

HIV ANTIBODY SCREENING

I. DEFINITION:

The Human Immunodeficiency Virus (HIV) is a lentivirus that infects CD4 white blood cells. It causes Acquired Immunodeficiency Syndrome (AIDS), a condition in humans which is progressive failure of the immune system that allows life-threatening opportunistic infections and cancers to thrive. The four fluids that can transmit HIV are blood, semen, vaginal secretions and breast milk.

II. CLINICAL FEATURES:

A. Early HIV infection males and females

1. Acute retroviral syndrome– occurs within two to twelve weeks in 70% of those infected; before antibody test results become positive.
 - a. Malaise
 - b. swollen lymph glands
 - c. fever, sometimes very high
 - d. rash
 - e. Oral ulcerations
2. HIV antibody tests-most become “reactive” within three months of infection

B. Later/Progressive HIV infection process

1. Asymptomatic period that can last an average of 10 years
2. Symptoms include:
 - a. Persistent Generalized Lymphadenopathy
 - b. Night Sweats
 - c. Weight loss (wasting syndrome)
 - d. Fevers
 - e. Rashes
 - f. Chronic vaginal yeast infections (hard to treat)
 - g. Chronic diarrhea
3. Opportunistic infections and/or rare cancers indicate AIDS, which is the end stage of HIV infection.

III. MANAGEMENT PLAN

A. Laboratory Studies for HIV

1. Blood specimen collection for **Enzyme Immunosorbent Assay (EIA)** and HIV- 1/ HIV- 2 differentiation
2. Use one Serum Separator Tube (SST) – Venipuncture

- B. Assist client in assessing personal risk of HIV infection. The following are at a greater risk:
1. Men who have sex with men
 2. Sharing IV drug needles or “Works”
 3. Having sexual contact without the use of a barrier (male or female condom)
 4. Multiple partners throughout a lifetime
 5. Maternity clients:
 - a. Ensure client understands risk of vertical transmission before or during birth, and following birth through breastfeeding.
 - b. Obtain specimen on first prenatal visit and again in last trimester

C. Interpreting Test results- **See 4th Generation HIV Testing Algorithm**

1. **EIA** - A test to identify HIV antibodies. A “non-reactive test means the client is negative at this time. A “reactive” sample will then go on for supplemental testing with the HIV-1/HIV-2 differentiation test. The original blood sample will be used and there is no need to collect another sample for supplemental testing at this point.

The results from this test could be:

- a. Nonreactive(negative)
- b. Reactive(see below)

2. **HIV-1/HIV-2 differentiation test** is performed by the lab on any reactive EIA.

The results from this test could be:

- a. HIV-1 reactive (positive)
- b. HIV-2 reactive (positive)
- c. Indeterminate (inconclusive)- requires call to HIV/STD Program 405-271-4636 for instructions on further testing. Another blood specimen will need to be drawn.

D. Providing Test Results

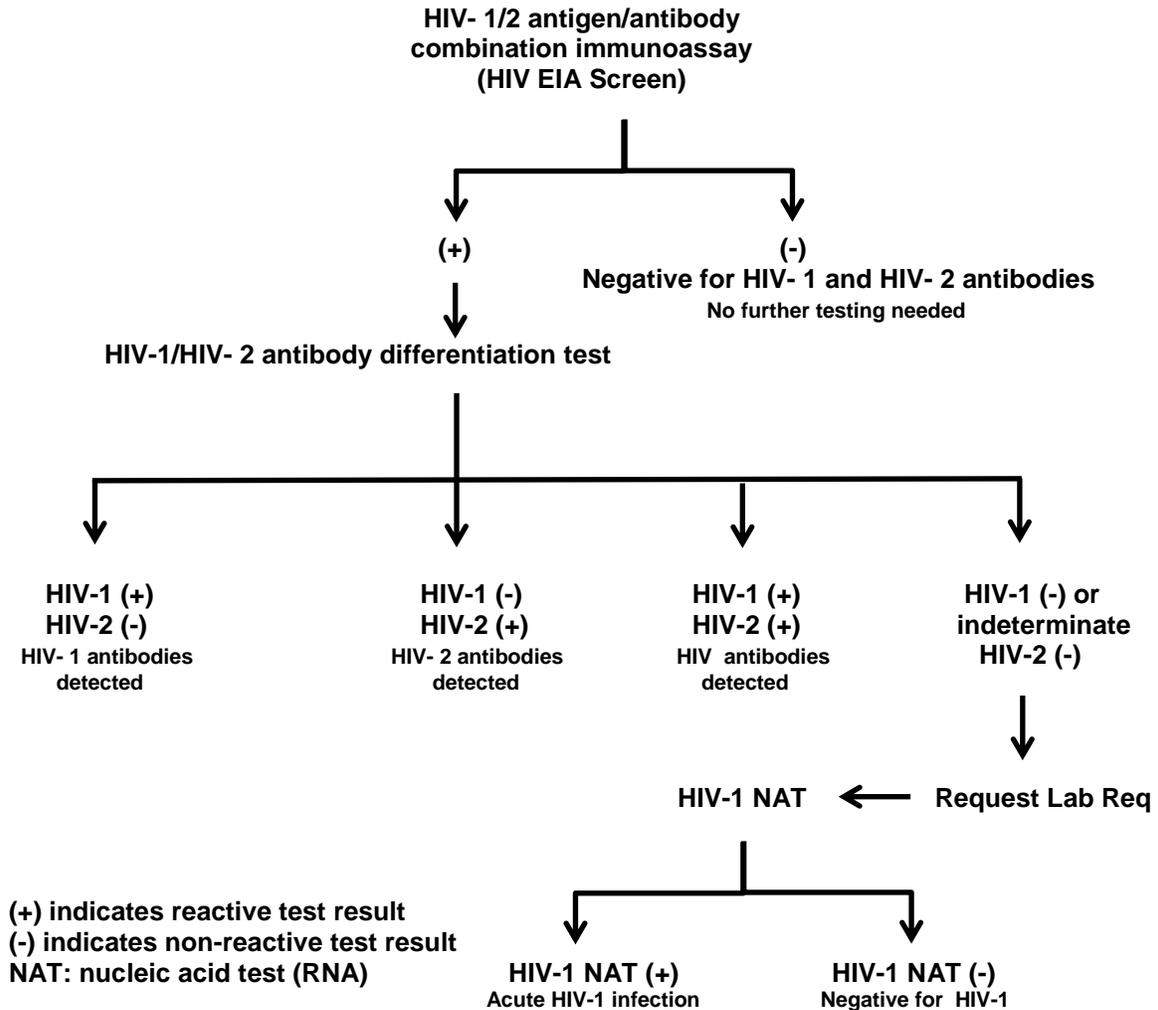
1. **Negative/Non-reactive** test results are given to the client in the routine way. Encourage retesting in 3 months from last exposure if determined to be at higher risk of HIV infection.

2. **Positive/Reactive** test results will be given by the Disease Intervention Specialist (DIS) with support by nursing staff. If a Disease Intervention Specialist (DIS) is not available, the nursing staff may give the results. These persons will also:
 - a. Provide client centered prevention counseling.
 - b. Refer to appropriate resources for additional medical care, financial, housing, and support group services. The DIS will assist with this information.
 - c. Encourage use of partner notification offered by the OSDH Disease Intervention Specialist to all newly diagnosed HIV infections.
 - d. Assistance in client counseling may be obtained by calling the STD/HIV Service at 405-271-4636.
3. **Indeterminate** test results are given to the client in the routine way and explain the need for further testing with a new blood specimen
 - a. Explain the meaning of "indeterminate" to the client
 - b. Obtain a second specimen as directed by HIV/STD Program

IV. MANAGEMENT PLAN (After positive diagnosis by physician):

- A. With the exception of a few select immunizations, county health departments do not routinely provide services for clients infected with HIV. The management plan is determined by the patient and the physician he/she has selected and may include:
 1. Immunizations (according the OSDH Immunization policies)
 - a. Pneumococcal vaccination
 - b. Annual influenza vaccination
 - c. Hepatitis B vaccination
 - d. Others (those who are at increased risk of exposure and **have written permission from their physician**)
 - 1) *Haemophilus influenzae* type B (Hib)
 - 2) MMR
 2. Tuberculosis skin testing is strongly recommended for all HIV positive clients.

4th Generation HIV Testing Algorithm



Laboratory Results Interpretation

1. **HIV-1/ HIV-2 EIA Screen:** Non-reactive

HIV-1/ HIV-2 Differentiation Test: N/A Not Applicable (not performed)

Interpretation: HIV-1 antigen and HIV-1 and HIV-2 antibodies not detected. If acute HIV infection is suspected, consider testing for HIV-1 RNA.

2. **HIV-1/ HIV- 2 EIA Screen:** Reactive

HIV-1/ HIV-2 Differentiation Test: HIV-1 reactive

Interpretation: Positive for HIV-1 antibodies. Results are consistent with established HIV-1 infection.

3. **HIV- 1/ HIV- 2 EIA Screen:** Reactive

HIV- 1/ HIV- 2 Differentiation Test: HIV-2 reactive

Interpretation: Positive for HIV-2 antibodies

4. **HIV-1/ HIV-2 EIA Screen:** Reactive

HIV-1/ HIV-2 Differentiation Test: HIV- 1 and HIV-2 reactive

Interpretation: Evidence of HIV infection is present but unable to differentiate antibodies as HIV-1 or HIV-2. Consider referral testing for HIV- 1 RNA and HIV- 2 RNA or DNA to verify or rule-out dual infection.

5. **HIV-1/ HIV-2 EIA Screen:** Reactive

HIV-1/ HIV-2 Differentiation Test: Non-reactive

Interpretation: Inconclusive. This result could be due to either an acute or early infection or a false positive reaction. Recommend submission of additional specimens for repeat HIV antigen/antibody testing and referral HIV-1 RNA testing as soon as possible.

6. **HIV-1/ HIV-2 EIA Screen:** Reactive

HIV-1/ HIV-2 Differentiation Test: Indeterminate

Interpretation: Inconclusive. This result could be due to either an acute or early infection or a false positive reaction. Recommend submission of additional specimens for repeat HIV antigen/antibody testing and referral HIV-1 RNA testing as soon as possible.

REFERENCES:

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