

HIV/AIDS: BASIC FACTS

GRADE 7, LESSON #21

Time Needed

50 minutes

Student Learning Objectives

The student will be able to ...

- 1. Describe how the human immunodeficiency virus (HIV) affects the immune system.
- 2. Name the four body fluids that transmit HIV.
- 3. Cite the three most common ways that HIV is transmitted.
- 4. Define abstinence.
- 5. Understand the role of condoms in the prevention of sexually transmitted diseases (STD's).

Agenda

- 1. Set the stage. (3 minutes)
- 2. Present *HIV Lifeline* and use student worksheet to clarify basic AIDS information. (30 minutes)
- 3. Use the Onion Ball Question and Answer Game to reinforce the concepts. (15 minutes)
- 4. Close the lesson. (2 minutes)

Note: The teacher's script is indicated by italics. This script is meant to be a guide for teachers who might find it helpful.



Materials Needed

Classroom Materials: (1 per class)

- Transparencies: HIV Lifeline, Parts 1-3 (identical to HIV Lifeline worksheets)
- Overhead projector
- Various colors of tissue paper
- Scotch tape
- Pair of scissors
- Questions from Onion Ball Question Sheet cut into strips

Student Materials (1 per student):

• Worksheet: HIV Lifeline, Parts 1-3

Preparation

- Arrange for overhead projector
- Make one Onion Ball per class:
 - 1. Cut out the questions from the *Onion Ball Question Sheet*
 - 2. Take tissue paper and form a small ball.
 - 3. Tape the last question to be answered on to the tissue paper ball.
 - 4. Take a different colored tissue paper, wrap it around the ball, and tape it together.
 - 5. Tape the second to last question on the tissue paper. Continue this process until all of the questions have been taped to the ball, with question number one on the outside of the ball.
 - 6. The final product should be an "onion" with alternating layers of tissue paper and questions.



Resources

Background Reading:

- HIV/AIDS: <u>Background Information for Educators</u>
- How to answer difficult questions: Answering Difficult Questions
- How to answer questions about controversial issues: <u>Values Question Protocol</u>

Websites:

- Health Educators Toolbox http://www.metrokc.gov/health/apu/healthed, (Public Health Seattle & King County [PHSKC])
- HIV/AIDS Program http://www.metrokc.gov/health/apu (PHSKC)
- Family Planning Program http://www.metrokc.gov/health/famplan (PHSKC)

Phone Numbers:

- HIV/STD Hotline: (206) 205-7837 or (800) 678-1595 (PHSKC)
- HIV/STD Hotline: (800) 342-AIDS (Centers for Disease Control and Prevention)
- Sex Information Line: (206) 328-7711 or (888) 307-9275 (Planned Parenthood of Western Washington)
- Your local Public Health Department



Activities

1. Set the stage. (3 minutes)

So far, in this unit, we've talked about ____ [whatever you have done in the last week or so]. Today and tomorrow, we'll be talking about HIV and AIDS.

Some of you probably remember a lot from previous years' classes. [Ask for a show of hands.] Who has had HIV/AIDS lessons before? Some of you have read a lot on the subject, or seen TV specials, or you've learned a lot from family members about HIV and AIDS. I hope you will share some of what you know today.

But just because you may already know some things about the disease, doesn't mean this class will be boring or that you won't still learn some things. I guarantee that you will. This class will be useful for everybody, regardless of whether you are male or female, gay or straight. It will be helpful even if you haven't had a boyfriend or girlfriend yet, even if you don't plan to have sex until you are much, much older.

Most people will need to know about HIV eventually. Maybe your best friend will have a family member with AIDS. Maybe someone at school will be infected. And besides, if you are well informed, you can act as health teachers for your friends, when they may have wrong information or unnecessary fears.

2. Present HIV Lifeline and use student worksheet to clarify basic AIDS information. (30 minutes)

Show the HIV Lifeline Transparencies, Parts 1-3. Pass out HIV Lifeline Worksheets, Parts 1-3, and ask students to write on their worksheets as you write on the transparencies.

Box #1:

Does anyone know what the letters H I V stand for?

Write on the transparency: Human Immunodeficiency Virus.

- Human refers to people not to animals or insects. Only people can have HIV.
- **Immunodeficiency** is the words "immune" and "deficiency" smashed together into a compound word.
 - Your immune system is made up of the parts of the body that fight infections
 - A deficiency is not enough of something.
 - So **immunodeficiency** is not enough ability to fight infection.
- A virus is a very small kind of a germ.



Box #2

There are two important parts of the immune system that you need to understand to make sense of HIV.

Write on transparency: T-cell and Antibody.

- A **T-cell** is a specific kind of a white blood cell that is the boss or "conductor" of the immune system. HIV attacks and kills T-cells.
- An **antibody** is one of the fighters of the immune system. HIV antibodies try to kill off HIV. They do kill some. They never kill them all.

Box #3

What 4 body fluids can transmit HIV?

Write on transparency: Transmit, Blood, Semen, Vaginal Fluids, Breast Milk

- To **transmit** a germ is to pass or carry it from one person to another.
- **Semen** is the fluid that carries sperm.
- Vaginal fluid is the wetness in a woman's vagina.

Box #4

Tell me the body fluids from which people don't catch HIV?

Write on transparency: Spit/Saliva, Pee/Urine, Sweat, Tears.

• If the saliva or urine were bloody, HIV might be transmitted.

Show the transparency, HIV Lifeline, Part 2.

Box #5

This is Student X. He has HIV. How might he have gotten infected? What are the three most common ways that people get infected with HIV?

If students respond with less likely or impossible means of transmission, clarify which are unlikely and which are impossible. Focus on the 3 most common means of transmission.

Write on the transparency: Had sex without a condom, Shared needle, and Got from Mom (as a baby).

Student X is 14 years old and in the 9th grade. Most students in middle school and junior high are not having sex, but Student X is. He actually got infected 1 week ago by having sex without a condom with someone who has HIV.

Imagine that this is Student X's lifeline across your worksheet page. He gets older as we move through the numbered drawings.



This [Box 5] is the day that Student X got infected. From this day forward Student X has HIV and could transmit it.

Box #6

Student X can find out that he has HIV, but he will have to wait a little bit. If you tested Student X tomorrow it wouldn't show that he has HIV. The standard HIV test doesn't look for the virus itself. It looks for antibodies to HIV. Remember, antibodies are a part of your immune system; they fight off germs.

It will probably take Student X at least a few weeks to build up enough antibodies to show up on an HIV test. So he has no way to know it yet, but he has HIV and he can give it to others if he shares a needle with them or has unprotected sex with them. After three months, an HIV test would tell him for sure that he is infected. If he hadn't gotten infected, it would tell him that too. But Student X feels fine, so it may not occur to him to get tested. About one quarter of people with HIV don't yet know they are infected.

Write on transparency: 3 months and Antibodies.

Box #7

Then, probably for years, Student X will NOT have any symptoms that he is infected with HIV. He'll feel fine and healthy and he will keep going to work or school. This is called being "asymptomatic." It doesn't mean the HIV has gone away. It hasn't. It is gradually multiplying in his body, killing off T-cells as it multiplies. Remember T-cells are a kind of white blood cell. They sort of run the immune system; they tell antibodies to fight germs including HIV.

But Student X feels fine because he had so many T-cells to begin with that he was able to keep fighting off other germs even as the HIV began to kill off his T-cells.

The average person with HIV is in this asymptomatic phase where they feel perfectly healthy for about 10 or 12 years. But that's just an average. It could be just a couple of years. It could be 15 or 20 years or longer, especially if they are getting treatment. But we'll come back to that.

Write on the transparency: 10-12, Symptoms, and Asymptomatic.

Box #8

Now it has been ten years so Student X is now 24. HIV is starting to win the fight against his immune system. HIV has killed off enough of his T-cells that his immune system is seriously weak. Student X suffers often from nausea and diarrhea. He is so tired that many days he can't get out of bed. The doctor tells him that he now has AIDS, the last stage of HIV infection.

Student X happened to get nauseous and tired. People with HIV get lots of different infections and conditions that they just can't fight off very well: certain cancers, pneumonias, and other things that people with healthy immune systems almost never get. If Student X



gets one of a long list of specific diseases and conditions, or if the number of T-cells in his blood drops so low that it is clear he will get sick soon, his HIV-infection is called "AIDS."

Write on the transparency: 24 and AIDS

Box #9

Does anyone know what the letters A I D S stand for?

Write on the transparency: Acquired Immune Deficiency Syndrome

- **To acquire** is to get or catch. HIV is something that you can only get from someone who has the infection. It's not in your genes.
- **Immune** refers to your immune system (the parts of the body that fight infections.)
- **Deficiency** is not enough of something.
- **A syndrome** is a collection of <u>symptoms</u> (what people feel) and <u>signs</u> (what can be seen or measured like a temperature).

So AIDS is the last stage of HIV infection when HIV (a virus that you get from other people) has destroyed so much of your immune system that it doesn't have the ability to fight infections and you start to have a variety of signs and symptoms.

Box #10

Now Student X has AIDS. He goes in and out of the hospital multiple times. First, he gets pneumonia and goes into the hospital while the doctors treat the pneumonia. Then when he is over the pneumonia, he goes home. Then a few months later, he gets a serious eye infection goes back into the hospital. Then he gets better again. And so on.

Finally, he will probably die from something his body can no longer fight off. The average person, once they get diagnosed as having AIDS, lives another three years or so. But that is just an average. Student X might live longer. He might die sooner. As far as we know, everybody who gets HIV will eventually get sick enough that we consider them to have AIDS and die from something their body can no longer fight off ... unless of course they happen to pass away first by getting hit by a car or whatever.

Write on the transparency: 10 to 12.

Show the transparency, HIV Lifeline, Part 3.

Box #11

Okay, that was a lifeline of someone who had HIV and did not get treatment. 90% of the HIV/AIDS cases in the world are in developing countries where quality treatment is not available or in parts of the United States where people can't afford treatment.

Let's talk about how treatment affects the life of someone with HIV. As we said earlier, on average a person with HIV would be in the asymptomatic phase—where they feel healthy and don't have any symptoms—for about 10 or 12 years. If Student X is taking effective HIV



treatment, he could stay healthy (unless he has side effects from the drug) for much longer. We're not sure how long because the medicines are so new. The pills don't seem to help everyone, but they have helped a lot of people. Largely because of these treatments, more people with HIV are living longer.

Write on the transparency: Longer

Box #12

If Student X started taking effective treatment, his life would be very different. He would now have to take a lot of pills everyday -- up to 30 or more. If he skipped any, or took them at the wrong times, they might not work.

Sometimes the pills cause side effects, so even though HIV is not destroying Student X's immune system as quickly, the pills may give him nausea, diarrhea, even diabetes or high blood pressure.

And the pills don't seem to help everyone. Some people take them and HIV continues to be strong in their body.

The pills also cost a lot of money. If Student X has insurance, his insurance might pay for all or most of the cost of the pills. If he doesn't have insurance, in Washington State, the government provides HIV treatment for people who can't afford it. But not all states are as generous or interested in public health.

Write on the transparency: Lots of pills, Pills can make people sick, Pills don't work for everyone, and Pills cost a lot of money.

Box #13

Let's rewind and go back to the day that Student X got infected. We want to keep Student X safe.

Write on the transparency: Safe.

Box #14

Student X got infected by having unprotected sex with a person who had HIV. What could Student X have done differently to protect himself from HIV?

He could have chosen to not have sex. Another word for that is abstinence. "Abstinence" is a fancy word for choosing not to do something. People sometimes decide to abstain from all kinds of things: chocolate, cigarettes, sex, TV, meat and so forth. When people decide to abstain from something, it may be a temporary or long-term decision. So sexual abstinence means choosing not to have sex.

Write on the transparency: Abstinence.

Student X also could have chosen to practice monogamy. Monogamy is when two people have sex ONLY with each other. If both people have been tested and know that they are



not infected with HIV (and have no risky encounters that might have resulted in infection since their last test), and if both people are faithful and do not cheat on their partner, then monogamy provides protection against HIV infection.

Write on the transparency: Monogamy.

Student X also could have used condoms to protect himself from HIV. Condoms greatly reduce the risk of HIV infection. They also protect against unwanted pregnancy and other sexually transmitted diseases. Condoms are very effective when used correctly *-- and every time.

Write on the transparency: Condoms.

If appropriate for your school district, discuss correct condom use with your class. Use teacher reference sheet <u>"Correct Condom Use"</u> as a basis for the discussion. If you don't teach about correct condom use, tell students how they could learn more about this topic (e.g., talking with their doctor, etc.)

3. Use the *Onion Ball Question and Answer Game* to reinforce the concepts. (15 minutes)

Okay, now we are going to play a game to see how much we all remember about HIV.

Have students move the desks back or otherwise make space for the group to stand or sit in a large circle.

This ball has a series of questions on it. I'm going to toss—not throw, but toss—the ball to someone. There is a question on the outside of the ball. They are going to read the question out loud. They can choose to answer the question themselves or ask for volunteers to answer the question. They will call on a person with their hand raised. Once the question has been answered, the person will toss the ball to someone else. This new person will remove the top layer of tissue to find the next question and so on. Any questions on how this is going to work?

Toss the ball to the first student. Appropriate answers to each question are listed below.

A. What is the job of the immune system?

 The immune system helps the body fight off infections and other diseases. It helps keep a person healthy.

B. What is HIV?

- **Human Immunodeficiency Virus (HIV)** is the virus that causes AIDS. It attacks the body's immune system.
- Over time HIV gradually destroys the body's ability to fight off infection and disease.
 Then people are more likely to get infections and cancers that would not normally develop in healthy people.



C. What is AIDS?

 Acquired Immune Deficiency Syndrome (AIDS) is the last stage of HIV infection, when a person's immune system doesn't work very well anymore.

D. What happens to a person who has HIV?

- If a person gets infected with HIV, generally they will still live for many years (unless they get hit by a car or die for some other reason).
- Soon after they get infected, their body's immune system will start to fight HIV.
- Their immune system will make antibodies to try to fight the virus, but they won't be able to kill all of it. (Antibodies are special cells in the blood that fight infection.)
- Then, probably for years (on average 10 -12 years, but usually a lot longer with treatment), they will NOT have any symptoms showing that they're infected. They'll feel fine and healthy and will keep going to work or school. This is called being "asymptomatic." During that time, they can still transmit the virus to other people even though they feel fine.
- Finally, HIV will have damaged their immune system so that it is seriously weak. At
 this point, they may start to get other infections and conditions that they just can't
 fight off very well. The doctor may say that their HIV infection is now called "AIDS."
- Finally, they may die from something their body can no longer fight off. The average person, once they get diagnosed as having AIDS, lives another three years or so. With treatment, people can live much longer.

E. What are four fluids known to transmit the virus?

- Blood
- Semen
- Vaginal fluids
- Breast milk

F. What are the two most common ways that HIV transmission occurs?

- 1. Unprotected sex with an infected partner. [Note: Some 7th graders will think that "sex" means vaginal intercourse only. Gay and lesbian 7th graders may also think you are speaking only to their heterosexual classmates. If you think it is appropriate for your learners, share with them the age-appropriate definitions of oral, anal and vaginal sex in Lesson #23, page 7.]
- 2. Sharing needles to use drugs.

G. What are other ways that HIV transmission occurs?

- If a woman is infected with HIV, she can give it to her baby during pregnancy or birth, or by breastfeeding. Breastfeeding is the healthiest way to feed a baby except for moms who have HIV.
- Doctors, nurses or other health care workers can be infected with HIV if they get stuck by a used needle or get HIV infected blood in their eyes or in cuts.
- It is very rare for a patient to get infected with HIV from receiving HIV-infected blood during an operation or receiving an organ from a person infected with HIV. This was



- a bigger problem before the U.S. began testing the blood supply in 1985. It is still a problem in countries that cannot afford to test their blood supply.
- It is theoretically possible to get HIV from sharing needles for tattoos or piercings.
 There are no known cases of these two modes of transmission; however, hepatitis B
 and C have been transmitted those ways. We recommend not sharing needles period. It is safest to have piercing and tattooing done by a professional who follows
 proper cleaning procedures.
- Steroids, like mind-altering drugs, are sometimes taken through needles. Sharing needles could transmit HIV and other viruses.

H. What are some ways that HIV is not transmitted?

- Donating blood
- Being bitten by a mosquito
- Sitting on a toilet seat
- Shaking hands
- Hugging
- Sneezing
- Sharing eating utensils, food, or objects handled by people with HIV
- Spending time in the same house, school, or public place with a person with HIV

I. Can kissing transmit HIV?

- In the twenty years of the HIV/AIDS epidemic, there has only been one case of HIV transmission thought to be from kissing. Both people in this case had <u>lots</u> of bleeding from their gums and other sores in their mouths.
- You do not need to worry about getting HIV from kissing.

J. What is the only 100% safe way to protect oneself?

Abstinence from injection drugs and sex

K. What is abstinence?

- "Abstinence" is a fancy word for choosing not to do something.
- People sometimes decide to abstain from all kinds of things: chocolate, cigarettes, sex, TV, meat and so forth.
- When people decide to abstain from something, it may be a temporary or long-term decision.

L. TV and movies make sex and drugs look so good, why would anyone ever abstain?

- People and their families have many different beliefs about abstaining from sex; some of these are religious beliefs.
- For example, some people believe that no matter how old they are, it is best to abstain from sex unless they are married, or until they are able to support a baby, or until they have both been tested for HIV and other STD's.
- Some people abstain so they can focus on schoolwork and other activities.



- Some abstain to decrease the chance of getting their heart broken.
- Some teens don't want to disappoint their parents.
- People also abstain from injection drugs for all kinds of reasons. They may want to avoid hepatitis, HIV, addiction, or getting arrested. They may want to avoid getting high and making sexual decisions they will later regret.

M. How can people find out if they are infected with HIV?

- They can get a blood test that checks for antibodies to HIV.
- Almost everybody with HIV has enough antibodies to show up on a test within 3 months from the time they got infected.
- Most people who are infected feel fine for years so they don't think of getting tested; most doctors won't do the test unless the patient specifically asks.
- Generally, people of any age can get tested confidentially at Public Health
 Department clinics, Planned Parenthood clinics, doctors' offices, and teen clinics.
 Around here people can get tested at ______. [Fill in the blank if you know specifics .]

N. Most people have sex some time in their lives. What should they know in order to protect themselves?

- Condoms greatly reduce the risk of pregnancy as well as HIV and other STD's.
 Condoms are very effective when used correctly *-- every time.
- Many birth control methods are very effective at preventing pregnancy, but only condoms and abstinence protect against HIV and other STD's. Some people use condoms with another birth control method to protect themselves against pregnancy AND disease.
- The fewer partners a person has in their life and the longer they can delay beginning to have sex, the lower their risk of getting or giving HIV or other STD's.
- It is safest to practice monogamy with an <u>uninfected</u> partner. Monogamy is when two people have sex ONLY with each other. Before beginning a new monogamous relationship, if either person has taken risks in the past, they should get tested to be sure they are not already infected.

4. Close the lesson. (2 minutes)

If you remember one thing from today, I hope you remember that HIV is preventable. Tomorrow we'll focus on the role of alcohol and other drugs in HIV transmission.

^{*} Barriers include male condoms, female condoms and dental dams.

Onion Ball Questions

A.	What is the job of the immune system?
В.	What is HIV?
C.	What is AIDS?
D.	What happens to a person who has HIV?
E.	What are the four fluids known to transmit the virus?
F.	What are the two most common ways that HIV transmission occurs?
G.	What are other ways that HIV transmission occurs?
Н.	What are some ways that HIV is not transmitted?
I.	Can kissing transmit HIV?
J.	What is the only 100% safe way to protect oneself?
K.	What is abstinence?
L.	TV and movies make sex and drugs look so good, why would anyone ever abstain?
М.	How can people find out if they are infected with HIV?
N.	Most people have sex some time in their lives. What should they know in order to protect themselves?

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Name: ______ Date: _____ Class Period: _____

HIV Lifeline (Part 1)

#1 What does HIV stand for?	#2 Two key parts of the immune system:
H	A is a kind of white blood cell, the boss of the immune system, which HIV attacks.
V	An is one of the fighters of the immune system.
#3	#4
Four fluids can HIV:	Which fluids are safe?
1	1
2	2
3	3
4	4



HIV Lifeline (Part 2)

#5

This is Student X.



He has HIV. How could Student X have caught it?

- 1. _____
- 2. _____
- 3. _____

#6

Student X can find out if he has HIV.



After _____ months there are

enough _____

to show on a test.

#7

Student X feels fine for years

(an average of _____ years).



He has no ______.

He is

#8

Ten years later, Student X is

_____years old.



His immune system is losing the

fight. Student X has _____.

#9

A

I

D_____

S_____

#10

Student X is in the hospital on and off

(an average of _____ years).



Then Student X dies.



HIV Lifeline (Part 3)

#11 #12 **Treatment** Problems with treatment: helps people 1. _____ live #13 #14 Rewind. How? 1. No sex = 2. Have only one uninfected partner who only has sex with him = _____ Let's keep Student X 3. Use protection = _____



Answer Key: HIV Lifeline (Part 1)

#1	#2
What does HIV stand for?	Two key parts of the immune system:
H <u>uman</u>	↓
l <u>mmunodeficiency</u>	A T-Cell is a kind of white blood cell, the boss of the immune system, which HIV attacks.
V <u>irus</u>	AnAntibodyis one of the fighters of the immune system.
#3	#4
Four fluids can <u>transmit</u> HIV:	Which fluids are safe?
1. <u>Blood</u>	1. <u>Spit/saliva</u>
2. <u>Semen</u>	2. Pee/urine
3. <u>Vaginal Fluids</u>	3. Sweat
4. Breast Milk	4. <u>Tears</u>



Answer Key: HIV Lifeline (Part 2)

#5 #6 #7 This is Student X. Student X can find out Student X feels fine for years if he has HIV. (an average of 10-12 years). He has HIV. How could Student X He has no _symptoms After months there are have caught it? 1. Sex without a condom He is <u>asymptomatic</u> enough antibodies 2. Shared needle 3. Got it from mom to show on a test. #8 #9 #10 Ten years later, Student X is Student X is in the hospital on and off years old. A cquired (an average of _____ years). l immune D eficiency His immune system is losing the fight. S yndrome Then Student X dies. Student X has AIDS



Answer Key: HIV Lifeline (Part 3)

#11	#12
Treatment	Problems with treatment:
helps people	1. Lots of pills
live	2. Pills can make people sick
longer	3. Pills don't work for everyone
<u>longer</u> .	4. Pills cost a lot of money
#13	#14
#13 Rewind.	#14 How?
	How?