

HIV/AIDS: Update, Review, Pretest

Grade 11 and 12, Lesson #13

Time Needed

One class period

NOTE: Some students or even entire classes may *not* require an intensive review of HIV/AIDS. This lesson is intended as a review for students who have not received HIV/AIDS education recently. Use it as needed.

Student Learning Objectives

To be able to...

1. Define and distinguish between HIV and AIDS.
2. Explain how HIV is and is not transmitted.
3. Describe at least three ways to prevent, or to reduce the risk of, transmission of HIV.
4. Recognize that the asymptomatic HIV-positive individual is contagious.
5. Describe the process of how HIV leads to AIDS and at least three conditions diagnostic of AIDS, itself.

Agenda

1. Use the *HIV/AIDS Pretest* to assess and review basic knowledge.
2. Explain risk reduction using *Transparencies 1 and 2*, a condom and dental dam, and a syringe.
3. Use the *HIV/AIDS Worksheet* and discussion to explain the categories of HIV Disease.

Materials Needed

Student Materials (one per student):

HIV/AIDS Pretest

HIV/AIDS Worksheet

Classroom Materials:

*HIV/AIDS Transparencies 1-2 **

Visual Aids - Optional:

A condom and a dental dam

A syringe

* Alternately, beginning in late 2006, all FLASH transparencies will be available as PowerPoint files on the FLASH web site: www.metrokc.gov/health/famplan/flash

Activities

1. **Use the HIV/AIDS Pretest to assess and review basic knowledge.** Give each student a copy of the HIV/AIDS Pretest. You may give the quiz for homework the night before this lesson and review it in class, or have people test themselves in class.

Have the students use pencil so they can correct their answers later. After people have had eight to ten minutes to complete the test, discuss the answers, using the test as a teaching tool. Have the students change any questions they answered incorrectly, so that the final version is 100% accurate. (The idea is for everyone to end up with an accurate test to refer back to in the future.)

Below are correct answers and explanations (lecture notes). But this will be largely review for many classes, so do not dwell on these explanations, except for items that many people miss, or where you see puzzled expressions on people's faces.

1. People can be infected with HIV (the human immunodeficiency virus that causes AIDS) without actually having AIDS.

a. true

Most people are infected with HIV for years without developing AIDS (before the immune system becomes so impaired that the person gets any of the infections or conditions that lead to a diagnosis of "AIDS"). Medical means of delaying immune-impairment, like antiretroviral drugs, can help to delay the onset of AIDS in most HIV-infected people.

2. People infected with HIV can infect others, even if they aren't feeling sick.

a. true

If a person with HIV had unprotected sexual intercourse, or shared their intravenous (IV) syringe, they could transmit the virus. They may look and feel perfectly healthy.

3. A person can tell when they get infected with HIV.

a. false

People with HIV would only know they were infected if they had had a positive antibody test for HIV. About half of the people who get infected with HIV do develop symptoms, such as fever, rash, fatigue, swollen glands, cough, and headache, but these symptoms are so similar to those of a cold or mild flu, that they usually don't make a connection to their sexual behavior. Some people infected with the virus have not been tested because they didn't feel sick and they just didn't think about it. Some others who did feel sick, didn't want to get tested, or didn't consider the possibility of having HIV. The CDC estimates that 25% of Americans with HIV infection do not yet know that they're infected.¹

4. You can tell by looking at someone whether he or she has HIV/AIDS.

b. false

People who are HIV-infected but have not been diagnosed with AIDS may not show any

signs of being sick. Even after people are diagnosed with AIDS, they may have months or years of relatively good health, perhaps interspersed with bouts of illness. During their “well times” many can go to work or school, and exercise and play as they normally would. They may look thin or appear ill from using medications; but they may also not have any outward signs of illness.

5. AIDS is probably always fatal.
a. unclear ... we really don't know

New treatments are certainly lengthening the lives and improving the quality of life for many people with after an AIDS diagnosis. Also, all people whether or not they acquire HIV or develop AIDS will eventually die. But these days people can live for many years supported by antiretroviral drugs. Although we do not know how long these medications can be effective for people because they have not been used for long enough to know, recent studies are showing that most people with HIV/AIDS are dying from the same causes that similar non-HIV-infected persons die of.²

6. There is a new cure for HIV/AIDS.
b. false

There are new treatments to prevent or cure some of the opportunistic infections that attack people whose immune systems are impaired by HIV and to keep the immune system healthier longer. But there are no cures for HIV itself — no way to rid the body of the virus.

7. You can get a shot (a vaccine) to protect you from HIV.
b. false

Researchers are certainly working to develop vaccines against HIV (like those we have to protect against Hepatitis B, some kinds of HPV, measles, and other diseases). As of this printing, there is none for HIV.

8. Using a condom or dental dam makes intercourse less risky.
a. true

This is true not just for HIV against which condoms provide great protection, but also for most other sexually transmitted diseases, including herpes, gonorrhea, syphilis, chlamydia, and even human papilloma virus which can cause cervical cancer.

9. Even with a condom or dental dam there is still a chance of spreading HIV, because they can tear.
a. true

Condoms tear occasionally, especially when used with oil-based lubricants (like Crisco, butter, oils), but they fail more often than they tear largely because people don't use them correctly or consistently.

NOTE: Tell students you will discuss condoms and dental dams in more detail at the end of the quiz.

10. A 17-year old boy had unprotected sex a couple of times with another boy when he was 14, but he isn't gay. If he has sex with his girlfriend now, does he have to worry that she might catch HIV from him?

a. yes

Whether he is gay has nothing to do with it. The fact that he has had *any* kind of unprotected sex means he could have caught the virus. Since more men than women have the virus (in the U.S.),³ and because it is even more prevalent among men who have sex with men (regardless of whether they identify as gay),⁴ the boy he had sex with was more likely than average to have had the virus. If he did have HIV, his friend may have caught it, and now could pass it on, especially if he had *unprotected* sexual intercourse.

11. An 18-year old girl had unprotected sex with her boyfriend before she found out he used to shoot drugs. They only had sex once, but now she is pregnant. Should she be concerned about the baby catching HIV from her?

a. yes

Like the boy in the previous question, she had unprotected sex with a person who was more likely than average to have the virus.⁵ If he did have HIV, she may have caught it. Even one sexual experience could transmit the virus. If she **did** catch HIV, it is best for her to find out her HIV status immediately because she can seek treatment. Antiretroviral drugs can greatly reduce the chance of a mother passing HIV to her baby before and during birth, and HIV positive mothers are encouraged to use baby formula instead of breastfeeding (since HIV can be passed through breast milk). Without treatment, if she had gotten HIV, her fetus would have about a 25% chance of acquiring HIV, too.⁶

12. A 16-year old couple have been sharing sexual touch for five or six months. They don't have oral, anal or vaginal intercourse, but they do stroke one another's genitals and sometimes have orgasms. Should they be concerned that they might have given one another HIV?

b. no

They have had "safer sex." There is a remote chance, if one of them had cuts or sores on his or her hands, and if semen, vaginal fluid or menstrual blood got into the wounds, that the virus could have passed between them. But the chance is so remote that most physicians would tell them not to worry.

13. Does it matter whether the couple in number 12 is heterosexual or homosexual?

c. no

If they haven't exchanged blood, semen or vaginal fluid, their genders and sexual orientations don't make any difference. Even if they had exchanged these fluids, their genders would not make much difference. The only significance of their genders would be these factors: First, if they were both boys and had sex with other boys before, the chances that one had had prior sex with someone infected might be higher than

average. Second, if they were both girls and had only ever had sex with another girl, their chances of prior infection would be lower than average. But, since they have not had “riskier kinds of sex”, their genders are irrelevant.

14. Who can get AIDS?

c. anyone

One’s **behavior** is what puts one at risk, not one’s membership in any group.

15. Which activity never spreads HIV?

b. donating blood

A sterile needle is used with each blood donor. There is absolutely no risk of HIV infection to a person who donates his or her blood.

16. Which activity could spread HIV?

b. getting a tattoo from a friend

Sharing needles to shoot drugs is, of course, the main way the virus is spread through needles. But it could also be spread by sharing needles to give tattoos or to pierce ears, if the needle had HIV-infected blood or ink (in the case of a tattoo) on it. Being pierced or getting tattoos is safest in businesses set up for these procedures; having them done by friends or others in non-business settings is very risky.

17. Which activity could pass HIV from mother to child?

c. breast feeding

The body fluids which most often transmit HIV are blood, semen and vaginal fluid. But breast milk has been known to transmit it as well.

18. Which activity could spread HIV?

c. having sexual intercourse

During sexual intercourse, especially unprotected intercourse, one person’s semen, vaginal fluid or blood could enter the other’s bloodstream through mucous membranes (vagina, rectum, urethra, mouth, throat, or cervix), especially if there were cuts, sores or abrasions.

19. Which kind of sexual intercourse is risky in terms of giving or getting HIV?

d. all of the above

Without a lubricated condom or dental dam, any intercourse is risky. Even with a condom, there is some risk.

20. What do people have to do if they want to **guarantee** (100%) that they won’t catch HIV?

b. abstain from all forms of sexual intercourse and from IV drugs

Other kinds of sexual touch, besides intercourse, are safe, as long as no blood, semen or vaginal fluid is exchanged. For example, a body massage is 100% safe (except, of

course, if it leads to intercourse). The point is that sexual touch can be satisfying without including intercourse.

2. Explain risk reduction.

Hold up a condom and dental dam as you explain them. With your district's permission, you may want to open the condom package and roll the condom onto your fingers, by way of illustration. We strongly suggest that you not do a demonstration with fruits or vegetables, as it is simply unnecessary and some people (students, parents) would find it offensive and feel that it trivializes the issue.

A condom ("rubber") is a thin balloon-like shield that is worn over the penis. It can be used during oral, anal, or vaginal intercourse. It reduces considerably the chances of giving or getting an infection.

A dental dam is a piece of latex which is used to cover the labia and clitoris or the anus during oral sex. Dental dams are available in some drug stores, a condom can also be cut to form a dental dam and some people use clear plastic like saran wrap to serve the same purpose.

Show Transparencies 1 and 2 and discuss them.

How **much** protection a couple can expect depends upon which expert is interpreting the data. (For discussion of the contraceptive effectiveness of condoms, see lesson 12.) Latex barriers certainly do not eliminate the risk of **HIV** infection altogether. However, there is no question that they do **reduce** the risk, and that they are the best protection we have for couples who chose not to abstain.⁷ **But condoms and dental dams can't protect people unless they're used consistently and correctly:**

They are not reusable. A new one must be used each time a couple has any kind of sexual intercourse: oral, anal or vaginal.

They must be used from the very beginning of sex ... before the couple starts to have intercourse (oral, anal or vaginal). If they had intercourse for a while, before putting on a condom or using a dental dam, infected fluids could have already passed from one person to the other long before orgasm.

A condom must be put on correctly.

- It should be unrolled directly onto the penis after it has become erect... with the foreskin pulled back, if the man is uncircumcised. The condom should be unrolled all the way down to the base of the penis.
- Some condoms have a special tip to collect semen. With or without this tip, it is important to pinch the end of the condom leaving about one-half inch of space between the penis and the tip of the condom, so there's room for semen.
- Placing a little water-based lubricant (Replens, Slippery Stuff, K-Y jelly, etc.) inside the tip makes the condom less likely to tear and increases sensitivity.

A condom must be taken off properly.

- After ejaculation, the couple should separate before the penis becomes soft. Otherwise, the condom can slip off and spill semen inside the partner. The condom must be held at the base of the penis, to keep it from slipping off as the penis is withdrawn.
- When the penis is completely out, the condom should be removed and then thrown away in a garbage can. It's a good idea for both people to wash their hands and genitals before they touch any more. If they have intercourse again, they must use a new condom.

Spermicide is no longer recommended for use. *The spermicide “nonoxynol-9” kills sperm, and it was previously thought to kill many germs including HIV. However, it has not been found to raise the effectiveness of condom use in preventing pregnancy or HIV, and **has** been shown to contribute to vaginal or anal sores or lesions which may actually lead to easier transmission of HIV. However, use of a condom with nonoxynol-9 is better than not using a condom at all.⁸*

Condoms and dental dams cannot guarantee safety, even when they are used properly, because sometimes they tear. But **some protect better than others:**

- **Condoms made of latex** (rubber) are less likely to break or leak. They are the most effective for STD protection (compared to ‘natural’ or animal skin condoms, which have tiny holes through which bacteria and viruses can pass), although both kinds are effective in preventing pregnancy. Polyurethane condoms can be used if one or both partners is allergic to latex.⁹ Note however, that even a natural skin condom is better than no condom.
- **New condoms and dental dams** are stronger than old ones. As they age, the latex rubber becomes weaker. Heat is especially damaging, so back pockets, wallets and glove compartments aren't good places to store them for very long.¹⁰ Better places include backpacks, fanny packs, purses, jacket pockets, dresser drawer, and gym bags. Like most medicines, condom packages have an expiration date on them, after which the condoms should no longer be used.
- **Lubricated condoms** are less likely to tear than non-lubricated (dry) condoms. Some condoms are pre-lubricated. If they aren't, a couple can put a little of their own lubricant on the outside of the condom. They should use only water-based lubricants like “Replens” or “Slippery Stuff” or K-Y jelly (available in most pharmacies). **Petroleum-based products and oils (e.g., hand cream, Vaseline) SHOULD NOT be used; they can damage the latex of the condom.**
- **Lubrication should also be used with dental dams** on the side touching the person's body.

Hold up a syringe, as you explain it:

It is also 100% safe, in terms of HIV, for a person to use a sterile needle if he or she can't stop using IV drugs. In some places, such as Seattle, used needles can be exchanged for sterile ones. (Phone the AIDS Information Line — in Seattle, 206-205-7837; or nationally, 1-800-CDC-INFO [800-232-4636], 1-888-232-6348 TTY -- for current locations and times of the needle exchange program.)

If you know someone who is injecting drugs, make sure they know that *as a last resort*, they can sterilize their own needles with ordinary household bleach. (It is always best to use a new, sterilized needle, as well as clean water, a new cooker and fresh cotton. To sterilize a needle with bleach, one should fill the syringe with water and squirt it out a couple of times. Then fill the syringe with bleach and squirt it out into the sink. Repeat this fill-and-squirt step a second time. Then fill the needle with water again and squirt it out into the sink. Repeat this step a second time as well.¹¹

3. Explain how HIV infection progresses, potentially leading to AIDS.

Hand out the ***HIV/AIDS Worksheet***. Have students take turns reading aloud from it. Assist them in filling in the blanks, as a group. The following lecture notes may help (correct Worksheet responses are underlined):

INFECTION

From the actual moment of infection the person is has HIV Disease. He or she is **contagious** even though there is no way to know of the infection for at least the first 4-5 days, and then only with testing.

EARLY HIV DISEASE

Acute Infection

About 50% of people get sick 1 to 6 weeks after becoming infected, around the time they've built up enough **antibodies** to test positive in a blood test. They have flu-like symptoms--swollen glands, fevers, rashes, and sometimes other symptoms, lasting ten to fourteen days.¹² This often goes unrecognized since it seems like a regular "cold" or "flu".

Asymptomatic Infection

Whether or not they get an acute infection, everyone who becomes infected with HIV experiences a phase with no **symptoms**, even though they can pass the virus to others. *Unless they get tested, they do not know they have HIV.* This asymptomatic stage (in which there are no symptoms) may last months or years; it varies depending on the individual.¹³ There are now treatments that can slow the progression of HIV, but most people, if not all, will eventually begin to notice signs of infection.

HIV DISEASE SYMPTOMS

As the HIV infection continues without effective treatment, there will be fewer and fewer T-helper cells in the person's blood. Finally, a person may begin to notice symptoms or signs of immune-impairment. A few of the most common of these symptoms are:

1. **being tired or weak** for weeks at a time, even when getting enough sleep,
2. **nightsweats** (waking up at night soaking wet with sweat, even when it was not hot outside)
3. **nausea** (feeling sick to one's stomach).

Other symptoms and signs include *yeast infections* that don't respond well to treatment, *shingles*, *herpes infections*, and/or a number of other conditions.¹⁴

AIDS

A person is diagnosed as having “AIDS” if his or her ***T-Helper Cell*** count drops below 200 per cubic millimeter of blood. (A healthy individual has a T-Helper Cell count of 800 to 1200/mm³.)¹⁵ This makes the person more susceptible to opportunistic infections that a healthy immune system would easily control. There is a long list of opportunistic infections that do not occur except in people with compromised immune systems; if an HIV-infected person develops one of these, they will be diagnosed with AIDS.

Because of new medical treatments that hinder the replication of HIV, some HIV-positive people will never develop AIDS. However, without treatment, most, if not all, people develop AIDS. The transition time from untreated HIV infection to AIDS is 10 to 12 years. Of course, this is not a prognosis for any particular individual with HIV disease; some people may progress more quickly and perhaps some will never lose enough T-cells to fit the definition or get an opportunistic infection.

A few of the opportunistic infections that define AIDS are:

Wasting Syndrome: This involves rapid, unexplained loss (often 5 percent or more of the person’s normal body weight), and/or a 100 degree (or higher) fever or diarrhea.¹⁶

AIDS-Related Dementia: This is often a function of a direct attack by HIV on the brain cells (instead of, or in addition to, its attack on T-Helper cells). It may involve symptoms such as memory loss; confusion; loss of coordination, vision or hearing; or slurred speech.¹⁷

Pneumocystis Carinii Pneumonia (new-moh-SIS-tis kuh-RIN-ee-eye new-MONee-uh ... or PCP): PCP is an infection in the lungs that makes breathing harder, makes people short of breath, and usually results in a non-productive cough and fever.¹⁸

Kaposi’s Sarcoma (KAP-oh-seez sar-KOH-muh ... or KS): This is a form of skin cancer that makes purple blotches on the skin and, later, open sores. These blotches can also appear in the mouth, the gastrointestinal system, and the lungs.¹⁹

Eventually, for most (if not all) people living with AIDS, one of these twenty-plus conditions is fatal. Why? Although we have treatments for HIV, we have no cure.

Antiretroviral drugs can slow the damage done by HIV, by preventing it from multiplying as fast in the body. We can also delay or prevent some of the diseases that HIV allows into the body. But we cannot rid the body of the HIV itself. We have no cure for any virus (even the common cold), and HIV is particularly challenging, even among viruses, because it is a retro-virus, meaning it creates its own DNA.

HIV/AIDS Pretest

NAME _____ DATE _____ PERIOD _____

DIRECTIONS: Mark the best answer for each question. Use pencil, so you can correct your answers later.

True/False: Mark T or F next to each statement.

1. _____ People can be infected with HIV (the germ that causes AIDS) without actually having AIDS.
2. _____ People infected with HIV can infect others, even if they don't feel sick.
3. _____ A person can tell when they become infected with HIV.
4. _____ You can tell by looking at someone whether he or she has HIV/AIDS.
5. _____ AIDS is probably always fatal.
6. _____ There is a new cure for HIV/AIDS.
7. _____ You can get a shot (a vaccine) to protect you from HIV.
8. _____ Using a condom or dental dam makes sexual intercourse less of a risk.
9. _____ Even with a condom or dental dam there is still a chance of spreading HIV, because they can tear.

Choose the best answer for the following questions:

10. A 17-year old boy had unprotected sex a couple of times with another boy when he was 14, but he isn't gay. If he has sex with his girlfriend now, does he have to worry that she might catch HIV from him? ___ a. yes ___ b. no
11. An 18-year old girl had sex with her boyfriend before she found out he used to shoot drugs. They only had sex once, but now she is pregnant. Should she be concerned about the baby catching HIV from her? ___ a. yes ___ b. no
12. A 16-year old couple have been sharing sexual touch for five or six months. They don't have oral, anal or vaginal intercourse, but they do stroke one another's genitals and sometimes have orgasms. Should they be concerned that they might have given one another HIV? ___ a. yes ___ b. no

13. Does it matter whether the couple in number 12 is heterosexual or homosexual?
- a. yes, they should be concerned if they are gay, but not if they are heterosexual or lesbian
 - b. yes, they should be concerned if they are gay or lesbian, but not if they are heterosexual
 - c. no, if they haven't exchanged blood, semen or vaginal fluid, their genders and sexual orientations don't make any difference
14. Who can get HIV/AIDS?
- a. people from certain high-risk countries
 - b. people with hemophilia
 - c. anyone
15. Which activity never spreads HIV?
- a. having intercourse without a condom
 - b. donating blood
 - c. sharing needles in drug use
16. Which activity could spread HIV?
- a. eating in a restaurant that has a gay cook
 - b. getting a tattoo from a friend
 - c. giving a massage to a family member with AIDS
17. Which activity could pass HIV from mother to child?
- a. hugging the child
 - b. giving the child a bath
 - c. breast-feeding
18. Which activity could spread HIV?
- a. sitting on a public toilet seat
 - b. sitting next to a person with a bad cough
 - c. having sexual intercourse
19. Which kind of sexual intercourse is risky in terms of giving or getting HIV?
- a. anal sex
 - b. oral sex
 - c. vaginal sex
 - d. all of the above
20. What do people have to do if they want to guarantee (100%) that they won't catch HIV?
- a. use condoms and dental dams when they have sex and bleach needles when they share them
 - b. abstain from all forms of sexual intercourse and from IV drugs
 - c. only have heterosexual (male-female) sex

HIV/AIDS Worksheet

Stages of Infection, the Continuum of HIV Disease

NAME _____ DATE _____ PERIOD _____

INFECTION (the moment the virus enters the person's body)

The person is _____ (he or she can transmit the virus), even though he or she has no way to know it.

CATEGORY A: Early HIV Disease

Acute Infection

Around the time the person has built up enough _____ to show up in a blood test, two to eight weeks after catching the HIV, he or she may get sick with symptoms much like "mono" or the flu. These symptoms can last a week or two. Some people skip this stage.

Asymptomatic Infection

Then, for months or years, the person has no _____ at all. He or she looks and feels well, even though the HIV is gradually killing off T-cells. Most people with HIV Disease are in this stage.

CATEGORY B: HIV Disease with symptoms (but not AIDS-indicator conditions)

When the immune system becomes even weaker, the person may start to get other symptoms, which doctors call "HIV Disease". These could include:

1. _____
2. _____
3. _____

Many other symptoms and conditions fall into, as well.

NOTE: In these first stages, a person is only diagnosed as having "AIDS" if his or her _____ count drops below 200 per cubic millimeter.

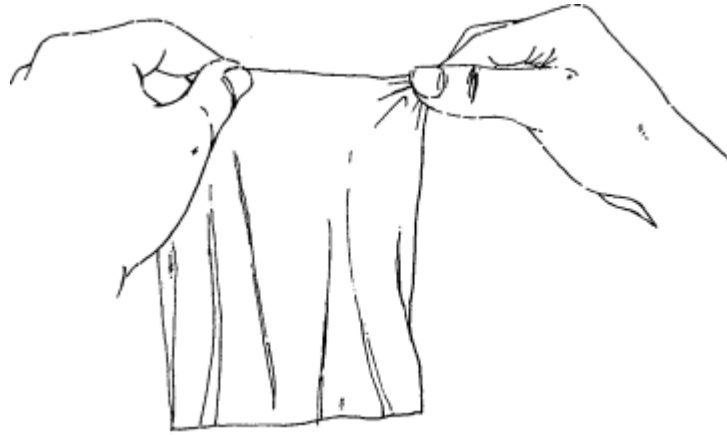
CATEGORY C: HIV Disease with AIDS-indicator conditions

There are many different conditions (mostly diseases and cancers) that may mean a person finally has full-blown “AIDS”, regardless of his or her T-helper cell count. A few of these conditions are:

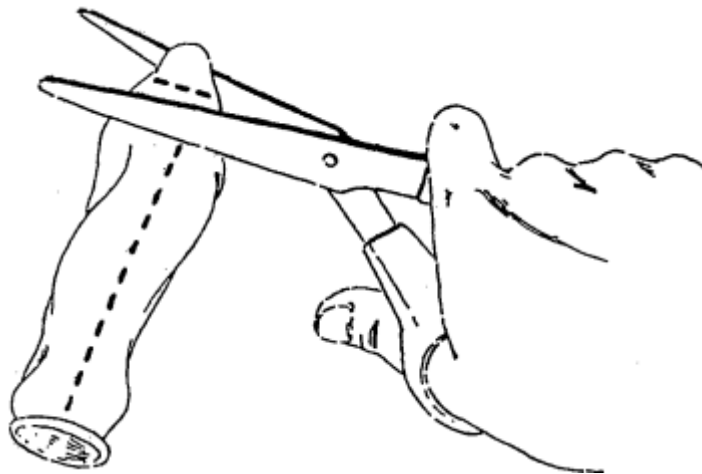
1. _____
2. _____
3. _____
4. _____

No matter what his or her T-helper cell count, if a person has any of these “AIDS-indicator conditions,” he or she will be diagnosed as having “AIDS.”

HIV/AIDS Transparency 1: The Dental Dam



Dental dams are sold in some clinics.






**A condom can also be used to make a
dental dam.**

HIV/AIDS Transparency 2: Condoms Vary

WIDTH OF CONDOM		
SNUG 1.90"	AVERAGE 2.05"	WIDEST 2.34"

THICKNESS OF LATEX		
THIN .05mm	THICKER .07mm	THICKEST .09mm

LUBRICATION		
DRY	WET	VERY WET

SHAPE		
REGULAR 	FLARED 	FORM FIT 

All condoms sold in the United States meet safety standards.

If as many as four per thousand break in testing, the whole batch is thrown out.

REFERENCES

- ¹ *Questions and Answers: The Science Behind the New Initiative*. Accessed June 3, 2006 from Centers for Disease Control and Prevention:
http://www.cdc.gov/hiv/topics/prev_prog/AHP/resources/qa/AdvancingFS.pdf.
- ² *Annals of Internal Medicine*, Sept. 2006
- ³ *A Glance at the HIV/AIDS Epidemic*. (2006). Retrieved on May 15, 2006, from Centers for Disease Control and Prevention, Division of HIV/AIDS Prevention:
<http://www.cdc.gov/hiv/resources/factsheets/At-A-Glance.htm>.
- ⁴ Ibid.
- ⁵ Ibid.
- ⁶ Connor, E.M., Sperling, R.S., Gelber, R., et al. (Nov 3, 1994). Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment. *New England Journal of Medicine*. 331(18):1173–1180.
- ⁷ HIV and AIDS Program: Safer Sex and Condoms. (2004). Accessed July 24, 2006 from Public Health Seattle and King County: <http://www.metrokc.gov/health/apu/basic/condoms.htm>.
- ⁸ WHO/CONRAD technical consultation on nonoxynol-9. WHO, Geneva, Oct 9-10 2001: summary report. *Reproductive Health Matters*, Nov 2002. 10(20), 175.
- ⁹ *HIV and its Transmission*. (2003) Accessed June 3, 2006 from Centers for Disease Control and Prevention: <http://www.cdc.gov/hiv/pubs/facts/transmission.htm>.
- ¹⁰ HIV/AIDS Program: Questions and Answers About HIV and AIDS. (2005). Retrieved on July 24, 2006, from Public Health Seattle and King County:
<http://www.metrokc.gov/health/apu/basic/index.htm#condoms>
- ¹¹ *HIV/AIDS Program: Harm Reduction and Drug Use*. (2003). Accessed June 4, 2006 from:
<http://www.metrokc.gov/health/apu/harmred/bleach.htm>.
- ¹² *HIV/AIDS Program: Questions and Answers About HIV and AIDS*. (2005). Retrieved on June 4, 2006, from: Public Health Seattle and King County:
<http://www.metrokc.gov/health/apu/basic/index.htm#symptoms>.
- ¹³ National Institutes of Health. *HIV Infection and AIDS: An Overview*. (2005). Retrieved on April 15, 2006 from: <http://www.niaid.nih.gov/factsheets/hivinf.htm>.
- ¹⁴ Ibid.
- ¹⁵ Ibid.
- ¹⁶ Tang, A.M., Jacobson, D.L., Spiegelman, D., et al. (Sep 1, 2005). Increasing risk of 5% or greater unintentional weight loss in a cohort of HIV-infected patients, 1995 to 2003. *Journal of Acquired Immune Deficiency Syndrome*. 40(1):70-76. Accessed through PubMed database on June 5, 2006.
- ¹⁷ Brooke, S., Chan, R., et al. (1997) Endocrine modulation of the neurotoxicity of gp120: Implications for AIDS-related dementia complex. *Proc Natl Acad Sci USA*. 94: 9457-9462.
- ¹⁸ Thomas, C.F. Jr., Limper, A.H. (2004). Medical Progress: Pneumocystis Pneumonia. *New England Journal of Medicine*, 350, 2487-2498.
- ¹⁹ National Institutes of Health. (2005). *HIV Infection and AIDS: An Overview*. Retrieved on June 4, 2006 from: <http://www.niaid.nih.gov/factsheets/hivinf.htm>.