

Glencoe Health

Lesson 1 Sexually Transmitted Diseases



**BIG
IDEA**

Sexually Transmitted Diseases (STDs) are highly communicable infections that are contracted through sexual contact.

New Vocabulary

- | | |
|---|--|
|  sexually transmitted disease (STD) |  asymptomatic |
|  sexually transmitted infection (STI) |  epidemic |

The Causes of Communicable Diseases

Main Idea

Anyone who has sexual contact with another person risks contracting a sexually transmitted disease.

Sexually transmitted diseases are also called sexually transmitted infections.

What Are STDs?

Sexually transmitted diseases are communicable diseases that can be easily transmitted from one person to another.

New Vocabulary



sexually transmitted diseases (STDs)

Infections spread from person to person through sexual contact.

What Are STDs?

Another term for sexually transmitted diseases is **sexually transmitted infections**.

New Vocabulary



sexually transmitted infections (STIs)

Infections spread from person to person through sexual contact.

What Are STDs?

Several of the most common STDs are often asymptomatic. Because they have no signs of a disease, some people do not realize they are infected and do not seek treatment.

New Vocabulary



asymptomatic

Individuals show no symptoms, or the symptoms are mild and disappear after the onset of the infection.

What Are STDs?

Fact check it with a partner....

STD	Estimated Number of New Cases Each Year	Reported Cases (2007)
Human Papillomavirus (HPV)	6.2 million	5.5 million
Chlamydia	3 million	1,108,374
Genital Herpes	1 million	317,000
Gonorrhea	700,000	355,991
Trichomoniasis	7.4 million	205,000
Syphilis	70,000	40,920
Hepatitis B	120,000	46,000

Source: CDC, Division of STD Prevention, 2000, 2004, 2005

This chart shows the symptoms and possible long-term effects of common STDs.
Why is delayed treatment for STDs never a healthy choice?

STD	Symptoms in Males	Symptoms in Females	Possible Long-Term Effects
Genital HPV Infection	Genital warts on the penis, scrotum, groin, anus, or thigh	Genital warts in or around the vagina, vulva, cervix, or anus	Development of cervical cancer in females
Chlamydia	Penis discharge; burning during urination; itching or burning sensations around penis	Lower abdominal or back pain; nausea; fever; bleeding between periods; pain during intercourse; muscle ache; headache; abnormal vaginal discharge; burning sensation when urinating	In males, inflammation of urethra In females, inflammation of cervix, damage to fallopian tubes, chronic pelvic pain, infertility
Genital Herpes	Blisters on or around genitals or rectum; sores that can take weeks to heal; flu-like symptoms, including fever and swollen glands	Blisters on or near vagina or rectum; sores that can take weeks to heal; flu-like symptoms, including fever and swollen glands	Psychological distress; can cause life-threatening infection in baby born to mother with the disease
Gonorrhea	Burning sensation when urinating; green, yellow, or white discharge from penis; painful, swollen testicles	Pain or burning when urinating; increased vaginal discharge; vaginal bleeding between periods	In males, painful condition of testicles leading to infertility if untreated (epididymitis) In females, chronic pelvic pain and infertility
Trichomoniasis	Temporary irritation inside penis; mild burning after urination or ejaculation	Thick, gray or yellowish green vaginal discharge with strong odor; painful urination; vaginal itching	Discomfort; higher susceptibility to other STDs; premature or low-birth-weight babies born to infected pregnant females
Syphilis	Single sore on the genitals (sores disappear but infection remains); skin rash	Single sore on the vagina (sores disappear but infection remains); skin rash	Serious damage to internal organs, including brain, heart, and nerves

Common STDs

Main Idea

There are approximately 25 different STDs, six of which are considered the most common.

Genital HPV infections, chlamydia, genital herpes, gonorrhea, trichomoniasis, and syphilis are the six most common STDs.

Genital HPV Infections

Genital HPV infections are caused by human papillomavirus (HPV) and can cause genital warts.

Some HPV infections can cause cervical cancer. A vaccine treatment is now available for protection against HPV.

Chlamydia

Chlamydia is a bacterial infection that produces no symptoms.

If left untreated, chlamydia can cause pelvic inflammatory disease (PID) in females and infertility in males.

Genital Herpes

Genital herpes is an incurable STD caused by the herpes simplex virus.

Herpes simplex 1
generally causes
cold sores in or
near the mouth.

Herpes simplex 2
typically causes
recurring blisters on
the genitals or
rectum.

Gonorrhea

Gonorrhea is a bacterial STD that usually affects mucous membranes.

Left untreated, gonorrhea can cause severe health problems, such as infertility and permanent damage to the body's joints.

Trichomoniasis

Trichomoniasis is an infection that can cause symptoms that include irritation of and discharge from the genitals.

Females with trichomoniasis are also more likely to contract HIV if they are exposed to it.

Syphilis

People infected with syphilis develop sores on the genitals.

If left untreated, the infection can cause a skin rash, damage to internal organs, dementia, and death.

The STD Epidemic

Main Idea

Accurate health information and responsible behavior will help fight the STD epidemic.

The CDC estimates that each year, 19 million people are infected with an STD. Almost half are under the age of 24.

Infection	Pathogen	Transmission	Treatment	Symptoms	Effects
Chlamydia	Bacteria	V, A, O, Birth	Antibiotics	Silent Disease	Infertility PID
Pubic Lice	Parasite	Genital Contact	OTC Shampoo, Lotion, Soap	Itching Rash	None
Syphilis	Bacteria	V, A, O	Antibiotics	Sore, Body Rash, Organ damage	Dementia, blindness, paralysis, death
Gonorrhea	Bacteria	V, A, O, Birth	Antibiotics	Women: Few Men: Burning, discharge	Infertility PID
Trichomoniasis	Protozoan Parasite	Genital Contact	Antibiotics	70% no symptoms	weakened immune system
Genital Herpes	Virus	V, A, O (kissing if sores present)	No cure Antivirals for shorter outbreaks	Sores, Blisters, pain	Outbreaks throughout lifetime.
HPV	Virus	V, A, O	No cure; Wart removal; Preventative Vaccine	Many people have none.	Cancer

The STD Epidemic

The incidence of STDs are reported to public health authorities so that they can track an outbreak of an **epidemic**.

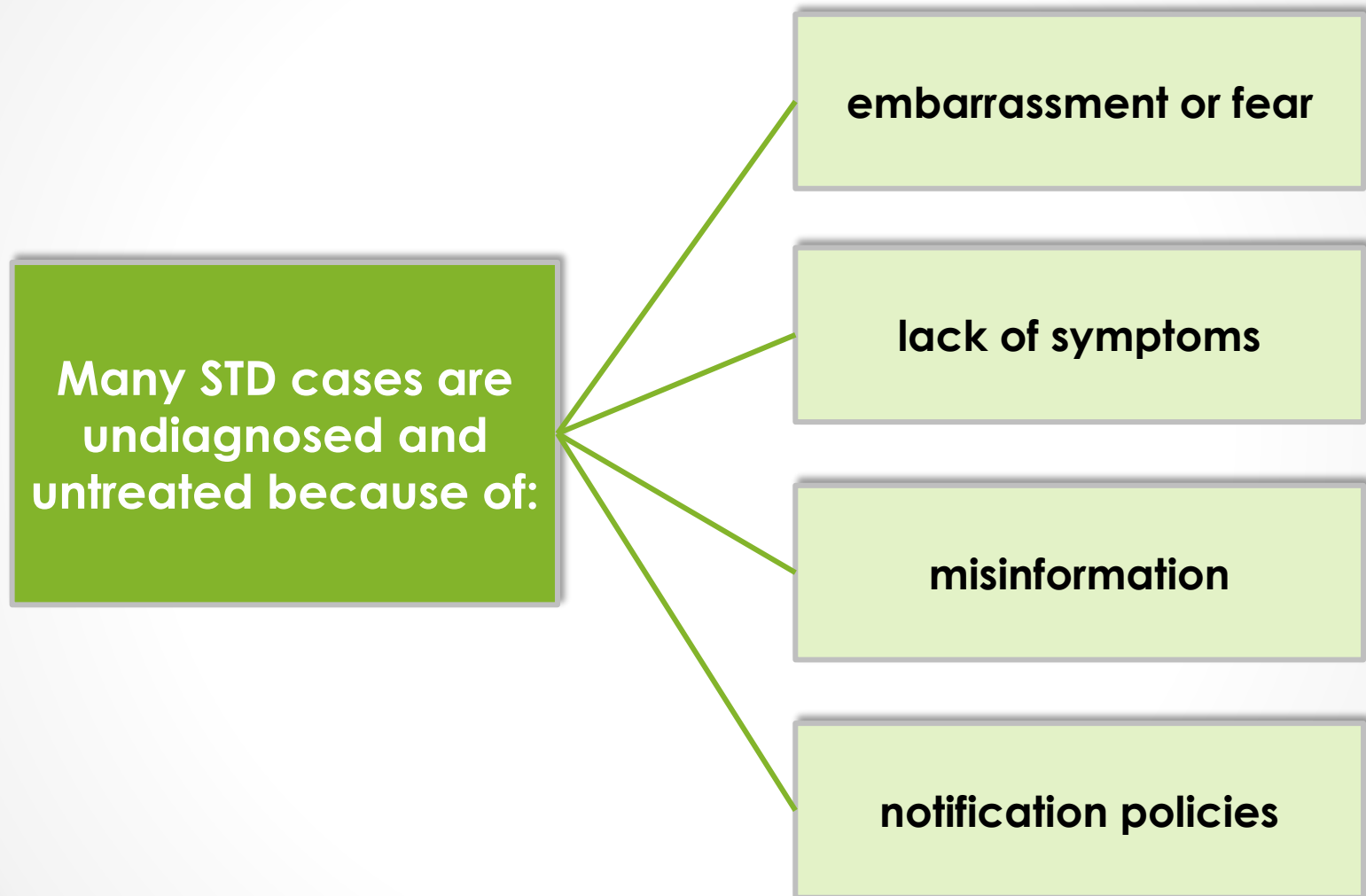
New Vocabulary



epidemic

An occurrence of a disease in which many people in the same place at the same time are affected.

The STD Epidemic



After You Read

Reviewing Facts and Vocabulary

1. What is a *sexually transmitted disease*?

An infection spread from person to person through sexual contact.

After You Read

Reviewing Facts and Vocabulary

2. Name four common STDs.

Answers can include: genital HPV infection, chlamydia, genital herpes, gonorrhea, trichomoniasis, syphilis.

After You Read

Reviewing Facts and Vocabulary

3. In the United States, approximately how many people are infected with an STD each year?

About 19 million people.

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End of

Chapter 24
Sexually Transmitted
Diseases and
HIV/AIDS

Lesson 1
Sexually
Transmitted
Diseases



Glencoe Health

Lesson 2 Preventing and Treating STDs



**BIG
IDEA**

All STDs are preventable and most can be treated, but some are incurable.

New Vocabulary



antibiotics



HPV vaccine

Prevention Through Abstinence

Main Idea

The most successful method to prevent the spread of STDs is abstinence.

Some STDs are incurable viral infections, while others can be cured with antibiotics.

Prevention Through Abstinence

Some STDs are bacterial infections, such as chlamydia or gonorrhea, that can be treated and cured with **antibiotics**.

New Vocabulary



antibiotics

A class of chemical agents that destroy disease-causing microorganisms while leaving the patient unharmed.

Sexually Transmitted Infections

Abstinence Tips

Set personal limits on physical affection.

Avoid dating a person who is sexually active or who pressures you to go beyond your limits.

Avoid situations where you may feel pressured to engage in sexual activity.

Avoid people who tease you for your decisions or urge high-risk behaviors, including the use of alcohol or drugs.

Sexually Transmitted Infections

Abstinence Tips

Choose group outings where you can enjoy the company of friends and avoid pressure to engage in sexual activity.

Be clear about your decision to practice abstinence and discuss it with others who are close to you.

Practice refusal skills.

Use words and body language to resist the pressure to engage in sexual activity.

Understanding the Risks

Because many STDs go undiagnosed, it is not enough for a partner simply to say that he or she is uninfected.

Abstinence is the only sure method of preventing STDs.

Avoiding High-Risk Behaviors and STDs

To prevent STDs, avoid engaging in high-risk behaviors, including:

being sexually active with more than one person.

engaging in unprotected sex

engaging in sexual activity with high-risk partners, and

using alcohol or other drugs, which may lower your inhibitions.

HPV Vaccine

The HPV vaccine protects against four types of HPV infections.

New Vocabulary



HPV vaccine

A vaccine that can prevent cervical cancer, pre-cancerous genital lesions (or sores), and genital warts caused by genital HPV infection.

Diagnosing and Treating STDs

Main Idea

Only a health care professional can accurately diagnose and treat an STD.

When an STD has been diagnosed, a health care professional will prescribe the most effective medication and monitor the patient's treatment.

Diagnosing and Treating STDs

Teens who believe they might be infected with an STD should talk to a health care professional.

Many public health clinics provide information and treatment free-of-charge.

Act Responsibly

Act responsibly to prevent the spread of STDs.



After You Read

Reviewing Facts and Vocabulary

- 1. What is the only 100 percent effective method for preventing the spread of STDs?**

Practicing abstinence.

After You Read

Reviewing Facts and Vocabulary

2. Identify two high-risk behaviors that can lead to contracting an STD.

Any two: Sexual activity with more than one person; unprotected sex; sexual activity with high-risk partners; using alcohol and other drugs.

After You Read

Reviewing Facts and Vocabulary

3. What is the *HPV vaccine*?

A vaccine that prevents infection by four types of human papilloma viruses and therefore prevents cervical cancer and genital warts.

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End of

Chapter 24
Sexually Transmitted
Diseases and
HIV/AIDS

Lesson 2
Preventing and
Treating STDs



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Lesson 3 HIV/AIDS



**BIG
IDEA**

HIV is the virus that causes AIDS, a disease that weakens the body's immune system and may have fatal consequences.

New Vocabulary

 **Human immunodeficiency virus (HIV)**

 **pandemic**

 **Acquired immunodeficiency syndrome (AIDS)**

What is HIV/AIDS?

Main Idea

HIV/AIDS weakens the body's immune system.

AIDS has become one of the deadliest STIs in human history.

What is HIV/AIDS?

Once the **human immunodeficiency virus (HIV)** enters the body it finds and destroys the white blood cells that fight disease.

New Vocabulary



human immunodeficiency virus (HIV)

A virus that attacks the immune system.

What is HIV/AIDS?

The final stage of an HIV infection is **acquired immunodeficiency syndrome (AIDS)**.

New Vocabulary



acquired immunodeficiency syndrome (AIDS)

A disease in which the immune system is weakened.

What is HIV/AIDS?

Approximately 12 million of the 40 million people who have HIV/AIDS worldwide are in the 15 to 24 age group.

What is HIV/AIDS?

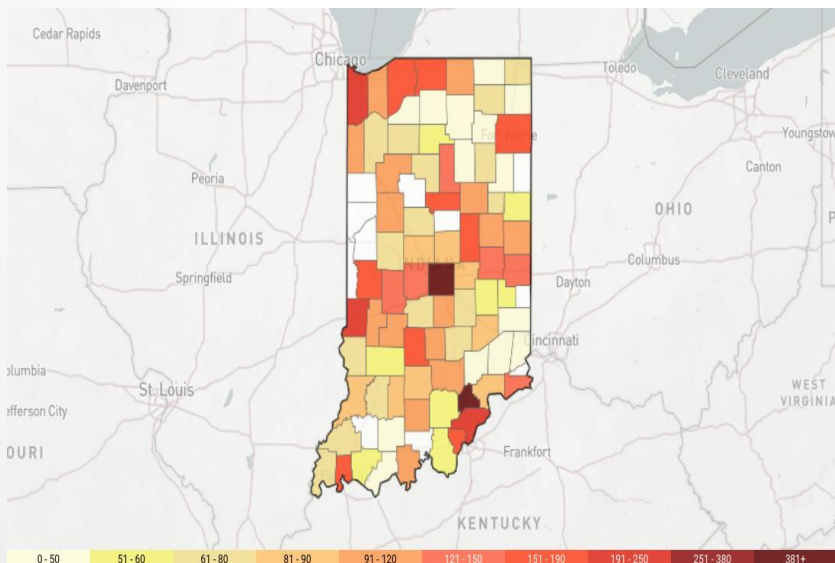
Half of all new HIV infections are among young people, and many of the young people who are infected do not know they have the infection.

INDIANA

<https://aidsvu.org/local-data/united-states/midwest/indiana/>

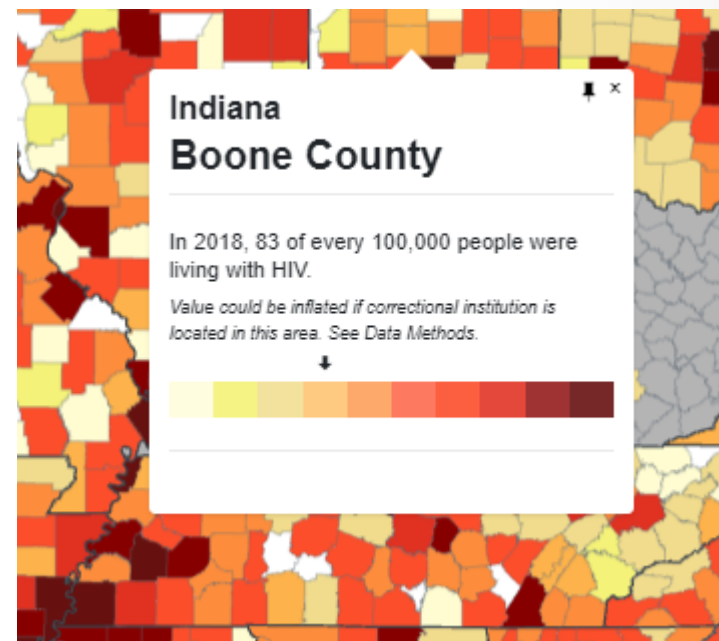
STATE

- [Indiana](#)



County

- Boone



What is HIV/AIDS?

Health care officials consider HIV/AIDS a **pandemic**.

New Vocabulary



pandemic

A global outbreak of an infectious disease.

Understanding HIV/AIDS

Main Idea

HIV/AIDS is transmitted in a variety of ways.

HIV is transmitted among humans only when one person's infected blood, semen, or vaginal secretions comes in contact with another person's broken skin or mucous membranes.

Understanding HIV/AIDS?

HIV can be transmitted from one person to another when the virus comes in contact with **mucous membranes**.

HIV 101

Without treatment, HIV (human immunodeficiency virus) can make a person very sick and even cause death. Learning the basics about HIV can keep you healthy and prevent transmission.

HIV CAN BE TRANSMITTED BY



Sexual Contact



Sharing Needles to Inject Drugs



Mother to Baby During Pregnancy, Birth, or Breastfeeding

HIV IS NOT TRANSMITTED BY



Air or Water



Saliva, Sweat, Tears, or Closed-Mouth Kissing



Insects or Pets



Sharing Toilets, Food, or Drinks

PROTECT YOURSELF FROM HIV

- Get tested at least once or more often if you are at risk.
- Use condoms the right way every time you have anal or vaginal sex.
- Choose activities with little to no risk like oral sex.
- Don't inject drugs, or if you do, don't share needles, syringes, or other drug injection equipment.



- If you are at risk for HIV, ask your health care provider if pre-exposure prophylaxis (PrEP) is right for you.
- If you think you've been exposed to HIV within the last 3 days, ask a health care provider about post-exposure prophylaxis (PEP) right away. PEP can prevent HIV, but it must be started within 72 hours.
- Get tested and treated for other STDs.



KEEP YOURSELF HEALTHY AND PROTECT OTHERS IF YOU HAVE HIV

- Find HIV care. It can keep you healthy and help reduce the risk of transmitting HIV to others.
- Take your HIV medicine as prescribed.
- Stay in HIV care.



- Tell your sex or injection partners that you have HIV. Use condoms the right way every time you have sex, and talk to your partners about PrEP.
- Get tested and treated for other STDs.



For more information, please visit www.cdc.gov/hiv.

Understanding HIV/AIDS

HIV is spread in three ways:

During sexual intercourse

By sharing needles

From a mother to a baby.

Physical and Chemical Barriers

Anyone who uses an injection needle contaminated with HIV allows the virus to enter directly into his or her bloodstream.

Needles used for body piercings and tattoos also can come in contact with contaminated blood.

Physical and Chemical Barriers

A pregnant female infected with HIV can pass the virus to her fetus through the umbilical cord, to the baby during childbirth, or through breastfeeding.

If an expectant mother knows she is infected, her doctor will help her understand the steps she can take to prevent her child from contracting HIV.

How HIV/AIDS Affects the Immune System

The HIV virus affects the immune system and multiplies in the following way:

1. HIV attaches to the cell surface.
2. The virus core enters the cell and goes to the nucleus.
3. The virus makes a copy of its genetic material.
4. A new virus assembles at the cell surface.
5. The new virus breaks away from the host cell.

How HIV/AIDS Affects the Immune System

HIV attacks the body's immune system by destroying *lymphocytes*.

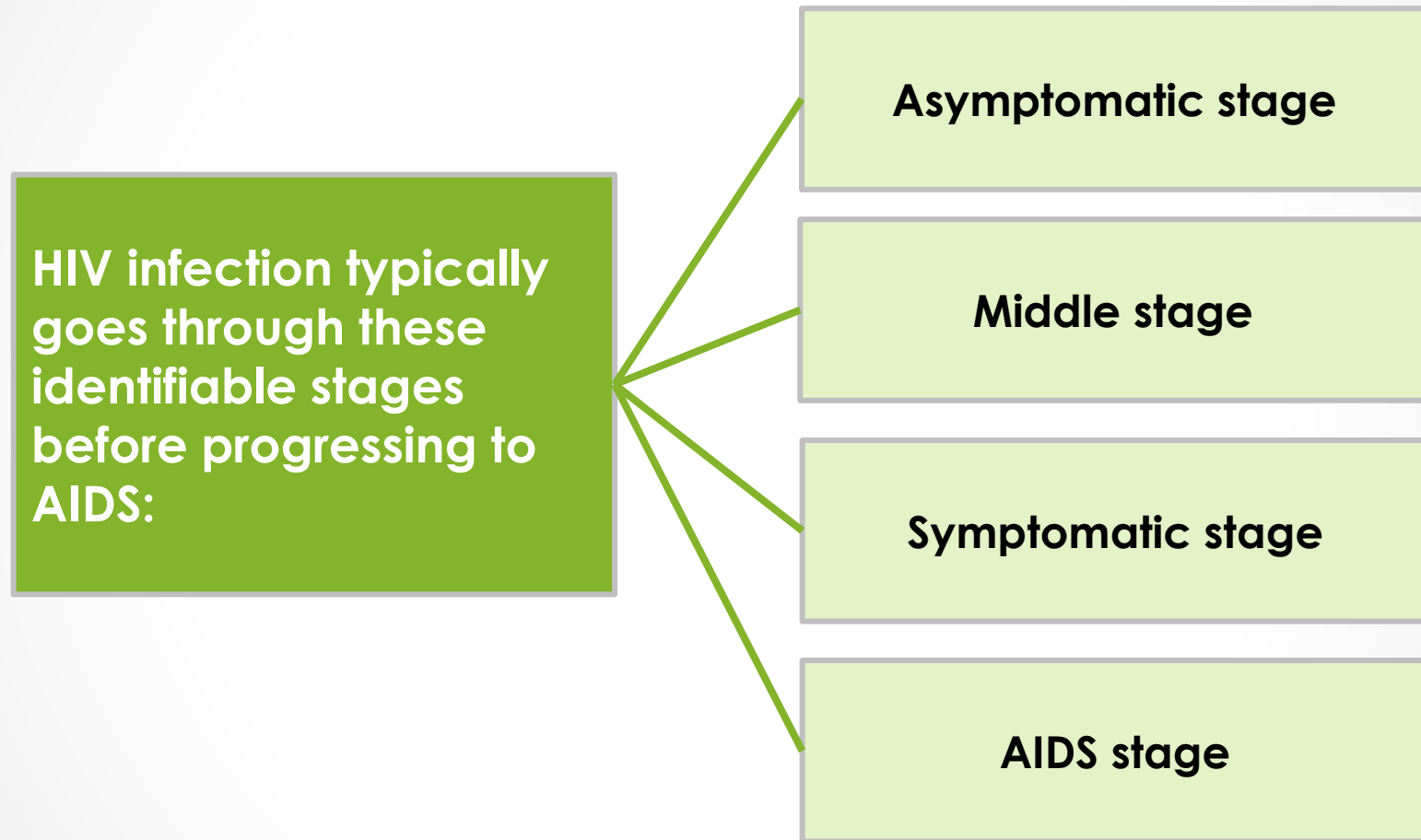
Lymphocytes are specialized white blood cells that coordinates and performs many of the functions of specific immunity.

How HIV/AIDS Affects the Immune System

As more lymphocytes are destroyed, the immune system becomes weaker.

The body then becomes vulnerable to *AIDS-opportunistic illnesses*, infections the body could fight off if the immune system were healthy.

How HIV/AIDS Affects the Immune System



How HIV/AIDS Affects the Immune System

Asymptomatic stage

People have a large amount of HIV in their blood. They are very contagious.
Some people have flu-like symptoms. This is the body's natural response to infection.
But some people may not feel sick right away or at all.
If you have flu-like symptoms and think you may have been exposed to HIV, seek medical care and ask for a test to diagnose acute infection.

Middle stage

Patients experience fever, headache, sore throat, rash, diarrhea, and enlarged lymph nodes.
This stage is also called asymptomatic HIV infection or clinical latency.
HIV is still active but reproduces at very low levels.
People may not have any symptoms or get sick during this phase.
Without taking HIV medicine, this period may last a decade or longer, but some may progress faster.
People can transmit HIV in this phase.

Symptomatic stage

Patients experience flu-like symptoms, such as headache, fever, body aches, swollen glands, diminished appetite, weight loss, and skin rashes.
At the end of this phase, the amount of HIV in the blood (called *viral load*) goes up and the CD4 cell count goes down. Virus increases in the body, and the person moves into Stage 4.
People who take HIV medicine as prescribed may never move into Stage 4.

AIDS stage

Patients have immune systems that are so weakened that they may die from illnesses from which they would ordinarily recover. People receive an AIDS diagnosis when their CD4 cell count drops below 200 cells/mm, or if they develop certain opportunistic infections.
People with AIDS can have a high viral load and be very infectious.
Without treatment, people with AIDS typically survive about three years.

Giving or Receiving Blood: Is it Safe?

The risk for HIV infection through the transfusion of blood or blood products is extremely low.

In the United States, health care professional use a new sterile needle to draw blood.

Since 1985, donated blood is tested for the presence of HIV/AIDS. If the viruses are present, the blood is not taken.

After You Read

Reviewing Facts and Vocabulary

1. How does HIV affect the human immune system?

HIV invades and destroys white blood cells, so that the immune system is weakened.

After You Read

Reviewing Facts and Vocabulary

2. How can you protect yourself from contracting HIV/AIDS?

By practicing abstinence from high-risk behaviors such as sexual activity, illegal drug use, and sharing contaminated tattoo/piercing instruments.

After You Read

Reviewing Facts and Vocabulary

3. Why do the body's antibodies fail to protect people from HIV?

HIV enters the cells too quickly for the antibodies to destroy them; antibodies work in the bloodstream, not in cells, and HIV can mutate so the antibodies do not recognize it.

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End of

Chapter 24
Sexually Transmitted
Diseases and
HIV/AIDS

Lesson 3
HIV/AIDS



Glencoe Health

Lesson 4 Preventing and Treating HIV/AIDS



**BIG
IDEA**

**HIV/AIDS is preventable and treatable,
but is incurable.**

New Vocabulary

 **enzyme
immunoassay (EIA)**

 **rapid test**

 **western blot**

Preventing HIV/AIDS

Main Idea

There are many actions you can take to avoid contracting HIV/AIDS.

The CDC estimates that about 25 percent of the people in the United States who are infected with HIV do not know they are infected.

Preventing HIV/AIDS

The following healthful behaviors will help protect you from infection:



Practice abstinence.



Do not share needles, knives, and razors.



Avoid situations where drug and alcohol use might compromise your decision-making.



Use refusal skills when you feel pressured to engage in risky behaviors.

Diagnosing HIV/AIDS

Main Idea

Several tests are used to diagnose HIV/AIDS.

If someone believes that he or she may have been exposed to HIV, the person must be tested.

Diagnosing HIV/AIDS

Typically, a blood sample or an oral specimen from between the inside of the cheek and the gum is collected and sent to a laboratory for analysis.

At most testing sites, qualified personnel are available to answer questions, make referrals, and explain results.

Who
so does

Types of Laboratory HIV Tests

After collected samples are sent to a laboratory, technicians screen them for HIV antibodies.

A person's body does not naturally have HIV antibodies: they are produced only in the presence of an infection.

When
so does

EIA Test

If the **enzyme immunoassay (EIA)** test results are positive, then the EIA test is repeated

New Vocabulary



enzyme immunoassay (EIA)

A test that screens for the presence of HIV antibodies in the blood.

Western Blot Test

The **Western blot** test is used only after EIA tests produce positive results.

New Vocabulary



western blot

A test that detects HIV antibodies and confirms the results of earlier EIA tests.

Western Blot Test

If the results of the two ELA tests and the Western blot test are all positive, a person is diagnosed with HIV/AIDS.

Many health departments and HIV/AIDS information and counseling centers will pay for the cost of these tests.

When
so does

Additional Tests

RNA Test

How many copies of the virus are circulating in the blood.

CD4 Test

How many white blood cells are in a sample of blood.

When the
count is low,
so does the
immune system

Additional Tests

A **rapid test** can be used in situations where the infected person might not come back to learn the results of the test.

New Vocabulary



rapid test

An HIV test that produces results in only 20 minutes.

Additional Tests

Home testing kits that are approved by the FDA are available in pharmacies and other stores.

Some tests require that the person provide a spot of dried blood which is mailed to a laboratory for analysis. Other tests can provide results at home.

When
so does

CDC..Reasons why you should get tested for HIV



Benefits of Early Diagnosis

Early detection enables a person to:

begin proper medical care early to slow the progress of the virus.

avoid behaviors that could spread HIV to others.

gain peace of mind when the results are negative.

Treating HIV/AIDS

Main Idea

Medications can slow the growth of HIV/AIDS, but there is no cure.

Drugs have been developed that slow the growth of HIV and treat the opportunistic infections that occur in individuals who do not have healthy immune systems.

Treating HIV/AIDS

To slow the growth of the AIDS virus, people take a combination of drugs, a treatment known as highly active antiretroviral therapy (HAART).

When
so does

After You Read

Reviewing Facts and Vocabulary

1. How is HIV detected?

An EIA and Western Blot test detect the presence of antibodies; an RNA test detects the virus.

After You Read

Reviewing Facts and Vocabulary

2. What test is used to confirm a diagnosis of HIV?

The Western Blot test

After You Read

Reviewing Facts and Vocabulary

- 3. HIV/AIDS home testing kits may not be trustworthy. What should you do to make sure the results are accurate?**

Check that the test is approved by the FDA.

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End of

Chapter 24
Sexually Transmitted
Diseases and
HIV/AIDS

Lesson 4
Preventing and
Treating HIV/AIDS

