

Herpes Simplex Virus (HSV) PCR

Testing Update

As of January 13, 2020, the Spectrum Health Microbiology Laboratory will switch any **viral culture orders placed on cutaneous or mucocutaneous lesion specimens to molecular PCR testing** as the preferred diagnostic method.

Why this change?

- Historically, HSV has been identified in patient specimens by performing a viral culture.
- The viral culture method is:
 - Insensitive
 - Slow
 - Labor intensive (involving the growth of virus within mammalian cell lines followed by immunostaining and fluorescence microscopy)

What is replacing cultures?

- Molecular testing for HSV DNA is now considered to be the gold standard method for HSV detection and is the preferred diagnostic approach as discussed in current clinical guidelines.

What makes molecular testing the gold standard?

- Significantly enhanced performance; including sensitivity
- Results are faster
- Testing is less expensive
- Allows us to differentiate between HSV-1 and HSV-2 viruses



	Viral Culture	Molecular
Performance	Sensitivity: 50-75% as compared to molecular Specificity: 95+%	Sensitivity: 95+% Specificity: 95+%
Turnaround time	2-7 days	Same day, 7 days/week
Patient cost	Most expensive method (CPT charges for culture plus shell vial staining)	Less expensive than culture
Subtype differentiation	Does not differentiate HSV-1 vs HSV-2, but can be requested as an add-on test.	Always differentiates HSV-1 vs HSV-2

***Despite these benefits, viral culture may still be performed on specimen types that are not FDA-approved for molecular testing.**


**Please see the reverse side for how to appropriately order by specimen type*

The most appropriate order is determined by specimen type.

HSV PCR testing is recommended for the following specimen types:

Specimen Type		Epic Code	Test Name
Blood	CSF	LAB9170	Herpes Simplex (HSV 1/2) PCR 
Genital Swab	Anorectal/Perianal	LAB3549	Herpes Simplex PCR for Lesions 
Skin Swab	Swab		
Ocular Swab	Nasal Swab Oral Swab		

HSV Viral Culture orders will be accepted for the following specimen types:

Specimen Type		Epic Code	Test Name
Aqueous Fluid	Sputum	LAB9460	Herpes Simplex Viral Culture 
BAL	Tissue		
Body Fluid	Tracheal Aspirate		
Bronchial Wash	Tracheal Wash		
NP Swab	Vitreous Fluid		

Additional molecular testing may be sent to a reference lab depending on the specimen type:

Specimen Type	Epic Code	Test Name
Aqueous Fluid	LAB1230247	Herpes Simplex 1/2 Quantitative PCR, Aqueous Fluid
BAL	LAB1230248	Herpes Simplex 1/2 Quantitative PCR, BAL
Bronchial Wash	LAB1230246	Herpes Simplex 1/2 Quantitative PCR, Bronch Wash
Tissue	LAB1230250	Herpes Simplex 1/2 Quantitative PCR, Tissue
Tracheal Aspirate	LAB1230251	Herpes Simplex 1/2 Quantitative PCR, Trach Aspirate
Tracheal Wash	LAB1230252	Herpes Simplex 1/2 Quantitative PCR, Trach Wash
Vitreous Fluid	LAB1230253	Herpes Simplex 1/2 Quantitative PCR, Vitreous Fluid
Eye Swab	LAB1230243	Herpes Simplex 1/2 Qualitative PCR, Eye Swab
Nasopharyngeal (NP) Swab	LAB1230244	Herpes Simplex 1/2 Qualitative PCR, NP Swab
Tissue	LAB1230413	Herpes Simplex 1/2 Qualitative PCR, Tissue

Please review the lab catalog for specimen collection, CPT codes, reference ranges and other information.

<https://spectrumhealth.testcatalog.org/>

For questions or inquiries, please contact the Laboratory Call Center: 616-774-7721.

References

- 1.) Miller, J.M., Binnicker, M.J., Campbell, S, et al. A Guide to Utilization of the Microbiology Laboratory for Diagnosis of Infectious Diseases: 2018 Update by the Infectious Diseases Society of America and the American Society for Microbiology. *Clin Infect Dis*, 2018; 67: 813-816.
- 2.) Centers for Disease Control and Prevention. 2015 Sexually Transmitted Diseases Treatment Guidelines. <https://www.cdc.gov/std/tg2015/herpes.htm>
- 3.) Glass, N, Nelson, H. D., and Huffman, L. Screening for Genital Herpes Simplex: Brief Update for the U.S. Preventative Services Task Force. AHRQ Pub. No. 05-0573-B. March 2005.