

LESSON GUIDE

GRADE 9

How Does HIV Impair the Immune System?

Performance Objectives

Students will be able to:

- Describe how the body's natural defense mechanisms, including the immune system, work.
- Clarify the difference between HIV and AIDS.
- Describe how HIV impairs the immune system.
- Identify treatments for HIV infection.

Teacher Note: Before participating in the following lesson on how HIV affects the immune system, students should have a basic understanding of how the immune system works. Refer to Example Illustrations 1 and 2, Grade 7: "How the Immune System Works."

Advance and/or Homework Assignments:

The following are assignments that you may wish to assign in advance of the lesson (to generate interest in the immune system) and/or as homework assignments following the lesson (to reinforce and expand on what students learned in the lesson):

Advance/Homework Assignment #1: Assign five of the vocabulary words included with this lesson to each row or group of students. Have each student prepare three "what," "why," and "how" questions using the vocabulary words, and two additional questions about the nature of HIV/AIDS or the immune system.

Advance/Homework Assignment #2: Give students the list of vocabulary words. Have them write the definitions and use each word in a sentence.

Do Now

- If advance assignments were given and time permits, have students divide into small groups to review their questions or definitions.
- If advance assignments were *not* given and time permits, have students divide into small groups. Give each group several words from the vocabulary list. Have them write definitions for those words they understand. Have them attempt definitions for the words that they don't understand.
- Alternatively, if advance assignments were *not* given and there *is not* time for small-group discussion, have students define five vocabulary words of their choice from the list.

GRADE 9 Lesson 1

NEW YORK STATE LEARNING STANDARDS 1

SKILLS

Self-Management

MATERIALS

Chalkboard

Activity Sheets 1, 2:
Game Questions;
The Immune System:
How it Works

VOCABULARY

AIDS

Antibodies

Antigen

Antiretrovirals

B-cells

Bacteria

Blood

Cilia

HIV

Macrophage

Mucous Membranes

Opportunistic Infection

Pathogen

Saliva

Stomach Acid

Systems of the Body

T-cells:

Helper T-cells

Killer T-cells

Suppressor T-cells

Vaccine

Virus

Motivation

- Say, “For several years you have had lessons on HIV/AIDS. As first-year high school students, you can help educate others about HIV/AIDS by discussing the topic with your peers, family, and other members of your communities. When you do this, you are helping to prevent the transmission of HIV and to reduce the stigma and prejudice associated with HIV/AIDS.”
- Say, “First, let’s review what the terms ‘HIV’ and ‘AIDS’ mean.” Write the terms on chalkboard. Have students spell out what they stand for: Human Immunodeficiency Virus; Acquired Immune Deficiency Syndrome. Circle *Immunodeficiency* and *Immune Deficiency*.
- Ask, “What does *immune deficiency* mean?”
Answer: The immune system is impaired or compromised.
- Ask, “What is the immune system?”
Answer: The immune system is a group of organs and cells that work together to protect a person from the *pathogens*—“germs”—that can cause disease.
- Ask, “If the immune system is deficient (or compromised), what happens?”
Answer: The body has difficulty resisting disease and getting well from diseases.
- Ask, “What is the difference between HIV and AIDS?”
Answer: When someone is first infected with HIV, he/she generally appears to be healthy and feel healthy. This is because the virus has not yet had time to impair or compromise the immune system. If the person gets a common infection he/she will get well without too much difficulty. When someone has had an HIV infection for quite some time, his/her immune system may become seriously impaired or compromised and the person may get very sick with specific illnesses. This is called AIDS, which is a group of bodily signs, symptoms, and diseases that people often get when their immune systems have become seriously impaired or compromised by HIV infection. HIV infection may eventually lead to AIDS.

Procedure/Development

- Ask, “What are some of the natural defense mechanisms of the human body?”
- Write students’ answers on newsprint/chalkboard. They should include the answers listed below.
 - *Skin* keeps pathogens out of the body. The skin does a good job as a wall against HIV—unless there is a cut, rash, or sore, or if the skin is punctured with a needle, such as during injected drug use.
 - *Mucous membranes* trap pathogens. However, the mucous membranes that line the body openings of the genitals or anus may not act as a wall. Intact mucous membranes retard the transmission of HIV but are not a guarantee, since HIV may pass through cuts or tears or sores (if the person has another infection, such as a sexually transmitted infection) of the oral, vaginal, or rectal mucosa.
 - *Cilia* are tiny hair-like structures that cover some cells. In the nose and ears, cilia catch some pathogens and “sweep” them back out of the body.
 - *Saliva* is a liquid in the mouth that contains enzymes that break down food and destroy some pathogens.
 - *Stomach acid* is a harsh liquid in the stomach that breaks down food and destroys some pathogens.
 - *Sweat (perspiration)* is a liquid produced by the skin that traps some pathogens.
 - *Tears* are liquids produced by the eyes that trap some pathogens and contain enzymes that kill bacteria.
 - *Macrophages* are a type of white blood cell that engulf or surround pathogens. *Macro* means “big;” *phage* means “to eat.”

- **B-cells** are a type of white blood cell that manufactures antibodies.
- **Antibodies** are protein complexes used by the immune system to *identify* and help *neutralize* foreign objects like bacteria and viruses. Each antibody recognizes and fights against a specific antigen, a piece of a pathogen. Antibodies also have some direct action against pathogens (e.g., blocking them from entering cells) and signal other parts of the immune system, such as macrophages, to attack pathogens.
- **T-cells** are a type of white blood cell; some “command” the immune system and some attack pathogens:
 - > **Killer T-cells (also called cytotoxic T-lymphocytes: cyto means cell; toxic means poisonous.)** kill pathogens by interfering with the life cycle of the pathogen or signaling the pathogen to self-destruct by chemical signals.
 - > **Suppressor T-cells (also called CD8 cells)** detect when pathogens are destroyed, and tell macrophages and Killer T-cells when to stop attacking them.
 - > **Helper T-cells (also called CD4 cells)** assist other T-cells and macrophages to destroy pathogens by giving them the signal to start the attack.
- Say, “Everyone is exposed to pathogens every day, but a healthy immune system prevents pathogens from causing disease or enables us to get well in a reasonable amount of time. What can we do to help our immune system to protect us?”
Answers should include: getting plenty of sleep/rest, eating nutritious foods (fruits, vegetables, whole grains, etc.), covering cuts and scrapes with bandages and keeping them clean, reducing stress, etc. However, a person infected with HIV can eventually lose the ability to fight off pathogens.
- Ask, “How does HIV impair the immune system?”
Answer: “HIV weakens the immune system by eliminating and disabling its T-cells, like CD4 (Helper T-cells) cells. That means that Helper T-cells cannot command the immune system to work, and thus Killer T-cells do not attack pathogens that would ordinarily be destroyed by the immune system. Someone who has a lot of HIV in his or her system will have very few CD4 cells, and these pathogens therefore have the opportunity to cause serious or fatal infections. This is why they are called *opportunistic infections*.”

Teacher Note: A list of illnesses and opportunistic infections associated with AIDS can be found at <http://www.cdc.gov/hiv/pubs/brochure/livingwithhiv.htm>, with a description of each illness.

“HIV goes inside CD4 cells and uses them to make copies of itself. Sometimes it destroys the CD4 cell by making lots of copies and bursting out. Sometimes the infected CD4 cells are destroyed because other immune cells have been signaled to go out and destroy cells infected with HIV. Sadly, this includes the infected CD4s.”

- Ask, “How long does it take for HIV to weaken the immune system, i.e., for *symptoms* of disease to appear?”
Answer: Although the progress of HIV infection varies a great deal from person to person, a person may be infected for many years with HIV before progressing to AIDS. On average, it takes three to 12 weeks from the time the body is exposed to HIV to the development of antibodies—HIV replicates quickly during this time, and the person may feel as if he or she has the flu.

During the next four to five years, during which the person's body fights the virus, there may be few signs of HIV except perhaps for fatigue, some swollen glands, and night sweats. For the next four to five years, the immune system starts to weaken and the person gets sick more often. Finally, T-cells may drop so low that the person qualifies for a diagnosis of AIDS. A low T-cell count makes one susceptible to serious illnesses that people don't usually get unless their immune systems are weak. It is important to note, however, that although this is the natural course of HIV, some people progress faster from HIV to AIDS, some slower, and some may not progress to AIDS at all.

- Ask, "Why is it important to know that people who have become infected with HIV may only have few and vague symptoms that they don't recognize as HIV?"

Answer: Many people who are infected do not know they have been infected unless they have had an HIV antibody test. In 2004, the New York City Department of Health and Mental Hygiene (NYC DOHMH) estimated that one out of every four HIV-positive individuals in New York City is unaware of their HIV status because they haven't been tested. Some people only go for medical tests after they have been sick for a while. This means some people receive an HIV diagnosis along with an AIDS diagnosis. That is why it is so important for people to get tested for HIV if they engage in, or have engaged in, any behaviors that might put them at risk for HIV infection.

Because of the delay between exposure to HIV and development of antibodies, and because the most common diagnostic test is meant to detect HIV antibodies, not the virus itself, if a person has had a recent risk and tests negative for HIV the first time, the person should engage in no risk behaviors for three months after the first test and then TEST AGAIN. This is the recommendation of the New York State Department of Health, because the two tests cover "the window period" between possible exposure to HIV and the development of antibodies. If a person does engage in any risk behaviors during that window period and then gets tested three months after the first test, a second negative result would not necessarily mean that he or she is HIV-negative—a new window period begins each time he or she engages in a risk behavior. It is important to get tested if one has had risk because HIV is an unusual disease. It is infectious to others throughout its course. Anyone with HIV, whether or not he or she has any symptoms of disease, can infect other people through risk behaviors.

Teacher Note: For more information on HIV counseling and testing, refer to Appendix A, *Student Guide to HIV Antibody Testing*. You may also refer students to your school's Health Resource Room.

- Say, "In the next lesson on HIV transmission, we will discuss how people get infected with HIV. Let's speak now, however, about the bodily signs and symptoms, and the opportunistic illnesses that may occur during the advanced phase of HIV infection called AIDS. What have you heard are the illnesses and symptoms that people with AIDS may have?"

Students' responses may include:

- Pneumonia (e.g., pneumocystis pneumonia [PCP]).
- Diarrhea.
- Wasting (becoming very thin).
- Kaposi's sarcoma (skin and/or internal lesions).
- Recurrent vaginal yeast or candida infections.
- Meningitis.
- Cervical cancer.
- Dementia.
- Diminished T-cell count.
- Tuberculosis.

- Say, “All of these infections sometimes strike people without HIV, but are particularly common and dangerous in people with HIV because their immune systems (the body’s defenses against illness) are damaged, and their bodies cannot fight infections off easily. When there is a known HIV infection, plus a diagnosed opportunistic infection *or* a very low count of CD4 cells per cubic millimeter of blood (about a drop), which means the body is very susceptible to opportunistic infections, the person is diagnosed with AIDS, the most serious phase of HIV.”

- Students may have questions about treatment of HIV and living with HIV / AIDS.

Tell students, “Currently, there is no cure for HIV / AIDS or any vaccine to prevent it. However, in the late 1990s and 2000s, new drugs were discovered to decrease the effects of HIV on the immune system. Drugs called *antiretrovirals* interfere with the virus’s ability to make copies of itself and the virus’s ability to weaken the immune system. As a result, in the United States, people are living longer with HIV; the progression from HIV to AIDS is much slower; and HIV / AIDS is becoming a chronic illness that people live with and manage, rather than quickly die from. While people do still die from it, the death rates have dropped significantly from the 1980s. However, it is still very important for young people to protect themselves from becoming infected with HIV by avoiding high-risk behaviors and by staying healthy.”

Assessment

- Divide the class into two teams. Explain that the class will play a game using the format of the “Jeopardy” TV game show. Students are given the answer (from Activity Sheet 1) and must come up with the question.
- Read one answer at a time. Each team takes turns responding to a different answer. The team will get a point if they respond correctly. If the team responding does not know the correct question, the other team can respond. If both teams do not know the correct question, the teacher provides it. Keep score on newsprint/chalkboard and correct any misinformation that may arise during the game.
- Find any other questions that should be included on Activity Sheet 1.

Activity Sheet 1

Answer/Question Game Questions

- A. This is the body's largest organ—an important barrier to germs.
Q. WHAT IS SKIN?
- A. These are the soft, wet tissues that line certain body openings.
Q. WHAT ARE MUCOUS MEMBRANES?
- A. This is the name for germs that can cause disease.
Q. WHAT ARE PATHOGENS?
- A. This is another word for pathogen.
Q. WHAT IS A GERM? (OR, WHAT IS AN ANTIGEN?)
- A. These are tiny hair-like structures that cover some cells. In the nose and ears, these structures catch some pathogens and “sweep” them back out of the body.
Q. WHAT ARE CILIA?
- A. This liquid in the mouth contains enzymes that break down food and destroy some pathogens.
Q. WHAT IS SALIVA?
- A. This harsh liquid in the stomach breaks down food and destroys some pathogens.
Q. WHAT IS STOMACH ACID?
- A. This liquid, produced by the skin, traps some pathogens.
Q. WHAT IS SWEAT (OR, WHAT IS PERSPIRATION)?
- A. These liquids, produced by the eyes, trap some pathogens and contain enzymes that kill bacteria.
Q. WHAT ARE TEARS?
- A. This is the sticky coating of the membranes that line body openings such as the nostrils (nose).
Q. WHAT IS MUCUS?
- A. This large white blood cell devours some pathogens.

Activity Sheet 1 (continued)

Q. WHAT IS A MACROPHAGE?

A. This type of white blood cell manufactures antibodies to help the body resist disease-bearing germs.

Q. WHAT ARE B-CELLS?

A. This category of white blood cells has many cells that regulate the immune system.

Q. WHAT ARE T-CELLS?

A. These proteins, which are manufactured by B-cells, latch onto specific pathogens, identify them as pathogens, and help prevent them from causing harm.

Q. WHAT ARE ANTIBODIES?

A. This type of T-cell assists other T-cells and macrophages to destroy pathogens by giving them the signal to start.

Q. WHAT ARE HELPER T-CELLS? (OR, WHAT ARE CD4 CELLS?)

A. This type of T-cell tells other T-cells and macrophages when to stop attacking pathogens.

Q. WHAT ARE SUPPRESSOR T-CELLS?

A. These substances, which are either injected or taken by mouth, prevent a person from becoming ill with certain diseases.

Q. WHAT ARE VACCINES?

A. These are medicines for diseases caused by certain bacteria.

Q. WHAT ARE ANTIBIOTICS?

A. This is a type of pathogen. It cannot be treated with antibiotics.

Q. WHAT IS A VIRUS?

A. These are medicines used to stop HIV from making copies of itself and attacking the immune system.

Q. WHAT ARE ANTIRETROVIRALS?

A. This is a virus that eventually impairs the immune system.

Q. WHAT IS HIV?

A. This is a group of bodily signs and symptoms and illness that people whose immune systems have been seriously impaired or compromised by HIV infection/disease sometimes get.

Q. WHAT IS AIDS? (OR, WHAT ARE OPPORTUNISTIC INFECTIONS?)

A. This is a kind of cancer to which people with AIDS are susceptible. It can cause lesions on the skin or internally.

Q. WHAT IS KAPOSI'S SARCOMA?

Activity Sheet 2

The Immune System: How It Works

The immune system is a complex system or network (a system of things that are interrelated) of cells, tissues, chemicals, and organs. Its mission is to protect us against foreign organisms and substances. The biggest organ in the immune system is your skin. Healthy, unbroken skin is the body's main defense against infection. The immune system has the ability to recognize something as self (belonging to the body) or non-self (invader), and it tries to get rid of anything that is an invader. Invaders of the body are microbes (microscopic organisms, sometimes also called "germs") and include fungi (athlete's foot), bacteria (strep throat), viruses (the flu), and parasites such as protozoa (malaria) and worms (pinworm). Many different cells and chemicals must be coordinated for the immune system to function at its best.

There are various ways the immune system functions. It has:

1. barriers like skin;
2. innate or inborn immune responses (for example, stomach acid kills many pathogens); and,
3. a special response ("adaptive immune system") for each invader; it uses that response the next time it encounters the invader.

If a pathogen gets into the body, this is how a healthy immune system works:

1. When an invader enters the body, it gets engulfed by macrophages ("big eaters") that are close to the skin or mucous membranes.
2. The macrophage takes the pathogen apart and reveals its antigens. Each invader has its own antigens, which act as "identification cards" for the immune system to recognize. The Helper T-cell—also called CD4 cell—reads and recognizes the antigens. The CD4 cell sends a message out to the B-cells and to other cells to come help destroy the invader.
3. The activated B-cell produces millions of antibodies. The antibodies will outnumber the invaders and help get rid of them by attaching themselves to specific antigens and then allowing both themselves and the antigens to be eliminated. Antibodies and antigens fit together like a lock and a key.
4. Once an antibody has "caught" an invader, a signal is sent to the macrophages and to other cells (Killer T-cells and others) that it is ready to be eaten or destroyed with its capture. When a macrophage gets the message, it comes along and eats the antibody-antigen complex, ridding your body of the pathogen or invader.

By the time you feel miserable with a cold, the virus that caused it is already under attack by macrophages, T-cells, and B-cells. The B-cells have a memory, so that if that same virus enters the body again, the B-cells will send out ready-made antibodies to help identify it and help cells of the immune system destroy it.

How Is HIV Transmitted?

Teacher Note: Depending on the level of your class and the time available, you may wish to teach this lesson over two class periods.

Performance Objectives

Students will be able to:

- Identify which body fluids can transmit HIV from an infected person to an uninfected person.
- Identify behaviors and activities through which HIV can be transmitted from an infected person to an uninfected person.
- Explain the “window period” for HIV antibodies and its implications for HIV antibody testing.
- Understand that anyone who practices risk behaviors can become infected with HIV, regardless of age, race or ethnicity, gender, sexual orientation/identity, country of origin, or economic status.
- Understand that all people in our society have the right to be treated fairly regardless of HIV status, race, ethnicity, gender, country of origin, economic status, or sexual orientation/identity, and are obliged to treat others fairly in return.

Teacher Note: Because of media discussion of the HIV/AIDS epidemic, young people may have the mistaken impression that HIV/AIDS is caused by or transmitted as a result of sexual attraction or sexual orientation/identity. This lesson provides an important opportunity to emphasize that risk behaviors, not sexual attraction or sexual identity, can put people at risk of HIV infection or STIs. **While the first part of the lesson discusses modes of transmission, the latter part of the lesson emphasizes that it is not who one is, but rather *what one does* that affects one's level of risk of HIV infection or STIs.**

Many young people have questions about the nature of sexual attraction. They struggle with questions about how to distinguish a “boyfriend” or “girlfriend” from a “friend,” and how to demonstrate their own masculine or feminine identities. Some young people have feelings of romantic attraction, while for others feelings of attraction have not yet emerged. Sometimes feelings of attraction and affection mingle, confusing young people as they struggle to discover who they are. Having a close friendship with someone of the same sex does not necessarily indicate that one is homosexual.

GRADE 9 Lesson 2

NEW YORK STATE LEARNING STANDARDS 1

SKILLS

Self-Management

MATERIALS

Chalkboard

Activity Sheet:

Do These Behaviors Lead to HIV Transmission?

Appendix A:

Student Guide to HIV Antibody Testing

VOCABULARY

Bisexual

Heterosexual

Homosexual

Sexual Identity

Transgender

Window Period

Teacher Note: Internal or peer pressures to define their identities sometimes lead young people to demonstrate prejudice against people they perceive as “different” in an effort to make it clear that, in contrast, they are “okay.” Unfortunately, gay and lesbian people are sometimes the targets of prejudice and violent behavior. Students should understand that all people in our society have the right to be treated fairly and the obligation to treat others fairly.

Teacher Note: Teachers must be sensitive to the fact that students in the class may have friends or family members who are lesbian, gay, bisexual, or transgender. Students themselves may also fall into one of these groups or may be questioning their sexual identities. It is vital to make sure that this lesson deconstructs, rather than perpetuates, the stereotypes and prejudices to which these groups are subject.

Do Now (for use during lesson; not to be collected)

- Write the following on the chalkboard:
“List three ways that people can become infected with HIV, the virus that causes AIDS.”

Motivation

- Ask, “When was AIDS first identified as a disease?”
Answer: 1981.
- Ask, “So how old is the epidemic?”
- Ask, “In 1981, the disease was not named AIDS; HIV was not yet identified as a virus; and no one knew how people got the disease. What have we learned since then?”
Answer: We have learned that HIV is transmitted through the exchange of specific bodily fluids (blood, semen, and preseminal fluid, vaginal fluids, and breast milk) that can carry HIV. Certain behaviors/activities can lead to the exchange of these bodily fluids. No one group (e.g., injection drug users, homosexuals, heterosexuals, or people from a specific region or country) is responsible for the HIV/AIDS epidemic or is at greater or lesser risk for HIV transmission. AIDS is an advanced phase of HIV infection.
- Say, “Using your answers from the “Do Now,” let’s make a list of how we think people might get infected. You can also list what you’ve heard other people say.”

Procedure/Development

- During the ensuing discussion, begin to make a chart listing students’ ideas about transmission. An overhead transparency can be made of the Activity Sheet, “Do These Behaviors Lead to HIV Transmission?”
- After all of the behaviors are listed and after the discussion of body fluids, go through the list with students and have them identify which behaviors can in fact lead directly or indirectly to HIV infection. Place an X in the columns the students indicate. Look at the table on the Activity Sheet.

- Say, “Let’s tie in what we have just discussed with some basic facts about how HIV is and is not transmitted.”
- Write on the chalkboard: “Body Fluids.”
- Ask, “What are examples of body fluids that can transmit HIV from an infected person?” Write students’ answers on the chalkboard. They should include the following:

blood	preseminal fluid (“pre-cum”)	menstrual blood
semen	vaginal fluids	breast milk

- Define the terms as follows:

Semen – the fluid that contains sperm that is ejaculated from the penis during sexual activity and orgasm.

Preseminal fluid (“pre-cum”) – the small amount of clear fluid that appears at the tip of the penis when it becomes erect prior to orgasm.

Vaginal fluids – the natural wetness, also called secretions, in a woman’s genitals.

Menstrual blood – blood that leaves the body through the vagina during a woman’s menstrual period.

Breast milk – the nutritious fluid secreted by a mother for feeding her baby.

Teacher Note: Many students use other terms to describe these body fluids and other matters related to sexuality. As with all HIV/AIDS education, it is important that students understand the terms used in the classroom, use them correctly, and relate them to their own experience and language. If students use different terms to refer to body fluids, make sure they understand the relationship between both sets of terms. Always encourage students to use the correct terminology.

If students seem uncomfortable during discussion of body fluids and HIV transmission, acknowledge that such a response is natural. Because we do not often discuss such matters in public, it is understandable that some people may feel embarrassed. Nevertheless, it is important to know the facts.

Teacher Note: HIV has been found in lesser concentrations in other body fluids, such as saliva, but not in sufficient concentrations to cause infection.

- Say, “HIV can only be transmitted if one of these infected body fluids enters a person’s body.”
- Ask, “Can HIV be transmitted when a person stands next to someone with HIV?”
Answer: No.
- Ask, “Why not?”
Answer: HIV is not an airborne virus, and is not spread through casual contact.
- Say, “Behaviors that increase one’s risk of HIV infection or other health problems are called *risk behaviors*.”
- Write on the chalkboard:
RISK BEHAVIORS: Behaviors that allow HIV-infected body fluids to enter a person’s body.
 - At this point, return to the list of behaviors on the chalkboard and review the list with students. Have them identify which behaviors are “risk behaviors” and why. (A behavior is a risk behavior if it may let HIV-infected body fluids enter a person’s body.)
- Ask, “Why can unprotected sexual intercourse be a risk behavior?”
Answer: Infected semen, preseminal fluid, vaginal fluids, and blood can be exchanged.

- Say, “During sexual activities in which a partner’s semen/preseminal fluid, vaginal fluids, or blood can enter another person’s body, there is a risk of HIV infection. Infection can be transmitted or contracted by a man or a woman regardless of race or ethnicity, sexual orientation/identity, country of origin, or economic status. Sometimes sexual partners are unaware that any small scratches, internal tears, or bleeding have taken place. If internal bleeding or tears take place (for example, during anal intercourse, where the thin mucosal lining of the rectum is prone to small tears and scrapes), the risk of HIV transmission is increased.

Teacher Note: This is especially true when anal penetration occurs. It is not clear whether it is due to the nature of the cellular lining in the rectum or because of the high risk for abrasions. However, we do know that anal sex presents the highest risk for HIV transmission.

“Also, because teenagers’ bodies are not fully mature, they are more vulnerable to HIV/STI infection than adults are. Teenage girls, especially, may be more susceptible to HIV/STI infection because a teenage girl’s reproductive system is still not fully mature; even if she is menstruating already. Teenage boys are also susceptible to HIV/STI infection if they engage in risk behaviors.”

Teacher Note: If, in the course of this lesson, students raise the issue of prevention, stress that only abstinence provides 100 percent protection against the sexual transmission of HIV. Inform students that later lessons will address condom use as a means of risk reduction.

Teacher Note: Female adolescents’ reproductive systems require five to seven years to mature fully after their first menstrual period. During this developmental phase, the female reproductive system may be more susceptible to HIV/STI infection. As a teenage female goes through puberty, the cells on her cervix shift. (The cervix is the structure that connects the vagina and the uterus.) In the immature adolescent, cervical cells that are more vulnerable to infection are toward the outside of the cervix (toward the vagina), where they are exposed to male genital contact during sexual intercourse. Over time, these cells gradually shift to the inner portion of the cervix (toward the uterus) so that they are no longer exposed during sexual intercourse. Also, immature vaginal walls are thinner and secrete less fluid than later in development, so they are more vulnerable to tearing and abrasions. In the fully mature woman, thicker vaginal walls and heavier concentrations of vaginal and cervical fluids may offer protection against the passage of bacteria or viruses through the mucous membrane that lines the vagina.

- Ask, “How can we reduce the risk of the sexual transmission of HIV?”
Answer: The correct and consistent use of condoms during sexual activity (penile/vaginal, penile/anal, and oral/penile) will help to decrease the risk of sexual transmission of HIV. The most certain way to eliminate the sexual transmission of HIV is to abstain from sexual activity.
- Ask, “To protect themselves, why can’t people just ask a sexual partner if he or she is infected?”
Answer: Most people do not know if they are infected unless they have had HIV antibody testing. An average of one out of four HIV-positive people does not know he or she is infected. Furthermore, some people do not tell the truth about being HIV-positive.
- Ask, “If a partner has been tested and found to be negative, then is it safe to have sexual intercourse with him or her?”
Answer: No, it is not. Once exposed to HIV, the body usually produces antibodies in 3 to 12 weeks. The time between infection with HIV and the production of antibodies is known as the *window period*. A person who is infected with HIV will test negative for HIV antibodies during the window period, but is HIV-positive and capable of transmitting the virus to others. Therefore, if a person’s blood is tested during this window period, the most common HIV tests, which test for HIV antibodies, will not reveal HIV antibodies, even if he or she is infected.

In order to be sure that a partner’s negative test results are accurate, one should be sure that two HIV tests were done *at least* three months apart, with no risk behavior between tests.

- Emphasize: Proper testing involves doing two tests, three months apart, during which the person has been involved in no risk behaviors. To be sure one is negative, one has to test negative on both tests.
- Make sure students understand that people may not always be willing to disclose that they have been tested or are infected.
- Say, “Now that we have learned how HIV is transmitted, explain who is at risk of HIV infection.”
Answer: Anyone who practices risk behavior can become infected with HIV, regardless of age, race or ethnicity, gender, sexual orientation/identity, country of origin, or economic status.
- Say, “Why is it so important that people understand that sexual activity, not sexual identity, may put a person at risk of infection?”
Answer: Some people incorrectly believe that anyone who is gay, lesbian, bisexual, or transgender is infected with HIV and, conversely, that anyone who is heterosexual, or “straight” is immune to HIV/AIDS. Because of these incorrect beliefs, individuals may put themselves unnecessarily at risk for HIV infection or discriminate against gay, lesbian, bisexual, or transgender people. It is important to distinguish between sexual attraction or identity (how a person feels and/or labels him/herself) and sexual activity (what a person does). Some people who identify themselves as straight still engage in same-sex sexual behavior and are not always open about it with partners of the opposite sex.
- When people have feelings of sexual attraction, they can choose whether or not to act on those feelings. All people are at risk of HIV infection and STIs if they practice risk behaviors. All people should learn the benefits of abstinence. Those who do decide to engage in sexual activity must understand the methods of prevention (to be discussed in a subsequent lesson).

Homework

- Have students read Appendix A, *Student Guide to HIV Antibody Testing*, then answer the following questions:
 1. Imagine a friend is thinking about getting an HIV test, and comes to you for advice. What are some questions you should ask about his/her behaviors? List the questions. What responses would prompt you to recommend HIV testing?
 2. Do you think HIV testing should be mandatory (required) for everyone? Clearly explain the reasons for your answer.

An in-class debate may be set up where students are randomly assigned to take a position on whether testing should be mandatory or voluntary.

Do These Behaviors Lead to HIV Transmission?

BEHAVIOR	May Lead to HIV Infection	Cannot Transmit HIV
Standing next to someone who has HIV.		
Having unprotected sexual intercourse with someone who has HIV.		
Being born to a woman who has HIV.		
Eating a meal with someone with HIV.		
Having unprotected sexual intercourse with someone who has a Sexually Transmitted Infection (STI).		
Sharing needles, syringes, works, or skin-popping equipment during drug use.		
Shaking hands with someone from a country highly affected by HIV.		
Getting a transfusion with HIV-infected blood.		
Being gay or lesbian.		
Being bitten by a mosquito.		
Hugging someone with HIV.		
Kissing someone.		
Being near someone with HIV who sneezes.		
Playing basketball with someone with HIV.		
Helping someone with a nosebleed, and getting that person's blood into a cut in your own skin.		

Do These Behaviors Lead to HIV Transmission?

BEHAVIOR	May Lead to HIV Infection	Cannot Transmit HIV
Standing next to someone who has HIV.		X
Having unprotected sexual intercourse ¹ with someone who has HIV.	X	
Being born to a woman who has HIV. ²	X	
Eating a meal with someone with HIV.		X
Having unprotected sexual intercourse with someone who has a Sexually Transmitted Infection (STI). ³	X	
Sharing needles, syringes, works, or skin-popping equipment during drug use. ⁴	X	
Shaking hands with someone from a country highly affected by HIV.		X
Getting a transfusion with HIV-infected blood. ⁵	X	
Being gay or lesbian. ⁶		X
Being bitten by a mosquito. ⁷		X
Hugging someone with HIV.		X
Kissing someone. ⁸		X
Being near someone with HIV who sneezes.		X
Playing basketball with someone with HIV.		X
Helping someone with a nosebleed, and getting that person's blood into a cut in your own skin. ⁹	X	

Teacher Note: Make sure students' focus remains on the proven modes of transmission through blood, semen or preseminal fluid, vaginal fluids, and breast milk.

The Centers for Disease Control and Prevention documented one case of transmission of HIV through deep kissing. However, both persons had severe gum disease accompanied by bleeding. This case illustrates the need for sound principles about transmission and common sense.

¹ HIV can be transmitted through vaginal, oral, or anal intercourse. Teachers should follow their principal's guidance regarding how to respond to questions, and whether and when to initiate discussion on the types of sexual intercourse. This Curriculum Guide recommends that in Grades 7 and 8, teachers should mention types of sexual intercourse in response to students' questions. (In Grade 9, the teacher should initiate such discussion.) The following information can help you to respond if students ask questions:

HIV can be transmitted through vaginal, oral, and anal intercourse with a person who is infected. When sexual intercourse is not clearly defined to include oral and anal, people may fail to recognize their risk and not take appropriate action to protect themselves or others. In New York State, a person under 17 years of age is incapable of giving legal consent. Vaginal, oral, or anal intercourse with a person less than 17 years of age and to whom the actor is not married constitutes a crime in this state.

² In the second decade of the epidemic, one of the greatest advances in the prevention of HIV transmission was made. Pregnant women are always encouraged to be tested for HIV. If a pregnant woman is found to be HIV-positive, she will be put on special anti-HIV medications during pregnancy, special procedures will be used during delivery (e.g., washing the birth canal), and the newborn also will be given special anti-HIV medications for the first few weeks/months of life. As a result, a dramatic reduction has been made in the number of cases of perinatal (mother-to-child) transmission of HIV. In New York City in 1990, there were 321 cases of perinatal transmission, but in 2005 there were only 5 cases. Since HIV has been found in breast milk, it is also believed to be possible for an HIV-positive woman to transmit HIV to her child through breastfeeding; therefore, HIV-positive mothers are encouraged to use formula.

³ Young people ages 15 to 24 accounted for only 25 percent of the sexually active population in the U.S., but 48 percent of all Sexually Transmitted Infections (STIs) in the United States in 2000. STIs are more common among sexually active adolescents than among sexually active people in any other age group. A person with an STI may be more susceptible to HIV infection because sores, rashes, etc., may provide transmission routes through which HIV can reach the bloodstream.

⁴ Sharing needles/syringes/works/skin-popping equipment for injection of drugs, including steroids or hormones, or sharing needles or other sharp objects that have not been properly and adequately sterilized is a highly efficient mode of transmission of HIV and other STIs because it involves blood-to-blood contact. Even microscopic quantities of blood may remain in the needle, syringe, etc., and can be passed on to the next user(s).

⁵ Explain that this mode of transmission is highly unlikely but not impossible. Since 1985, blood has been tested for HIV antibodies. Any blood found to contain HIV antibodies is not used, and the blood donor is notified that his or her blood indicated possible health problems. In addition, potential donors are screened for risk behaviors that put them at risk of HIV infection. Donors engaging in such behaviors are generally discouraged from donating. In addition, in 1999, many blood banks began using screening tests that detect actual HIV as well as antibodies. Most blood for transfusions is free of HIV, as are donated organs and sperm. Donating blood using sterile equipment is 100 percent safe.

⁶ It is crucial that students understand that risk behaviors can lead to HIV infection. Sexual attraction and orientation/identity do not.

⁷ Years of experience with HIV in Africa, where mosquitoes are very common, support the idea that mosquitoes do not transmit HIV, since virtually all HIV-positive people who were studied acquired HIV through blood, sexual exposure, or perinatal transmission. HIV doesn't live in insects; it is a human immunodeficiency virus.

⁸ Saliva itself contains very low quantities of HIV, and contact with saliva has never shown to result in transmission of HIV. However, if blood is present (due to gum disease, oral infection, or vigorous tooth brushing), deep kissing with an HIV-positive person poses a theoretical risk of HIV transmission. That means transmission is possible but not probable.

⁹ Discuss universal precautions and the need to handle any blood spill carefully.

How Can Young People Set Limits and Make Healthy Decisions About Sexual Activity and Abstinence?

Performance Objectives

Students will be able to:

- Identify qualities that enable a person to stick to a decision, even if others challenge it.
- Identify important reasons to abstain from sexual intercourse.
- Understand why people set limits on sexual activity.
- Know and practice the steps to successful limit setting.

Do Now

- Make a private list (not to be collected) of activities and behaviors that make you feel good about yourself and another list of those that make you feel uncomfortable. This should be a quiet exercise, an opportunity for introspection.

For example, think of a time when:

- You worked very hard at something and accomplished it.
- You did something that made a close friend or family member feel good.
- You intervened in a situation and helped someone else.
- Someone pressured you to do something that you felt was wrong.
- You did something that made you feel sorry later.
- Something seemed like a good idea at the time, but later you realized it did not make sense.

Motivation

- Ask students to brainstorm how they can tell whether a decision is positive and healthy.

Students' answers may include:

- Feeling pretty sure an activity is right for you. (It is important to think for oneself.)
- Not feeling apprehensive. (A feeling of anxiety can be a valuable warning signal that a decision may be wrong for you.)
- Not feeling pressured into doing something you believe is wrong. (Feeling pressured is a warning signal.)
- Feeling okay about a parent/guardian/caregiver/close friend knowing about the decision. (Feeling ashamed if they knew is another warning signal.)

GRADE 9 Lesson 3

Prevention

**NEW YORK STATE
LEARNING STANDARDS
1, 2**

SKILLS

Communication
Decision Making
Planning and Goal Setting
Relationship Management
Self-Management

MATERIALS

Chalkboard/Newsprint

Activity Sheet 1:
Design the Outcome

VOCABULARY

Advance Planning
Effective Responses
Introspection

- Feeling clear that you thought through the decision. (Writing down the pros and cons of a decision is often helpful.)
- Thinking about the consequences for you and the other person(s) involved. (Play out the scene in your mind and imagine how you will feel when it is over.)
- Feeling that you are prepared to carry out the decision responsibly. (If you decide to abstain from sexual intercourse, be clear with your partner and do not lead him or her on. If you and your partner decide to have sexual intercourse, make sure you reduce your risk of HIV/STIs and/or unintended pregnancy by being prepared with a latex condom and other contraception.)

Procedure/Development

- Ask, “How can thinking about what you believe is right or wrong help you make decisions about sexual activity?” Students’ answers may include:
 - You can think in advance about what you will or won’t do on a date.
 - You can remember other times when you felt out of control and not let that happen again.
 - You can think for yourself.
 - You can explain to friends that if an activity goes against your principles or makes you feel uncomfortable, you will not do it.
 - You can stay focused on your goals. For example, many young people choose abstinence so they can:
 - > Focus on personal development, schoolwork, sports, or other activities, and building friendships.
 - > Stay healthy by avoiding HIV/STIs.
 - > Avoid pregnancy.
- Say, “Let’s talk about learning to set limits.”

Teacher Note: It is important for students to understand that HIV/AIDS education involves not only physical health but also emotional health—a feeling of strong self-esteem (respect for self and others) and the ability to make healthy, responsible decisions.

- Say, “Successful limit setting involves three steps:
 - Step 1: Introspection.
 - Step 2: Advance Planning.
 - Step 3: Practicing Effective Responses.”
- Say, “Let’s begin with Step 1, Introspection.” Ask, “What qualities do you have that make you feel physically and emotionally healthy?”

Teacher Note: If students focus primarily on physical health (“big muscles” or “eat lots of vegetables”), ask them to identify signs of emotional health. For example:

- Being honest with oneself and others.
- Having goals for the future.
- Thinking positively.
- Doing only what reflects one’s personal convictions.
- Being able to set and adhere to limits.
- Knowing that doing something wrong or uncomfortable will make one upset later.

- Say, “These qualities enable young people to gravitate toward positive situations and to steer clear of engaging in behaviors that feel wrong, uncomfortable, or unhealthy.”
- Say, “The following activity addresses Step 2, Advance Planning, and Step 3, Practicing Effective Responses.”
- Ask, “What are some difficult situations in which young people might feel pressured or tempted to engage in risk behaviors?” Write students’ answers on the left side of the board. After they complete the list, have them brainstorm effective advance planning and responses; write their answers on the right. The resulting chart might look like the one following:

AVOIDING OR GETTING OUT OF POTENTIALLY NEGATIVE SITUATIONS

SITUATION	ADVANCE PLANNING / RESPONSES
<ul style="list-style-type: none"> • Being alone with a friend when parents or other adult family members are not home. 	<ul style="list-style-type: none"> • Ask in advance who will be home. Avoid being alone if you may be pressured or tempted to engage in risk behaviors. • Choose to be together in a group of friends who share your values rather than alone. • Let your partner know your limits, and discuss situations that make you uncomfortable.
<ul style="list-style-type: none"> • Being at a party where people are drinking or doing other drugs. 	<ul style="list-style-type: none"> • Ask in advance what the party will be like. • Avoid going to the party if you anticipate trouble or, if you are not sure what the party will be like, arrange to be able to call a parent/guardian/caregiver, sibling, friend, or taxi or car service to pick you up if you want to leave early.
<ul style="list-style-type: none"> • Being in a car driven by someone who has been drinking or doing other drugs. 	<ul style="list-style-type: none"> • Be observant. Don't ride in a car being driven by anyone who is drunk or high. • Arrange a “no-questions-asked” plan with a parent/guardian/caregiver so you feel comfortable calling any time to be picked up. • Bring money with you to go home via taxi or car service, if possible.

- Ask, “What qualities does it take to stick to any decision?”

Students’ responses may include:

- Strength of character.
- The will to stand firm in a decision that has been carefully and thoughtfully made.
- The courage to defend or stand up for what you believe is right.
- Commitment.
- Belief in yourself.
- Support from people who matter to you.
- Ignoring people who criticize or belittle you.

- Ask, “When someone makes a decision to be abstinent, how might this reflect his or her self-esteem? What are some important reasons for young people to be sexually abstinent?”

Students’ responses may include:

- They have the courage and wisdom to do what is right for them.
- They do not feel ready to engage in sex.
- They have respect for their parents’ values and/or religious values.
- They have the patience to wait until they are older to have sex.
- They have self-respect.
- They know they can be respected and liked by others without having sex.
- They do not confuse the need for closeness with the need for sex.
- They decide to use their energies for other things at this time of their lives.

Homework

Have students complete Activity Sheet 1, “Design the Outcome,” using separate sheets of paper. Discuss the activity sheet during a subsequent class.

Design the Outcome

Directions

Read the following situations. On separate sheets of paper, write scenes that complete each one. You can write dialogues, expand situations, bring in additional characters, use different settings, and have characters confront one another or otherwise interact. These situations are what you make them. You can give them positive or negative outcomes.

Situation 1:

Chris is at a party. A lot of the kids are drinking beer. Chris had been getting friendly with some of these kids, but this is the first time Chris knew they drank beer. Chris still thinks the kids are nice, but is not sure about staying at the party and keeping these friends. Chris leaves the party early and asks you for advice.

Situation 2:

Lee is asked to go to the movies by Pat, a popular student. Lee is flattered. But there are rumors that Pat has slept around a lot. Lee agrees to go out with Pat but wonders if this was the right decision. Lee asks you for advice.

Situation 3:

Theo and Elena have been going out for a while. He has started to pressure her to have sex. She likes him a lot and thinks she may even love him, but she's not sure she's ready to have sex. She asks you how to talk to Theo.

SKILLS

Communication
Decision Making
Planning and Goal Setting
Relationship Management
Self-Management

MATERIALS

Newsprint
Paper
Pencils

VOCABULARY

Abstinence
Intimacy
Personal Values
Sexually Transmitted Infections
(STIs)
Step-by-Step Plan

How Is Abstinence from Sexual Intercourse Both a Health Decision and a Reflection of Personal Values?

Performance Objectives

Students will be able to:

- Describe how choosing to abstain from sexual intercourse reflects both personal values and health considerations.
- identify reasons teens have sexual intercourse.

Do Now (not for collection)

Write examples of three people you value and why you value them.

Motivation

- Ask, “Why do young people have sexual intercourse?” Have students brainstorm answers.

For example, they might respond:

- Curiosity.
- Sexual desire.
- Desire to strengthen a shaky relationship.
- Peer pressure.
- Reassurance that one is “normal.”
- To feel grown up.
- Desire for intimacy.
- To express love.
- To experience pleasure.
- They are forced or coerced.

Teacher Note: To help students distinguish between personal/ethical values and health decisions, you might do the following exercise before proceeding with the lesson:

- Say, “In a minute, I am going to ask you why many teens are abstinent. But first, let me change the subject and ask you, why do some people decide to be vegetarians?”

Write students’ answers on the chalkboard. They might include:

- They want a healthier diet.
- They do not want to hurt animals.
- They love animals.

continued

Teacher Note, continued

- They have certain religious reasons.
- They believe that eating animals is less ecologically healthy for the planet.
- They want to lower their cholesterol.
- Say, “These reasons can be divided into two categories: personal/ethical values and health reasons.” Have students classify the reasons into two categories. Circle the health reasons and underline the ethical reasons.

Procedure/Development

- On newsprint, write “Personal/Ethical Values” and “Health Reasons.”
- Ask, “Why do many teens choose abstinence?” Have students list reasons that have to do with personal/ethical values and reasons that have to do with health. For example, the students’ list may look like this:

WHY MANY TEENS CHOOSE ABSTINENCE

PERSONAL / ETHICAL VALUES	HEALTH REASONS
<ul style="list-style-type: none">• Religious values.• Parents don’t approve.• Wish to wait until marriage.• Oppose society’s emphasis on sex.• Avoid emotional turmoil.• Family’s values.• Want to wait for the right person.• Want time to grow up.• Responsibility to partners.• Want to preserve future options.	<ul style="list-style-type: none">• Avoid sexually transmitted infections (STIs).• Avoid unwanted pregnancy.• Avoid HIV.• Avoid emotional stress.• Preserve future fertility by remaining free of STIs.

Teacher Note: If students cannot seem to identify reasons to abstain from sexual intercourse, or if they scoff at the notion of choosing abstinence, use this opportunity to discuss the peer pressure many teens feel, as well as the emphasis on sex in the media (TV, radio, films, Internet, magazines, newspapers) and in conversations among teens. Emphasize that many teens do choose abstinence, but don’t always say so openly. Students are most likely to respond openly to this activity if they feel a strong rapport with the teacher and if the classroom environment feels emotionally safe. Promote such an atmosphere by having students use the “Ground Rules” in Appendix B, *Classroom Guides*, and by modeling their use.

- Ask, “What are the sources of people’s personal values?”
Answers: Parents, religion, media, school, friends, cultural heritage.

- Ask, “How can people make a plan to support a decision they have made?” As an example, ask the class to draw up a step-by-step plan on how a student might improve his or her homework. The plan might look like this:

Homework Improvement Plan

- Study hard and hand in homework on time.
- Purchase an assignments notebook/calendar to keep track of assignments and when they are due.
- Ask the teacher questions if you do not understand an assignment and ask for help if you need it. Do not procrastinate because you are afraid or too proud to ask for help.
- If it is hard to concentrate on homework at home, go to the library after school.
- If you need tutoring, ask your teacher, guidance counselor, or parents to help set it up.

- As a class activity, if there is time, or as homework, have students prepare a plan for supporting the decision to resist sexual pressures. The plan might look like this:

A Plan for Resisting Sexual Pressures

- Write down your beliefs about what is sexually right for you and why.
- Talk with parents, caregivers, or legal guardians about sexual decision making. Often they had similar questions or ideas when they were adolescents.
- Talk with another adult you trust, such as an aunt or uncle, grandparent, member of the clergy, guidance counselor, healthcare worker, youth leader, neighbor, or coach.
- Talk with friends about sexual decision making. Support friends in a decision to withstand pressures, and ask for support from them. For example, discuss that sexual intercourse may cause emotional stress, and involves the risks of pregnancy and sexually transmitted infections (STIs). STIs may impair health, increase vulnerability to HIV infection because of open sores/lesions, cause infertility, and—as is sometimes true, in the case of HIV infection—prove to be fatal.
- Prepare in advance how you might answer someone who tries to pressure you to have sex. Write down a list of things you can say.
- Practice using these responses by role-playing a pressure situation with other students.

- To assist students with role-playing pressure situations, you may wish to share the following ways of saying “no”:
 - Just plain “No!” (A strong statement all by itself, but don’t get drawn into an argument about why you said no.)
 - “No” with a reason. (“No. Having intercourse can be dangerous.”)
 - “No” with a feeling. (“No. I don’t feel that I am ready for sex.”)
 - “No” with an alternative. (“No. Let’s go to the movies instead.”)
 - “No” with caring. (“No. I wouldn’t like either of us to get hurt by this.”)
 - “No” and go. (“No. I’m going home now.”)
- Have students practice these assertiveness statements by role-playing risk scenarios, and/or have them draw up a list of ways they can respond to someone who tries to pressure them to engage in sexual intercourse or another risk behavior. (See “How to Process Role-Plays” in Appendix B.)

- Emphasize that abstaining from sexual intercourse is not only the safest decision physically, but abstinence also helps safeguard the emotional well-being of a young person who is experiencing emotional conflict and concerns about relationships and sexual involvement.

Teacher Note: Emphasize that emotional turmoil is not limited to decisions about whether to have sexual intercourse. Emotional ups and downs are normal for all young people (and for people of all ages). For example, many young people experience emotional conflict about:

- *Attraction to someone of a different race, religion, national origin, or ethnic background.* Young people may feel torn between their strong feelings of attraction and the potential disapproval of family and friends.
- *Same-sex attraction.* Feelings of same-sex attraction may or may not indicate that individuals are gay, lesbian, or bisexual. Some students may question their attractions. All students should be offered emotional support. An atmosphere of acceptance is crucial to students, some of whom may feel isolated and feel that they need to hide their feelings.
- *Gender identity.* Some students question whether their sense of their own maleness or femaleness is indicated by or is different from their physical and biological sex at birth. Some eventually identify as “transgender.” Students should be offered all possible emotional support and referral to specialized resources as appropriate.
- *Attraction to someone of a different age.* Young people may feel strongly drawn to younger or older individuals. Age disparity can create many problems. For example, attraction to someone significantly older may distress parents, and the older individual is likely to be more experienced in many ways. The younger person may want to please or emulate the older one, and may participate in activities for which he or she is not ready.
- *Attraction to someone of a different economic status.* Any close relationship between two people of different economic statuses can be difficult for the person of lesser means, because he or she cannot afford to do things that the wealthier person can do; for the person of greater means, because he or she might feel “held back” or guilty for having greater means. Feelings of resentment can build on both sides regarding ability to pay or being seen in the community. For young people, these feelings can easily be magnified, especially when they feel the need to belong to a group that may not accept them because they dress, talk, or act differently.

Young people may find it difficult to talk about these “forbidden desires” with adults or peers. Sometimes class discussion about such issues can help reassure them and help them recognize that they are not alone in their feelings of confusion. Such discussions should be of a general nature. To protect students’ privacy, strongly discourage personal disclosure in the large group. But do encourage students to share their questions or concerns privately with parents/guardians/caregivers, teachers, counselors, or other trusted adults.

Homework

Have students identify an area of their lives they would like to improve and prepare a step-by-step plan for doing so.

Teacher Note: Make sure students understand that HIV can be transmitted through body fluids of several kinds and through vaginal/penile, oral (including mouth-to-vagina and mouth-to-penis), or anal/penile intercourse with an HIV-positive person. When sexual intercourse is not clearly defined to include oral and anal, people may fail to recognize their risk and not take appropriate action to protect themselves and others.

The modes of transmission of HIV are often discussed in terms of personal risk. It is important to emphasize being protective of oneself and others. It is a crime in New York State for an adult to have non-marital vaginal, anal, or oral intercourse with a person under the age of 17. In New York State, a person under 17 years of age is incapable of giving legal consent.

Prevention

NEW YORK STATE
LEARNING STANDARDS
1

SKILLS

Advocacy
Communication
Decision Making
Planning and Goal Setting
Relationship Management
Self-Management

MATERIALS

Chalkboard

VOCABULARY

Assertive
Coordination
Impair
Impaired Judgment
Injection Drug Use
Non-injection Drug Use
Steroid
Verbal Peer Pressure

How Can Abstaining from Drugs, Including Alcohol and Steroids, Reduce the Risk of HIV Infection?

Performance Objectives

Students will be able to:

- Understand that sharing needles/syringes/works/skin-popping equipment for drugs, including steroids, or sharing needles for other purposes can cause transmission of HIV and other diseases.
- Understand that use of drugs, including alcohol, may impair judgment and lead to high-risk behaviors that can result in HIV infection.
- Practice skills that enable young people to say “no” to alcohol and other drugs.

Do Now

Write on chalkboard: “How can the use of alcohol and other drugs lead to HIV infection?”

Motivation

Review the “Do Now” exercise. Write students’ answers on the board or newsprint. Make sure that all of the following points are included and discussed. Help students distinguish between how alcohol and other drugs can directly and indirectly lead to HIV infection.

How Drug Use Can Lead to HIV Infection?

Answer: HIV can be transmitted when sharing needles, syringes, etc., during injection drug use.

- Have students define injection drug use: injection of drugs into a vein or muscle or under the skin by means of a needle and syringe.
- Have students explain why sharing injection equipment can result in HIV infection: If people share injection equipment, HIV-infected blood from one person may remain on the needle, syringe, etc., and enter the body of the next person to use it. Even a small amount of blood can contain a relatively large amount of HIV, compared to other body fluids (semen and preseminal fluid, vaginal fluids, breast milk) that can transmit HIV.
- Have students explain what injection equipment is: Injection equipment includes needles, syringes, or anything used for injection (such as filters, mixing containers, drug solution, water) that could transfer one person’s blood into another person’s body, even in a very small amount.

- Have students discuss instances in which people may share needles, syringes, etc. For example, during injection of drugs such as heroin and cocaine; during injection of steroids (drugs that are used to improve athletic performance but that have many serious side effects, etc.).
- Clarify that sharing needles, etc. is a direct way that drug use leads to HIV infection, as well as to other bloodborne infections (such as Hepatitis B and Hepatitis C) and the risk of heart, skin, and muscle infections.
- **HIV can be transmitted when impaired judgment associated with injection or non-injection drugs causes one to engage in high-risk behaviors.**
 - Have students give examples of non-injection drugs (such as crack and marijuana).
 - Have students discuss the meaning of “impaired judgment.”
- **HIV can be transmitted when impaired judgment associated with alcohol causes one to engage in high-risk behaviors.**
 - Have students name types of alcoholic beverages (wine, beer, malt liquor, wine coolers, whiskey, vodka, rum, gin, etc.).
- **Alcohol and other drugs can impair coordination, making correct condom use difficult and increasing the possibility of condom failure and HIV infection.**
 - Clarify that the use of alcohol and other drugs can lead to HIV infection by impairing people's ability to make sound, well thought-out decisions, thereby making them more likely to engage in high-risk behaviors that can lead to HIV infection.
 - Make sure students discuss the fact that alcohol is a drug. Young people often underestimate alcohol's potential for adversely affecting one's judgment and health. Like other drugs, alcohol can impair one's judgment and lead to risky behaviors that can result in HIV infection.

Procedure/Development

- Say, “We have discussed how drugs, including alcohol, can impair one’s judgment and lead to high-risk behaviors and situations that can cause HIV infection.”
- Ask, “What are examples of risk behaviors/situations?” Make sure all of the answers listed in the chart below are discussed.

BEHAVIORS AND SITUATIONS THAT CAN LEAD TO HIV INFECTION

BEHAVIOR/SITUATION	WHY IT'S HIGH-RISK
Sharing needles, syringes, and other equipment (cotton, cookers, drug solution, water), or skin-popping equipment for injection of drugs, including steroids.	HIV-infected blood from one person may remain on the needle, syringe, etc., and enter the body of the next person.
Sexual intercourse without effective use of a latex or polyurethane condom.	If a latex or polyurethane condom is not used or if it breaks or leaks, HIV-infected semen, preseminal fluid, vaginal fluids, or blood could enter another person's body.
Sexual intercourse while having a sexually transmitted infection (STI) or with someone who has an STI.	Some STIs produce sores or lesions, sometimes very small, which may increase the chance that HIV could enter one's body.
Using drugs, including alcohol.	Drugs, including alcohol, can impair judgment, causing one to engage in a high-risk behavior that can lead to HIV infection.
Having sexual intercourse with multiple partners.	The greater the number of one's sexual partners, the greater the likelihood of being with someone who is infected with HIV or another STI.
Being alone with a partner when no clear limits have been set and agreed to.	The situation may lead to getting “carried away” and to having sexual intercourse without effective use of a latex condom and/or to another high-risk behavior.

Teacher Note: Every time one repeats high-risk behaviors, one adds to or increases the likelihood of contracting HIV. But even one time of engaging in a high-risk behavior, such as unprotected sexual intercourse with an HIV-positive person, puts one at risk of contracting HIV.

- Ask, “What are some examples of situations involving drugs/alcohol that students may have to face during their high school years?”
Students’ answers may include:
 - Learning how to handle the pressure to experiment.
 - Learning how to respond in an uncomfortable situation so that one says “no” to drugs but does not alienate friends.
 - Having to convince a friend not to drink and drive.

- If there is time, divide the class into five groups.* Appoint a leader and recorder for each group, or have each group select its own leader and recorder. Give each group one of the “Risky Situations” listed below. Ask the groups to suggest how young people can avoid risk behaviors in the situation. Have each group share its situation and solution with the class.

Teacher Note: During the class discussion, have the students identify effective words and actions that enable a young person to deal with these situations. Discuss how students can resist verbal and nonverbal peer pressure to use drugs, including alcohol and steroids.

- Alternatively, if there isn’t time for small-group activity, discuss (as a class) solutions to the “Risky Situations” listed at the end of this lesson.

Risky Situations

- “Everyone’s drinking at the party. I don’t like to feel different. How can I keep myself from taking a drink?”
- “My date wants me to relax and smoke marijuana together in the car before we go to the party, and says it’s no big deal and would be good for our relationship. I don’t really want to use marijuana. What should I do?”
- “Although I’ve decided not to have sex, I have a harder time saying ‘no’ when I’ve had a couple of drinks. How do I avoid drinking when my friends bring out the beer?”
- “My friend wants us to shoot-up drugs together and says I can’t get HIV that way. How can I say no to my friend and help my friend understand that a person can get infected with HIV by sharing needles?”
- “My friend has started using steroids and suggests that I use them, too. He has a needle and syringe we can share. I would like to be a better athlete and look good. How can I stay away from steroids and convince my friend that we don’t need steroids to look good or be better athletes?”

Homework

- Say, “Planning ahead and practicing what to say are valuable problem-solving tools that can help one become more confident and assertive, feel better about oneself, and feel more in control.”
- Prepare a plan for what to do and say when coping with these situations:
 - “I’m invited to a party. My friend’s parents will not be home. There will be beer and marijuana. I don’t drink or smoke, but I want to go to the party. What should I do?”
 - “Jessica and I have been dating for three months. Jessica doesn’t like to drink alone and always asks me to have a drink, too. Lately I’ve been having more than one. The other night I lost consciousness. I’m afraid. What should I do?”
 - “The people I hang out with are always shooting up. How can I avoid using drugs, and either convince these people that shooting up is dangerous or find friends who do not use drugs at all?”

* See “How to Organize into Groups” in Appendix B, *Classroom Guides*.

Teacher Note: HIV can be transmitted through vaginal, oral, or anal intercourse with a person who is infected. This curriculum guide recommends that in Grades 9-12, teachers should initiate discussion of types of sexual intercourse. When sexual intercourse is not clearly defined to include oral and anal, people may fail to recognize their risk and not take appropriate action to protect themselves or others. In New York State, a person under 17 years of age is incapable of giving legal consent. Vaginal, oral, or anal intercourse with a person less than 17 years of age and to whom the actor is not married constitutes a crime in this state.

How Can Sexual Transmission of HIV Be Prevented?

Performance Objectives

Students will be able to:

- Understand that abstaining from sexual intercourse is the only 100 percent effective method of preventing sexual transmission of HIV and/or of preventing pregnancy.
- Understand that even if one has already had sexual intercourse, it is never too late to start protecting oneself and one's sexual partner by abstaining from sexual intercourse or by practicing a risk-reduction method.
- Understand that sexual intercourse without a condom presents a much higher risk of causing sexual transmission of HIV or other STIs than sexual intercourse with correct use of a latex or polyurethane condom.
- Understand that when properly used, latex or polyurethane condoms will reduce but not eliminate the chance of transmitting HIV or other STIs and of causing pregnancy.
- Understand that correctly using latex or polyurethane condoms is crucial to enhancing condom effectiveness and reducing the risk of condom-user failure.

Do Now

On the board or newsprint, write the following two sentences:

- Identify the body fluids that can transmit HIV from an infected person. (Answer: blood, including menstrual blood; semen/preseminal fluid; vaginal fluids; breast milk.)
- What behaviors can lead to HIV infection? (Answer: HIV can be transmitted through behaviors that cause HIV-infected blood, semen/preseminal fluid, vaginal fluids, or breast milk to enter one's body.)

Motivation

- Briefly review the answers to the "Do Now."
- Say, "Today we will be focusing on how to protect against sexual transmission of HIV."

Procedure/Development

- Ask, "How does a person's choice of sexual partner affect the chances of becoming infected with HIV?"

Teacher Note: HIV can be transmitted through vaginal, oral, or anal intercourse with a person who is infected. When sexual intercourse is not clearly defined to include oral and anal, people may fail to recognize their risk and not take appropriate action to protect themselves or others. In New York State, a person under 17 years of age is incapable of giving legal consent. Vaginal, oral, or anal intercourse with a person less than 17 years of age and to whom the actor is not married constitutes a crime in this state.

GRADE 9 Lesson 6

Prevention

**NEW YORK STATE
LEARNING STANDARDS
1, 2**

SKILLS

Communication

Decision Making

Self-Management

MATERIALS

Chalkboard/Newsprint

VOCABULARY

Body Fluids

Risk Behaviors

Teacher Note: It is important to make sure that all of the points below are addressed. Of course, HIV cannot be transmitted by someone who is not infected. However, students must understand that they cannot *assume* that a person who *looks* healthy or claims to be uninfected *is*, in fact, uninfected. Testing for HIV antibodies can reveal whether one is infected. But it is important to understand the complexities of testing. (See Appendix A, *Student Guide to HIV Antibody Testing*.) Abstaining from sexual intercourse is the only 100 percent effective way to avoid the sexual transmission of HIV. Correct and consistent use of a latex or polyurethane condom, described later in the lesson, can reduce but not eliminate one’s risk.

Teacher Note: Risk behaviors include having sexual intercourse or sharing needles/syringes/works/skin-popping equipment with an infected person. An HIV-positive woman can pass HIV to her child through pregnancy or breastfeeding, although the risks of this occurring have greatly decreased as new medical treatments have almost eliminated incidences of mother-child (perinatal) transmission. HIV can also be transmitted through HIV-infected blood or blood products or donated semen or organs but this is also increasingly rare. (See Grade 9, Lesson 2.)

- Students’ answers should include:
 - It is not possible to tell by looking at a person if he or she is infected with HIV.
 - Some people infected with HIV may not know that they have it. For the first ten years, any symptoms they experience could be vague, fleeting, or associated in their minds with flu or other common disorders. Yet people with HIV remain infectious throughout the course of their illness.

Teacher Note: In 2004, the New York City Department of Health and Mental Hygiene estimated that one-fourth of HIV-positive people in New York City had not been tested and did not know that they were infected.

- Unless a person has been appropriately tested and re-tested for HIV, and reports the test results reliably, it is not safe to assume that a person is uninfected.
- Asking a person whether he or she is HIV-positive may not give one an accurate answer.
- A person who does know that he or she is infected may decide not to tell.
- A person may believe that his or her previous sexual partner(s) had not participated in risky behaviors that can transmit HIV. Even if that is true, those partners’ previous partner(s) may have engaged in such behavior and become infected. One might be at risk for acquiring any infection that a partner might have gotten from somebody else.
- Ask, “Why is abstaining from sexual intercourse the healthiest choice?” Students’ responses may include:
 - Abstaining from sexual intercourse enables one to have a close relationship with a person without worrying about whether he or she is infected.
 - Abstaining from sexual intercourse is the only 100 percent effective way to avoid sexual transmission of HIV.
 - Abstaining from sexual intercourse prevents pregnancy and transmission of other sexually transmitted infections (STIs) as well as HIV. Because open sores/lesions may be present, having another STI increases the risk of becoming infected with HIV.

Teacher Note: If time permits, the following two questions may be discussed as a small-group activity.

- Ask, “If you want to persuade a friend to delay having sexual intercourse, what might you say?” Students’ answers may include:
 - “Why rush to have sexual intercourse? There are many advantages to waiting.”
 - “If you have sexual intercourse, you might be at risk of getting HIV or an STI, and you could get pregnant.”
 - “If you wait to have sexual intercourse, you won’t have to worry about HIV/STIs or pregnancy. You will be able to concentrate on friendships, schoolwork, and other interests.”
 - “Consider waiting until you are older and ready to enter into a long-term relationship, where both people are monogamous.”
 - “Before deciding to have sex, talk with your parent(s)/caregiver(s)/guardian(s), a teacher or counselor, or another trusted adult. Take the time to make the safest decision.”
- Ask, “If people decide not to abstain, how can they reduce the risks of exposure to HIV-infected body fluids during sexual intercourse?”

Teacher Note: Students will probably say that they should use condoms. The remainder of this lesson focuses on how correct and consistent use of latex or polyurethane condoms is crucial to enhancing condom effectiveness and reducing the risk of condom failure.

- Ask, “What is a condom?”
Answer: A condom is a covering, or sheath, that fits over the erect penis. Semen and preseminal fluid go into the reservoir or space at the tip of the condom. The condom prevents body fluids from entering a partner’s body.
For people who are sexually active, male and female condoms are the best tools for preventing HIV infection. However, they must be used properly to protect from infection. It is, therefore, very important to learn when and how to put on a condom. Although you might think that you know if a person is infected with HIV, most people who are HIV-positive do not look sick, and one in four people living with HIV in the United States today do not know that they are infected. In addition, many people who are infected fear being rejected by their friends and family and may hide their infection. For this reason, it is important to use either a latex male condom or a polyurethane female condom every time you have intercourse with someone who has not been tested in the past three months. Only FDA-approved condoms should be used.
- Say, “Because using a condom incorrectly can cause it to fail, it is important to realize that anyone who uses a condom has to know how to use it correctly. Correct use can keep the condom from breaking, tearing, leaking, or slipping off.”

- Make sure to mention the following:
 - The condom packet must be opened carefully so the condom does not tear. Never use a sharp object to open the package.
 - Condoms should not be stored near a heat source (over 80°F).
 - Condoms should not be used after the expiration date on the package.
 - Condoms should never be reused.
 - Condoms should be put on before the penis has any contact with the partner’s body, so that neither semen nor preseminal fluid, which may contain sperm, HIV, or other STI-causing agents, touches the partner. In other words, condoms must be used from the beginning to the end of sexual activity.
 - Using drugs, including alcohol, may make it difficult to coordinate using a condom correctly.
 - If intercourse is physically stressful and there is not enough lubrication, a condom may break.
 - Only water-based lubricants should be used on latex condoms. Oil-based lubricants (such as Vaseline or baby oil) should never be used because they can destroy the latex. Use of water-based lubricants with condoms can reduce friction, so they may help prevent a condom from breaking.
 - A condom may not offer full protection if either partner has a lesion (associated with an STI or otherwise), that is on an area not covered by the condom.

Homework

Have students write up the following:

Say, “A friend comes to you and tells you that he/she is sexually active, but is concerned about HIV/STIs. What are the ways your friend can reduce or eliminate the risk of HIV/STI transmission? If your friend decided to use condoms, what does he/she need to know about using them effectively?”