HIV/AIDS Barber Awareness Course

Two Credit Hours - HIV/AIDS and Other Communicable Diseases Education Course

Course Learning Objectives

Although there are concerns about many diseases, specific attention is being given to HIV infection and AIDS because of the varied and complicated issues they bring to our workplace and the community. The epidemic continues to affect all groups; however, of the 40,000 Americans who will become infected with HIV this year, current research has indicated half will be under the age of 25. Infections among women and adolescents are increasing the fastest of all population groups. AIDS affects our children, our co-workers, our employees and our customers.

The purpose of this awareness and education course and the outcome expected is for participants to develop:

1. an increased understanding of the HIV virus and AIDS and related issues
2. a full knowledge of the Modes of HIV Transmission
3. the practical skills needed to apply various Infection Control Procedures
4. the knowledge of the core concepts of Clinical Management, testing and treatment of HIV/AIDS
5. a complete understanding of the skills necessary for applying HIV infection prevention practices
6. a more accurate perception of the attitudes people have towards HIV/AIDS
7. the ability to choose appropriate behavior in dealing with persons who may have the virus or syndrome

Educating everyone about how to protect themselves and their loved ones is the only way that we can stop the spread of this needless threat to the public health and the world economy.

Bloodborne Pathogens

Bloodborne Pathogens means pathogenic microorganisms such as viruses or bacteria that are present in human blood and can cause disease in humans. There are many different bloodborne pathogens. These pathogens include, but are not limited to, malaria, syphilis, Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), and the Human Immunodeficiency Virus (HIV).

A virus called HIV causes AIDS

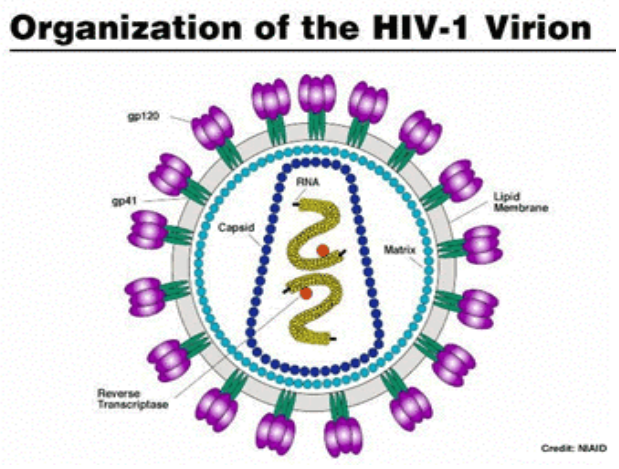
HIV stands for human immunodeficiency virus. The term AIDS applies to the most advanced stages of HIV infection. It has been identified as the virus that causes AIDS (acquired immunodeficiency syndrome). Evidence indicates that AIDS is caused by the human immunodeficiency virus (HIV) , which was discovered in 1983. HIV is spread from one person to another through sharing of needles, unprotected sexual contact, blood and body fluids. HIV infection could be described as having 3 stages: acute/early, middle and advanced (AIDS). The HIV virus attacks a person's immune system and, over time, destroys it. By the time an individual begins to experience diseases and infections as the consequence of the destructive process of HIV, his/her T-cell count is commonly below 200 per milliliter. An individual develops AIDS when his/her immune system can no longer successfully fight off disease and infection, and if not attended to, the person will die from complications. HIV does not discriminate and anybody can acquire the virus. People infected with HIV may seem and feel healthy for an extended period. Not uncommonly, it can take up to 10 years for a person infected with HIV to develop AIDS. Thus, infected people may spend a decade not knowing that they are infected, yet are all the while infecting others.

Symptoms of infection differ from one person to another. Some people get fevers and diarrhea others get swollen glands. Commonly, people infected lose weight for no apparent reason while the virus cripples the body's defenses. At the time people develop AIDS, they might have illnesses that people not infected would usually resist. It is necessary to take a blood test in order to determine if an individual is infected with HIV.

The Centers of Disease Control and Prevention (CDC) are responsible for tracking the spread of AIDS in the United States. The CDC defines a person with AIDS as someone with:

- A positive HIV antibody or antigen test,
- A T-cell (CDR) count of fewer than 200 CD4+ T cells per cubic millimeter of blood. (Healthy adults usually have CD4+ T-cell counts of 1,000 or more.) and,
- A diagnosis of one or more opportunistic diseases or conditions associated with AIDS.

In addition, the definition includes 26 clinical conditions that affect people with advanced HIV disease, known as OI's or opportunistic infections.



Structure of the Human Immunodeficiency Virus, courtesy of NIAID

Modes of HIV Transmission

For more than 20 years, scientists have made new discoveries about HIV infection and AIDS. But one piece of information has never changed – how the disease spreads. Scientists have confirmed and reconfirmed this for more than 20 years. The basic facts about HIV transmission and prevention are sound. They can be trusted. These are some of the common ways in which HIV is spread. The most effective method of HIV transmission is blood to blood, however, a sufficient amount of HIV blood must gain entry into the bloodstream to cause infection. Records have shown that contact between infected blood and intact skin (i.e. no breaks in the skin, lesions, or open sores) cannot transfer the virus from one person to another. Conversely, having vaginal, anal, or oral sex without a latex condom, or sharing needles or syringes will. It should also be known that AIDS can be transmitted from an infected mother to her baby during pregnancy, childbirth, and, although rarely, also through breast-feeding.

Risky behavior

HIV can infect anyone who practices risky behaviors such as:

- Sharing drug needles or syringes
- Having sexual contact, including oral, with an infected person without using a condom
- Having sexual contact with someone whose HIV status is unknown

Infected blood

HIV also is spread through contact with infected blood. Before donated blood was screened for evidence of HIV infection and before heat-treating techniques to destroy HIV in blood products were introduced, HIV was transmitted through transfusions of contaminated blood or blood components. Today, because of blood screening and heat treatment, the risk of getting HIV from such transfusions is extremely small.

Contaminated needles

HIV is frequently spread among injection drug users by the sharing of needles or syringes contaminated with very small quantities of blood from someone infected with the virus.

It is rare, however, for a patient to give HIV to a health care worker or vice-versa by accidental sticks with contaminated needles or other medical instruments.

Mother to child

Women can transmit HIV to their babies during pregnancy or birth. Approximately one-quarter to one-third of all untreated pregnant women infected with HIV will pass the infection to their babies. HIV also can be spread to babies through the breast milk of mothers infected with the virus. If the mother takes certain drugs during pregnancy, she can significantly reduce the chances that her baby will get infected with HIV. If health care providers treat HIV-infected pregnant women and deliver their babies by cesarean section, the chances of the baby being infected can be reduced to a rate of 1 percent. HIV infection of newborns has been almost eradicated in the United States due to appropriate treatment.

A study sponsored by the National Institute of Allergy and Infectious Diseases (NIAID) in Uganda found a highly effective and safe drug for preventing transmission of HIV from an infected mother to her newborn. Independent studies have also confirmed this finding. This regimen is more affordable and practical than any other examined to date. For more information on preventing transmission from mother to child, go to http://aidsinfo.nih.gov/guidelines.

Saliva

Although researchers have found HIV in the saliva of infected people, there is no evidence that the virus is spread by contact with saliva. Laboratory studies reveal that saliva has natural properties that limit the power of HIV to infect, and the amount of virus in saliva appears to be very low. Research studies of people infected with HIV have found no evidence that the virus is spread to others through saliva by kissing. The lining of the mouth, however, can be infected by HIV, and instances of HIV transmission through oral intercourse have been reported.

Scientists have found no evidence that HIV is spread through sweat, tears, urine, or feces.

Casual contact

Studies of families of HIV-infected people have shown clearly that HIV is not spread through casual contact such as the sharing of food utensils, towels and bedding, swimming pools, telephones, or toilet seats.

HIV is not spread by biting insects such as mosquitoes or bedbugs.

Sexually transmitted infections

If you have a sexually transmitted infection (STI) such as syphilis, genital herpes, chlamydial infection, gonorrhea, or bacterial vaginosis appears, you may be more susceptible to getting HIV infection during sex with infected partners.

Early Symptoms of the HIV Virus

If you are like many people, you will not have any symptoms when you first become infected with HIV. You may, however, have a flu-like illness within a month or two after exposure to the virus. This illness may include:

- Fever
- Headache
- Tiredness

Enlarged lymph nodes (glands of the immune system easily felt in the neck and groin)

These symptoms usually disappear within a week to a month and are often mistaken for those of another viral infection.

During this period, people are very infectious, and HIV is present in large quantities in genital fluids.

More persistent or severe symptoms may not appear for 10 years or more after HIV first enters the body in adults, or within 2 years in children born with HIV infection. This period of "asymptomatic" infection varies greatly in each individual. Some people may begin to have symptoms within a few months, while others may be symptom-free for more than 10 years.
Even during the asymptomatic period, the virus is actively multiplying, infecting, and killing cells of the immune system. The virus can also hide within infected cells and lay dormant. The most obvious effect of HIV infection is a decline in the number of CD4 positive T (CD4+) cells found in the blood-the immune system's key infection fighters. The virus slowly disables or destroys these cells without causing symptoms.

As the immune system worsens, a variety of complications start to take over. For many people, the first signs of infection are large lymph nodes or "swollen glands" that may be enlarged for more than 3 months.

Other symptoms often experienced months to years before the onset of AIDS include:
- Lack of energy
- Weight loss
- Frequent fevers and sweats
- Persistent or frequent yeast infections (oral or vaginal)
- Persistent skin rashes or flaky skin
- Pelvic inflammatory disease in women that does not respond to treatment
- Short-term memory loss

Some people develop frequent and severe herpes infections that cause mouth, genital, or anal sores, or a painful nerve disease called shingles. Children may grow slowly or be sick a lot.

Opportunistic infections

HIV doesn't kill anybody directly. Instead, it weakens the body's ability to fight disease. Infections, which are rarely seen in those with normal immune systems, are deadly to those with HIV. In the United States, opportunistic infections continue to produce morbidity and mortality among the estimated 650,000-900,000 persons who are infected with HIV, especially among the estimated 200,000-250,000 persons who are severely immunosuppressed. People with HIV can get many infections (called opportunistic infections, or OIs), sometimes referred to as opportunistic diseases.

Types of OI's include:
- Bacterial and Mycobacterial
- Fungal Infections
- Malignancies
- Protozoal Infections
- Viral Infections
- Neurological Conditions

Cancers

Health care providers use radiation, chemotherapy, or injections of alpha interferon-a genetically engineered protein that occurs naturally in the human body-to treat Kaposi's sarcoma or other cancers associated with HIV infection.

Most opportunistic infections generally do not affect healthy people. In people with AIDS, these infections are often severe and sometimes fatal because the immune system is so ravaged by HIV that the body cannot fight off certain bacteria, viruses, fungi, parasites, and other microbes.

Symptoms of opportunistic infections common in people with AIDS include:

- Coughing and shortness of breath
- Seizures and lack of coordination
- Difficult or painful swallowing
- Mental symptoms such as confusion and forgetfulness
- Severe and persistent diarrhea
- Fever
- Vision loss
- Nausea, abdominal cramps, and vomiting
- Weight loss and extreme fatigue
- Severe headaches
- Coma

Children with AIDS may get the same opportunistic infections as do adults with the disease. In addition, they also have severe forms of the typically common childhood bacterial infections, such as conjunctivitis (pink eye), ear infections, and tonsillitis.

People with AIDS are also particularly prone to developing various cancers, especially those caused by viruses such as Kaposi's sarcoma and cervical cancer, or cancers of the immune system known as lymphomas. These cancers are usually more aggressive and difficult to treat in people with AIDS. Signs of Kaposi's sarcoma in light-skinned people are round brown, reddish, or purple spots that develop in the skin or in the mouth. In dark-skinned people, the spots are more pigmented.

During the course of HIV infection, most people experience a gradual decline in the number of CD4+ T cells, although some may have abrupt and dramatic drops in their CD4+ T-cell counts. A person with CD4+ T cells above 200 may experience some of the early symptoms of HIV disease. Others may have no symptoms even though their CD4+ T-cell count is below 200.

Many people are so debilitated by the symptoms of AIDS that they cannot hold a steady job nor do household chores. Other people with AIDS may experience phases of intense life-threatening illness followed by phases in which they function normally.

A small number of people first infected with HIV 10 or more years ago have not developed symptoms of AIDS. Scientists

are trying to determine what factors may account for their lack of progression to AIDS, such as:

1. Whether their immune systems have particular characteristics

2. Whether they were infected with a less aggressive strain of the virus

3. If their genes may protect them from the effects of HIV

Scientists hope that understanding the body's natural method of controlling infection may lead to ideas for protective HIV vaccines and use of vaccines to prevent the disease from progressing.

Many of these illnesses are very serious, and they need to be treated. Some can be prevented. A number of available drugs help treat opportunistic infections.

These drugs include:

- Foscarnet and ganciclovir to treat CMV (cytomegalovirus) eye infections
- Fluconazole to treat yeast and other fungal infections
- TMP/SMX (trimethoprim/sulfamethoxazole) or pentamidine to treat PCP (Pneumocystis carinii pneumonia)

Facts about HIV/AIDS

1) AIDS results from the late stage of infection with HIV. The onset of AIDS can take up to 10 or more years, and new drug therapies can delay the progression of the disease into AIDS even longer. A person infected with HIV may look and feel healthy for many years, but can still transmit the virus to others, which is why testing is so important.

2) HIV is transmitted through the exchange of any HIV infected body fluids. Transfer may occur during all stages of the disease. The HIV virus is found in the following fluids: blood, semen (and pre-ejaculated fluid), vaginal secretions, and breast milk. HIV does not survive long outside the body and therefore can only be transmitted when any of the above body fluids from an infected individual enters an uninfected individual.

3) HIV most frequently is transmitted sexually. The only way you can be completely sure to prevent the sexual transmission of HIV is by abstaining from all sexual contact. How can you have sex and still significantly reduce your risk of contracting HIV? By correctly using a latex condom from start to finish, every time you have vaginal sex or anal intercourse. Use a condom with each act of oral sex on a man. Oral sex can transmit HIV. Use a dental dam or a condom cut open while performing each act of oral sex with a woman. Bear in mind that all semen, even pre-ejaculated fluid, can carry the HIV virus. Engage in safer sex practices that involve no penetration, (such as kissing, massaging, hugging, touching, body rubbing, and masturbation).

4) It is important to know that in the US, all blood, organs, and tissues used during transfusions or surgeries have been tested for HIV. Medical professionals immediately and carefully dispose of all contaminated products. All medical and surgical instruments, including those used for tattooing and body piercing, must be completely sterilized or discarded properly after each use in order to prevent HIV transmission. For information on HIV/AIDS in the work place or referrals to organizations that handle the proper disposal of medical instruments call the CDC National HIV/AIDS Hotline at 1-800-342-AIDS.

5) Anonymous HIV testing is the only form of HIV testing that is not name based. If you receive a test from an anonymous testing center, no one but you will know the results of your test. Currently, 40 states plus the District of Columbia and Puerto Rico offer anonymous testing.

6) You do not get HIV from donating blood, from mosquito bites or bites from other bugs, from the urine, sweat, or sneezes of an infected person, nor from public restrooms, saunas, showers or pools. You also do not get HIV from being friends with a person who has HIV/AIDS, touching, hugging, or dry kissing a person with HIV, sharing towels or clothing, or sharing eating utensils.

7) Young adults (under age 25) are quickly becoming the most at risk age group, now accounting for an estimated 50% of all new HIV infections in the United States. Teenagers and young people here and around the world need to take an active role in changing the course of the HIV/AIDS epidemic by adjusting their behaviors and attitudes toward the disease.

8) Discriminating against people who are infected with HIV/AIDS, or anyone thought to be at risk of infection, violates individual human rights. Every person infected with and affected by HIV/AIDS deserves compassion and support, regardless of the circumstances surrounding their infection. Education is crucial in getting this message out.

9) You can help stop the spread of HIV by getting involved in community efforts. World AIDS Day is a special event held every year to focus attention on this urgent challenge that affects all of us. It is marked around the world by thousands of different events designed to increase awareness and to express compassion and solidarity.

Be a role model for others. Show your support and caring for people who are infected with HIV and for those who are living with AIDS. Keep in mind that you cannot get AIDS from being a friend.

Prevention and Safe Practices

HIV is a very dangerous disease, that you may have less of a chance of contracting if you follow some basic guidelines for prevention. The following facts about HIV and AIDS will educate you on how to protect yourself. If you are sexually active and want to avoid HIV, you must have sex only with a partner who does not shoot drugs, does not share needles or

syringes, is not infected, and is monogamous. Are you asking if this is even possible? Remember that these things are impossible to know for sure about someone unless they never leave your side. There is never a 100% guarantee that a partner will not participate in risky behavior unbeknownst to you.

You can safeguard yourself from the virus. Some of the primary methods are:

- Do not use drugs or alcohol. They keep you from making wise decisions and thinking clearly.
- Do not have sex. You can get infected from one sexual experience.
- Never share any kind of needle or syringe.
- If you do have sex, learn and use safe sex practices.
- Birth control pills and diaphragms will not protect you from HIV or other STD's.

Effectiveness of Condoms

Condoms are classified as medical devices and are regulated by the Food and Drug Administration (FDA). There are many different types and brands of condoms available—however, only latex or polyurethane condoms provide a highly effective mechanical barrier to HIV. In laboratories, viruses occasionally have been shown to pass through natural membrane ("skin" or lambskin) condoms, which may contain natural pores and are therefore not recommended for disease prevention (they are documented to be effective for contraception). Condom manufacturers in the United States test each latex condom for defects, including holes, before it is packaged. The proper and consistent use of latex or polyurethane (a type of plastic) condoms when engaging in sexual intercourse—vaginal, anal, or oral—can greatly reduce a person's risk of acquiring or transmitting sexually transmitted diseases, including HIV infection. For condoms to provide maximum protection, they must be put on prior to genital contact, they must be used *consistently* (every time) and *correctly*, from beginning to end, each time you have vaginal, anal, or oral sex.

Women may wish to consider using the female condom when a male condom cannot be used. There is always a chance you won't know if you or your partner is infected. Condoms can provide protection for those who choose to have more than one sexual partner; however, condoms are not a 100% guarantee against the AIDS virus.

Condoms do not absolutely exclude the possibility of becoming infected because they can rupture, tear, or even slide off. Latex condoms are approximately 90% effective at preventing pregnancy and the passage of almost all sexually transmitted diseases. Similarly, numerous studies among sexually active people have demonstrated that a properly used latex condom provides a high degree of protection against a variety of sexually transmitted diseases, including HIV infection. This figure would be higher if everyone used a condom properly For more detailed information about condoms, see the CDC publication "Male Latex Condoms and Sexually Transmitted Diseases."

Make careful choices. Whether or not to have sex, or whether or not to use condoms, is a decision you may be faced with at one time or another. Many will be faced with this decision time and time again. Apply what you have learned to make judgments about sex that are beneficial to you and your mate. Get the most recent information from the CDC.

It is impossible for a donor to get HIV from giving blood or plasma. In the United States every piece of equipment (needles, tubing, containers) used to draw blood is sterile and brand new. It is used only once and then destroyed.

The likelihood of acquiring HIV from a blood transfusion in the U.S. is currently remote. At the beginning of the epidemic, some people contracted the virus through infected blood in the nation's blood supply. Subsequently, safeguards were implemented and the risk of getting an HIV contaminated transfusion has diminished significantly, being now estimated at two in one million units of blood. As time has gone on, testing procedures have improved notably. Nonetheless, testing cannot entirely remove the chance of infected blood. If someone donates blood or plasma soon after they are infected, current tests may not always detect the existence of the virus.

There is no approved vaccine for HIV or a cure for AIDS. However, there are several medications that are now available to help treat the symptoms of AIDS and permit patients to live more comfortably. None of these medications can exclude a person from becoming infected with HIV, nor can they cure AIDS. On the other hand, people can take an active role in the prevention of HIV infection by understanding the facts and following the guidelines.

Diagnosis Through Blood Tests

The only way a person can know if he or she has been infected with HIV is to be tested. Specific blood tests are required to look for, and to verify the presence of HIV antibodies in the blood. In nearly all cases, the body develops antibodies to combat the virus that enters the blood stream. If it is possible that you may be infected with HIV, you should consider taking an antibody blood test and get counseling both before and after being tested. Accepted blood tests are over 99% accurate. Still, there is usually a window period of a few weeks to a few months subsequent to a person becoming infected before enough antibodies develop to be detected. Get in touch with your local public health department, Red Cross chapter, AIDS service organization, or doctor's office for more information about testing and HIV counseling.

How HIV Tests Work

When HIV enters the body, it begins to attack certain white blood cells called T4 lymphocyte cells (helper cells). Your doctor may also call them CD4 cells. The immune system then produces antibodies to fight off the infection. Although

these antibodies are ineffective in destroying HIV, their presence is used to confirm HIV infection. Therefore, the presence of antibodies to HIV results from HIV infection. HIV tests look for the presence of HIV antibodies; they do not test for the virus itself.

Test Models for HIV

HIV testing consists of an initial screening with two types of tests commonly used to detect HIV infection. The most commonly used initial test is an enzyme immune assay (EIA) or the enzyme-linked immunosorbent assay (ELISA). If EIA test results show a reaction, the test is repeated on the same blood sample. If the sample is repeatedly the same result or either duplicate test is reactive, the results are "confirmed" using a second test such as the Western blot. This more specific (and more expensive) test can tell the difference between HIV antibodies and other antibodies that can react to the EIA and cause false positive results. False positive EIA results are uncommon, but can occur. A person is considered infected following a repeatedly reactive result from the EIA, confirmed by the Western blot test. In addition to the EIA or ELISA and Western blot,

Other tests now available include:

- Radioimmunoprecipitation assay (RIPA): A confirmatory blood test that may be used when antibody levels are very low or difficult to detect, or when Western blot test results are uncertain. An expensive test, the RIPA requires time and expertise to perform.
- Dot-blot immunobinding assay: A rapid-screening blood test that is cost-effective and that may become an alternative to standard EIA and Western blot testing.
- Immunoflourescence assay: A less commonly used confirmatory blood test used on reactive ELISA samples or when Western blot test results are uncertain.
- Nucleic acid testing (e.g., viral RNA or proviral DNA amplification method): A less available blood test that can be used to resolve an initial indeterminate Western blot result in certain situations.
- Polymerase chain reaction (PCR): A specialized blood test that looks for HIV genetic information. Although expensive and labor-intensive, the test can detect the virus even in someone only recently infected.

Alternatives Tests: Urine and Oral-fluid HIV Tests

Urine and oral-fluid HIV tests offer alternatives for anyone reluctant to have blood drawn. Urine testing for HIV antibodies is not as sensitive or specific as blood testing. Available urine tests include an EIA and a Western blot test that can confirm EIA results. A physician must order these tests, and the results are reported to the ordering physician or his or her assistant.

Orasure© and OraQuick Advance HIV1/2 are currently the only FDA approved oral-fluid tests. Fluid is collected from inside the mouth and analyzed using an EIA test and supplemental Western blot test, if necessary. Oral fluid tests are offered at many HIV testing locations. Contact a location near you to find out if this test is available.

Rapid HIV Tests

A rapid HIV test is a test that usually produces results in up to 20 minutes. In comparison, results from the commonly used HIV-antibody screening test, the EIA, are not available for 1-2 weeks. There are currently four rapid HIV tests licensed for use in the United States:

- OraQuick Rapid HIV-1 and Advance HIV ½ Antibody Tests, manufactured by OraSure Technologies, Inc.
- Reveal G2 HIV-Antibody Tests, manufactured by MedMira, Inc.
- Multispot, manufactured by Bio-Rad Laboratories
- Uni-Gold Recombigen, manufactured by Trinity Biotech

The availability of these tests may differ from one place to another. These rapid HIV blood tests are considered to be just as accurate as the EIA. As is true for all screening tests (including the EIA), a positive test result must be confirmed with an additional specific test before a diagnosis of infection can be given.

Home Test Kits

The Food and Drug Administration (FDA) has not approved home-use HIV test kits, which allow consumers to interpret their own HIV test results in a few minutes. The Federal Trade Commission has warned that these home-use HIV test kits, many of which are available on the Internet, supply inaccurate results.

Currently only the Home Access test is approved by the Food and Drug Administration. The Home Access test kit can be found at most drug stores. The testing procedure involves pricking your finger, placing drops of blood on a specially treated card, and then mailing the card in for testing at a licensed laboratory. Customers are given an identification number to use when phoning for the test results. Callers may speak to a counselor before taking the test, while waiting for the test result, and when getting the result.

Getting Tested

Evidence suggests that HIV, the virus that causes AIDS, has been in the United States at least since 1978. The following are known risk factors for HIV infection. If you answer yes to any of these questions, you should definitely seek counseling and testing. You may be at increased risk of infection if any of the following apply to you since 1978.

- Have you injected drugs or steroids or shared equipment (such as needles, syringes, cotton, water) with others?
- Have you had unprotected vaginal, anal, or oral sex with men who have sex with men, multiple partners, or anonymous partners?
- Have you exchanged sex for drugs or money?

- Have you been diagnosed with or treated for hepatitis, tuberculosis (TB), or a sexually transmitted disease (STD), like syphilis?
- Have you received a blood transfusion or clotting factor between 1978 and 1985?
- Have you had unprotected sex with someone who could answer yes to any of the above questions?

If you have had sex with someone whose history of risk-taking behavior is unknown to you or if you or they may have had many sex partners, then you have increased the chances that you might be HIV infected. If you plan to become pregnant, counseling and testing is even more important. If a woman is infected with HIV, medical therapies are available to lower the chance of passing HIV to the infant before, during, or after birth.

Detecting Infection

The HIV-antibody test is the only way to tell if you are infected. You cannot tell by looking at someone if he or she carries HIV. Someone can look and feel perfectly healthy and still be infected. In fact, an estimated one-third of those who are HIV positive do not know it. Neither do their sex partners.

When HIV enters the bloodstream, it begins to attack certain white blood cells called T4 lymphocyte cells (helper cells). The immune system then produces antibodies to fight off the infection. Therefore, the presence of antibodies to HIV results from HIV infection. Testing can tell you whether or not you have developed antibodies to HIV.

Exposure to HIV

To find out when you should be tested, discuss it with your testing site staff or personal physician. The tests commonly used to detect HIV infection actually look for antibodies produced by your body to fight HIV. Most people will develop detectable antibodies within 3 months after infection, the average being 20 days. In rare cases, it can take 6-12 months. During the time between exposure and the test, it is important to avoid any behavior that might result in exposure to blood, semen, or vaginal secretions.

HIV Infection Testing Locations

Many places offer HIV testing including local health departments, private doctors' offices, hospitals, and sites specifically set up to provide HIV testing. It is important to get tested at a place that also provides counseling about HIV and AIDS. Counselors can answer any questions you might have about risky behavior and ways you can protect yourself and others in the future. In addition, counselors can help you understand the meaning of the test results and tell you about AIDS-related resources in your area.

HIV Positive Test Results

If you test positive for HIV, immediate medical treatment and a healthy lifestyle can help you stay well. There are now many drugs that treat HIV infection and AIDS-related illnesses. Prompt medical care may help delay the onset of AIDS and prevent some life-threatening conditions. You can get prompt medical attention, allowing one to take a number of important steps to protect your health:

- See a doctor, even if you do not feel sick. Try to find a doctor who has experience in treating HIV.
- Have a TB (tuberculosis) test done. You may be infected with TB and not know it. Undetected TB can cause serious illness, but it can be successfully treated if caught early.
- Smoking cigarettes, drinking too much alcohol, or using illegal drugs (such as cocaine) can weaken your immune system. Cessation programs are available that can help you reduce or stop using these substances.
- Have a screening test for sexually transmitted diseases (STDs). Undetected STDs can cause serious health problems. It is also important to practice safe-sex behaviors so you can avoid getting STDs.

Stand-alone Testing Centers

Stand-alone sites, also known as freestanding sites, are generally operated by nongovernmental organizations (NGOs) and are not associated with medical institutions. Usually CT is the only service these sites offer, and the staff is dedicated full-time to providing counseling and testing. Because clients most often self refer to stand-alone sites, they are commonly called voluntary counseling and testing (VCT) sites.

Treatment

When AIDS first surfaced in the United States, there were no medicines to combat the underlying immune deficiency and few treatments existed for the opportunistic diseases that resulted. Researchers, however, have developed drugs to fight both HIV infection and its associated infections and cancers.

Medical science has made progress in the treatment of HIV infection and the associated opportunistic infections (OIs) that come along with HIV. Expanded use of medications for preventing toxoplasmosis, tuberculosis, Mycobacterium avium complex (MAC) and, Pneumocystis carinii pneumonia (PCP), for example, has facilitated with the reduction in the number of people with HIV who ultimately develop serious illness and die from AIDS.

The 12th Annual HIV Drug Guide – New Treatments January/February 2008

Also, a number of new compounds in the latest class of drugs, called protease inhibitors, have been federally approved to treat HIV infection. These drugs, when taken in combination with previously approved drugs such as AZT, 3TC and ddI, reduce the level of HIV particles circulating in the blood to very low levels in infected individuals. Treatment results using these drugs have been hopeful, as

these drug combinations are more effective than any previously available therapies.

The Food and Drug Administration (FDA) has approved a number of drugs for treating HIV infection. The first group of drugs used to treat HIV infection, called Nucleoside Analog Reverse Transcriptase Inhibitors (NRTIs) or "Nukes", interrupts an early stage of the virus making copies of it. These drugs may slow the spread of HIV in the body and delay the start of opportunistic infections.

Nucleoside analogs (NRTIs) include:

- Combivir (Epivir/Retrovir)
- Emtriva (emtricitabine, FTC)
- Epivir (lamivudine, 3TC)
- Epzicom (Epivir/Ziagen)
- Retrovir (zidovudine, AZT)
- Trizivir (Epivir/Retrovir/Ziagen)
- Truvada (Emtriva/Viread)
- Videx & Videx EC (didanosine, ddI)
- Viread (tenofovir)
- Zerit (d4T)
- Ziagen (abacavir)

Health care providers can prescribe non-nucleoside reverse transcriptase inhibitors (NNRTIs) or "Non-Nukes", such as:

Transcriptase inhibitors (NNRTIs) include:

- Intelence (etravirine, TMC-125)
- Rescriptor (delavirdine)
- Sustiva (efavirenz)
- Viramune (nevirapine)

FDA also has approved a second class of drugs for treating HIV infection. These drugs, called protease inhibitors, interrupt the virus from making copies of itself at a later step in its life cycle.

Protease inhibitors (PIs) include:

- Aptivus (tipranavir)
- Crixivan (indinavir sulfate)
- Invirase (saquinavir)
- Kaletra (lopinavir/ritonavir)
- Lexiva (fos-amprenavir)
- Norvir (ritonavir)
- Prezista (darunavir)
- Reyataz (atazanavir)
- Viracept (nelfinavir)

FDA also has introduced a third new class of drugs, known at fusion inhibitors or entry inhibitors, to treat HIV infection. Fuzeon (enfuvirtide or T-20), the first approved fusion inhibitor, works by interfering with HIV-1's ability to enter into cells by blocking the merging of the virus with the cell membranes.

Entry Inhibitors
Fuzeon (enfuvirtide, T-20)
Selzentry (maraviroc)

This inhibition blocks HIV's ability to enter and infect the human immune cells. Fuzeon is designed for use in combination with other anti-HIV treatment. It reduces the level of HIV infection in the blood and may be active against HIV that has become resistant to current antiviral treatment schedules.

Integrase Inhibitor
Isentress (raltegravir)

ARV

ARV stands for antiretroviral. Antiretroviral medications are designed to inhibit the reproduction of HIV in the body. If ARV treatment is effective, the deterioration of the immune system and the onset of AIDS can be delayed for years. It is recommended that ARV drugs be used in combinations of at least three drugs.

HAART

Because HIV can become resistant to any of these drugs, health care providers must use a combination treatment to effectively suppress the virus. HAART stands for highly active antiretroviral therapy. It is the combination of at least three ARV drugs that attack different parts of HIV or stop the virus from entering blood cells. People who are newly infected with HIV as well as people with AIDS can use HAART. Even among people who respond well to HAART, the treatment does not get rid of HIV. The virus continues to reproduce but at a slower pace.

Researchers have credited HAART as being a major factor in significantly reducing the number of deaths from AIDS in this country. While HAART is not a cure for AIDS, it has greatly improved the health of many people with AIDS and it reduces the amount of virus circulating in the blood to nearly undetectable levels. Researchers, however, have shown that HIV remains present in hiding places, such as the lymph nodes, brain, testes, and retina of the eye, even in people who have been treated.

Adverse effects

Despite the beneficial effects of HAART, there are side effects associated with the use of antiviral drugs that can be severe. Some of the nucleoside RT inhibitors may cause a decrease of red or white blood cells, especially when taken in the later stages of the disease. Some may also cause inflammation of the pancreas and painful nerve damage.

There have been reports of complications and other severe reactions, including death, to some of the antiretroviral nucleoside analogs when used alone or in combination. Therefore, health care experts recommend that you be routinely seen and followed by your health care provider if you are on antiretroviral therapy.

The most common side effects associated with protease inhibitors include nausea, diarrhea, and other gastrointestinal symptoms. In addition, protease inhibitors can interact with other drugs resulting in serious side effects. Fuzeon may also cause severe allergic reactions such as pneumonia, trouble breathing, chills and fever, skin rash, blood in urine, vomiting, and low blood pressure. Local skin reactions are also possible since it is given as an injection underneath the skin.

Although more than two dozen different products are now available for the treatment of HIV infection, there is a growing need for new drugs. Significant problems related to long-term toxicity and adherence are anticipated with therapies that will presumably need to span whole decades, As a result, there is an urgent need for new drugs that are easier to take, with high genetic barriers to the development of resistance and above all less toxic.

Attitudes in the US towards HIV/AIDS

The attitude toward HIV/AIDS can cover a myriad of issues. They include attitudes toward the disease associated with social policy issues, the global crisis, such as, government efforts and participation, and discrimination and stigma. The publics' knowledge and beliefs about issues influence the outcome of prevention and control measures. Statistics indicating attitudes and beliefs about fundamental questions associated with HIV/AIDS are listed in this section. The data was derived from a program developed to monitor the American public's knowledge and beliefs on major health issues and health care challenges. In a survey conducted by researchers on the public's attitudes towards HIV/AIDS and the related social issues, completed in 2004, reports indicate the following:

SURVEY FINDINGS

The broad foreign policy context within which Americans view the global HIV epidemic hasn't changed much in the past few years. Most Americans think the U.S. currently spends too much on foreign aid in general, and a strong majority believes the U.S. should address problems at home first rather than spending more money on the global HIV/AIDS epidemic.

But when asked specifically about foreign aid for HIV/AIDS the public expects more action on the global HIV/AIDS epidemic from a variety of individuals and groups, and in general, people are somewhat supportive of the U.S. spending money to aid in the fight against global HIV/AIDS. There has been a substantial increase since 2002 in the share who believe that spending more money on HIV prevention in Africa will lead to meaningful progress

African Americans and young people ages 18-29 are the groups in the U.S. that are most concerned about HIV/AIDS as a problem facing the nation, and the most likely to say that the government spends too little to fight the disease.

In addition to being concerned about HIV/AIDS as a problem facing the nation, African Americans and Latinos are more likely to be personally concerned about the disease, both in terms of themselves and their children. African Americans are also more likely to know someone who has HIV or AIDS or has died from AIDS, and more likely to say there is a lot of discrimination against people with HIV/AIDS in the U.S. today.

Overall, the public sees global HIV/AIDS as a serious problem, and they particularly recognize the impact of the epidemic in Africa. In fact, Americans seem to have a fairly accurate perception of the global epidemic. Half the public says that when it comes to the epidemic, the world today is losing ground, while four in ten say the world is making progress. Nearly four in ten know that less than ten percent of people worldwide who need treatment for HIV actually get it.

When it comes to the domestic HIV/AIDS epidemic, the public is more likely to say they see progress in the U.S. than in developing countries and they are somewhat more supportive of spending more money on domestic HIV/AIDS. Most people think there is at least some discrimination against people with HIV/AIDS in the United States, and more than twenty years into the epidemic, a variety of misconceptions about how HIV is transmitted continue to exist among significant minorities of the public.

The vast majority of the public reports getting their information about HIV/AIDS mainly from the media, though young adults ages 18-29 are more likely to get such information from other sources. and many say they have seen a lot about the problem of AIDS in Africa in the last year.

A variety of misconceptions about how HIV is transmitted and about other aspects of the epidemic exist among the public, and while African Americans and Latinos are better informed on some questions, they are less well informed on others.

About half of adults report ever having been tested for HIV, and African Americans, Latinos, and people under age 50 are the groups most likely to say they have been tested. The percent overall who says they have been tested for HIV has increased since 1997; however, the share who says they have been tested in the last twelve months has remained relatively stable since 1997 for most groups since 1997

Many people are at least somewhat concerned about the possibility that they will become infected with HIV, and in 2006, significant minorities of the public still incorrectly think HIV might be transmitted through various forms of casual contact, such as kissing (37%), touching a toilet seat (16%) and sharing a drinking glass (22%).

These and other lingering misconceptions are potential contributing factors to prejudice against HIV-positive individuals, since people who believe that HIV can be transmitted in these ways are much more likely to express discomfort about working with someone who has AIDS.

Basic Facts About HIV and the Law

As more effective drug therapies are extending the lives of HIV-positive people—and improving their quality of life—more workers are returning to the workforce and staying productive. Lawsuits filed by HIV-infected workers continue under the ADA. Most of these lawsuits are preventable through training and education.

The majority of people in 2006 who are infected with HIV are between the ages of 25-44 and are employed. The increase in the number of people with HIV means that in time there will be more employees with HIV on the job. That could mean that you, someone you know or employ, or an employee's family member or close friend is already coping with HIV or AIDS. It is important that you know the laws surrounding HIV/AIDS and how they affect labor leaders, managers, and you.

Laws Protecting People Living With HIV/AIDS

AIDS has generated more individual lawsuits across a broad range of health issues than any other disease in history. The following laws must be kept in mind when making decisions that affect any staff/worker with HIV/AIDS:

What Laws Affect You?

- The **Americans with Disabilities Act of 1990 (ADA)** prohibits employment discrimination on the basis of disability. The ADA, which covers employers of 15 or more people, applies to employment decisions at all stages. Court decisions have found that an individual with even asymptomatic HIV is protected under this law.

- The mission of the **Occupational Safety and Health Administration (OSHA)** is to save lives, prevent injuries, and protect the health of America's workers. To accomplish this, Federal and state governments work in partnership with the more than 100 million working men and women and their six-and-one-half million employers who are covered by the **Occupational Safety and Health Act of 1970.**

- The **Family Medical Leave Act of 1993 (FMLA)** applies to private-sector employers with 50 or more employees within 75 miles of the work site. Eligible employees may take leave for serious medical conditions or to provide care for an immediate family member with a serious medical condition, including HIV/AIDS. Eligible employees are entitled to a total of 12 weeks of job-protected, unpaid leave during any 12-month period.

- The **Health Insurance Portability and Accountability Act of 1996 (HIPAA)** addresses some of the barriers to health care facing people with HIV as well as other vulnerable populations. HIPAA gives persons with group coverage new protections from discriminatory treatment, makes it easier for small groups (such as businesses with a small number of employees) to obtain and keep health insurance coverage, and gives persons losing/leaving group coverage new options for obtaining individual coverage.

- The **Consolidated Omnibus Budget Reconciliation Act of 1986 (COBRA)** allows employees to continue their health insurance coverage at their own expense for a period of time after their employment ends. For most employees ceasing work for health reasons, the period of time to which benefits may be extended ranges from 18 to 36 months.

AIDS Drug Assistance Programs (ADAPs)

AIDS Drug Assistance Programs (ADAPs) provide FDA-approved HIV-related prescription drugs to low-income people with HIV/AIDS who have limited or no prescription drug coverage. They do so directly or by purchasing health insurance that includes medications. ADAPs reached approximately one quarter of people with HIV/AIDS estimated to be receiving care in the United States.

Each state operates its own ADAP, including determining eligibility criteria and other program elements, resulting in wide variation in ADAPs across the country. Clients must be HIV positive, low-income, and under- or uninsured. Effective July 1, 2007, requiring ADAPs to cover at least one medication from within each antiretroviral drug class (there are currently four classes).

Eligibility Criteria

As of June 2006:

- All ADAPs require documentation of HIV status. Seven use additional clinical criteria (e.g., specific CD4 counts or viral load ranges) generally; 13 use clinical criteria for access to particular drugs.
- All ADAPs require clients to be residents in their state, and some require proof of residency.
- Financial eligibility ranges from a low of 125% of the Federal Poverty Level (FPL) in North Carolina8 to 500% FPL or more in 4 states—Maryland, Massachusetts, New Jersey, and Ohio (in 2006, FPL was $9,800 annually for a single person). Some ADAPs also have asset limits.

Waiting Lists and Other Cost-Containment Measures

Due to budget shortfalls, some ADAPs have instituted waiting lists and other cost-containment measures.

- As of March 2007, 4 ADAPs had waiting lists, totaling 571 people with HIV who could not gain access to medications through their state's ADAP, despite meeting eligibility criteria.
- Many states have other cost-containment measures in place, including formulary limits, drug-specific enrollment caps, client cost-sharing, and prior authorization for drugs. A few states implemented new measures over the past fiscal year: 3 further restricted eligibility; 2 reduced formularies; and 1 introduced client cost-sharing.

Appropriate behavior in dealing with HIV Positive People

A discussion on the appropriate behavior in dealing with persons who are or who may be infected with the HIV virus or who have the AIDS syndrome is not complete, free of pointing out the laws that protect HIV positive individuals from discrimination. Appropriate behavior toward HIV positive people and the law are interconnected. Appropriate behavior is always better appreciated when in comes from the heart and with sensitivity. People with HIV infection or AIDS also feel anxious about their health and about how coworkers will treat them. They want to live and work without being singled out or harassed. They need your understanding and sensitivity.

Regrettably, not everyone is compassionate or caring. Realistically though … it's no secret; some people are just down right rude, and some are even mean and hateful. An unfortunate by product made necessary by people who fit this group, are the many laws, which have been established to protect HIV positive people from unfair treatment. These laws, not unlike the disease itself, tend to be complicated and can be perplexing. They are designed to protect the rights of HIV positive people, by making certain conduct compulsory so as to compel certain behavior or face the risk of costly legal actions.

Because discrimination laws are complex and compound, without a complete understanding of them, people not intending to be malicious can inadvertently behave contrary to that of which is required by these laws. The only way to protect you from legal actions stemming from conduct contrary to the law is to understand what the laws call for. As always the information in this program is not intended as legal advice. The courts make decisions on a case-by-case basis. Before you get involved in anything that pertains to the information given here, to protect yourself from becoming subject to a court review it is best advised that you consult with an attorney about any questions you may have. This information is intended as a general overview of current laws that protect the rights of HIV positive people, with the expectation you will develop a better understanding of both voluntary behavior toward people with HIV/AIDS, and compulsory behavior toward people with HIV/AIDS, the latter of which if followed can help protect you from unwanted legal actions.

HIV Positive Coworkers or Customers

If someone you know has HIV infection or AIDS, you may feel anxious. That's a normal reaction. People with HIV infection or AIDS also feel anxious about their health and about how coworkers will treat them.

Be supportive of coworkers with HIV infection or AIDS. If you have a close relationship, you can let the person know you are concerned and offer support.

1. Most people with HIV infection or AIDS are able to function normally and independently. They want to live and work without being singled out or harassed. They need your understanding and sensitivity.
2. Let the person with HIV infection or AIDS decide whom to tell about their situation. Do not spread rumors or gossip about someone with HIV infection or AIDS.
3. People infected with the virus have damaged immune systems. Be careful not to expose them to your colds or coughs. Even a minor cold can be dangerous to someone with HIV infection or AIDS.
4. Your coworkers may have a spouse, family member, life-partner or close friend with the virus. Be supportive of them.

Discrimination

Forms of Discrimination to HIV Positive People

- Denying a person with AIDS the opportunity to participate;
- Providing different or separate benefits or services;
- Continual harassment;
- Pre-employment inquiries about health status or disability;
- Questions as to the nature of a disability in the sale or rental of housing;
- Questions about sexual behavior or sexual orientation;
- Denial of housing based on a disability;
- Discrimination based on associating with a person with AIDS;
- Failure to make reasonable changes for benefits;
- Violating the confidentiality of a person with AIDS or HIV infection;
- Failure to stop discrimination;
- Retaliation for a complaint.
- Keeping medical examination records

Rules protecting HIV positive individuals

1. The ADA also requires employers to make "reasonable accommodations" or their disabled workers. "Reasonable accommodations" mean adapting the workplace to the employee's disability so that he/she can continue working.
2. The person with the disability must identify him or herself as having a disability and must request the accommodation.
3. In Florida Any person who maliciously, or for monetary gain, breaches the confidentiality of sexually transmitted
4. disease information commits a felony of the third degree.
5. HIV positive people cannot be fired for using health or disability benefits.
6. Plan participants and beneficiaries cannot be discharged, fined, suspended, expelled, disciplined, or discriminated against for exercising any right or prospective rights under a plan.
7. Treatment of employees with AIDS or who are HIV positive should be consistent with treatment of other employee medical conditions.
8. The Employee Retirement Income Security Act of 1974 (ERISA) prohibits forced retirement of an employee with AIDS or HIV infection; denial of short or long term disability payments; denial of disability pension, or

discontinuation of health insurance.

9. The Americans with Disabilities Act does also prohibit discrimination in the terms and conditions of employment, including health and disability insurance benefits.
10. An employer may not ask or require a job applicant to take a medical examination before making a job offer. It cannot make any pre-offer inquiry about a disability or the nature or severity of a disability.

Workplace Programs and Policies

Design policies and implement workplace programs before your workplace is confronted by an issue. Then, you can:

- Help prevent the spread of HIV infection among your employees and their families and within your community
- Plan for reasonable accommodations as you would for other persons with disabilities
- Reduce employee fear, work disruption, and customer concern
- Demonstrate your company's responsiveness and compassion
- Meet national and State antidiscrimination requirements as mandated in the ADA, the Rehabilitation Act of 1973, and State and local statutes
- Where applicable, address the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard in your policy, mandating the use of infection-control procedures and the establishment of written exposure control plans to protect workers

BUILDING YOUR PROGRAM

A division of the CDC's known as "Business/Labor Responds to AIDS", (BRTA/LRTA), is a resource for workplace programs that can protect you your employees and your business. If you are an employee it can protect you from unnecessary litigation and costly court cases, and if you are a person living with HIV/AIDS it can help you know your rights and be treated fairly.

The Five Components

There are five components to the BRTA/LRTA programs. Each of these components can be implemented individually, but the program works best when all five components are implemented as a group. The BRTA/LRTA components are relevant to large and small businesses, labor unions, and other organizations, both domestically and internationally. These components can be used for a specific HIV/AIDS prevention program or can be incorporated into a larger, overall health and wellness program:

HIV/AIDS Policy Development, A written policy that covers HIV that complies with U.S. Federal, state, and local laws or relevant laws in other countries and describes the parameters of legal and other workplace issues such as reasonable accommodation, confidentiality, hiring, benefits, non-discrimination, other employment practices, universal precautions, co-worker anxiety, insurance and other healthcare issues, and implementation of workplace education efforts. This can be a specific HIV policy or part of a pre-existing catastrophic illness policy.

Training for managers, supervisors, and labor leaders, to address HIV issues in the workplace. This includes imparting knowledge of the organization's policy and strengthening the ability of leaders and managers to exercise the skills necessary to address the full scope of HIV issues in the workplace.

HIV/AIDS education for employees/workers to address HIV transmission, prevention practices, workplace issues, and the company's HIV policies in these and related areas; with the increased turnover and high mobility of today's workplace, it is necessary to continue with educational efforts consistent with sound training principles. Training sessions must be an ongoing process of information dissemination.

Top Ten States by Cumulative Reported AIDS Cases and by AIDS Case Rate Per 100,000 and Florida Metropolitan Cities

RANK	STATE (EMA)	TOTAL
1	New York	177,262
2	California	142,918
	Florida	**105,614**
3	Texas	70,127
4	New Jersey	49,528
5	Illinois	33,902
6	Pennsylvania	33,782
	Miami, FL	**56,804**
7	Georgia	31,965
8	Maryland	30,571
9	Massachusetts	18,896
10	Puerto Rico	29,911
	Ft. Lauderdale, FL	**16,674**
	Tampa-St. Petersburg, FL	**11,286**
	West Palm Beach, FL	**9,915**
	Orlando, FL	**8,745**
	Jacksonville, FL	**6,095**

- Source: HIV/AIDS Surveillance Report, Volume 17, Revised Edition, June 2007

Tuberculosis

Tuberculosis (TB) is a contagious disease, caused by a bacterium called *Mycobacterium tuberculosis*. TB usually attacks the lungs (pulmonary TB), or vocal cords (laryngeal TB), but can also affect other parts of the body such as the lymph nodes, kidneys, bones, joints, etc. (extra-pulmonary TB).

In 2005 the total number of new cases of tuberculosis in the United States was (14,097), and was the tenth consecutive year the number of reported TB cases has decreased. However, as recently as April 2007 it is reported that Tuberculosis infection is present in 1.8 billion people worldwide. It can affect anyone of any age, and can be fatal.

The disease can now be treated, cured, and prevented. Antibiotic treatment for infectious TB disease will kill the bacteria in the sputum, usually after a few weeks of taking the pills. The person is no longer infectious to others, and can usually go back to their normal routine as soon as they feel up to it. However, scientists have never come close to wiping it out and TB remains one of the most serious diseases worldwide.

Tuberculosis is not transmitted by contact with a person's,

- Clothing,
- Bed linens,
- Dishes and cooking utensils. ,
- Sitting on a toilet seat, or
- Handshakes with someone who has TB.

The TB bacteria is spread the same way that cold and flu viruses are spread: through the air. Tuberculosis infection may result after close contact with a person who has infectious TB disease. The greatest risk of TB transmission occurs when TB bacteria are found in the person's sputum (phlegm). A person with infectious TB disease, who is not taking tuberculosis medication, has the bacteria in their nose, throat, and lung secretions and they are propelled into the air whenever they cough, sneeze, laugh, talk, or spit. If another person breathes in these germs, there is a chance they will become infected by the TB germ.

A person with TB infection has breathed TB bacteria into his/her lungs. The tubercle bacilli a person inhales may or may not cause tuberculosis. The human immune system has a variety of ways to capture and kill these bacteria. If the immune system is successful in doing so, the person will not become ill with TB. Many people who have TB infection never develop TB disease. In these people, the TB bacteria remain inactive for a lifetime without causing disease. But in other people, especially people who have weak immune systems, the bacteria become active and cause TB disease.

If the immune system doesn't kill the TB bacteria, the bacteria can remain alive but inactive in the body. This is called TB infection. A person with TB infection is not and does not feel sick and cannot spread TB to others. However, they may progress to TB disease in the future, especially if their immune system weakens. Treatment of TB infection can prevent TB disease.

Adults with TB infection have about a 10 % chance of developing TB disease during their lifetime. Adults whose immune system is weakened (serious illness, diabetes, poor eating habits, heavy drinking), the TB bacteria may become active and cause TB disease. People with both TB and HIV infection have a much greater chance of developing TB disease.

Inhaled bacilli, however, may survive the immune system. They may travel throughout the body to organs other than the lungs. In some cases, the bacilli remain active enough to cause tuberculosis. In about 5 percent of all cases, a person develops tuberculosis within twelve to twenty-four months of being exposed to TB bacteria.

Emerging Strains of TB: MDR-TB and XDR-TB

The World Health Organization (WHO) has expressed concern over the emergence of virulent drug-resistant strains of tuberculosis (TB) and is calling for measures to be strengthened and implemented to prevent the global spread of the deadly TB strains. This follows research showing the extent of XDR-TB, a newly identified TB threat that leaves patients (including many people living with HIV) virtually untreatable using currently available anti-TB drugs.

What is MDR-TB and XDR-TB

TB can usually be treated with a course of four standard, or first-line, anti-TB drugs. If these are misused or mismanaged, multidrugresistant TB (MDR-TB) can develop. MDR-TB takes longer to treat with second-line drugs, which are more expensive and have more side-effects.

If these drugs are also misused or mismanaged, extensively drug-resistant TB (XDR-TB) can develop. Because XDR-TB is resistant to first- and second-line drugs, treatment options are seriously limited and so are the chances of cure.

MDR-TB (Multidrug Resistant TB) describes strains of tuberculosis that are resistant to at least the two main first-line TB drugs - isoniazid and rifampicin. XDR-TB or Extensively Drug Resistant TB (also referred to as Extreme Drug Resistance) is MDR-TB that is also resistant to three or more of the six classes of second-line drugs.

The description of XDR-TB was first used earlier in 2006, following a joint survey by WHO and the US Centers for Disease Control and Prevention (CDC).

Resistance to anti-TB drugs in populations is a phenomenon that occurs primarily due to poorly managed TB care. Problems include incorrect drug prescribing practices by providers, poor quality drugs or erratic supply of drugs, and also patient non-adherence.

TB and HIV infection

HIV is a virus that weakens the cells in the immune system required to fight TB infection. A person who has TB and HIV infection is at a very high risk of TB infection progressing to TB disease. Adults with TB infection have about a 10 % chance of developing TB disease in their lifetime. Adults

with TB and HIV infection have a 10 % risk of developing TB disease every year. TB infection also makes HIV infection progress to AIDS faster.

Because their immune system is weak, people with TB and HIV infection may not respond to TB skin tests and their chest x-ray may look normal even if they have TB disease. A person with HIV infection is more likely to develop TB outside the lungs. TB disease may spread from the lungs to the lymph nodes or even to the brain. The symptoms may not be typical, delaying the diagnosis of TB disease and the treatment of TB disease.

Early Detection

People with TB and HIV infection need to know about both diseases as soon as possible. They also need to be seen by a doctor who is an expert in this area to find out if they have TB disease. Treatment of TB infection and treatment of TB disease by an expert could save their life!

Symptoms of TB Disease

People with TB disease of the lungs or vocal cords feel sick. They usually have symptoms such as:
TB in the lungs may cause the following:

- A bad cough that lasts longer than 2 weeks
- Pain in the chest
- Coughing up blood or sputum (phlegm)
- Weakness or feeling very tired
- Weight loss
- No appetite
- Chills
- Fever
- Night sweats

By the time they see a doctor, they may need to be hospitalized. In the hospital they are kept in a special isolation room to protect other patients and health-care workers from becoming infected with TB. They are asked to wear a mask if they have to leave this room. Health-care workers wear masks when caring for them.

Extrapulmonary Tuberculosis

TB disease outside the lungs is most often found in the lymph Most people with TB disease outside the lungs feel sick or weak, lose weight, and have fever and night sweats. In addition, they may have symptoms from the affected area.

Some of the tissues and organs in which extrapulmonary tuberculosis may appear are the following:

- **Bones (**the spine and the ends of the long bones)
- **Kidneys** (kidneys, bladder, the prostate gland (in men), and other nearby organs and tissues)
- **Female reproductive organs** (infection of the ovaries))
- **Abdominal cavity (**membrane lining the abdominal cavity**)**
- **Joints** (hips and knees. Less commonly, the wrist, hand, and elbow joints) may become painful and inflamed.
- **Meninges** (tissues that cover the brain and the spinal cord. causes tubercular meningitis)
- **Skin, intestines, adrenal glands, and blood vessels** aorta infection)
- **Miliary tuberculosis** (when very large numbers of tubercle bacilli spread throughout the body).

TB Testing

Because people with TB infection do not feel sick and may not know they have been exposed to TB. Having a TB skin test is the best way to find out if you have been infected. Not all people need a TB test. You should get a TB test if you are at increased risk. See below for conditions or activities that place persons at increased risk.

People at Risk

- You have spent time with a person known to have active TB disease or suspected to have active TB disease; or
- You have HIV infection or another condition that puts you at high risk for active TB disease; or
- You have signs and symptoms of active TB disease; or
- You are from a country where active TB disease is very common (most countries in Latin America and the Caribbean, Africa, Asia, Eastern Europe, and Russia); or
- You live somewhere in the United States that active TB disease is more common, such as a homeless shelter, migrant farm camp, prison or jail, and some nursing homes); or
- You inject illegal drugs.

The TB Skin Test

The TB skin test is a way to find out if a person has TB infection. Although there is more than one TB skin test, the preferred method of testing is to use the Mantoux test. A significant reaction to the Mantoux skin test indicates the presence of Tuberculosis. This test can prove the presence of TB, even when there are no symptoms of tuberculosis or the presence TB organisms in the sputum (the expectorated material coughed up from the respiratory tree). The disease itself is characterized by the appearance of symptoms, the presence of organisms in the sputum, as well as a significant reaction to a Mantoux skin test.

QuantiFERON®-TB Gold Test

The QuantiFERON®-TB Gold test (QFT-G) is a whole-blood test for use as an aid in diagnosing TB infection, including latent tuberculosis infection (LTBI) and tuberculosis (TB) disease. This test was approved by the U.S. Food and Drug Administration (FDA) in 2005.

In order to spread the TB germs, a person must have TB disease. Having TB infection is not enough to spread the germ. Tuberculosis may last for a lifetime as an infection, never developing into the disease. The symptoms of TB

disease include a low-grade fever, night sweats, fatigue, weight loss, and a persistent cough. Some people may not have obvious symptoms.

Most people infected with the germ that causes TB never develop active TB. If active TB does develop, it can occur anytime from 2 months after infection to many years later. The risk of active disease lessens as time passes. A person with TB disease may remain contagious until he/she has been on appropriate treatment for several weeks. However, a person with TB infection, but not disease, cannot spread the infection to others, since there are no TB germs in the sputum.

Treatment

In the past, treatment of tuberculosis was primarily supportive. Patients were kept in isolation, away from the healthy population. They were encouraged to rest and to eat well. If these measures failed, surgery was used. Today, surgical procedures are used much less often. Instead, drug therapy has become the primary means of treatment. Patients with TB can now safely rest at home; they pose no threat to other members of the household.

Directly observed therapy

Directly observed therapy (DOT) is a component of case management that helps to ensure that clients adhere to therapy. DOT means that a health care worker personally watches the client swallow each dose of TB medication. DOT ensures an accurate account of how much medication the client took. It also provides a mechanism for the early detection of medication adverse reactions or non-adherence.

Drug Therapy

People with active TB disease must complete a course of curative therapy. Initial treatment includes at least four anti-TB drugs for a minimum of 6 months. Medications may be altered based on laboratory test results. A physician must determine the exact medication plan. People with medical risk factors should be skin tested for TB, and their skin test results should noted in their medical record.

Drugs provide the most effective treatment for TB patients. Three principles govern the use of drug treatment for tuberculosis:

- First, the number of bacilli must be lowered as quickly as possible. By so doing, the risk of transmitting the disease to other people is reduced.
- Second, efforts must be made to prevent the development of drug resistance. If a person develops a resistance to a drug, it will no longer be helpful in curing the disease. As a result, most patients are given a combination of two or three different drugs at first.
- Third, drug treatment must be continued to prevent reoccurrence of the disease.

Five drugs are used today to treat tuberculosis are:

- isoniazid (INH);
- rifampin
- pyrazinamide
- streptomycin and
- ethambutol

Surgery

Treatment for TB can require surgery. Surgery is sometimes used to treat tuberculosis when medication is not effective. One form of surgery involves the introduction of air into the chest. This procedure causes the lung to collapse. In a second procedure, one or more ribs may be removed. A third procedure involves the removal of all or part of a diseased lung. Other forms of surgery may be used in cases of extrapulmonary tuberculosis.

It is **VERY IMPORTANT** to keep taking TB drugs to complete treatment, otherwise drug-resistant TB may develop.

Contact tracing is done to find and skin test family, friends and coworkers to look for the spread of TB infection. Some parts of the population are at higher risk of getting TB than others. The high-risk groups are:

- Elderly people
- Minorities including:
- African Americans
- Hispanics,
- Asians, and people from the
- Pacific Islands
- People who are infected with the human immunodeficiency virus (HIV/ AIDS

Prevention

People infected with TB should be evaluated for a course of preventive therapy, which usually includes treatments of an anti-tuberculosis medication for 6 to 12 months. A physician must determine the exact preventive therapy plan.

Because HIV infection weakens the immune system, persons with TB infection and HIV infection have a very high risk of getting TB disease. HIV infection strongly increases the risk for tuberculosis infection. TB disease occurs in 7%–10% of patients with HIV infection each year. The increase in numbers of patients with both HIV infection and TB has raised the potential for increasing transmission of drug-resistant tuberculosis strains.

HIV infection, when it occurs in tandem with TB infection, without treatment, can work together to shorten the life of an infected person. Other medical risk factors, which increase the chance of developing TB disease, include diabetes mellitus, prolonged corticosteroid therapy, Immuno-suppressive therapy, cancer, silicosis, as well as being 10 percent or more below ideal body weight.

Seek treatment if TB infection has occurred. It should be noted that TB is one of the few diseases related to HIV infection that is easily prevented and cured with medication. People that are immune-compromised are currently being treated with drug combinations containing three and four different drugs simultaneously. Conversely, in addition to spreading the disease to others, an untreated person will become severely ill or die.

The most important way to stop the spread of tuberculosis is to cover the mouth and nose when coughing, and to take all the TB medication exactly as prescribed by the physician. Some strains of TB have the ability to grow and multiply even in the presence of certain drugs that would normally kill them. There have been some studies that found strongly increased risks for multidrug-resistant TB (MDR TB) among patients coinfected with TB and HIV.

Other people who may develop drug-resistant tuberculosis include TB patients who have failed to take anti-tuberculosis medications as prescribed, TB patients who have been prescribed an ineffective treatment plan, and people who have been treated previously for TB. For patients with disease due to multi-drug-resistant organisms, expert consultation from a specialist in treating multi-drug-resistant TB should be obtained. Patients with multi-drug-resistant disease should be treated with a minimum of two or three drugs to which their organisms are susceptible.

It is currently unknown whether preventive therapy can effectively prevent the development of active TB disease in people who are infected with MDR-TB strains. Nevertheless, recommendations concerning preventive therapy for people who have been infected with MDR-TB are being developed by the Centers for Disease Control (CDC). The most important ways to stop the spread of MDR-TB remain the same— to cover the mouth and nose when coughing, and to seek adequate treatment. It is also essential that health officials directly oversee the administration of TB medications to people who, due to mental illness or incapacity, are unable to follow the prescribed regimens themselves.

Hepatitis

The word *hepatitis* simply means inflammation of the liver. Hepatitis is characterized as a severe inflammation of the liver. Those infected will usually develop liver disease, according to the national Centers for Disease Control and Prevention. Hepatitis C is one of five currently identified viruses—hepatitis A, B, C, D, and E—all of which can attack and damage the liver. Widely viewed as one of the most serious of the five, the hepatitis C virus (HCV) is spread primarily through contact with infected blood and can cause cirrhosis (irreversible and potentially fatal liver scarring), liver cancer, or liver failure.

Hepatitis C is the major reason for liver transplants in the United States, accounting for 1,000 of the procedures annually. The disease is responsible for between 8,000 and 10,000 deaths yearly. Some estimates say the number of HCV-infected people may be four times the number of those infected with the AIDS virus.

Symptoms of hepatitis C include:

- Loss of appetite
- Dark yellow urine or light-colored stools
- Persistent nausea or pains in the stomach
- Lingering fever
- Yellowish eyes or skin know as jaundice
- Fatigue, or tiredness
- Diarrhea

If you have reason to believe that you may be infected or have these symptoms, see a doctor for testing.

Viral Hepatitis

Hepatitis is an inflammation of the liver. It can result from medications, alcohol, or a other means including the viruses that cause herpes, mumps, measles, and infectious mononucleosis. Hepatitis A (HAV), Hepatitis B (HBV), or Hepatitis C (HCV), are the forms of hepatitis commonly referred to by health professionals when they speak of viral hepatitis.

The Differences between Hepatitis A, B and C

Although hepatitis A, B and C have some similarities, the viruses are significantly different.

Hepatitis A (HAV) is found in the stool (feces) of persons with hepatitis A. HAV is usually spread from person to person by putting something in the mouth (even though it may look clean) that has been contaminated with the stool of a person with hepatitis A. Symptoms usually appear within 2-6 weeks, but are not followed by the chronic problems that hepatitis B and C viruses can cause. The hepatitis B and C viruses can infect a person if his/her mucous membranes or blood is exposed to an infected person's blood, saliva, wound exudates, semen or vaginal secretions. Symptoms appear more gradually than in hepatitis A. Unlike the hepatitis A virus, the hepatitis B and C viruses can stay in the body sometimes for a lifetime, and may eventually cause chronic and serious liver diseases.

Infection Control

Because the different viruses that cause hepatitis enter the body in different ways, there are several steps you can take to protect yourself from infection.

Practicing Universal Precautions, proper handwashing, and good personal hygiene are good first steps in the prevention and spread on many infectious diseases as you read on steps and practices you can follow to help control the spread of infection are included for you.

The Symptoms of Viral Hepatitis

The list of signs and symptoms mentioned in various sources for Viral Hepatitis includes the symptoms listed below:

Initial Infection:

☑No symptoms - in some cases
☑Mild symptoms - in some cases

Early Symptoms of Hepatitis Include:

☑ fatigue
☑ headache
☑ tenderness in the upper right abdomen
☑ sore muscles & joints
☑ loss of appetite
☑ an altered sense of taste & smell
☑ nausea,
☑ vomiting
☑ diarrhea
☑ low-grade fever
☑ malaise

Later symptoms include:

☑ jaundice - abnormally yellow skin & eyes caused by bile entering the blood
☑ darkened urine;
☑ light-colored or gray stool
☑ yellowing skin
☑ yellowing eyes
☑ foamy urine

Diagnosis of Hepatitis

Although health providers use information about a person's symptoms, health history and behaviors to help make a diagnosis, only blood tests can confirm the diagnosis and pinpoint which type of hepatitis a person has.

Treatments for Viral Hepatitis

Since there's no medication that can treat the initial illness that viral hepatitis causes, health professionals manage symptoms as they occur and try to help the body's immune system fight the infection. If you have viral hepatitis, your health care provider may tell you to:

- Avoid alcohol and other drugs, large doses of vitamins, and prescription drugs metabolized by the liver (sometimes including birth control pills)
- Drink high-calorie fluids such as fruit juices and eat a balanced diet that includes dairy products; meat, poultry or seafood; breads and cereals; and fruits and vegetables (To control nausea, try eating several smaller meals)
- Limit activity if your hepatitis is symptomatic; this typically means bed rest at first, progressing to normal activity as symptoms disappear.

Your health professional may recommend hospitalization if you experience severe vomiting or do not feel better after several weeks. You should know that researchers are making gains in treating the chronic liver disease associated with both hepatitis B and C. There is not much available for treatment. Interferon has been approved in chronic hepatitis B and C cases for those aged 18 or older. Prevention is still the best option.

The list of treatments mentioned in various sources for Viral Hepatitis includes the following list. Always seek professional medical advice about any treatment or change in treatment plans.

Hepatitis A (HAV)

Hepatitis A: is a liver disease caused by the hepatitis A virus (HAV). Hepatitis A can affect anyone. In the United States, hepatitis A can occur in situations ranging from isolated cases of disease to widespread epidemics. Hepatitis A infects 125,000 - 200,000 people each year and can be easily transmitted. Hepatitis A is passed in the stool of infected persons.

Transmission is from person-to-person contact or through contaminated food and water. Eating or drinking something that has been contaminated by someone who has the disease can infect you.

Symptoms occur 2-6 weeks after infection and can persist from several days to six months. The virus typically causes some illness and has been know to be mistaken for a stomach virus, although occasionally symptoms are more serious. It is seldom fatal and does not cause permanent liver damage.

A person with hepatitis A is considered infectious, which means they can transmit the virus to others as early as two weeks before symptoms appear. The hepatitis A virus does not cause the permanent, chronic symptoms that other hepatitis viruses can cause.

Behavior Practices Associated with Hepatitis A Infection

- Eating contaminated food, such as undercooked shellfish from contaminated water or food handled by someone who has hepatitis A.
- Using silverware, cups or glasses that an infected person touched with unwashed hands.
- Changing diapers or linens that contain stool from someone with hepatitis A and neglecting to wash your hands.
- Sharing food with an infected person or drinking water contaminated with sewage.
- Oral or anal sexual contact with an infected person.
- Traveling to developing countries where the disease is common.
- Sharing needles can also put you at risk. The hepatitis A virus can be transmitted through blood if needles are shared. However, poor hygiene, amongst drug users, may account for the high prevalence seen in the drug community.

Protecting Against Hepatitis When Traveling

Hepatitis A and Hepatitis B can hide in places most people don't even think of. Not only are they serious liver diseases that can ruin a trip, both can be transmitted to others. Fortunately, there is a helpful Web site where you can learn if Hepatitis A and Hepatitis B are high risk problems at your vacation spot, Get started by going to Travel Safely.com, select the country you are traveling to, it will tell you if your destination will put you at risk for hepatitis A and/or hepatitis B. If it does they will show you how to protect yourself and your family. Remember even if you have traveled destination before, that no guarantee for the next trip.

Preventive Practices: Monitor your meals

Practice good personal hygiene. Always wash your hands after any contact with blood, when cleaning or after using the toilet, and before preparing or eating food. Avoid foods that could be contaminated, such as uncooked shellfish or food that's been prepared by someone who has the virus. When traveling to developing countries, drink only bottled or boiled water, don't use ice, which can expose you to hepatitis A, and don't eat raw fruits or vegetables unless they've been peeled. Foods should be washed thoroughly, and then cooked at temperatures high enough to kill germs.

Hepatitis A Vaccine - Two-Dose Schedules

It is also a good idea to get the hepatitis A vaccine. Several inactivated and attenuated hepatitis A vaccines have been developed and evaluated in human clinical trials and in nonhuman primate models of HAV infection; however, only inactivated vaccines have been evaluated for efficacy in controlled clinical trials (36,109). The vaccines currently licensed in the United States are HAVRIX® and VAQTA®. Both are inactivated vaccines.

- HAVRIX® is available in two formulations, and the formulation differs according to the person's age: for persons 2-18 years of age, 720 EL.U. per dose in a two-dose schedule; and for persons greater than 18 years of age, 1,440 EL.U. per dose in a two-dose schedule.

- VAQTA® is licensed in two formulations, and the formulation differs according to the person's age: for persons 2-17 years of age, 25 U in a two-dose schedule; for persons greater than 17 years of age, 50 U per dose in a two-dose schedule.

Exposure to Hepatitis A

If you think you've been directly exposed to the hepatitis A virus, visit your health care provider immediately for treatment. Some treatments can help ward off the infection if administered in time (hepatitis A vaccine and IgG). All people who have close household or sexual contact with an infected person also need treatment.

Preventing the Spread of Hepatitis A

If you think you may be infected with hepatitis A.

- Always wash your hands well after using the toilet.
- Don't prepare or handle food for others while you are infectious.
- Avoid sexual contact with other people until you have fully recovered

Hepatitis B (HBV)

More than 400 million people worldwide are chronically infected with hepatitis B virus (HBV). Effective therapy is necessary to prevent the progression of chronic hepatitis B to cirrhosis, hepatocellular carcinoma, and death. In the United States, approximately 300,000 people are infected with HBV annually, from which some cases become fatal. "Hepatitis" means "inflammation of the liver," and its name implies, Hepatitis B is a virus that infects the liver. Hepatitis B is transmitted through 'blood-to-blood` contact.

Hepatitis B initially causes inflammation of the liver, but it can lead to more serious conditions, the virus can cause lifelong infection, cirrhosis (scarring) of the liver and liver cancer, liver failure, and death.

The Hepatitis B virus is very resilient, and it can survive in dried blood for as many as seven days. Because of this fact, this virus tends to be of primary concern for employees such as custodians, laundry personnel, housekeepers, funeral directors, and not uncommonly professional barbers, along with other employees who may come in contact with blood or potentially infectious materials.

Symptoms

With both forms of hepatitis, an infected person may experience different degrees of symptoms. Some may exhibit no signs of the disease, while others may suffer months of severe symptoms. The symptoms of HBV are like a mild "flu". Initially there is a sense of fatigue, possible stomach pain, loss of appetite, and even nausea. As the disease continues to develop, jaundice (a distinct yellowing of the skin and eyes), and darkened urine often develop.

After exposure it can take 1-9 months before symptoms become noticeable. Loss of appetite and stomach pain, for example, commonly appears within 1-3 months, but can occur as soon as 2 weeks or as long as 6-9 months after infection. It varies from one individual to another.

Hepatitis B (HBV) and Sexually Transmitted Disease Prevented by HBV Vaccine

Just as the human immunodeficiency virus (HIV), is a bloodborne pathogen of primary concern so it the hepatitis B virus (HBV), and hepatitis C virus (HCV). Hepatitis B It is one of the fastest-spreading sexually transmitted infections

(STI), and also can be spread by sharing needles or by any behavior in which a person's mucus membranes are exposed to an infected person's blood, semen, vaginal secretions, or saliva.

Although seldom fatal, 10 percent of people who get hepatitis B are infected for life and run a high risk of developing serious, long-term liver diseases such as cirrhosis of the liver or liver cancer which can cause serious complications or death. A safe, effective vaccine that prevents hepatitis B is available. If you or someone you know practices behaviors that can spread hepatitis B, ask a medical professional about the vaccine.

Risk Behaviors for Contracting HBV

1) Practicing unsafe sex. The more partners with whom you have vaginal, anal or oral contact, the higher your risk of becoming infected with hepatitis B. Abstinence is the most effective way to prevent sex-related transmission. If you have vaginal, anal or oral contact, always use barrier protection. People who have sex with multiple partners should ask their health provider about getting vaccinated for hepatitis B.

2) Sharing needles. No matter what drug is injected, whether its crack, heroin or steroids, sharing needles is extremely risky. In fact, an estimated 60-80 percent of the people who share needles is or has been infected with hepatitis B. Similarly, beware of needles that could be contaminated when getting tattoos, having acupuncture or your ears pierced. Select a reputable professional for these services.

3) Close, frequent contact with the blood, semen, vaginal secretions or saliva of infected persons. Occasionally, people who share living quarters for a long time with others who have hepatitis B have gotten infected. Receiving a blood transfusion or other blood products no longer carries the threat of hepatitis B that it once did. Today, all blood is screened for hepatitis B before it is used.

Prevention of Hepatitis B

If you are at risk of contracting hepatitis B, get vaccinated. The hepatitis B vaccine is an inactivated antigen (genetically engineered; not a live or killed virus). It is administered in a series of three injections over a six-month period. Approximately 95% of persons who receive the three injections obtain full immunity after receiving the vaccine.

You are asked to report side effects (rash, nausea, joint pain, and/or fatigue) to your health care provider. Also, avoid high-risk behaviors and practice good personal hygiene when sharing food and using bathrooms. Don't share razors, toothbrushes or pierced earrings with others.

Exposure to Hepatitis B

If you have not been vaccinated against hepatitis B but are exposed to the virus, your health professional can treat you with hepatitis B immune globulin (HBIG), combined with the hepatitis B vaccination. Don't delay, get immunized and vaccinated as soon as possible after exposure.

Preventing the Spread of Hepatitis B

- Don't engage in sexual contact without a condom
- Don't donate blood. Bandage all cuts and open sores
- Don't share anything that could be contaminated with your blood, semen, vaginal secretions or saliva – such as needles, razors or toothbrushes
- Wash your hands well after using the toilet
- If you have hepatitis B and you're pregnant, your baby must be immunized at birth. All pregnant women should be screened for hepatitis B

Hepatitis A and Hepatitis B Vaccinations for Travel and High Risk Groups

The Centers for Disease Control and Prevention (CDC) recommends vaccination as an effective way to protect against hepatitis A and hepatitis B.

If you plan to travel to an area that poses an increase risk of infection or if you are or someone you live with are in a high-risk group, talk to your doctor and see if TWINRIX vaccination is right for you. TWINRIX offers long-lasting protection against vaccine-preventable hepatitis (VPH), which includes hepatitis A and hepatitis B, through a single vaccine series

Hepatitis C (HCV)

HCV is widely viewed as one of the most serious of the five hepatitis viruses. The Hepatitis C virus is spread primarily through contact with infected blood and can cause cirrhosis (irreversible and potentially fatal liver scarring), liver cancer, or liver failure. Hepatitis C is the major reason for liver transplants in the United States, accounting for 1,000 of the procedures annually. The disease is responsible for between 8,000 and 10,000 deaths yearly. Some estimates say the number of HCV-infected people may be four times the number of those infected with the AIDS virus. Hepatitis C is less likely than the other hepatitis viruses to cause serious illness at first (only one quarter of the people infected actually develops symptoms); about 70% of those infected develop chronic liver disease. Like hepatitis B, hepatitis C can be spread by contact with infected blood, and possibly semen, vaginal secretions and saliva. Hepatitis C infects about 150,000 Americans each year.

Risk Behaviors

Risk behaviors follow the same fundamentals as does HIV, as hepatitis B and hepatitis C are also bloodborne pathogens, and transmission occurs in almost the exact same ways. You are at risk if you share needles; or have sexual contact without barrier protection with infected partners.

Prevention of Hepatitis C

Since hepatitis C is transmitted in much the same way as hepatitis B, you can help avoid infection by using some of the

same precautions. Always use barrier protection during sexual contact; practice good personal hygiene; and never share needles, razors, toothbrushes or pierced earrings with anyone. All donated blood is screened for the virus. Drugs are licensed for treatment of persons with chronic infection, though they are only about 15-30% effective. Currently, there is no vaccine available.

Hepatitis C Treatment

Some patients learn they have hepatitis through a routine physical or when they donate blood and a blood test shows elevated liver enzymes.

Once diagnosed, health professionals recommend the following:

- See a doctor regularly
- If liver damage is present, get vaccinated against hepatitis A, a food- and water-borne virus.
- Don't start any new medicines or use over-the counter, herbal, or other drugs without consulting with a doctor.
- Stop using alcohol

Co- infection with HIV and Hepatitis C Virus

About one quarter of HIV-infected persons in the United States are also infected with hepatitis C virus (HCV). HCV is one of the most important causes of chronic liver disease in the United States and HCV infection progresses more rapidly to liver damage in HIV infected persons. HCV infection may also impact the course and management of HIV infection. The latest U.S. Public Health Service/ Infectious Diseases Society of America (USPHS/IDSA) guidelines recommend that all HIV-infected persons should be screened for HCV infection. Prevention of HCV infection for those not already infected and reducing chronic liver disease in those who are infected are important concerns for HIV-infected individuals and their health care providers.

Hepatitis D (HDV)

Hepatitis D: is a liver disease caused by the hepatitis D virus (HDV), a defective virus that needs the hepatitis B virus to exist. Hepatitis D virus (HDV) is found in the blood of persons infected with the virus, and may cause infection only in the presence of active hepatitis B infection.. The symptoms and routes of transmission are similar to those of hepatitis B infection, but are particularly significant with intravenous drug abusers.

Syphilis

Syphilis, a bacterial infection, is primarily a sexually transmitted disease (STD). Any person that is sexually active can be infected with syphilis, although there is a greater incidence among young people between the ages of 15 and 30 years. It is more prevalent in urban areas.

Transmission

Syphilis is spread by sexual contact with an infected individual, with the exception of congenital syphilis, which is spread from mother to fetus. Transmission by sexual contact requires exposure to moist lesions of skin or mucous membranes.

Symptoms

The first sign of syphilis is generally one or more painless sores that become visible at the site of initial contact. It might be accompanied by swollen glands, which develop within a week after the appearance of the first sore. The sore will persist for 1 to 5 weeks and will vanish by itself, even if no medical care is obtained.

Roughly 6 weeks after the sore first appears, a person will enter the second stage of the disease. The most likely symptom during this stage is a rash, which might appear on any part of the body: trunk, arms, legs, palms, soles, etc. Other, more generalized symptoms include fatigue, swollen glands, fever, headaches, loss of appetite, and sore throat. These symptoms will last 2 to 6 weeks and will disappear with or without medical care.

After the second stage of the disease, the only way syphilis can be detected is through a blood test, although secondary symptoms might sporadically occur again. Persons having syphilis for over four years may suffer from illness in the skin, bones, central nervous system, and heart, and may experience a reduced life expectancy, impaired health, and eventually can limit occupational efficiency.

How soon do symptoms appear? Symptoms can emerge from 10 to 90 days after an individual becomes infected, though usually within 3 to 4 weeks. Symptoms often go unnoticed or are thought to be minor abrasions or heat rash, thus treatment is not sought.

When, and for how long is a person able to spread syphilis? Syphilis is considered contagious for a duration of up to 2 years, perhaps more. The extent of communicability depends on the existence of infectious lesions (sores), which may or may not be visible. There is no natural immunity to syphilis and prior infection lends no defense to the patient.

Treatment

Syphilis is treated with penicillin or tetracycline. The amount of medication a patient must take and treatment depends on the stage of syphilis. Expectant women with a history of allergic reaction to penicillin should undergo penicillin desensitization, followed by appropriate penicillin therapy.

Untreated syphilis can lead to destruction of soft tissue and bone, heart failure, insanity, blindness, and a variety of other conditions, which may be mild to incapacitating.

Equally as important, a pregnant woman with untreated syphilis will transmit the disease to her unborn child, which may result in death or deformity of the child. Physicians and

hospitals are required to test pregnant women for syphilis at prenatal visits. Tests of newborns or their mothers are required at the time of delivery.

Prevention

There are a number of ways to prevent the spread of syphilis:

- Limit your number of sex partners.
- Use a condom.
- Carefully wash genitals after sexual relations.
- If you think you are infected, avoid any sexual contact and visit your local STD clinic, a hospital, or your doctor.
- Notify all sexual contacts immediately so they can obtain examination and treatment.
- All pregnant women should receive at least one prenatal blood test for syphilis.

Pediculosis

Pediculosis is an infestation of the hairy parts of the body or clothing with the larvae, eggs, or adult lice. The crawling stages of this insect consume human blood, which causes excessive itching in areas of infestation. Head lice are usually located on the scalp, crab lice in the pubic area, and body lice along seams of clothing, traveling to the skin to feed. Anyone can become louse infested under appropriate conditions.

Pediculosis is easily transmitted from person to person through direct contact. Head lice infestations are commonly found in school settings or institutions. Crab lice infestations can be found among sexually active individuals. Body lice infestation generally can be found in people living in unsanitary conditions, and lacking hygiene where clothing is infrequently changed or laundered.

For both head lice and body lice, transmission can occur during direct contact with an infested individual, or through sharing of clothing, combs or brushes. While other means are possible, crab lice are most often transmitted through sexual contact.

Symptoms of Infestation

Usually, the first evidence of an infestation is the itching or scratching in the area of the body where the lice feed. Scratching at the back of the head or around the ears should lead to an examination for head louse eggs (nits) on the hair. Itching around the genital area should lead to an examination for crab lice or their eggs.

Scratching can be sufficiently intense to result in secondary bacterial infection in these areas. It may take as long as 2 to 3 weeks or longer for a person to notice the intense itching associated with this infestation. Pediculosis can be spread as long as lice or eggs remain alive on the infested person or clothing.

Treating Pediculosis

Medicated shampoos or cream rinses containing lindane or pyrethrin are used to kill lice. Products containing lindane are available only through a physician's prescription. Lindane is a nerve poison, an organochlorine pesticide, an insecticide, and is suspected of being a carcinogen. In the U.S. the Environmental Protection Agency, (EPA) recently banned all agricultural uses of lindane. Lindane is not recommended for infants, young children, and pregnant or lactating women.

The Food and Drug Administration (FDA), requires products containing lindane be labeled with prominent warnings about possible neurotoxicity, particularly in young patients. Because the skin of children and the elderly is more permeable, their skin is more vulnerable to the toxic effects, of lindane. It is to be used with extreme caution if at all, in anyone under 110 pounds. Patients who have conditions, such as HIV infection, or take certain medications that may lower the seizure threshold may be at greater risk for serious adverse events.

There are many safer and more effective treatments available. The pyrethrins are a pair of natural organic compounds that have potent insecticidal activity. Products containing pyrethrin are available over-the-counter. Pyrethrins are particularly harmful to aquatic life, but are far less toxic to mammals and birds than many synthetic insecticides.
Although considered to be amongst the safest insecticides, pyrethrins are still known to irritate eyes, skin, and respiratory systems. Re-treatment after 7 to 10 days is recommended to assure that no eggs have survived. Nit combs are available to help remove nits from hair. Dose and duration of shampoo treatment should be followed according to label instructions.

Physical contact with infested individuals and their belongings, especially clothing, headgear, combs, and bedding, should be avoided. Health education on the life history of lice, proper treatment, and the importance of laundering clothing and bedding in hot water (140°F for 20 minutes), or dry cleaning to destroy lice and eggs, is extremely valuable. In addition, regular inspection of children, especially of children in schools, institutions, and summer camps, is crucial in detecting infestation.

Ringworm

Ringworm is a skin infection caused by a fungus that affects the scalp, skin, fingers, toenails, or feet. Anyone can get ringworm. Children are more susceptible to certain varieties, while adults may be more affected by others. Transmission of these fungal agents can occur by direct skin-to-skin contact with infected people or pets, or indirectly by contact with such items as barber clippers, hair from infected people, shower stalls or floors.

Ringworm of the scalp usually begins as a small pimple, which becomes larger in size, leaving scaly patches of temporary baldness. Infected hairs become brittle and break off easily. Occasionally, yellowish cup-like, crusty areas are seen. With ringworm of the nails, the affected nails become thicker, discolored, and brittle, or they will become chalky and disintegrate.

Ringworm of the body appears as flat, spreading, ring-shaped areas. The edge is reddish and may be both dry and scaly, or moist and crusted. As it spreads, the center area clears and appears normal. Ringworm of the foot appears as a scaling or cracking of the skin, especially between the toes.

The incubation period is unknown for most of these agents, however, ringworm of the scalp is usually seen 10 to 14 days after contact, and ringworm of the body is seen 4 to 10 days after initial contact. Since so many species of fungus can cause ringworm, infection with one species will not make a person immune to future infections.

Your doctor may prescribe fungicidal tablets to swallow, or powders that can be applied directly to the affected areas. Griseofulvin is an oral medication, commonly prescribed for treatment of fungal infections of the skin, scalp, and nails where topical therapy has failed or is considered inappropriate.

Towels, hats, and clothing of the infected individual should not be shared with others. Young children who are infected should minimize close contact with other children until they are effectively treated. When multiple cases occur, seek advice from your local health department.

Sexually Transmitted Diseases and Infections (STD's) and (STI's)

Sexually transmitted diseases (STD) are also referred to as sexually transmitted infections (STI). More than 300 million new cases of curable sexually transmitted infections (STI) occur each year, with a global distribution that closely mirrors that of HIV.

Each new infection not only increases HIV transmission risk but also carries the potential of other serious complications including fetal loss, stillbirths, infertility, ectopic pregnancy and severe congenital infections. Syphilis alone, when present during pregnancy, results in fetal loss in a third of cases, and half the surviving infants suffer congenital disability.

The STDs, HIV Connection

Sexually Transmitted Diseases (STDs), also known as sexually transmitted infections or STI, come in a variety of types. There are fungi, bacteria, parasites, and viruses.

As explained in the previous section on the subject of Tuberculosis, HIV can affect persons carrying the virus with an increase of multiple medical conditions. Carriers stand an increase chance of contracting many airborne diseases. Germs in their environment can become increasingly troublesome, much more so than for persons not infected. As time continues persons with the HIV virus experience a brake down in their immune system, followed by a break down in their health. The continued weakening of the infected individuals' ability to fight off sicknesses eventually progresses to an accelerated rate. As persons infected with the HIV virus are more susceptible to all types of infections, and illness from the environment, they are equally more susceptible to infections from fungi, bacteria, parasites, and viruses they may come in contact with during a sexual encounter. For this reason it is fitting to review the subject of STDs.

Several STDs cause lesions or open sores to occur which may serve as portals of entry directly into the blood stream and better facilitate HIV infection.

1. Some STDs are considered to be co-factors, which assist in the immune system malfunction leading to AIDS.
2. People who leave themselves open to STD infections also leave themselves open to eventual HIV infection.

Sexually active individuals should get routine checkups. Some STD's do not produces immediate symptoms. A long time may pass before signs that there is something wrong appear, alerting the infected individual. Moreover, the sexually active should use every precaution to protect from contracting any one of the many STD's from their sexual partner. This should be a given, but it is not always the case. It is impossible to know with 100% certainty if your sexual partner has not been exposed and may have something you don't want. If you have any doubt whatsoever it is not worth the risk, and risk it is, of your life. Fidelity and loyalty are a valued part of a relationship, however statistics show infidelity occurs in some relationships.

Overall, if you are remotely unsure about your sexual partners' faithfulness, and you are not using protection, you are gambling your life; it's as simple as that. Because there are so many different STD's/STI's to cover in the context of this course the list here has been confined to STD's/STI's which are prevalent and pose an accelerated threat when compounded with HIV infection the list is of the STD's that are not uncommonly found in sexually active people that either did not use protection or the protection used failed.

Getting Tested For STDs

For those, which are fungal or bacterial infections, you can be tested as soon as two weeks after exposure. For the viral infections, you will have to wait for your body to produce enough antibodies to that specific virus to take what is called a "titer" blood test. That time is generally 3 months after exposure. An important rule of thumb: should you experience any symptoms after sexual contact, it is advisable to seek the advice of a physician as soon as possible.

Letting symptoms get worse or putting off STD testing can result in severe illness, sterility, Pelvic Inflammatory Disease, passing an infection to your next partner, irreversible damage to your nervous system, or even death.

Within the state of Florida, all Public Health Departments offer STD testing. The HIV/AIDS Hotline has a listing of STD test sites throughout the state of Florida.

STDs and STI's Index

- Acquired Immunodeficiency Syndrome (AIDS)
- Syphilis
- Gonorrhea
- Genital Herpes
- Genital Warts
- Chlamydia
- Trichomoniasis (Trich)
- Candida/Vaginal Thrush
- Pediculosis Pubis (pubic lice)
- Scabies
- Moluscoum Contagiosum
- Hepatitis A
- Hepatitis B
- Hepatitis C

Standard /Universal Precautions

Although less likely to pose the same degree of risk to exposure than that routinely encountered in a health care facility, the barbershop is known to have a measurably higher level of risk to exposure from bloodborne pathogens and infectious body fluids, than many other professions. Razors, scissors, neck trimmers, and cuticle nippers, just to name a few, are sharp tools used every day for cutting in the barbershop, salon and spa environment.

Even with the greatest of care, it is not uncommon for minor nicks and cuts to occur upon occasion as a natural consequence of working with sharp cutting tools. Periodically there are mishaps that can cause accidental bleeding. At times it is the beauty professional that is cut and bleeds, other times it is the client who gets nicked, to the extent of drawing blood. Moreover in some barbershops bleeding occurs in ways that are not accidental, such as ear piercing and although only a minor amount, from the waxing of facial hair.

Either way blood spills do sometime happen. For this reason it is significantly important for the professional barber to know the risks of infection that can take place when accidents result in the presences of blood. As a professional in the beauty industry, it is by nature of the personal grooming services occupation, professional barbers from time to time, are at risk of spreading dangerous infectious bacteria from customer to customer, as well as to themselves.

Because of the physical contact with large numbers of the public, the use of sharp cutting tools and the consequential injuries resulting in blood spills, it is imperative that professional barbers learn and practice proper infection control procedures and biohazard practices so they are prepared to safely handle blood spills, and to competently protect against the spread of contaminants, bloodborne pathogens, and subsequent infectious disease.

In order to do this professional barbers use infection control procedures established by the CDC known as Universal Precautions and the newly established counter-part, Standard Precautions. In conjunction with the infection control standards set by the State of Florida approved for barbershops and salons.

Universal Precautions

Universal precautions are an approach to infection control? Universal precautions, developed by the CDC is defined as a set of precautions designed to prevent transmission of human immunodeficiency virus, hepatitis B virus, hepatitis C virus, and other bloodborne pathogens when providing first aid or health care.

As previously mentioned, in the barbershop, salon and/or spa environment accidental cuts from sharp tools and minor accidents cause the occasional need for first aid to be rendered, and for blood to be handled and removed from surface areas where it landed. These type situations produce the majority of the instances in which a professionals working in the personal service industry become exposed to blood. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for bloodborne pathogens

Standard Precautions

According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens. Universal precautions were based on the concept that all blood and body fluids that might be contaminated with blood should be treated as infectious because patients with bloodborne infections can be asymptomatic or unaware they are infected.

The relevance of universal precautions to other aspects of disease transmission was recognized, and in 1996, the Centers for Disease Control and Prevention expanded the concept and changed the term to *standard precautions*.

The terms are sometimes used in the same context; a likely cause for this is because OSHA's bloodborne pathogen standard retains the term universal precautions. However under CDC's definition, "**Standard Precautions**" integrate and expand the elements of universal precautions into a standard of care designed to protect health-care personnel and patients from pathogens that can be spread by blood or any other body fluid, excretion, or secretion.

Standard precautions apply to contact with **1)** blood; **2)** all body fluids, secretions, and excretions (except sweat), regardless of whether they contain blood; **3)** nonintact skin; and **4)** mucous membranes.

Saliva has always been considered a potentially infectious material in dental infection control; thus, no operational difference exists in clinical dental practice between universal precautions and standard precautions.

Sanitation and Sterilization Recommendations

Universal Barrier protection, personal cleanliness, and proper disinfection are the three "precautions" that make up the meaning of "Universal Precautions." All three methods must be used to be completely effective.

Barrier Protection - Puts a shield between you and your clients.

Personal Cleanliness - Includes washing your hands, keeping your work area clean, etc.

Disinfection - Refers to removing germs from your tools, equipment, and work area.

❶ Hands should be washed before and after client contact, and washed immediately if hands become contaminated with blood or other body fluids. Hands should also be washed after removing gloves.
❷ Gloves should be worn whenever there is a possibility of contact with body fluids. Personal service workers (e.g., hairdressers, barbers, cosmetologists, massage therapists) should wear gloves when waxing, giving manicures/pedicures, facials, tweezing or any other service that could possibly draw blood.
❸ Masks should be worn whenever there is a possibility of splashing or splattering of body fluids.
❹ Both clients and beauty professionals should wear smocks if soiling of clothing or splashing on exposed skin is likely.
❺ To minimize the risks for exchange of body fluids during resuscitation procedures, pocket masks or mechanical ventilation devices should be readily available where these procedures are likely to be needed.
❻ Spills of blood or blood-contaminated body fluids should be cleaned up using a hospital level disinfectant approved by the EPA for use on blood spills.
❼ Beauty professionals, who have open lesions, dermatitis, or other skin irritations, should not participate in direct client contact and services and should never handle contaminated equipment or supplies, such as towels, smocks, capes, or even used cotton strips.
❽ Sharp objects such as shears, razors, nippers, tweezers and needles tend to pose the greatest risk for exposure. Instruments that can penetrate the skin or become contaminated with blood, such as ear-piercing devices; needles used for electrolysis, tattooing, and acupuncture; and razors, cuticle scissors, and tweezers should be sterilized or thrown away after one use.

Use a hospital level disinfectant approved by the EPA to wipe implements with a cutting edge to disinfect contaminated reusable objects, such as shears, etc. The EPA has also listed "Lysol" as a killer of HIV. It can be used right out of the bottle to wipe barbershop surfaces and floors after they have been treated properly treated with a hospital grade disinfectant.

Safe Disinfecting Practices for the Barbershop

When disinfecting your barbershop, Florida Administrative Code Chapter 61G3-19.001 (10), requires barbershops shall be equipped with and utilize wet sanitizers with hospital level disinfectant or EPA approved disinfectant, sufficient to allow for disinfecting practices of all tools and instruments.

Other disinfecting solutions that have been popular for years, no longer provide the necessary level of germ killing with the onset of Hepatitis and HIV. By using the same types of disinfectants that are used in hospitals, you can help to insure that your barbershop is free from many of the harmful germs that may be present. When selecting a disinfectant, be sure the product bears the Environmental Protection Agency (EPA) registration label and is hospital level quality.

Handwashing and Drying —Prevents Infection

Hand washing is a simple habit — one that requires minimal training and no special equipment. Yet it's one of the best ways to avoid getting sick. This simple habit requires only soap and warm water or an alcohol-based hand sanitizer — a cleanser that doesn't require water. Do you know the benefits of good hand hygiene and when and how to wash your hands properly?

Hand washing is defined as the vigorous, brief rubbing together of all surfaces of lathered hands, followed by rinsing under a stream of water.

Handwashing suspends microorganisms and mechanically removes them by rinsing with water. The fundamental principle of hand washing is removal, not killing.

The amount of time spent washing hands is important to reduce the transmission of pathogens to other food, water, other people and inanimate objects (fomites), such as door knobs, hand railings and other frequently touched surfaces. Proper hand hygiene involves the use of soap and warm, running water, rubbing hands vigorously for at least 20 seconds. The use of a nail brush is not necessary or desired, but close attention should be paid to the nail areas, as well as the area between the fingers.

Wet hands have been known to transfer pathogens much more readily than dry hands or hands not washed at all. The residual moisture determines the level of bacterial and viral transfer following hand washing. Careful hand drying is a critical factor for bacterial transfer to skin, food and environmental surfaces.

The drying times required to reduce the transfer of these pathogens varies with drying methods. Repeated drying of hands with reusable cloth towels is not recommended and should be avoided. Recommended hand drying methods and drying times are outlined below:

The Dangers of Not Washing Your Hands

Despite the proven health benefits of hand washing, many people don't practice this habit as often as they should even after using the bathroom. Throughout the day you accumulate germs on your hands from a variety of sources, such as direct contact with people, contaminated surfaces, foods, even animals and animal waste. If you don't wash your hands frequently enough, you can infect yourself with these germs by touching your eyes, nose or mouth. And you can spread these germs to others by touching them or by touching surfaces that they also touch, such as doorknobs.

Infectious diseases commonly spread through hand-to-hand contact include the common cold, flu and infectious diarrhea. While most people will get over a cold, the flu is much more serious. Some people with the flu, particularly older adults and people with chronic medical problems, such as HIV/AIDS, can develop pneumonia. The combination of the flu and pneumonia, in fact, is the seventh leading cause of death among Americans.

Proper Hand-Washing Techniques

Good hand-washing techniques include washing your hands with soap and water or using an alcohol-based hand sanitizer. Antimicrobial wipes or towelettes are just as effective as soap and water in cleaning your hands but aren't as good as alcohol-based sanitizers.

Antibacterial soaps have become increasingly popular in recent years. However, these soaps are no more effective at killing germs than are regular soap and water. Using these soaps may lead to the development of bacteria that are resistant to the products' antimicrobial agents — making it even harder to kill these germs in the future.

In general, regular soap is fine. The combination of scrubbing your hands with soap — antibacterial or not — and rinsing them with water loosens and removes bacteria from your hands.

Proper Hand Washing With Soap and Water

Follow these instructions for washing with soap and water:

- Wet your hands with warm, running water and apply liquid or clean bar soap. Lather well.
- Rub your hands vigorously together for at least 15 seconds.
- Scrub all surfaces, including the backs of your hands, wrists, between your fingers and under your fingernails.
- Rinse well.
- Dry your hands with a clean or disposable towel.
- Use a towel to turn off the faucet.

Proper Use of an Alcohol-based Hand Sanitizer

Alcohol-based hand sanitizers — which don't require water are an excellent alternative to hand washing, particularly when soap and water aren't available. They're actually more effective than soap and water in killing bacteria and viruses that cause disease.

Commercially prepared hand sanitizers contain ingredients that help prevent skin dryness. Using these products can result in less skin dryness and irritation than hand washing.

Not all hand sanitizers are created equal. Some "waterless" hand sanitizers don't contain alcohol. Use only the alcohol-based products.

To use an alcohol-based hand sanitizer:

- Apply about 1/2 tsp of the product to the palm of your hand.
- Rub your hands together, covering all surfaces of your hands, until they're dry.

If your hands are visibly dirty, however, wash with soap and water rather than a sanitizer.

When should you wash your hands?

Although it's impossible to keep your bare hands germ-free, times exist when it's critical to wash your hands to limit the transfer of bacteria, viruses and other microbes.

Always wash your hands:

- After using the bathroom
- After changing a diaper - wash the diaper-wearer's hands
- After touching animals or animal waste
- Before and after preparing food, especially before and immediately after handling raw meat, poultry or fish
- Before eating
- After blowing your nose
- After coughing or sneezing into your hands
- Before and after treating wounds or cuts
- Before and after touching a sick or injured person
- After handling garbage
- Before inserting or removing contact lenses
- When using public restrooms

Florida Laws That Regulate Barbershop Requirements

It is an important aspect of providing professional personal services that all persons licensed know the law that applies to their workplace and the legal requirements of such. On the topic of disease control and prevention the Florida law makers have passed laws that must you must be aware of so that you can abide by them for the safety and welfare of the public, as well as your own. The following section of law is from the Florida Administrative Code and these laws cover sanitation and sterilization laws, and others barbershop requirements. You must be familiar with these laws to properly pass the barbershop inspections that are routinely preformed by state inspectors from the Barbers Board.

FLORIDA ADMINISTRATIVE CODE
Department of Business and Professional Regulation
Barbers' Board
Chapter: Barbershop Registration: Change of Ownership or Location and Renewal
Rule and Title: 61G3-19.011 Barbershop Requirements

61G3-19.011 Barbershop Requirements.
(1) Prior to opening a barbershop, the owner shall:
(a) Submit an application on forms prescribed by the Department of Business and Professional Regulation;
(b) Pay the required registration fee as outlined in the fee schedule in Rule 61G3-10.005, F.A.C.;
(c) Meet the safety and sanitary requirements as listed in the subsequent portions of this section, with said requirements to continue in full force and effect for the life of the barbershop.

(2) Each barbershop and each barber shall take reasonable steps to insure that the shop and individual service area, respectively is maintained and operated in a safe and sanitary manner. Such steps shall include the following:
(a) Compliance with all local code requirements and to eliminate all fire hazards and dangerous structural defects;
(b) Provisions for safe and unobstructed human passage in the premises; removal of garbage and refuse; removal of excessive hair from floor; and safe storage or removal of flammable materials. All garbage must be kept in a closed container or receptacle;
(c) Maintenance of portable fire extinguishers, type, placement and number required needed to protect the public and property, shall be in compliance with the State Fire Marshal's Rules and Regulations, Chapter 4A-21, F.A.C.;
(d) Extermination of all vermin, insects, termites, and rodents on the premises;
(e) Maintenance of all equipment used to perform barbering services on the premises in a safe and sanitary condition, including the regular application of cleaners and bacterial agents;
(f) Assurance that materials furnished for the personal use of the customer, such as towels, are cleansed before reuse.

(3) Every person practicing barbering in any capacity shall wash his or her hands thoroughly with an anti-bacterial liquid or powdered soap and water before serving each patron.

(4) After the handling of a customer affected with an eruption, or whose skin is broken out, or is inflamed or contains pus, the hands of the attendant shall be disinfected immediately; this shall be done by thorough washing with soap and water, followed by rinsing in rubbing alcohol (70 to 80 percent) or the use of some equally efficient disinfectant.

(5) All towels and linens used in the practice of barbering therein are to be kept in a closed container or compartment.

(6) The barber shop must have one or more shampoo bowls equipped with hot and cold running water. The shampoo bowls shall be located in the area where barbering services are performed.

(7) Each headrest on each chair in every barbershop must be equipped with a relaundered towel or a sheet of clean paper for each patron.

(8) Each patron shall have a clean strip of cotton, towel or neckband on the neck so that the haircloth does not come in contact with the neck or skin of the patron's body.

(9) The use of a brush, comb, or other barbering tool on more than one patron without being sanitized is prohibited.

(10) All barbershops shall be equipped with and shall utilize wet sanitizers, sufficient to allow for sanitizing practices. A wet sanitizer is any clear plastic or glass receptacle with a lid containing a disinfectant solution as specified below, and large enough to allow for immersion of the barbering tools, or those surfaces of said tools which come in contact with the patrons.

(11) All barbering tools used in barbershops such as razors, scissors, tweezers, combs, rubber discs, or parts of vibrators shall be free from hair, cleansed and:
(a) Immersed in a disinfectant registered with the Environmental Protection Agency (EPA) as a bacterial, virucidal and fungicidal disinfectant, and approved by that agency for use in hospitals, for one to five minutes; or
(b) All combs, brushes, metallic instruments with a cutting edge, or implements which have come into contact with blood, or body fluids, shall be immersed in a disinfectant that indicates on its label that it has been registered with the Environmental Protection Agency (EPA) as a tuberculocidal disinfectant, in accordance with C.F.R. 1910. 1030; or
(c) Cleansed and sanitized for use by any other method that shall be the equivalent in germicidal or organism destructive effect, as provided in paragraph (11)(a) or (b) above. The use of an ultraviolet ray sanitizing cabinet, by itself, is not sufficient to meet the requirements of paragraph (11)(a) or (b) above.
(d) After complying with any of the above requirements, the razor, scissors, tweezers, combs, rubber discs or parts of vibrators shall then be placed and kept in a clean, closed cabinet or container until next ready for use. Storage in an ultraviolet ray sanitizing cabinet is preferred.

(12) The use of styptic pencils or any other astringent that will come in contact with more than one patron is prohibited. If a slight cut or scratch drawing blood has occurred, the use of sterile cotton, styptic powder, or any suitable solution first applied to a sterile cotton ball or swab is approved.

(13) All owners or managers or barbershops must provide at least two receptacles, one for the deposit of used towels, and one for the deposit of used shaving paper. All used towels and used shaving papers are to be deposited in the proper receptacle immediately after use.

(14) All barbershops are to be equipped with adequate toilet and sink facilities on the premises or in the same building as, and within 200 feet of the barbershop. To be adequate, such facilities shall have at least one toilet and one sink with running water. Such facilities shall be equipped with toilet tissue, soap dispenser with soap or other hand cleaning material, sanitary towels or other hand-drying device such as a wall-mounted electric blow dryer, and waste receptacle. Such facilities and all of the foregoing fixtures and components shall be kept clean, in good repair, well-lighted and adequately ventilated to remove objectionable odors and shall comply with the provisions of Rule 10D-10.044, Florida Administrative Code (F.A.C.).

(15) Styling stations, styling bars, back bars, dresserettes, or working stations must be kept clean at all times to the sight and touch. All drawers and shelves of the above being used for the storage of rollers, brushes, combs, pins, nets, and equipment must have proper sanitation, and shall not be used for storage of nonrelated barbering equipment or supplies. One drawer or cabinet may be designated for storage of personal items.

(16) Each barbershop shall be kept well ventilated. The walls, ceilings, furniture and equipment shall be kept clean and free from dust. Hair must not be allowed to accumulate on the floor of the barbershop. Hair must be deposited in a closed container.

(17) No animals or pets shall be permitted inside a barbershop, with the exception, of closed aquariums or trained animals to assist the hearing or visually impaired, or the physically disabled.

(18) A barbershop may be located at a place of residence. Barbershop facilities must be separated from the living quarters by a permanent wall construction. A separate entrance shall be provided to allow entry to the barbershop other than from the living quarters. Toilet and lavatory facilities shall comply with subsection (14) above, shall have an entrance from the barbershop other than the living quarters, and shall not be the same toilet and lavatory facilities as are used by the occupants of the residence.

(19) No barbershop shall be operated in the same licensed space allocation with any other business which adversely affects the sanitation of the barbershop. In order to control the required space and maintain proper sanitation, where a barbershop adjoins such other business, there must be permanent walls separating the barbershop from other business and there must be separate and distinctly marked entrances for each.

(20) For purposes of this rule, "permanent wall" means a vertical continuous structure of wood, plaster, masonry, or other similar building material, which is physically connected to a barbershop's floor and ceiling, and which serves to delineate and protect the barbershop.

(21) A barbershop must contain a minimum of 100 square feet of floor space, excluding the toilet and lavatory facilities. No more than one (1) barber at any one time may perform barbering services in a barbershop which has only the minimum floor space. In addition, a barbershop in which more than one (1) barber performs barbering services at any one time must contain an additional forty (40) square feet for each such additional barber.

(22) A barbershop may contain less than 100 square feet of floor space if it complies with all the requirements set out above, except the square footage requirements, and:
(a) Only one barber and one customer shall be in the barbershop at any one time;
(b) No person shall wait at the barbershop for barbering services;
(c) There shall be no waiting room or waiting area at the barbershop;
(d) The barbershop shall not advertise;
(e) There shall be no telephone listing for the barbershop;
(f) A barbershop under this subsection shall contain a minimum of 75 square feet of floor space.

Specific Authority 476.064(4) FS. Law Implemented 476.184 FS. History–New 4-27-86, Amended 9-24-86, 12-28-86, 5-10-88, 7-15-91, Formerly 21C-19.011, Amended 1-12-94, 10-4-94, 5-21-95, 2-14-96, 5-1-96, 3-21-00, 11-6-00, 8-17-06.

FINAL INSTRUCTIONS

After completion of this course booklet, return to the course access page and click on the "START QUIZ" Button for the correct barber course. read carefully which barber course you are required to complete when choosing the quiz button.

CLICK HERE TO RETURN TO THE COURSE ACCESS PAGE