

# National Health and Nutrition Examination Survey 1999–2000

---

## Documentation, Codebook, and Frequencies

**Surplus Specimen Laboratory Component:**  
Antibody to human herpes virus 1 (Ages 6 to  
13) (Surplus Sera)

**Survey Years:**  
**1999 to 2000**

**SAS Export File:**  
**SSHSV1\_a.XPT**



First Published: October 2006  
Last Revised: N/A



## NHANES 1999–2000 Data Documentation

### Laboratory Assessment: Antibody to Herpes Simplex Virus Type-1 (HSV-1) for 6-13 Year Olds (NHANES 1999+ Surplus Sera)

Years of Coverage: 1999-2000

First Published: October 2006

Last Revised: N/A

---

**Component Description** Sera from consenting children age 6-13 years examined in NHANES 1999-2002 were tested for antibodies to Herpes Simplex Virus Type-1 (HSV-1) using a solid-phase enzymatic immunodot assay. Purified glycoprotein specific for HSV-1 (gG-1) was used as antigen. All results in this data release are reported as positive or negative or indeterminate.

**Eligible Sample** All participants 6-13 years from NHANES 1999-2002 who gave consent for further testing using stored sera (n = 3,115).

**Description of Laboratory Methodology** Although extensive antigenic cross-reactivity exists between the two viral types of herpes, a viral glycoprotein specific for herpes simplex virus type 2 (HSV-2) (designated gG-2), and a glycoprotein specific for herpes simplex virus type 1 (HSV-1) (designated gG-1) have been identified. Monoclonal antibodies and affinity chromatography have been used to purify these glycoproteins and thus provide antigens for type-specific herpes serologic assays. Solid-phase enzymatic immunodot assays are used to detect antibodies reactive to these antigens. The purified glycoprotein gG-1 is adsorbed to the center of a nitrocellulose disk. The rest of the disk surface is coated with bovine serum albumin (BSA) to prevent further nonspecific protein adsorption. Incubation of test serum with the disk allows specific antibodies, if present, to bind to the immobilized antigen. After extensive washing to remove non-reactive antibodies, the bound antibodies are detected by sequential treatment with peroxidase-conjugated goat-anti-human IgG and the enzyme substrate (H<sub>2</sub>O<sub>2</sub> with chromogen 4-chloro-1-naphthol). A positive reaction is demonstrated by the appearance of a blue dot at the center of the disk. Serum reactive to an immunodot charged with gG-1 indicates previous and probable latent HSV-1 infection.

**Laboratory Quality Control and Monitoring** Assay performance was monitored throughout the testing period by testing positive and negative controls derived from reference sera. gG-1 immunodot results were run in duplicate and 2% were randomly repeated.

## Data Processing and Editing

Data was received after all the antibody testing was complete. The data were not edited.

Data Access: All data are publicly available.

## Analytic Notes

SSHSVGG1 (HSV-1 antibody)

1= positive

2= negative

3= indeterminate

Please refer to the Analytic Guidelines for further details on the use of sample weights and other analytic issues.

## References

Aarnisalo J, Ilonen J, Vainionpaa R, Volanen I, Kaitosaari T, Simell O. Development of antibodies against cytomegalovirus, varicella-zoster virus and herpes simplex virus in Finland during the first eight years of life: a prospective study. *Scand J Infect Dis.* 2003;35(10):750-3.

Ashley RL. Sorting out the new HSV type specific antibody tests. *Sex Transm Inf.* 2001;77:232-237.

Ashley-Morrow R, Nolkamper J, Robinson NH, Bishop N, Smith J. Performance of Focus ELISA tests for herpes simplex virus type 1 (HSV-1) and HSV-2 antibodies among women in ten diverse geographical locations. *Clin Microbiol Infect.* 2004;10:530-536.

Chin J. *Control of Communicable Diseases Manual.* 17th Edition. American Public Health Association, Washington D.C. 2000.

Cohen, J. A coefficient of agreement for nominal scales. *Educational and Psychological Measurement.* 1960;20:37-46.

Emmert DH. Treatment of common cutaneous herpes simplex virus infections. *Am Fam Physician.* 2000 Mar 15; 61(6):1697-706, 1708.

Fleming DT, McQuillan GM, Johnson RE, Nahmias AJ, Aral SO, Lee FK, St Louis ME. Herpes simplex virus type 2 in the United States, 1976 to 1994. *N Engl J Med.* 1997 Oct 16;337(16):1105-11.

Lafferty WE. The changing epidemiology of HSV-1 and HSV-2 and implications for serological testing. *Herpes*. 2002 Jul;9(2):51-5

Leach CT, Ashley RL, Baillargeon J, Jenson HB. Performance of two commercial glycoprotein G-based enzyme immunoassays for detecting antibodies to herpes simplex viruses 1 and 2 in children and young adolescents. *Clinical and Diagnostic Laboratory Immunology*. 2002;9(5):1124-1125.

Lee FK, Coleman RM, Pereira L, Griffin C, Reid E, Nahmias A. Detection of herpes simplex virus type-2-specific antibody with glycoprotein G. *J Clin Microbiol* 1985; 22:641-4.

Lee FK, Pereira L, Griffin C, Reid E, Nahmias A. A novel glycoprotein (gG-1) for detection of herpes simplex virus specific antibodies. *J Virol Methods* 1986;14:111-8.

## Locator Fields

**Title:** Antibody to Herpes Simplex Virus Type-1 (HSV-1) for 6-13 Year Olds

**Contact Number:** 1-866-441-NCHS

**Years of Content:** 1999-2000

**First Published:** October 2006

**Revised:** N/A

**Access Constraints:** None

**Use Constraints:** None

**Geographic Coverage:** National

**Subject:** Antibody to Herpes Simplex Virus Type-1

**Record Source:** NHANES 1999-2000

**Survey Methodology:** NHANES is a stratified multistage probability sample of the civilian non-institutionalized population of the U.S.

**Medium:** NHANES Web site; SAS transport files

**National Health and Nutrition Examination Survey  
Codebook for Data Production (1999-2000)**

**Herpes I for 6-13 year olds (Surplus Sera) (SSHSV1\_A)  
Person Level Data**

First Published: October 2006

Last Revised: N/A



<b>SEQN</b>	<b>Target</b>
	B(6 Yrs. to 13 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Respondent sequence number
<b>English Text:</b> Respondent sequence number.	
<b>English Instructions:</b>	

<b>SSXHE1</b>	<b>Target</b>
	B(6 Yrs. to 13 Yrs.)
<b>Hard Edits</b>	<b>SAS Label</b>
	Herpes I
<b>English Text:</b> Herpes I antibody	
<b>English Instructions:</b>	

Code or Value	Description	Count	Cumulative	Skip to Item
1	positive	612	612	
2	negative	813	1425	
3	indeterminate	1	1426	
.	Missing	0	1426	