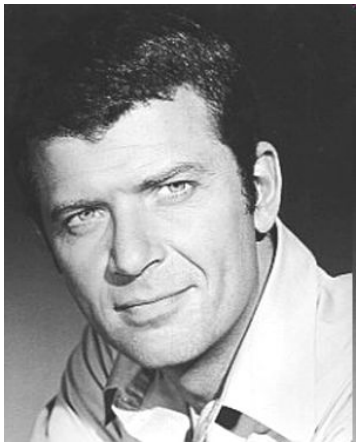
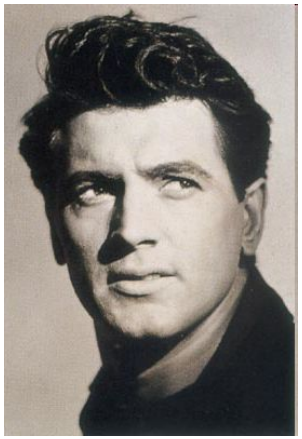
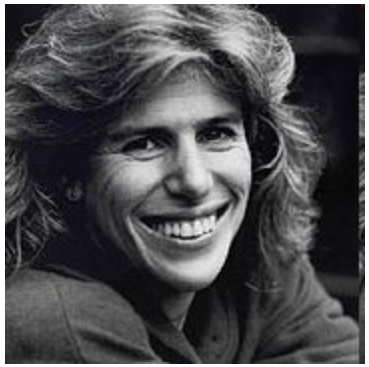
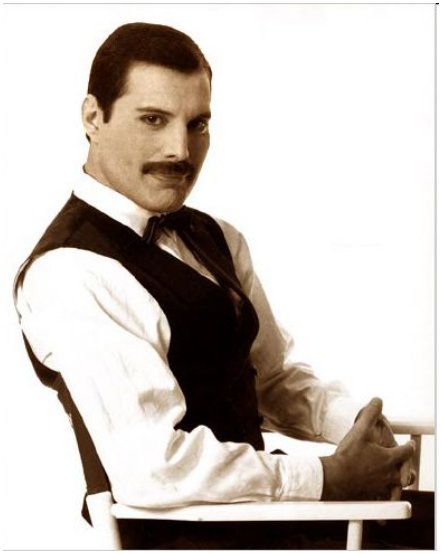


HIV/AIDS







What is HIV?

Human
Immunodeficiency
Virus

Human - meaning only present in humans.

Immunodeficiency - means that the infection weakens the immune system.

Virus - meaning an infection that cannot be cured.

HIV leads to AIDS.

HIV is the virus that causes AIDS. They are not the same thing. Rather, HIV is the infection that causes someone to develop AIDS.

How does HIV impact the body?

HIV attacks the immune system.

The immune system gives our bodies the ability to fight infections. HIV finds and destroys CD4 cells, which are a type of white blood cell that fight infection.

What is AIDS?

Acquired
Immune
Deficiency
Syndrome

Acquired – means that the disease develops after contact with someone who already has the infection.

Immunodeficiency – means that the disease weakens the immune system.

Syndrome – refers to a group of symptoms that can include certain opportunistic infections and/or a decrease in the number of CD4 cells below 200 in a person's immune system.

AIDS is the final stage of HIV infection. It can take years for a person infected with HIV, even without treatment, to reach this stage. Having AIDS means that the virus has weakened the immune system to the point at which the body cannot fight infection.

How is HIV Transmitted?

HIV is transmitted through a behavior that allows one of the following fluids into a person's bloodstream:

Blood
Semen
Vaginal fluids
Breast milk

This might happen by doing one of these activities with an HIV infected partner:

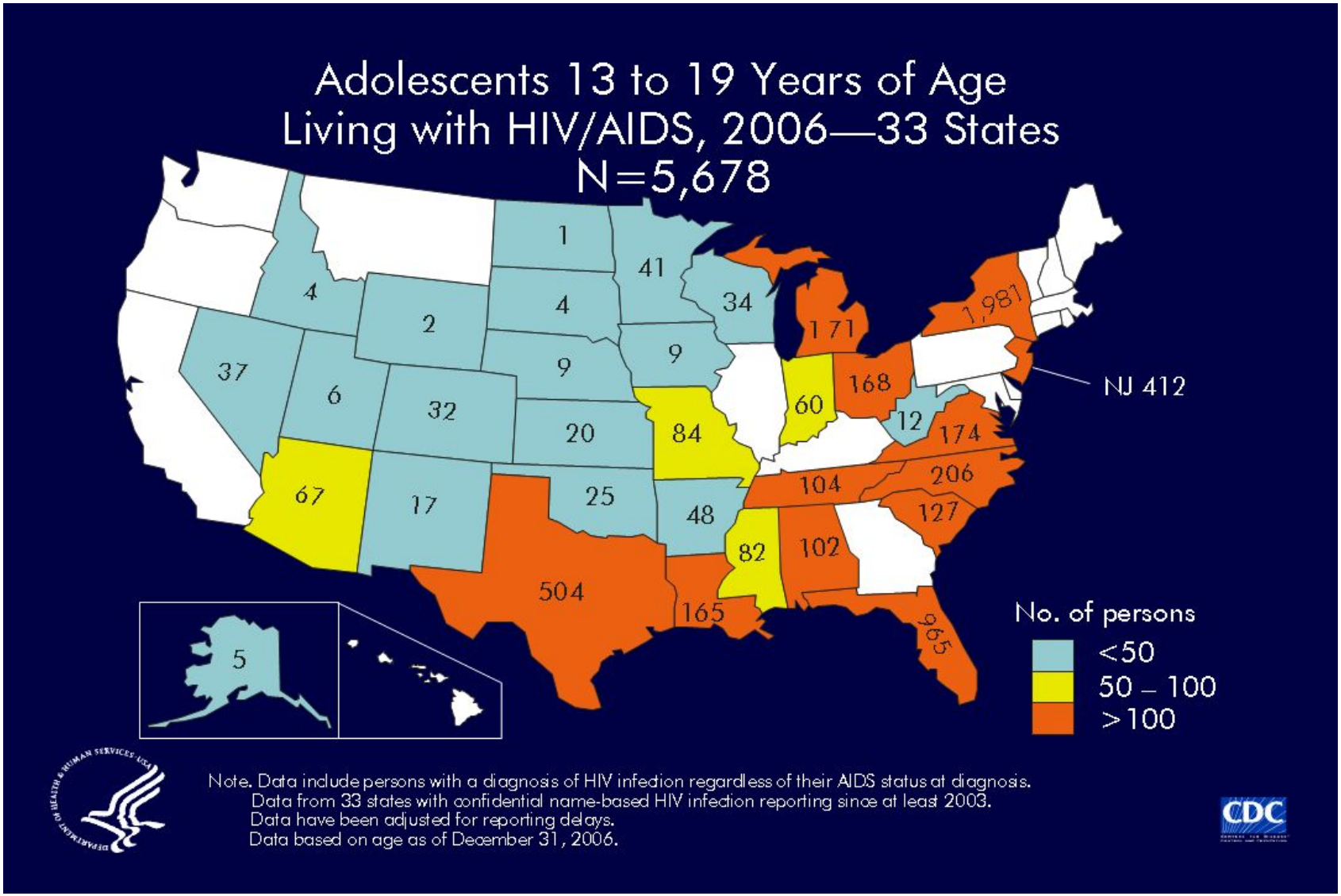
- Having unprotected oral, anal or vaginal sex
- Sharing needles for drug use including steroids and hormones
- Sharing needles for tattoos or body piercings

Women may also pass HIV on to their children:

- During pregnancy: Occasionally HIV can cross the placenta during pregnancy.
- During delivery: The baby comes in contact with the mother's blood and cervical/vaginal secretions during delivery. This is thought to be the most common way in which babies are infected by their moms.
- Through breastfeeding: Breastmilk contains HIV and has been documented as the source of transmission in some cases. Blood from cracked nipples or breast infections may also contribute to the risk.

Adolescents and HIV

In the US, many young people are living with HIV and AIDS.


Adolescents 13 to 19 Years of Age
Living with HIV/AIDS, 2006—33 States
N=5,678
1
41
4
4
34
2
9
9
37
6
32
20
84
60
168
1,981
171
12
174
NJ 412
206
104
67
17
25
48
127
82
102
504
165
965
5
No. of persons
<50
50 – 100
>100
Note. Data include persons with a diagnosis of HIV infection regardless of their AIDS status at diagnosis.
Data from 33 states with confidential name-based HIV infection reporting since at least 2003.
Data have been adjusted for reporting delays.
Data based on age as of December 31, 2006.
CDC

Adolescent mode of transmission

- For adolescent males, the primary mode of transmission is male to male sexual contact, meaning anal or oral sex.
- For adolescent females, the primary mode of transmission is vaginal intercourse with a high risk male.

HIV/AIDS Cases among Male Adolescents and Young Adults, by Transmission Category 2003–2006—33 States

Transmission	13–19 years N	13–19 years %	20–24 years N	20–24 years %
Male-to-male sexual contact	2,286	81	7,756	78
Injection drug use (IDU)	146	5	645	7
Male-to-male sexual contact and IDU	100	4	454	5
High-risk heterosexual contact*	277	10	1,013	10
Other/not identified†	9	<1	20	<1
Total	2,817	100	9,888	100

Note. Data include persons with a diagnosis of HIV infection regardless of AIDS status at diagnosis.
Data from 33 states with confidential name-based HIV infection reporting since at least 2003.
Data have been adjusted for reporting delays.
*Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
†Includes hemophilia, blood transfusion, perinatal exposure, and risk factor not reported or not identified.

HIV/AIDS Cases among Female Adolescents and Young Adults, by Transmission Category 2003–2006—33 States

Transmission Category	13–19 years N	13–19 years %	20–24 years N	20–24 years %
Injection drug use	233	13	597	14
High-risk heterosexual contact*	1,546	86	3,492	85
Other/not Identified†	15	<1	32	<1
Total	1,793	100	4,121	100

Note. Data include persons with a diagnosis of HIV infection regardless of AIDS status at diagnosis.
Data from 33 states with confidential name-based HIV infection reporting since at least 2003.
Data have been adjusted for reporting delays and cases without risk factor information were proportionally redistributed.
*Heterosexual contact with a person known to have, or to be at high risk for, HIV infection.
†Includes blood transfusion, perinatal exposure, and risk factor not reported or not identified.

The only way for someone to know if he/she is infected with HIV is to get tested.

Testing for HIV

Most HIV tests measure antibodies.

Antibodies are produced to fight off infections. The HIV test looks for the antibodies that the body would create to fight off HIV.

How does one get tested for HIV?

- There are testing sites located all over the United States. To find a site nearby, click here.
- Blood, urine or oral swab (cells from inside the mouth) can be used to test for the HIV antibodies.
- Some testing sites offer the rapid test, with results available in 20 minutes. Other tests can take a few days for results to come back.

Getting tested

One of our Sex, Etc. editors went for an HIV test. Click here to watch the process.

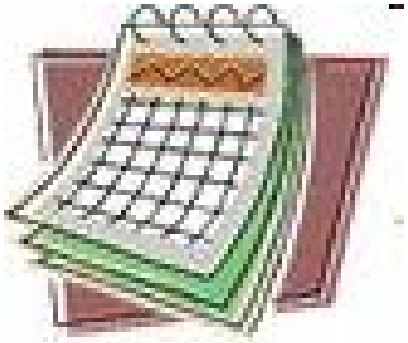
Josh goes for his first HIV Test

Window Period

- It can take *at least* 2-8 weeks for sero-conversion to occur (for the body to produce enough antibodies to HIV to be detected through an HIV test). This time is called the "Window Period".
- Although 97% of people will produce antibodies within 3 months, some people may take up to 6 months to produce the antibodies.

When should testing occur?

Because of the window period, testing should occur at least 3 months *after* possible exposure to HIV.



HIV can be transmitted during the window period. So, even if someone took an HIV test during the window period and the test result was negative, that person may have HIV and can spread HIV to others.

Window Period timeline

Window Period

Jan. 1st←----------→Jan. 14th-

^ ***can still infect others*** Feb. 28th

Unprotected sex with someone who is HIV+

Seroconversion occurs
Take HIV test after Feb. 28th

Can you tell who has HIV?

See if you can tell who has HIV…

Click here

How is AIDS diagnosed?

AIDS is diagnosed when:

- The CD4 count drops below 200 (normal range in an adult is 500-1500).
- The person is diagnosed with an opportunistic infection (OI). An OI is an infection that does not occur in a healthy, normally functioning immune system. Examples of OI's are Pneumocystis Pneumonia (PCP), Cytomegalovirus, Candidiasis, or Toxoplasmosis.

The HIV/AIDS Timeline

Jesse and Leslie have unprotected sex on January 1st.
Jesse is HIV+.

Leslie is concerned about exposure to HIV and goes in for an HIV Test a week later. The test is negative. The counselor advises a repeat test on April 1 (three months later) since Leslie is still in the window period, and may not have sero-converted.

Leslie returns for another HIV test on April 1st and this test comes back positive.
Leslie is infected with HIV.

If Leslie had unprotected sex or shared needles with anyone after January 1st, Leslie could have transmitted HIV to them.

Leslie's HIV Timeline

Jan. 1st	Jan. 8th	Apr. 1st.
Jesse & Leslie have unprotected sex	Leslie takes rapid HIV test. Results are negative.	Leslie takes 2nd rapid HIV test. The results this time are positive.

Leslie can be passing HIV onto others at any point after January 1st.

Leslie makes an appointment with an infectious disease specialist.

The doctor advises Leslie to:

- Be screened for other infections such as TB and other STDs. These can lead to serious health problems if HIV+.
- Avoid using alcohol, tobacco and other drugs as these can weaken the immune system.
- Disclose HIV status to present and future partners and use a latex or polyurethane condom during every sexual encounter to prevent spreading HIV to anyone else and to prevent Leslie from being infected with other STDs.

The doctor orders a few tests:

- CD4 count test to measure CD4 cells (T-cells). CD4 cells are a type of white blood cell that fight infection. HIV destroys CD4 cells, which weakens the immune system.
- Viral load test to measure the amount of HIV in the blood. This will tell how well the body is fighting HIV.

Based on the results of these tests, Leslie and the doctor will decide together whether or not Leslie will begin taking anti-HIV medication.

For Leslie, being on HIV medication, linked into health care and maintaining a healthy lifestyle can enable her to live for many, many years.

Life after HIV

Although HIV is not a death sentence, life does change for people living with HIV and for the people who care for them. Click here to watch the video *Reflections* from Scenarios, USA.

Sources

- http://www.aids.org/factSheets/125-Viral-Load-Tests.html
- http://www.cdc.gov/hiv/topics/basic/index.htm
- http://www.aidsinfo.nih.gov/ContentFiles/HIVandItsTreatment_cbrochure_en.pdf
- http://www.cdc.gov/hiv/resources/qa/qa2.htm
- http://www.aids.org/factSheets/500-Opportunistic-Infections.html
- http://www.thebody.com/content/treat/art907.html

Definitions

- AIDS: Acquired Immune Deficiency Syndrome. This is the final stage of HIV infection and is diagnosed when the CD4 count drops below 200 or someone is diagnosed with an opportunistic infection.

(click here to return to presentation)

- CD4 Cells: a type of white blood cell that our bodies need to fight infection. The normal range for a healthy adult is between 500 and 1500. AIDS is diagnosed when it drops below 200.

(click here to return to presentation)

- HIV: Human Immunodeficiency Virus. This is the virus that leads to AIDS.

(click here to return to presentation)

Definitions

- Immune System: This is the system in the body that creates antibodies to fight infections. HIV attacks the immune system making it more difficult for a person with HIV to fight off any kind of infection.

(click here to return to presentation)

- Mode of transmission: The way an infection is passed from an infected person to a non-infected person.

(click here to return to presentation)

- Opportunistic Infection: an infection that does not occur in a healthy, normally functioning immune system. Examples of OI's are pneumocystis pneumonia (pcp), Cytomegalovirus, Candidiasis, or Toxoplasmosis.

(click here to return to presentation)

Definitions

- Window Period: the time between exposure to HIV and sero-conversion.

(click here to return to presentation)

- Sero-conversion: the process of creating enough anti-bodies to HIV that they will be evident in an HIV test. A person sero converts from antibody-negative to antibody-positive.

(click here to return to presentation)