**Introduction to Sexually Transmitted Infections**

STI statistics

Contracting STI’s

Types of STI

### The Most Common Diseases in the United States

**Sexually transmitted infections** (STIs) are the most common diseases in the United States. They are spread from person to person through sexual contact. Most cases of STIs are undiagnosed and therefore untreated. High-risk behaviors include being sexually active with high-risk partners and engaging in unprotected sex. STIs may have serious consequences and some are incurable. For example, some STIs cause cancer, some affect fertility, and some can be passed from an infected woman to her baby before, during, or after birth. Practicing abstinence is the only method that is 100 percent effective in preventing STIs.

### The Most Common Diseases in the United States

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**STI Statistics**

The following are statistics about STIs:

* + Approximately 13 million new cases of STIs are reported annually.
  + Approximately three million teenagers between the ages of 13 and 19 contract an STI.
  + One in four new STI cases occur in teenagers.
  + Nationally, by age 21 approximately one out of five young people require a prescription for an STI.
  + The population in Utah with the highest risk of contracting an STI is 15–24 year olds.
  + The total cost of STIs to society exceeds $17 billion annually.
  + The costs of infertility in the United States exceeds $2.6 billion.
  + The Centers for Disease Control and Prevention estimates that there are more than 110 million STIs among men and women in the US. This includes both new and existing infections.
  + The United States' STI rates are 50–100 percent higher than other industrialized nations.

**Teenagers and STIs**

Why do teenagers have such a high risk of infection from STIs?

Teenagers who are sexually active are likely to exhibit one or more of the following behaviors:

* + Having more than one sexual partner rather than committing to a single, long-term relationship.
  + Engaging in unprotected sex.
  + Selecting partners at higher risk, such as those with a history of multiple partners or intravenous drug use.
  + An additional risk for teenage females is that they lack an immunity to some of the pathogens that cause STIs.

**Contracting an STI**

Once you have contracted an STI, your life may never be the same.

* + Some STIs can cause sterility, which is the inability to reproduce.
  + Infants born to mothers with STIs can be infected at birth and can be born blind or with deformities.
  + Some STIs are incurable, which means that the individual must live with the reoccurrence of painful genital sores for the rest of their life.
  + Individuals with STIs are at a greater risk for cancer, and some STIs such as AIDS are fatal.

**Common STIs**

**Bacterial STIs**

* + Chlamydia
  + Syphilis
  + Gonorrhea

**Viral STIs**

* + Human Papillomovirus (HPV)
  + Genital Warts
  + Genital Herpes
  + Hepatitis B

**Fungi and Parasitic Insects**

* + Vaginitis
  + Pubic Lice
  + Scabies

### Chlamydia

**Chlamydia** is the number one STI among teenagers. Itis a bacterial infection that affects the reproductive organs in both male and females and can cause infertility. Symptoms show up 7–21 days after having sex. Many women and some men have no symptoms. Chlamydia is spread through vaginal, anal, and oral sex with someone who is infected with Chlamydia or NGU.

**Symptoms of Chlamydia**

The symptoms that appear in women and men who contract chlamydia are listed below.

**Women**

* + Discharge from the vagina
  + Bleeding from the vagina between period
  + Burning or pain when you urinate
  + Pain in abdomen sometimes with fever and nausea

**Men**

* + Watery, white, or yellow drip from the penis
  + Burning or pain when you urinate

**What Happens if You Don't Seek Treatment for Chlamydia?**

If you don't seek treatment for chlamydia you could experience the following complications:

* + You could give chlamydia or NGU to your sexual partner(s).
  + It can lead to more serious infection and reproductive organs could be damaged.
  + Both men and women may no longer be able to have children.
  + A mother with chlamydia can give it to her baby during childbirth.

### Gonorrhea and How It Can Be Transmitted

**Gonorrhea** is a bacterial STI that usually affects the mucus membranes and can be treated with antibiotics. If gonorrhea is left untreated, it can cause infertility and eye infections or blindness in children.

How does someone contract gonorrhea? Like chlamydia, gonorrhea is also spread during vaginal, anal, or oral sex with someone who has gonorrhea.

**Symptoms of Gonorrhea**

Symptoms of gonorrhea show up 2–21 days after sex. Most women and some men have no symptoms; however, the following are examples of symptoms experienced by women and men with gonorrhea:

**Women**

* + Thick yellow or white discharge from vagina
  + Burning or pain when you urinate or have a bowel movement
  + Abnormal periods or bleeding between periods
  + Cramps and pain in the lower abdomen

**Men**

* + Thick yellow or white discharge from penis
  + Burning or pain when you urinate or have a bowel movement
  + Need to urinate more often

**What Happens If You Don't Seek Treatment for Gonorhhea?**

What will happen if you fail to seek treatment for gonorrhea?

* + You can give gonorrhea to your sexual partner(s).
  + If left untreated, gonorrhea can lead to more serious infections.
  + Both men and women may no longer be able to have children.
  + A mother can spread it to her baby through childbirth.
  + Gonnorhhea can cause heart trouble, skin disease, arthritis, and blindness.

### Treatment for Gonorrhea

What is the treatment for gonorrhea? Because gonorrhea is a bacteria infection it can be treated with antibiotics.

**Genital Herpes**

Genital herpes (warts) is caused by the herpes simplex virus (HSV) and produces blister-like sores in the genital area. The following symptoms of genital herpes will show up 1–8 months after sex:

* + Small, bumpy warts on the sex organs and anus.
  + Itching and burning around the sex organs.
  + In addition, the virus never goes away because it stays in the body and the warts can come back.
* **How Does Genital Herpes (Warts) Spread?**
* How do genital warts spread from person to person? Genital warts are spread during vaginal or anal sex with someone who has genital warts or herpes of the mouth.

**What Happens if You Don't Seek Treatment for Genital Herpes?**

If you don't seek treatment for genital herpes (warts) you could experience the following complications:

* + Genital warts and herpes can be passed to your sexual partner(s).
  + Warts cannot be cured.
  + A mother with warts/herpes can give it to her baby during childbirth.
  + More warts grow and are harder to get rid of.
  + It may lead to precancerous conditions.

### Treatment of Genital Herpes

What is the treatment for genital herpes? Because genital herpes is a virus, there is **no treatment**. You will have genital herpes for the rest of your life.

**What Are the Symptoms of Hepatitis B?**

The symptoms of hepatitis B show up one to nine months after contact with the hepatitis B virus. The following are symptoms of hepatitis B:

* + No symptoms or mild symptoms.
  + Flu-like feelings that don’t go away
  + Tiredness
  + Jaundice (yellow skin)
  + Dark urine, light-colored bowel movement

**Contraction and Transmission of Hepatitis B**

Hepatitis B can be contracted in the following ways:

* + Vaginal, anal, and oral sex with someone who has hepatitis B
  + Sharing needles to inject drugs, or for any other reason
  + Coming into contact with blood that is infected with the hepatitis B virus

### Treatment for Hepatitis B

There is **no treatment** **or cure**for hepatitis B because it is a virus. However, you can be vaccinated to prevent getting the infection in the first place.

**Transmission and Symptoms of Syphilis**

How do you contract syphilis? Syphilis can be spread during vaginal, anal, and oral sex with someone who has syphilis.

Listed below are the two stages of the symptoms associated with the Syphilis bacteria:

**First Stage**

The following symptoms show up 10–90 days after having sex:

* + A painless, reddish-brown sore or sores on the mouth, sex organs, breasts, or fingers may appear.
  + The sore can last 1–5 weeks.
  + The sore will go away, but you will still have syphilis.

**Second Stage**

The following symptoms show up 2–8 weeks after sore heals:

* + A rash anywhere on the body
  + Fever
  + Joint pain
  + Muscle aches

The rash and flu-like feelings will go away, but you will still have syphilis.

**What Happens if You Don't Seek Treatment for Syphilis?**

What happens if you don't treat syphilis after you contract it? If syphilis goes untreated, then you will move into the next stage of syphilis symptoms.

**Third Stage**

If left untreated, there can be serious damage to bodily organs many years later. The following are examples of the damage that can be done to your body and overall health if you don't receive treatment for syphilis:

* + Brain damage
  + Insanity
  + Paralysis
  + Heart Disease
  + Death
  + The fetus of a mother with syphilis can have skin, bone, eye, teeth, and liver damage. Miscarriage or stillbirth is also a possibility if a pregnant woman has syphilis.

The best course of action if you contract Syphilis is to go to a doctor so that you can receive treatment for it. What is the treatment for syphilis? Syphilis can be treated with antibiotic because it is a bacterial infection.

**Symptoms of Vaginitis and How It Is Transmitted**

Unlike the previous sexually transmitted infections discussed, vaginitis is a fungus. The symptoms of vaginitis include the following:

* + Sometimes no symptoms
  + Itching, burning, or pain in the vagina
  + More discharge from the vagina than normal
  + Discharge smells and/or looks different

How can you contract vaginitis? Vaginitis can be spread during vaginal, anal, and oral sex. Men can carry vaginitis infections without symptoms.

**What Happens if You Fail to Seek Treatment for Vaginitis?**

What happens if vaginitis is not treated? The following are examples of problems that can develop if vaginitis is left untreated:

* + You can give vaginitis infections to your sexual partner(s).
  + The uncomfortable symptoms will continue.
  + Men can get infections in the penis, prostate gland, or urethra.

Vaginitis is a fungus, which means that it can be treated. The treatment for vaginitis is a topical treatment.

**Pubic Lice and Scabies**

Sexually transmitted infections such as pubic lice and scabies are examples of a parasitic insect. The following are symptoms of pubic lice and scabies:

* + Intense itching
  + Noticing mites

**Transmission and Contraction of Pubic Lice and Scabies**

How does someone contract scabies and lice? The following are examples of how scabies and lice can be spread:

* + Engaging in sexual contact with someone who has scabies or pubic lice
  + Contact with dirty bed linens, towels, and clothes

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### Introduction to HIV/AIDS

### HIV/AIDS

### STATISTICS

### STAGES OF HIV/AIDS

### The Emergence of HIV/AIDS

In 1982, a strange new disorder emerged that interfered with the function of an individual's immune system, making it impossible to fight off infection. By 1997, there were deaths from complications related to this disorder, which is now called **Acquired Immune Deficiency Syndrome (AIDS)**. Over six and one-half million people worldwide have lost their lives to AIDS. This disease weakens the immune system and is caused by the **human immunodeficiency virus (HIV)**. Although HIV rates are growing rapidly among teens, HIV infection can be prevented through sexual abstinence. HIV invades cells in the immune system and leaves the person vulnerable to various opportunistic infections. HIV is transmitted through sexual intercourse, sharing needles, and from mother to baby during pregnancy, childbirth, or while nursing an infant.

**The HIV/AIDS Acronyms**

The following are the definitions for the HIV and AIDS acronyms:

* + **HIV** –Human Immunodeficiency Virus
  + **AIDS** –Acquired Immune Deficiency Syndrome

HIVinfection starts with an infection of HIV and usually continues until diagnosis of full-blown AIDS.

### Vital Statistics Worldwide

HIV/AIDS:

* + Over 35 million people are living with HIV/AIDS in 2013. Of these, 3.2 million are children younger than 15 years old.
  + HIV is the world’s leading infectious killer. It is estimated that 39 million people have died since the first cases were reported in 1981 and 1.5 million people died of AIDS-related causes in 2013.
  + The vast majority of people living with HIV are in low and middle-income countries. Sub-Saharan Africa is the most affected region, with 24.7 million people living with HIV in 2013. Seventy-one percent of all people who are living with HIV in the world live in this region.
  + Progress has been made in preventing mother-to-child transmission of HIV and keeping mothers alive. In 2013, 67 percent of pregnant women living with HIV in low and middle-income countries (970,000 women) received ART to avoid transmission of HIV to their children. This is up from 47 percent in 2010.
  + An estimated 2.1 million individuals worldwide became newly infected with HIV in 2013. This includes over 240,000 children 15 and younger. Most of these children live in sub-Saharan Africa and were infected by their HIV-positive mothers during pregnancy, childbirth, or breastfeeding.

**Contracting HIV**

Certain bodily fluids from an HIV-infected person can transmit HIV.

These bodily fluids include the following:

* + Blood
  + Semen
  + Pre-seminal fluid
  + Rectal fluids
  + Vaginal fluids
  + Breast milk

These bodily fluids must come into contact with a mucous membrane or damaged tissue or be directly injected into your bloodstream (by a needle or syringe) for transmission to possibly occur. Mucous membranes are the soft, moist areas just inside the openings to your body. They can be found inside the rectum, the vagina, the opening of the penis, and the mouth.

**HIV Transmission**

The following are the ways that HIV can be transmitted from one person to another:

* + Sexual contact
  + Injection drug use
  + Pregnancy, childbirth, and breast feeding
  + Occupational exposure
  + Blood transfusion/organ transplant (rarely)

**Spreading HIV**

Approximately 50,000 new HIV infections occur in the United States each year. In the US, HIV is spread mainly by having sex with someone who has HIV.

The following are important facts to consider about transmission of HIV through sexual contact:

* + Anal sex (penis in the anus of a man or woman) is the highest-risk sexual behavior.
  + Vaginal sex (penis in the vagina) is the second highest-risk sexual behavior.
  + Oral sex, using the mouth to stimulate the penis, vagina, or anus (fellatio, cunnilingus, and rimming), can also transfer HIV. Giving fellatio (mouth to penis oral sex) and having the person ejaculate in your mouth is riskier than other types of oral sex.
  + Having multiple sex partners is a risk for contracting HIV.
  + Sharing needles, syringes, rinse water, or other equipment (“works”) used to prepare injection drugs with someone who has HIV is a risk for contracting HIV.
  + HIV can transfer from mother to child during pregnancy, childbirth, or breast milk.

**Ways that HIV Is Not Transmitted**

Listed below are examples of ways that HIV **cannot** be transmitted from one person to another:

* + Air or water
  + Insects, including mosquitoes or ticks
  + Saliva, tears, or sweat
  + Casual contact, like shaking hands, hugging, or sharing dishes/drinking glasses
  + Drinking fountains
  + Toilet seats
  + Casual contact includes the following:
    - Shaking hands
    - Hugging
    - Kissing
    - Eating utensils
    - Door knobs
    - Toilet seats
    - Swimming pool
    - Hot tubs
    - Insect/animal bites
    - Telephones
    - Coughing/sneezing
    - Donating blood

HIV is **not** spread through the air and it does not live long outside the human body.

**Early Stages**

The symptoms of HIV vary, depending on the individual and what stage of the disease they are in. We will start by discussing what happens to an individual who has been infected by HIV, which is called the Window Period.

**The Window Period**

* + HIV invades the body and replicates rapidly in the bloodstream.
  + Blood tests for antibodies to HIV are negative (ELISA & Western Blot).
  + HIV can be transmitted to another person (even if viral load is undetectable).
  + Average time for detectable antibodies to develop is from 6–12 weeks (three month average).
  + Testing is recommended six months after exposure.

Within 2–4 weeks after HIV infection, many, but not all, people experience flu-like symptoms, often described as the “worst flu ever.” This is called acute retroviral syndrome (ARS) or primary HIV infection, and it’s the body’s natural response to the HIV infection.

Symptoms of ARS can include:

* + Fever (this is the most common symptom)
  + Swollen glands
  + Sore throat
  + Rash
  + Fatigue
  + Muscle and joint aches and pains
  + Headache

These symptoms can last anywhere from a few days to several weeks. However, you should not assume you have HIV if you have any of these symptoms. Each of these symptoms can be caused by other illnesses. Conversely, not everyone who is infected with HIV develops ARS. Many people who are infected with HIV do not have any symptoms at all for 10 years or more.

**The Clinical Latency Stage**

The next stage of the disease is the "latency stage" and the following are examples of what happens to an individual with HIV who is in the latency stage:

* + The infected person usually shows no symptoms.
  + Blood tests for antibodies to HIV are positive.
  + HIV is gradually destroying the immune system.
  + Average time from infection to development of symptoms is from 7–15 years.

After the early stage of HIV infection, the disease moves into a stage called the clinical latency stage. “Latency” means a period where a virus is living or developing in a person without producing symptoms. During the clinical latency stage, people who are infected with HIV experience no HIV-related symptoms, or only mild ones. (This stage is sometimes called asymptomatic HIV infection or chronic HIV infection.)

During the clinical latency stage, the HIV virus reproduces at very low levels, although it is still active. If you take antiretroviral therapy (ART), you may live with clinical latency for several decades because treatment helps keep the virus in check. For people who are not on ART, this clinical latency stage lasts an average of 10 years, but some people may progress through this phase faster.

**Progression From HIV to AIDS**

Acute HIV syndrome symptoms include the following:

* + Swollen Glands
  + Loss of Appetite/Other Flu-Like Symptoms
  + Fever
  + Body Rash
  + Night Sweats
  + Fatigue

If you have HIV and you are not taking HIV medication (antiretroviral therapy), eventually the HIV virus will weaken your body’s immune system. The onset of symptoms signals the transition from the clinical latency stage to AIDS (Acquired Immunodeficiency Syndrome).

It is important to remember that people in this symptom-free period are still able to transmit HIV to others even if they are on ART, although ART greatly reduces the risk of transmission.

Again, the only way to know for sure if you are infected with HIV is to get tested.

**Late Stage of HIV Infection**

During this late stage of HIV infection, people infected with HIV may have the following symptoms:

* + Rapid weight loss
  + Recurring fever or profuse night sweats
  + Extreme and unexplained tiredness
  + Prolonged swelling of the lymph glands in the armpits, groin, or neck
  + Diarrhea that lasts for more than a week
  + Sores of the mouth, anus, or genitals
  + Pneumonia
  + Red, brown, pink, or purplish blotches on or under the skin or inside the mouth, nose, or eyelids.
  + Memory loss, depression, and other neurologic disorders

Each of these symptoms can be related to other illnesses.

(show video “When HIV becomes AIDS)

**Factors Affecting Disease Progression**

Factors that may shorten the time between HIV and AIDS include the following:

* + Older age
  + HIV subtype
  + Co-infection with other viruses
  + Poor nutrition
  + Severe stress
  + Your genetic background

**Delaying Time Between HIV and AIDS**

Factors that may delay the time between HIV and AIDS are listed below:

* + Taking antiretroviral therapy
  + Staying in HIV care
  + Closely adhering to your doctor’s recommendations
  + Eating healthful foods
  + Taking care of yourself
  + Your genetic background

By making healthy choices, you have some control over the progression of HIV infection.

**What Kinds of Treatments Are Available?**

After six months a test should indicate accurately whether infection is present in the body.

* + The first test performed, ELISA or EIA, screens for antibodies in the blood (not a test for HIV).
  + The second of three tests, the Western Blot, IFA, or RIA, will be performed.
  + In 1987, a drug called AZT became the first approved treatment for HIV disease. Since then, approximately 30 drugs have been approved to treat people living with HIV/AIDS, and more are under development.
  + You may have heard these drugs called many different names, including the following:
    - "The Cocktail"
    - Antiretrovirals (ARVs)
    - Highly Active Antiretroviral Therapy (HAART or ART)

### Classes of HIV drugs

There are currently five different classes of HIV drugs. Each class of drug attacks the virus at different points in its life cycle, so if you are taking HIV medications, you will generally take three different antiretroviral drugs from two different classes.

This regimen is standard for HIV care—and it’s important. This is because no drug can cure HIV, and taking a single drug by itself won’t stop HIV from harming you. Taking three different HIV medications does the best job of controlling the amount of virus in your body and protecting your immune system.

Taking more than one drug also protects you against HIV drug resistance. When HIV reproduces, it can make copies of itself that are imperfect—and these mutations may not respond to the drugs you take to control your HIV. If you follow the three-drug regimen, the HIV in your body will be less likely to make new copies that don’t respond to your HIV medications.

(Show video “Treating AIDS” Illumistream Health.

**New Medications to Treat HIV**

If someone is diagnosed positive for HIV there are three new medications that interfere with HIV’s ability to reproduce, called protease inhibitors.

* + AZT – These disrupt an early stage of the virus reproduction.
  + 3TC – These disrupt an early stage of the virus reproduction.
  + Protease Drug – Protease inhibitors block the final stage of reproduction.

As a result of these drugs, no additional virus is produced, which prolongs life, but death will eventually occur.

Remember, there is no cure for HIV/AIDS. Is it worth the risk?