serologic screening.

Screening in Patients at Risk for STD/HIV

Individuals with multiple partners and high-risk sexual behavior are at increased risk of acquiring and transmitting HSV-2. If a provider identifies a patient as being at risk for STD/HIV and motivated to reduce his or her sexual risk behavior, the provider should offer HSV-2 serology testing as an adjunct to counseling to facilitate risk reduction. Motivation to reduce risk may be ascertained using open-ended questions like those in the inset box. Recommendations for how frequently patients who test negative for HSV-2 should be screened have not yet been established.

Screening in HIV-infected Patients

Asymptomatic HSV-2 infections in HIV-infected individuals may be associated with increased transmission of HIV and may accelerate the course of HIV disease. Thus, providers should offer screening to HIV-infected patients who do not have a history of genital herpes. If previously unidentified symptoms are uncovered with screening, HSV suppressive therapy may be offered for symptom management. Although the subject of ongoing

clinical trials, there is currently no direct evidence that HSV antiviral suppression will decrease HIV transmission. In addition to the risk-reduction counseling that should be offered to all HIV-infected patients, HSV-specific education and counseling also should be provided. HIV-infected patients who are HSV-2-negative have a high risk of HSV-2 acquisition. Recommendations regarding frequency of repeat testing for those who test negative have not yet been developed; however, testing should be considered with acquisition of STDs or high-risk behaviors.

Screening in Patients in Partnerships or Considering Partnerships With HSV-2-Infected Individuals

Individuals in HSV-serodiscordant relationships are at high risk of HSV transmission. To inform patients’ sexual

decision-making, providers should offer to screen patients whose partners or potential partners have a history of genital herpes or known HSV-2 infection. Serologic testing would be useful if results indicating discordance motivate couples to take measure to prevent transmission.

Recommendations regarding frequency of repeat testing for those who test negative have not yet been established; however, testing should be considered if genital symptoms develop, prior to entry into a new partnership, and for seronegative women when pregnant. HSV-2-

infected patients should be educated regarding risk of transmission in future partnerships, pregnancy risks, and risk of HIV acquisition.

Screening in Pregnancy

Neonatal herpes, although rare, is one of the most serious complications of herpes infection. Unfortunately, there is no evidence that screening women to identify at-risk pregnancies (serologically negative pregnant women with HSV-infected partners) will lead to a reduction in neonatal herpes. Therefore, universal screening should

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Open-Ended Questions to Assess Motivation to Reduce Risk

- How would a diagnosis of genital herpes (or having genital herpes) change your sexual behavior?
- How would a negative herpes test change your sexual behavior?
- What are some ways you would protect yourself (if negative)?
- What are some ways you would protect your partners (if positive)?

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not be offered to pregnant women. Among women with existing HSV infection, maternal antibodies passed to the neonate are usually protective against infection at birth. Because there are no known safe and effective interventions to prevent neonatal transmission when lesions are absent at delivery, screening to identify pregnant women with asymptomatic herpes infections is not recommended.

All pregnant women should be asked about their own and their partners' history of genital (and oral) herpes and examined for evidence of active herpes lesions at delivery. Providers should offer screening to asymptomatic pregnant women whose partners have genital herpes, as well as HIV-infected pregnant women. Serodiscordant couples (serologically negative pregnant women with HSV-infected partners) should be educated regarding the risk of acquiring and transmitting herpes and transmission to their newborn. Specific advice should be to avoid sex or to use condoms consistently in the third trimester.

Women who have a history of herpes or seroconvert before delivery have a very low risk of transmitting herpes to their newborn. These women should be educated about their low risk of neonatal herpes and that cesarean section does not reduce risk except when they have symptoms around the time of delivery. Antiviral suppression has been shown to decrease the rate of cesarean sections.

Screening in the General Population

Universal HSV-2 screening of sexually active patients is not recommended because there is limited evidence that either risk-reduction counseling or antiviral medication will significantly decrease HSV transmission in the general population.

Education and Counseling

Herpes education and prevention counseling is necessary for all patients being tested or screened for HSV-2. The Guidelines have a provider pull-out titled "Herpes Fact Sheet and Counseling Points" which summarizes the key points in a series of bullets. Ideally, both pre- and post-test counseling should be conducted. In pre-test counseling, the provider can determine patient preparedness for the diagnosis, as well as motivation to reduce risk behavior.

Post-test counseling can provide support and reassurance to patients testing positive, as well as educate them about the natural history of the disease and its transmissibility. Those identified as uninfected should be informed about how to prevent future acquisition of herpes and other STDs. Information on client-centered, risk-reduction counseling is available on the [CDC web site](https://effectiveinterventions.cdc.gov/en/HighImpactPrevention/Interventions/RESPECT/ResourcesTools.aspx) (<https://effectiveinterventions.cdc.gov/en/HighImpactPrevention/Interventions/RESPECT/ResourcesTools.aspx>).

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