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**NORTH CAROLINA
8 HOUR MANICURIST**



**CONTINUING EDUCATION
COURSE**

License renewal 2023 - 2025

SECTION 1

HIV/AIDS AND OTHER COMMUNICABLE DISEASES (Three CE Hours)

Learning objectives

- Explain the difference between pathogenic and nonpathogenic bacteria.
- Identify the primary forms of pathogenic microorganisms and explain their relationship to disease.
- List infections caused by common viruses, bacteria and fungus that may exist in a salon.
- List the steps necessary to properly sanitize hands, and to disinfect, handle and store tools appropriately.
- List infection control responsibilities required by the North Carolina State Board of Cosmetology for salon operation and the practice of cosmetology in North Carolina
- List Environmental Protection Agency (EPA) regulations relating to nail salons, beauty shops, and barber shops.

After completing this section, participants should be able to:

- Know the classifications of bacteria and list the different types
- Explain what a bloodborne pathogen is and name the ones that are a concern in the modern salon
- List the differences between animal and vegetable parasites sometimes seen in the salon
- Define the term decontamination and explain various methods used to decontaminate various objects
- Discuss the differences between sterilization, disinfection and sanitation.
- List the different types of disinfectants and how they are used
- Describe how to disinfect salon tools and surfaces
- Demonstrate how to properly wash hands and when hand washing should be done
- Explain OSHA procedure for blood spills and the proper disposal of contaminated items
- Understand the meaning of Universal Precautions and how to apply them to the salon environment.

Your Professional Responsibility

The purpose of this section is for you to learn how to conduct services in a safe environment, and taking measures to prevent the spread of infectious and contagious disease. You have many responsibilities as a salon professional. None is more important than your responsibility to protect your clients' health and safety as well as your own. Secondly you have responsibilities to the state and your profession to learn and follow the rules and regulations designed and enacted to protect the welfare of the public. Never take shortcuts when it comes to sanitation and disinfection. As a cosmetologist serving the public, you will come in close contact with many clients. To avoid the spread of disease-producing bacteria, it is necessary for you to follow good sanitation and sterilization practices. You should understand the rules and the regulations, and you must always follow them to the letter of the law, for your own protection and for the protection of your clients. This is how you, your colleagues, and your clients can maintain a sense of trust and respect for each other. Overall health, safety and cleanliness should be an integral part of your normal routine and the routines of all those who work with you. In this way, you and your coworkers can project a steadfast professional image.

Violations can result in spreading infection and diseases to the very people that have trusted you with their safety, as well as discipline and fines by the board of cosmetology. The sanitation and sterilization of equipment and surroundings are very important and, in order for you, to understand how important and necessary it is, you must first study bacteria. You must understand how the spread of disease can be prevented and become familiar with the precautions that must be taken to protect you and the clients' health.

It is the responsibility of the salon staff to keep the salon clean and sanitary. It is the responsibility of the individual to keep the instruments that they use compliant with the law. Some states now have consumer complaint forms available online. These forms are quick and convenient to use. They allow the public to communicate possible infractions to the regulating board. A growing number of states are beginning to use electronic complaint forms. Along with the introduction of this method of communication by the consumer will come a scrutiny from the governing boards and, therefore, should aid in an improved salon environment for a growing number of salons. Keeping a clean and sanitary salon will not only protect the client and the salon professional, but it will also ensure the salon professional will not run into troubles resulting from non-compliance with the sanitation laws of the state. The North Carolina law governing salon sanitation will be discussed later in this course. For now let's take a look at bacteria, the growth of bacteria, and how they reproduce.

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 (CD4) 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.

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.

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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. Results from the study show that a single oral dose of the antiretroviral drug nevirapine (NVP) given to an HIV-infected woman in labor and another to her baby within 3 days of birth reduces the transmission rate of HIV by half compared with a similar short course of AZT (Azidothymidine). For more information on preventing transmission from mother to child, you should visit their Web site at <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. HIV, however, can infect the lining of the mouth, 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

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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 symptoms 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

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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.

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.

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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.

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.

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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.
- ⌘ Immunofluorescence 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.

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.

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 result 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.

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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. For reasons of cost and cost-benefit, stand-alone sites are often located in high population density areas and where HIV infection rates are high.

Treatment

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.

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 reverse transcriptase (RT) inhibitors, interrupts an early stage of the virus making copies of it. These drugs may decelerate the spread of HIV in the body and slow down the onset of opportunistic infections. This class of drugs, is referred to as nucleoside.

Nucleoside analogs include:

- AZT (Azidothymidine)
- ddC (zalcitabine)
- ddI (dideoxyinosine)
- d4T (stavudine)
- 3TC (lamivudine)
- Abacavir (ziagen)
- Tenofovir (viread)
- Emtriva (emtricitabine)

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

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Transcriptase inhibitors include:

- Delavridine (Rescriptor)
- Nevirapine (Viramune)
- Efavirenz (Sustiva) (in combination with other antiretroviral drugs)

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 include:

- Ritonavir (Norvir)
- Saquinavir (Invirase)
- Indinavir (Crixivan)
- Amprenavir (Agenerase)
- Nelfinavir (Viracept)
- Lopinavir (Kaletra)
- Atazanavir (Reyataz)
- Fosamprenavir (Lexiva)

FDA also has introduced a third new class of drugs, known as fusion 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.

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.

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. 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.

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

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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 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. High HIV infection rates in the United States are increasingly due to heterosexual risk behaviors, with increased rates in blacks and women. Black and Hispanic women together represent less than one quarter of all women in the U.S. population, but account for more than three fourths of cumulative AIDS cases among U.S. women through 2006. AIDS affects our children, our co-workers, our employees and our customers. 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.

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 public's 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, recent 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 2007 in the share that 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. Although advances in HIV treatment have changed the prognosis of HIV from acutely lethal to a chronic disease requiring life-long treatment, the majority of our respondents believed that individuals with HIV live less than 1 year after diagnosis. Importantly only 71% of this high-risk population knew that specific HIV treatment was available, a rate lower than that found in a large survey of American adults 18-64 years of age (86%) and black adults of that same age range (81%).

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.

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.

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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.

Few older women were interested in being tested for the virus that causes AIDS despite having significant risk factors for lifetime exposure, according to a study published in the July/August edition of the *Journal of Women's Health*. The risk is especially great among black women, who represent 73 percent of new HIV cases in women ages 50 and older.

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.

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- ⌘ 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.

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, multidrug-resistant 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.

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.

TB and HIV Co-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 of Co-infection

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 those listed below and 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.

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.

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 for TB

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.

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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 be 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 recurrence 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 HIV/AIDS

Prevention of TB

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.

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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 coinfecting 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. It can result from medications, alcohol, or other means including the viruses that cause herpes, mumps, measles, and infectious mononucleosis. Those infected will usually develop liver disease, according to the national Centers for Disease Control and Prevention.

Viral Hepatitis

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.

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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 of Hepatitis 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. You can become infected by eating or drinking something that has been contaminated by someone who has the disease.

Symptoms of HAV

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 known 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 shell fish 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.

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.

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"

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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 salon professionals, along with other employees who may come in contact with blood or potentially infectious materials.

Symptoms of HBV

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.

Prevention of Hepatitis B by HBV Vaccine

Just as the human immunodeficiency virus (HIV), is a bloodborne pathogen of primary concern so is the hepatitis B virus (HBV), and hepatitis C virus (HCV). Hepatitis B 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.

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.

Safe Practices for Preventing 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 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 for Contracting HCV

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.

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 known 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.

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.

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 of Syphilis

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 of Syphilis

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.

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 of Syphilis

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 of Syphilis

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.

Transmission of Pediculosis

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.

Prevention of Pediculosis

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 Ringworm

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.

Symptoms of Ringworm

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.

Treatment of Ringworm

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. Your doctor may prescribe fungicidal tablets to swallow, or powders that can be applied directly to the affected areas.

Prevention of Ringworm

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.

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 Co-infection 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.

Prevention and Treatment of STD's and STI's

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. 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.

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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. Currently Within the state of North Carolina, all Public Health Departments offer STD testing. The North Carolina HIV/AIDS Hotline has a listing of STD test sites throughout the state of North Carolina. Contact information for a state run test site could be found on the Internet by doing a search.

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

Moluscum Contagiosum

Hepatitis A

Hepatitis B

Hepatitis C

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.

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 it 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

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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 is 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 North Carolina 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 is 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.

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Workplace Programs and Policies

Design policies and implement workplace programs before being confronted by the 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 anti-discrimination 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 Own Workplace Program

A division of the CDC 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 Workplace Program 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.

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.

HIV/AIDS education for employees/workers' families, through the employee/worker or directly from the employer to the family.

SECTION 2

SANITATION, STERILIZATION, AND NCAC SALON REQUIREMENTS (Three CE Hours)

Learning objectives

- Explain the difference between pathogenic and nonpathogenic bacteria.
- Identify the primary forms of pathogenic microorganisms and explain their relationship to disease.
- List infections caused by common viruses, bacteria and fungus that may exist in a salon.
- List the steps necessary to properly sanitize hands, and to disinfect, handle and store tools appropriately.
- List infection control responsibilities required by the North Carolina State Board of Cosmetology for salon operation and the practice of cosmetology in North Carolina
- List Environmental Protection Agency (EPA) regulations relating to nail salons, beauty shops, and barber shops.

After completing this section, participants should be able to:

- Know the classifications of bacteria and list the different types
- Explain what a bloodborne pathogen is and name the ones that are a concern in the modern salon
- List the differences between animal and vegetable parasites sometimes seen in the salon
- Define the term decontamination and explain various methods used to decontaminate various objects
- Discuss the differences between sterilization, disinfection and sanitation.
- List the different types of disinfectants and how they are used
- Describe how to disinfect salon tools and surfaces
- Demonstrate how to properly wash hands and when hand washing should be done
- Explain OSHA procedure for blood spills and the proper disposal of contaminated items
- Understand the meaning of Universal Precautions and how to apply them to the salon environment.

Your Professional Responsibility

The purpose of this section is for you to learn how to conduct services in a safe environment, and taking measures to prevent the spread of infectious and contagious disease. You have many responsibilities as a salon professional. None is more important than your responsibility to protect your clients' health and safety as well as your own. Secondly you have responsibilities to the state and your profession to learn and follow the rules and regulations designed and enacted to protect the welfare of the public. Never take shortcuts when it comes to sanitation and disinfection. As a cosmetologist serving the public, you will come in close contact with many clients. To avoid the spread of disease-producing bacteria, it is necessary for you to follow good sanitation and sterilization practices. You should understand the rules and the regulations, and you must always follow them to the letter of the law, for your own protection and for the protection of your clients. This is how you, your colleagues, and your clients can maintain a sense of trust and respect for each other. Overall health, safety and cleanliness should be an integral part of your normal routine and the routines of all those who work with you. In this way, you and your coworkers can project a steadfast professional image.

Violations can result in spreading infection and diseases to the very people that have trusted you with their safety, as well as discipline and fines by the board of cosmetology. The sanitation and sterilization of equipment and surroundings are very important and, in order for you, to understand how important and necessary it is, you must first study bacteria. You must understand how the spread of disease can be prevented and become familiar with the precautions that must be taken to protect you and the clients' health.

It is the responsibility of the salon staff to keep the salon clean and sanitary. It is the responsibility of the individual to keep the instruments that they use compliant with the law. Some states now have consumer complaint forms available online. These forms are quick and convenient to use. They allow the public to communicate possible infractions to the regulating board. A growing number of states are beginning to use electronic complaint forms. Along with the introduction of this method of communication by the consumer will come a scrutiny from the governing boards and, therefore, should aid in an improved salon environment for a growing number of salons. Keeping a clean and sanitary salon will not only protect the client and the salon professional, but it will also ensure the salon professional will not run into troubles resulting from non-compliance with the sanitation laws of the state. The North Carolina law governing salon sanitation will be discussed later in this course. For now let's take a look at bacteria, the growth of bacteria, and how they reproduce.

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In this section we will examine pathogens, the life cycle, and the role they play in the spread of infection and disease. We will also look at methods of infection control and what we can do in the salon and the barbershop to prevent the spread of microorganisms that cause infections and disease. By reading this section you will know the infection control practices that you are responsible to follow under North Carolina law as well as the concept of Universal Precautions and how universal precautions should be implemented in cases of a bloodspill. In general you will be able to understand and follow the infection control rules and laws of the State of North Carolina, so you can comply with your legal and moral responsibilities as a licensed personal service professional.

Contagious Diseases

The transfer of infectious material causes skin infections, as well as blood poisoning, from one individual to another. Another way which infectious material can transfer is by unsanitary implements (such as combs, hairpins, brushes, etc.). These tools of the trade can act as a vehicle, being used first on an infected person, and then on another without having been cleaned or sterilized properly.

Microorganisms and infectious agents

Microorganisms are tiny living particles (organisms) with many different characteristics. They live in our air, water and earth, and are found everywhere on the planet. Some microorganisms are associated with infection or disease; others are harmless or even helpful. Bacteria, viruses and parasites are three major categories of microorganisms that you encounter every day.

Bacteria

Bacteria are tiny. They consist of one-celled microorganisms found roughly everywhere. Bacteria are particularly abundant in dust, dirt, refuse, and diseased tissues. Commonly, bacteria are not perceptible except with the aid of a microscope. Just to give you an idea of the size, fifteen hundred rod-shaped bacteria will barely reach a cross pinhead. They will become noticeable when thousands of them grow to form a "colony" and can be seen as a mass. Bacteria are classified as to their harmful or beneficial qualities. It must be kept in mind that not all bacteria are harmful to us. In fact, a great majority of bacteria are helpful and useful. There are two classifications of bacteria:

1. Non-pathogenic organisms constitute the majority of all bacteria and perform many useful functions, such as decomposing refuse and improving the fertility of the soil. To this group belongs the saprophyte, which lives on dead matter.
2. Pathogenic organisms (microbes or germs), although in the minority, produce considerable damage by invading plant or animal tissues. Pathogenic bacteria are harmful because they produce disease. To this group belong the parasites, which require living material for their growth.

Harmful Bacteria

Bacteria are responsible for a large percentage of illness and suffering. For this reason, the practice of sterilization and sanitation is necessary in a salon, barbershop or specialty salon.

Pathogenic Bacteria Classification

As to form or general appearance, there are three major groups of bacteria.

1. Cocci (singular, coccus) are round shaped organisms, which appear singly or in groups:
 - (a) Staphylococci (singular, staphylococcus)—pus-forming organisms which grow in bunches or clusters, and are present in abscesses, pustules and boils.
 - (b) Streptococci (singular, streptococcus)—pus-forming organisms which grow in chains, as found in blood poisoning.
 - (c) Diplococci (singular, diplococcus)—grow in pairs and cause pneumonia.
 - (d) Gonococci (singular, gonococcus)—cause gonorrhea.
 - (e) Meningococci (singular, Meningococci)—cause meningitis.
2. Bacilli (singular, bacillus) are rod-shaped organisms, which vary greatly in thickness. They are the most common and produce such diseases as tetanus (lockjaw), influenza, typhoid, tuberculosis, and diphtheria. Many bacilli are spore forming.
3. Spirilla (singular, spirillum) are curved or corkscrew-shaped organisms. They are further subdivided into several groups. The sub-group of chief importance is that of spirochaete organisms. The spirochaete called *Treponema pallida* is the causative agent in syphilis.

Growth and Reproduction

Bacteria consist of an outer cell wall and internal protoplasm. They manufacture their own food from the surrounding environment, give off waste products, and are capable of growth and reproduction. Bacteria may exhibit two distinct phases in their life cycles—the active stage and the inactive or spore-forming stage.

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Active Stage

Bacteria grow and reproduce. These microorganisms live and multiply in warm, dark, damp, and dirty places where sufficient food is present. Many parts of the human anatomy offer suitable breeding places for bacteria. When conditions are as mentioned above, bacteria reproduce at an unbelievable rate. As food is absorbed and converted into protoplasm, the bacterial cell increases in size. When the limit of growth is reached, it divides crossways in half, forming two daughter cells. From one bacterium, as many as sixteen million more may develop in half a day.

Spore-Forming Stage

When favorable conditions cease to exist, bacteria either die or cease to multiply. Some bacteria can form spherical spores, which have a tough outer covering and are able to withstand long periods of dryness, periods of lacking food, or unsuitable temperature. Examples of bacteria that are capable of such action would be the anthrax and tetanus bacilli. In the spore stage, the spore can be blown about in the dust and is not harmed by disinfectants, heat or cold. When favorable conditions are restored, the spore changes back into the active, vegetative form and again starts to grow and reproduce.

Viruses

Viruses are found wherever there is life and have probably existed since living cells first evolved. The origin of viruses is unclear because they do not form fossils, so molecular techniques have been the most useful means of investigating how they arose. These ultramicroscopic infectious agents are so small they will pass through filters. Viral populations do not grow through cell division, because they are acellular. Instead, they use the machinery and metabolism of a host cell to produce multiple copies of themselves, and they *assemble* in the cell. Unlike bacteria, viruses do not survive for any length of time outside of a host cell. The range of structural and biochemical effects that viruses have on the host cell is extensive. These are called cytopathic effects. Most virus infections eventually result in the death of the host cell. Often cell death is caused by cessation of its normal activities because of suppression by virus-specific proteins, not all of which are components of the virus particle. Some viruses cause no apparent changes to the infected cell. Cells in which the virus is latent and inactive show few signs of infection and often function normally. This is often the case with herpes, it causes persistent infections and then the virus is often dormant for months even years.

Viruses are the basis of diseases like hepatitis, influenza and measles, and are the source of colds, chicken pox, cold sores and genital herpes, mononucleosis, hepatitis and HIV/AIDS. Viruses are a particular concern in salons because of their potential severity and the way they spread. Viruses occupy the surfaces of objects you touch, including door handles, coffee mugs and scissors; they can be inhaled on tiny dust particles, or travel on the minute amount of saliva expelled in a cough. Viral infections can be transmitted from one person to another through casual contact with an infected individual or contact with what he or she touched. Both hand-to-surface and hand-to-hand contact are both highly effective methods for transferring virus particles from one individual to another.

Filterable Viruses

These organisms are so small they will pass through filters. Such diseases as infantile paralysis, influenza, small pox, rabies, and the common cold are examples of viral infection. Rickettsia are microorganisms much smaller than ordinary germs, but are larger than the viruses that cause disease among insects, as well as, man and are responsible for the transmission of typhus fever and Rocky Mountain spotted fever. Insects, ticks, fleas, and lice can transmit and infect people with rickettsia.

Plant parasites

Plant parasites, such as fungus or mold, mildew and yeasts, are multi-cellular organisms that are as prevalent as bacteria and consume both live and dead tissue to survive. Fungi usually prefer a damp environment, but can also survive in a warm, dry climate. They reproduce and spread a number of different ways, and can invade the human body easily, requiring no break in the skin.

Ringworm and athlete's foot are two common contagious diseases that are spread by fungi. Another is favus, which affects the scalp. Cosmetologists should not serve any individual with signs of any fungal infection. You should not work if you think you have a fungal infection yourself, but should seek treatment immediately. If you think a client has ringworm, identified by a ring-shaped, circular pattern on the skin, or athlete's foot, do not provide service to him or her because it is highly contagious. Tell the person to consult a physician for treatment.

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Precautions with plant parasites

Fungal infections can be stubborn. Many affect the skin, but fungal infections can also cause severe respiratory infections. More common versions of fungal infection are those caused by yeast, including nail fungus, athletes' foot, jock itch and ringworm. Both over-the-counter and prescription treatments are available for relief from the unpleasant, itchy symptoms of many yeast infections. Plant parasites, like fungus and mold, are contagious, with nail fungus a significant risk to clients receiving nail services. Fungi can spread not only from one nail to another, but also from a client to a technician or the reverse, given improper sanitation techniques at a salon. Nail fungus appears as discoloration of the nail plate (on either the fingernails or toenails), initially appearing white but growing darker over time. Clients with nail fungus should be referred to a physician for treatment.

Molds and mildews do not infect fingernails, and rarely if ever appear under the nail. Greenish bacterial infections, which may appear yellowish or yellow-green initially, can continue to stain the nail plate long after an infection has subsided, and are sometimes mistakenly attributed to mold. Nails can harbor dangerous bacteria, which can thrive on the oils and moisture that exist between an improperly prepared or unsanitized nail plate and an applied enhancement. Clients with nail fungus or other infections should not receive nail services but can be assisted in removing an artificial nail from the infected natural nail. If you are asked to expose the natural nail, follow these precautionary steps:

1. Wear gloves during the removal of artificial nails.
2. Follow the manufacturer's instructions for removal.
3. Discard any implements, including orangewood sticks, items with porous surfaces and any abrasives used.
4. Disinfect all implements and work surfaces.
5. Refer the client to a physician for treatment once the natural nail is exposed.

Animal parasites

Animal parasites may be single-cell protozoans, like malaria or amoebas, or multi-cell, like mites or lice. Protozoans consume both plant and animal tissue and are found in blood and body fluids, water and food. The multi-cell mites and lice can hide in the hair and tunnel under the skin. Be aware of the signs of scabies, identified by bite marks on the client; Rocky Mountain spotted fever; or typhus, caused by rickettsia, animal parasites carried by fleas, lice and ticks that are even smaller than bacteria.

If a client has a visible communicable disease, like pediculosis more commonly called head lice, open sores or marks suggesting scabies, it is recommended that you ask the person to furnish a statement signed by a physician that the disease or condition is not in an infectious, contagious or communicable stage. The same is true if a cosmetologist has symptoms or indications of a visible disease, lice or open sores; he or she should not practice cosmetology until obtaining a statement signed by a physician stating that the disease or condition is not in an infectious, contagious or communicable stage.

Bacterial Infections

Diseases are communicable or contagious when they can be transmitted from one individual to another. Working with the public puts you in a particularly susceptible position in which encountering potentially dangerous pathogens and opportunistic organisms occur everyday. When it does happen you can see it, most persons don't show any symptoms. Always assume your clients, co-workers and environment could be carrying illness, and use proper infection control procedures every day.

Pathogenic bacteria become dangerous to health only when they successfully invade the body. An infection occurs if the body is unable to cope with the bacteria or their harmful toxins. An infection may be localized, as in a boil, or a general infection (the most dangerous) may result when the blood stream carries the bacteria and their toxins to all parts of the body, which is what occurs in blood poisoning or syphilis. The presence of pus is a sign of infection. Pus contains bacteria, body cells and blood cells, both living and dead. An infection is considered contagious when it tends to spread more or less readily from one person to another by direct or indirect contact. Precautions must be followed to prevent the spread of infection when it is in this contagious stage.

Skin is our first line of defense; when there are no cuts or scrapes, skin is excellent protection against pathogens. In the vast majority of cases, bacteria, fungi and viruses enter the body through the portals of the nose and mouth, small tears or openings in the skin, and to a lesser extent, the eyes and ears. Once inside the body, the pathogen reproduces rapidly, at a rate that can overwhelm the immune system, resulting in disease. Transmission may occur through direct or indirect contact. Germs may spread from one individual to another through direct contact – holding hands or kissing, for example – or indirectly – inhaling contaminated droplets in the air (airborne transmission), or touching a contaminated surface and then

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touching one's nose, eyes or a mucous membrane. Try to avoid touching your face during the day, and always wash your hands between clients.

Yeast, scabies, lice and many other skin infections do not require an open sore or mucosal surface to infect. Athlete's foot contaminates through indirect transmission. When someone with athlete's foot walks barefoot on a wet bathroom floor, for example, the person leaves spores behind that will stick to the foot of anyone else walking barefoot on that floor, infecting the individual even if he or she has no cuts or openings on the feet. Fungi, like athlete's foot, will survive for some time on a damp or wet floor. Shower stalls and soaking baths that retain small amounts of water must be thoroughly cleaned and disinfected with the appropriate disinfectant.

The primary modes of travel for common contagions are:

- Mouth and nose discharge
- Shared cups or towels.
- Open sores
- Coughing or sneezing
- Unclean hands
- Unclean implements
- Pus
- Spitting

Pathogenic bacteria can also enter the body through:

- The mouth during eating and drinking
- The nose and the mouth during breathing
- A break in the skin,

How Bacteria Enter Our Bodies

Bacteria and other infectious agents can enter the body through any of the following routes —

- Through the mouth, by food, drinking liquids, or items placed in the mouth
- Through the nose and mouth when we breathe
- Through the eyes by way of dirt, dirty hands, or unclean objects such as poorly maintained contact lenses; and
- Through breaks or wounds in the skin, scratches, sores, cuts, blemishes

Humans are excellent sources of contamination because we are constantly leaving organic particles behind, wherever we go — a mixture of dead skin cells with viral, bacterial and fungal particles, and other microorganisms that consume skin cells or use us to travel to an appropriate host. Every time you touch something, you deposit some of this organic matter on another surface. Simple actions like touching a client's hair, brushing some of your hair out of your eyes with your hand, or touching a spray bottle can move microorganisms from one item to another, from you to your client, or your client to you.

Individuals who are susceptible to infection due to a compromised protection system or some failure in their ability to resist invasion are also the targets of opportunistic microorganisms. In contrast to pathogens, opportunistic organisms do not cause initial illness, but will infect an individual once pathogenic organisms have already weakened its immune system. Opportunistic organisms cling to the skin and the hair and exist in the bodies of healthy people.

Microbes also contaminate ventilation systems; to discourage their growth, vents, filters, humidifiers and dehumidifiers should be cleaned and maintained regularly. Investigate any mildew or musty odors, which are a good indication of microbe growth. Germs in a ventilation system easily spread throughout a salon, landing on people, surfaces and implements, whenever the blower or fan turns on. Germs not only float through the air, settling constantly on salon surfaces such as sinks and countertops, they also can also "hitchhike" on human skin, hair and clothing, contaminating anything with which they come into contact. Pathogenic and opportunistic microorganisms are able to thrive in a salon's warm, moist places, such as the drain of the shampoo sink, the footbaths, and hot and cold water handles and taps. Implements such as scissors, files, brushes or nippers can be major sources of contamination because they often contain organic matter, an optimum growth environment for pathogenic and opportunistic microorganisms.

Some of the most dangerous areas in your salon are the places you keep contaminated manicuring tools or equipment, including the manicure table and the trashcans in which you deposit dirty implements. Microbes can also exist on seemingly unlikely products — bars of soap, for example. Because germs and other microorganisms have been shown to thrive on bar soap, many salons prefer to use liquid soap that can be dispensed from a container for each customer. In addition, soaking

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solutions, lotions and creams that initially are uncontaminated may lose preservatives that keep them safe from pathogenic or opportunistic microbes, which can grow in them. Changes in color, texture, appearance or odor can be signs of contamination. Fighting infection may be a matter of staying home when you are sick. Just as you should avoid working with contagious clients, you should not go to work if you have an infection, such as a bad cold or flu. Cover your mouth and nose to control pathogens escaping through sneezes and coughs. Avoid causing wounds; if your client's skin is a dry or fragile, tear and breaks can occur easily, even when filing nails. Use abrasive instruments with care and a gentle touch, especially around the nail bed.

Immunity

Immunity is the ability of the body to resist and destroy bacteria once they have entered the body. Immunity against disease is a sign of good health. It may be natural or acquired. Natural immunity is partly inherited and partly developed by hygienic living. Acquired immunity is secured after the body has, by itself overcome certain disease, or when it has been assisted by injections to fight bacteria.

Human Carrier

A person may be immune to a disease and still carry germs that can infect others. Such a person is called a human disease carrier. The diseases most frequently transmitted in this manner are typhoid fever and diphtheria. Physical agents such as heat (boiling, steaming, baking, or burning), and chemical agents such as antiseptics, disinfectants or germicides can accomplish destruction of bacteria.

Decontaminating your environment

You have a responsibility to control exposure to pathogens by decontaminating your environment and tools. Remember that pathogens collect anytime an object or surface is exposed to air. Doorknobs, handles, the telephone, money, cabinets, the cash register – all are surfaces touched by coworkers and clients that can harbor harmful pathogens, and so should be decontaminated to some degree.

Cleaning is only the first step of the process. The following sections review the meaning of sanitation, sterilization and disinfection, terms that are commonly used interchangeably, but have very different meanings and require different procedures.

Principles of Prevention

There is no better way for a salon to make a good first impression than to maintain the highest level of cleanliness. This makes a positive statement that fills clients with confidence. There is more to a clean salon, however, than a well-swept floor or vacuumed rugs. Proper care must be taken to meet rigorous health standards. Otherwise, the salon could be contributing to the spread of disease. Controlling infection and disease is a vitally important aspect of the salon industry. Clients depend on you to ensure their safety. One careless action could cause injury or serious illness. Being a salon professional can be fun and rewarding, but it is also a great responsibility. Fortunately, preventing the spread of dangerous disease is not hard to do if you know how to do it and, more important yet, if you practice what you know.

Decontamination

Take a look around you. What do you see? No doubt, whatever you are, you are looking at some sort of surface. It could be a table, the wall, the floor, the doorknob, or your hand. Almost everything presents a surface of some kind. These surfaces may seem clean to you, even sparkling, but no matter how clean they appear to the naked eye, chances are they are contaminated.

Surface of tools or other objects that are not free from dirt, oils, and microbes are covered with contaminants, which are any substance that can cause contamination. Many things can be contaminants, such as hair left in a comb, makeup on a towel or brush, or nail dust on a file.

Of course, a salon can never be completely free from all contamination, and it would not make sense to attempt such a goal. However, it is your responsibility as a salon professional to be on constant alert for disease causing contaminants.

The removal of pathogens and other substances from tools and surfaces is called decontamination. Decontamination involves the use of physical or chemical means to remove, inactivate, or destroy pathogens so that the object is rendered safe for handling, or disposal. There are three main levels of decontamination: sterilization, disinfection, and sanitation. Only disinfection and sanitation are required in the salon.

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Sterilization

Sterilization is the highest level of decontamination. It completely destroys every organism on a surface, whether beneficial or harmful. Sterilization even kills bacterial spores, the most resistant form of life on Earth. Methods of sterilization include the steam autoclave and dry heat (a form of extreme heat.)

Sterilization is a process used by dentist and surgeons, whose tools are designed to break and penetrate the skin barrier. Estheticians also use needles and probes that lance the skin, so they must follow the same sterilization procedures. Sterilized disposable lancets or needles are a simpler solution to the issue of sterilization.

The word "sterilize" is often used incorrectly. For example, some practitioners tell clients that they are "sterilizing the nail plate of skin". This is impossible. Sterilizing the skin would quickly kill it and would destroy the nail or openings that permit liquids or gases to pass through. Metal implements are nonporous and can be sterilized, but wood surfaces, which are porous, cannot. In short, sterilization is impractical and unnecessary in salons.

Disinfection

Disinfection is a higher level of decontamination than sanitation. It is second only to sterilization. Disinfection controls microorganisms on hard nonporous surfaces such as cuticle nippers and other salon implements.

Disinfection provides the level of protection required by the salon to kill most organisms, with one exception. Disinfection does not kill bacterial spores, but this is not necessary in the salon environment. It is important only in hospitals and other health-care facilities where instruments are used to penetrate or cut the skin. Lancets and other metal implements used in advanced facial treatments should be sterilized, or disposable implements should be used.

Disinfectants are chemical agents used to destroy most bacterial and some viruses and to disinfect implements and surfaces. Disinfectants are not for use on human skin, hair or nails. Never use disinfectants as hand cleaners. Any substance powerful enough to quickly and efficiently destroy pathogens can also damage skin.

Read Carefully Before Using

Manufacturers take great care to develop safe and highly effective systems. However, just because something is safe does not mean that it cannot be dangerous if used improperly. Any professional salon product can be dangerous if used incorrectly. Like all tools, disinfectants must always be used in strict accordance with manufacturer's instructions.

All disinfectants must be approved by the Environment Protection Agency (EPA) and each individual state. The disinfectant's label must also have an EPA registration number. Look for this number when choosing a disinfectant. It is the only way to ensure that the EPA has the necessary test data on file and that the product has been proven effective against certain organisms. The product label will also tell you exactly which organisms the disinfectant has been tested for, such as HIV-1 or the Hepatitis B virus. The law requires testing for specific organisms, or it should not appear on the label.

Besides the EPA registration number, federal law requires manufacturers to provide you with important information in the form of a Material Safety Data Sheet (MSDS), along with other important information, such as directions for proper use, safety precautions, and a list of active ingredients. The MSDS provides all pertinent information on products, range from content and associated hazards to combustion levels and storage requirements. These sheets should be available for every product used in the salon.

Choosing A Disinfectant

Disinfectants are chemicals. To use a disinfectant properly, you must read and follow the manufacturer's instructions. Such variables as mixing precautions and exposure times demand particular attention. The product label will explain what the disinfectant has been tested for. To meet salon requirements a disinfectant must have the correct efficacy (effectiveness) to be used against bacteria, fungi, and viruses. A disinfectant that is "Formulated for Hospitals and health Care Facilities," or a Hospital Grade Disinfectant, must be pseudomanacidal, effective against the bacteria *Pseudomonas*, in addition to being bactericidal, fungicidal, and virucidal. If a disinfectant has been tested for additional organisms such as HIV-1, it will be stated on the label. Check for the label number and efficacy standard on the label.

Proper Use of Disinfectants

Any item that is used on a client must be disinfected or discarded after each use. Items that do not have the capacity to be disinfected, such as orangewood sticks, must be discarded. Combs, brushes, scissors, razors, clipper blades, nippers, electrodes, and other commonly used, nonporous tools must be disinfected.

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Even the best disinfectants will not work well if mixed or used incorrectly. All implements should be thoroughly cleaned before soaking to avoid contaminating the disinfecting solution. Hair, nail filings, creams, oils, and makeup will lessen the effectiveness of the solution. Besides, a dirty jar of disinfectant would not fill your clients with confidence. Implements must be completely submerged for proper disinfection.

Ultrasonic cleaners use high-frequency sound waves to create powerful cleaning bubbles in the liquid. This cleansing action is an effective way to clean tiny crevices that are impossible to reach with a brush. Without an effective disinfectant solution, however, their devices only sanitize implements.

Ultrasonic cleaners are a useful addition to your disinfection process, but are not required. Many systems disinfect with a great effectiveness without relying on such devices. However, some salons feel that this added cleansing benefit is well worth the extra expense. It also saves time by eliminating cleaning by hand.

Types of Disinfectants

There are a variety of disinfectants that the salon can choose from.

Quats

Quaternary ammonium compounds: commonly called quats, is a type of disinfectant considered non-toxic, odorless, and fast acting. Older formulas were not very effective, but the newest products, called dual formulas, are dramatically more effective.

Most quat solutions disinfect implements in 10 to 15 minutes. Leaving some tools in the solution for too long may damage them. Keep in mind that long-term exposure to any water solution of disinfection may damage fine steel. With today's modern formulas, however, corrosion of metal surfaces can be easily avoided, especially if you keep implements separated while disinfecting. Metal implements such as scissors and nail clippers should be oiled regularly to keep them in perfect working order.

Quats are also very effective for cleaning tables and countertops.

Phenols

Like quats, phenolic or phenols, have been used reliably over the years to disinfect implements. Phenol is a caustic poison, but it can be safe and extremely effective if used according to instructions. One disadvantage is that most rubber and plastic materials may be softened or discolored by phenols. Phenols in 5% solution are used mostly for metal implements.

Extra care should be taken to avoid skin contact with phenols. Phenolic disinfectants can cause skin irritation, and concentrated phenols can cause skin irritation, and concentrated phenols can seriously burn the skin and eyes. Some are poisonous if accidentally ingested.

Alcohol and Bleach

The word alcohol is often misunderstood. There are many chemical compounds that may be classified as alcohol. The three most widely used are methyl alcohol, ethyl alcohol (ethanol), and isopropyl alcohol (isopropanol or rubbing alcohol).

In the salon, ethyl and isopropyl alcohol are sometimes used to disinfect implements. To be effective, the strength of ethyl alcohol must be no less than 70%, and the strength of isopropyl alcohol must be 99%. Since alcohol is not an EPA-registered disinfectant, it is not permitted for use with implements in states requiring hospital disinfection. This means it is not legal to use alcohol as a disinfectant in most states.

These are many disadvantages to using alcohols. They are extremely flammable, evaporate quickly, and are slow-acting and less effective when compared to other recommended disinfectants. Alcohols corrode tools and cause sharp edges to become dull. They also discolor and damage the surface of floors and countertops. The vapors formed on evaporation can cause headaches and nausea when inhaled in high concentrations or after prolonged exposure.

Household bleach, sodium hypochlorite, is an effective disinfectant, but shares some of the same drawbacks as alcohols. Neither bleach nor alcohols are professionally designed and tested for disinfection of salon implements. Bleach and alcohol may have been used extensively in the past, but have since been replaced by more advanced and effective technologies. Bleach is, however, a very effective laundering additive.

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Although quats are perfectly suitable for cleaning any surface (unless otherwise specified in the manufacturer's directions), you may wish to clean floors, bathrooms, sinks, and waste receptacles with a commercial cleaner such as Lysol or Pine-Sol. Both are very effective disinfectants, but should not be used on salon implements. They are general "household level" disinfectants and are not designed for professional tools.

Disinfectant Safety

Disinfectants are powerful, professional-strength tools that can be hazardous if used incorrectly. Disinfectants can be poisonous if ingested and can cause serious skin and eye damage, especially in a concentrated form. A good rule to remember is use caution! In addition, you should:

- always wear gloves and safety glasses when mixing chemicals with water
- always add disinfectant to water, not water to disinfectant
- Use thongs, gloves, or a draining basket to remove implements from disinfectants
- always keep disinfectants away from children
- never pour quats, phenols, formalin, alcohol (not legal in most states), or any other disinfectant over your hands. This hazardous practice can cause skin irritation and increase the chance of infection. Wash your hands with soap and warm water and dry them thoroughly
- carefully weigh and measure all products to ensure that they perform at their peak efficiency.
- never place any disinfectant or other product in an unmarked container. Disinfectants come in different forms such as ready to use sprays (for surface cleaning) liquid concentrate, and powders. Some disinfectants appear clear while others are a little cloudy
- always follow manufacturer's recommendations for mixing and using, and check the efficacy to make sure you are using the right disinfectant
- avoid over exposure. Disinfectants are chemicals, and over use is detrimental to the environment

Jars or containers used to disinfect implements are often incorrectly called wet sanitizers. Of course, the purpose of these containers is not to sanitize but to disinfect. The disinfecting soak solution must be changed daily and kept free from debris unless otherwise directed by the manufacturer's instructions. Strict adherence to the principles of good hygiene and disinfection must be maintained.

Disinfecting Procedures

Always disinfect your tools or other implements according to the guidelines listed for EPA wet disinfectants. This means complete immersion for the required amount of time. The following are guidelines for specific salon materials.

Disinfecting Implements

Most tools and implements can be disinfected. These include combs, brushes, rollers, picks, styling tools, scissors, tweezers, nail clippers, and some nail filers.

1. Clean implements to remove hair, filings, and other such loose matter by scrubbing with soap and water.
2. Rinse thoroughly and pat dry with a clean towel.
3. Put on gloves, goggles, or safety glasses.
4. Mix disinfectant according to manufacturer's directions, always adding disinfectant to the water.
5. Using gloves or tongs completely immerse implements or tools and leave for the required amount of time, as per manufacturer's instructions.
6. Remove implements with tongs basket, or gloves so as not to contaminate the disinfectant.
7. Rinse thoroughly and dry.
8. Place disinfected implements in a clean, closed, dry, disinfected container (such as a plastic container with a lid).

Disinfecting Linens and Capes

All linens should be used once and then laundered with bleach according to label directions. Capes or drapes that come into contact with a client's skin should be laundered in the same manner.

Laundry

Soiled linens may harbor pathogens, but rarely transmit disease. Handle used linens as little as possible to avoid contamination. All soiled linen should be bagged or placed in containers at the location where it was used and should not be sorted or rinsed in the location of use. While sorting soiled linen, employees should wear gloves and other appropriate protective apparel.

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Commercial laundry facilities often use water temperatures of at least 160 degrees F and 50-150 ppm of chlorine bleach to remove significant quantities of microorganisms from contaminated linen. In the salon, normal washing and drying cycles including “hot” cycles are adequate to ensure client safety (studies suggest that satisfactory reduction of microbial contamination can be achieved at water temperatures lower than 160 degrees F if laundry chemicals suitable for low-temperature washing are used at proper concentrations). Follow instructions by the manufacturers of the machine and the detergent or wash additive should be followed closely.

Disinfecting Electrical Equipment

The contact points of equipment that cannot be immersed in liquid, such as hair clippers, electrotherapy tools, and nail drills, should be wiped or sprayed with an EPA-registered, hospital-grade disinfectant created especially for electrical equipment. Electrical equipment must be kept in good repair.

Disinfecting Work Surfaces

Before and after each client and EPA-registered, hospital-grade disinfectant should be used on the work surface (manicure table, workstation, esthetic bed, and the sort). the disinfectant should be left on the surface the full amount of time prescribed by the manufacture’s directions. Remember to disinfect all surfaces. This includes doorknobs, m handles, and so on.

The shampoo bowl should be cleaned and the drain cleared of all hair after each client. The neck of the bowl should be disinfected the same as other work surfaces.

EPA-registered disinfectant.

Steps for nail sanitation

1. Spray the top of manicure tabletop with an EPA-approved disinfectant and wipe dry before starting on new client.
2. Cover table and manicuring cushion with clean towel.
3. Have the client sanitize his/her hands, and sanitize your own hands using the procedure outlined above. Provide instructions for your clients, listing the steps required for effectively sanitizing their hands.
4. Set out a new emery board, orangewood stick, cotton balls and other disposable materials on manicuring table.
5. After concluding service with the client, discard disposable materials in a closed waste receptacle. Empty waste receptacle daily.
6. Spray the table with disinfectant.
7. Disinfect metal equipment or tools with an EPA-registered disinfectant and store them in a clean, closed, and clearly labeled container after use with each client.

Other tips:

- Use single-use implements as often as possible, being certain to dispose of them properly. Have as many complete sets of implements as is necessary to insure that you will have enough time to properly disinfect implements between customers. At least two complete sets are recommended for busy days, one set can be disinfecting while you work.
- Use a dusk mask and safety goggles when appropriate.
- Keep caps on all products to reduce the amount of vapor that escapes into the air.

Whirlpool Pedicure Foot Spas

While it is characteristic of doctors and dentists to maintain a sterile environment, most clients do not consider that the same standards should be set for those who are digging, filing, and clipping away at their feet and fingernails when visiting a nail salon. Yet, the consequences, of an unsanitary salon and the failure of strict compliance to sanitation and disinfection rules and regulations to be followed, can be the same as those at any medical facility. Bacterial infections are becoming more common among nail salon clients. Recently, *Mycobacterium fortuitum* and other rapidly growing mycobacteria have been found to cause severe skin and soft-tissue infections in association with nail salon whirlpool footbaths. The CDC now recommends to doctors in cases that involve persistent mycobacterial skin infections in a patients lower extremities, that they should ask the patient about any recent pedicures. Aside from the obvious risk to the health and welfare of the public the actions of the CDC shines an unfortunate, yet necessary light on the risks of having nails services at a salon Which is detrimental to the nail salon industry, and negatively affects all professionals that make their career providing nail services. This is how an individual’s responsibility to follow the rules impacts their colleagues. We owe it to the clients, to our self and to everyone in the industry to make the salon and the services that are offered in the salon safe.

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As a result state laws have been passed to increase the decontamination and disinfection of equipment in nail salons, however increasing the requirements in association with the disinfection process of nail salon equipment, particularly the whirlpool footbaths will have no effective benefit unless they are understood, and complied with to the exact letter of the law. These rules and regulations are designed to protect the health and welfare of public that puts their trust in the licensed professionals that provide nail services. When using whirlpool pedicure foot spas, you must follow proper disinfection procedures to ensure proper maintenance of the equipment and to prevent the spread of bacterial or parasitic disease. Take time to carefully read the manufacturer's cleaning instructions and ask your manufacturer and/or distributor for a demonstration as well. Improperly disinfected equipment can harbor bacteria that may spread disease or infection to clients, cosmetologist, or nail technicians who come into contact with it.

DISINFECTING FOOT SPA PROCEDURE

After each customer:

1. Drain all water and remove all foreign matter from the foot spa.
2. Clean the surface and walls of the foot spa with antibacterial soap and rinse with clean, clear water.
3. Disinfect with an EPA-registered disinfectant with bactericidal, fungicidal, virucidal efficacy, according to manufacturer's instructions.
4. Rinse and wipe dry with a clean towel.

At the end of each day:

1. Remove the screen and clean all debris trapped behind the screen of each foot spa.
2. Wash the screen and inlet with antibacterial soap or detergent and rinse well with clean, clear water.
3. Then totally immerse in an EPA-registered disinfectant with a bactericidal, fungicidal, virucidal efficacy, according to manufacturer's instructions.
4. Flush the system with low-sudsing soap and warm water for ten minutes. Then rinse the spa well, drain, and let air-dry.
5. Record the date and time of the cleaning and disinfecting for each spa, maintain these records in case requested by the state.

Every two weeks:

1. Read the manufacturer instructions before using any disinfectant to determine which solution will not cause damage to the surface of your spa pedicure.
2. After following the recommended daily cleaning procedure described above, fill the foot spa tub with 9 parts water to 1 part board approved disinfectant solution (10% board approved solution).
3. Circulate the solution through the foot spa system for 5 to 10 minutes.
4. Let the solution sit over night (at least 6 or more hours).
5. The following morning, in advance of the first customer, drain and flush the system

(NCAC Rule governs equipment sanitation requirements, it is necessary to refer to this rule to be compliant as changes do occur. Periodically refer to the North Carolina Administrative Code for the most recent updates).

Blood Spill Disinfection

For bloodborne pathogens, OSHA issued a policy in 1997 stating that in order to comply with OSHA's Bloodborne Pathogens Standard, the use of an EPA-registered tuberculocidal disinfectant or an EPA-registered labeled as effective against HIV and HBV is required. For this reason, when salon implements accidentally come into contact with blood or body fluids, they should be cleaned and completely immersed in an EPA-registered disinfectant that kills HIV-1 AND Hepatitis B virus, or in a tuberculocidal disinfectant. The National Interstate Council of State Cosmetology Boards (NICS) follows this standard for examinations as well.

Blood spills occur when you or a client are accidentally cut with a sharp instrument. If a blood spill should occur during a procedure, proper steps must be taken for the safety of both people.

1. If a cut is sustained, stop the service and clean the injured area.
2. Use a finger guard or gloves as appropriate.
3. Apply antiseptic and/or liquid or spray styptic without contaminating the container.
4. Cover the injury with a Band-Aid or other appropriate dressing.
5. Clean client and workstation as necessary.

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6. Discard all disposable contaminated objects such as wipes or cotton balls by double-bagging (place the waste in a plastic bag and then in a trash bag). Use a biohazard sticker (red or orange) or a container for contaminated waste. Deposit sharp disposables in a sharps box.
7. Remove your gloves. Wash your hands with soap and warm water before returning to the service.
8. All tools and implements that have come in contact with blood or body fluids must be disinfected by complete immersion in an EPA-registered, hospital-grade disinfectant that kills HIV-1 and Hepatitis B Virus or in a tuberculocidal disinfectant. Be sure to mix and use the disinfectant according to the manufacturers' directions.

Because blood can carry many pathogens, you should never touch a client's open sore or wound.

Dispensary

The dispensary must be kept clean and orderly, with all containers marked clearly as to content. An MSDS on every chemical in stock should be kept readily available to all those working in the salon or school. MSDS should also indicate the appropriate disinfectant to be used with each chemical.

Handling Disposable Supplies

To prevent the spread of disease, all disposable supplies, such as orangewood sticks, emery boards, cotton, gauze, neck strips and such, should be thrown away. Anything exposed to blood, including microdermabrasion debris, must be double-bagged and marked with a biohazard sticker or marked and disposed of according to OSHA standards (separated from other waste and disposed according to federal, state, and local regulations). Puncture-proof containers should be used in the disposal of all sharps. Remember: Disinfect or Discard.

Sanitation

The third, or lowest level of decontamination is called sanitation or sanitizing. These words are often frequently misused and misunderstood. To sanitize means, "to significantly reduce the number of pathogens or disease-producing organisms found on a surface." Cleaning with soaps or detergents will sanitize salon tools and other surfaces.

Sanitized surfaces may still harbor pathogens or other organisms. Removing hair from a brush and washing the brush with detergent is considered sanitation. Putting antiseptics designed for hands or feet on your skin or washing your hands is another example of sanitation. Your hands may appear very clean when you are finished but will still harbor pathogens found in the tap water and on the towel.

An emerging health concern is the growth of mold and mildew in buildings. Mold is a fungus growth that usually grows in dark, damp places. Mildew is a moldy coating produced by fungi that can appear on walls, fabrics, and such, and also occurs in damp areas. Mold spores carry toxins that can cause allergic reactions and sickness in some people. These spores are almost always present in outdoor and indoor air and on most furnishings and construction materials. Dirt on surfaces provides nutrients for mold. Practicing proper sanitation provides protection against the growth of mildew and mold in the salon.

Hand Washing

Hand washing is one of the most important actions that can be taken to prevent the transfer of microorganisms from one person to another. Hand washing removes microorganisms from the folds and grooves of the skin by lifting and rinsing them from the skin surface.

Sanitizing Hands

As a licensed professional dealing with multiple clients per day, it is necessary to sanitize your hands as much as it is your implements, especially in the nail and facial industries.

Note: A sanitized nailbrush may be used for a more precise cleaning. This must be done before you service each new client. (Remember that cash is one of the dirtiest things you will handle. It is covered with germs that get passed from one individual to another.)

Cleaning Agents for Hands

Cleaning agents assist in the process of removing substances from surfaces. Soaps and detergents are two common cleaning agents that are often confused for one-another, but are composed of very different ingredients and have different cleaning properties. Soaps are the product of a chemical reaction, formed by vegetable oil reacting with lye, for example, and the addition of chemicals that add a desirable smell or quality to the soap, such as glycerin, to make it milder. While soap does not kill microorganisms, soap and water will help remove them from surfaces.

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Detergents are manufactured for the express purpose of cleaning specific substances off specific items, and are created using chemicals that can be very harsh to skin. In contrast to detergents that do not leave a residue or require rinsing, soaps leave a coating or residue on the body; typically one designed to make skin smoother or more attractive. Soaps also remove less fat from the skin than detergents, which have a drying quality and may strip the skin. Be sure to use the appropriate cleaning agent for the job. Different cleaning and disinfecting agents have many different properties. Always read the ingredients, instructions, and recommendations for use on the item's label.

In the salon, hands should be thoroughly washed before and after each service. When washing your hands in a public restroom, avoid touching items such as bar soap, a towel dispenser, or a doorknob after washing and before leaving the restroom. This way you avoid contaminating your clean hands with any microorganisms. At the end of the day, wash your hands to prevent carrying microorganisms outside of the salon.

Soap and warm water are generally sufficient for hand washing, although some antibacterial soaps can kill microorganisms in deeper layers of the skin than plain soap or detergents do. When over used, however, the relatively harsh, drying action of antibacterial soaps may actually leave the skin vulnerable to the skin problems such as eczema. Alcohol-based no-rinse products designed for use without water are also very drying to the skin.

Hand washing and Drying —Prevents Infection

Hand washing is a simple habit — one that requires minimal training and no special equipment. Yet it is 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 does not 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 doorknobs, 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 nailbrush 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 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 do not 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 do not wash your hands frequently enough, you can infect yourself with these germs by touching your eyes, nose or mouth. In addition, 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

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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 are not 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

Before servicing any client, the following process of sanitizing your hands should be followed: First, you must have an antibacterial/hospital recommended cleanser. You must use tepid water with a generous amount of cleanser. Place the cleanser in the palm of your hand and rub vigorously to lather cleanser from inside to outside of hands and fingers.

Once the surfaces of your hands and fingers have been cleansed thoroughly, rub the tips of your fingers and nails in the palm of the opposite hand to enable cleansing of the underside of the nails. Then repeat this same process a second time. Be sure to rinse thoroughly after each process. Dry your hands with a paper towel, and be sure to use a paper towel to turn off the water.

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 are 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. 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 are 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 is impossible to keep your bare hands germ-free, times exist when it is 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

Note: Antiseptics can kill, retard, or prevent the growth of bacteria, but they are not classified as disinfectants. Antiseptics such as 3% solutions of hydrogen peroxide are weaker than disinfectants and are safe for application to skin (usually used prior to a manicure or pedicure). They are considered sanitizer and are not adequate for use on instruments and surfaces.

Universal Precautions

Many infectious diseases do not present visible symptoms on the infected person. Because you will not necessarily be able to identify clients with infectious diseases, the same infection control practices should be used with all clients. 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 salon and 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 salon professional becomes 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

OSHA sets the standard that must be used in the industry for dealing with bloodborne pathogens. The standard prescribes the use of Universal Precautions as the approach to infection control. Universal Precautions are a set of guidelines and controls, published by the Centers of Disease Control and Prevention (CDC), that require the employer and the employee to assume that all human blood and specified human body fluids are infectious for HIV, HBV, and other bloodborne pathogens. Precautions include hand-washing, the use of gloves, personal protective equipment such as goggles, injury prevention, and proper handling and disposal of needles, other sharp instruments, and product that have been contaminated by blood or other body fluids.

In most instances, clients who are infected with Hepatitis B Virus or other bloodborne pathogens are asymptomatic, which means that they show no signs of infection. Many individuals who have a minor, nonspecific symptom may not even know they are infected. Exposure to blood in the salon setting presents a risk of exposure to various diseases, including Hepatitis and AIDS. Therefore, the blood of all clients should be treated as if infected.

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 salon 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 salon and spa environment.

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 salon professionals 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 salon professionals use infection control procedures established by the CDC known as Universal Precautions and the newly established counterpart, Standard Precautions. In conjunction with the infection control standards set by the State of North Carolina approved for salons.

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.

Basic Rules

The salon must be well-lighted, heated, and ventilated, in order to keep the salon in a clean and sanitary condition. The walls, curtains, and the floor coverings in all work booths must be washable and kept clean. All salons must be supplied with running hot and cold water. All plumbing fixtures should be sufficient in number and properly installed. The premises should be kept free from rodents, vermin, flies or other similar insects through cleanliness, use of screens, and an exterminator. All hair, cotton, or other waste material must be removed from the floor without delay, and deposited in a closed container. Waste material should be removed from the premises at frequent intervals. Objects dropped on the floor are not to be used

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until sterilized. Hairpins must not be placed in the mouth, combs must not be carried in the pockets of uniforms, and hairnets must not be carried in cuffs or pockets of the uniform. When giving a manicure, provide finger bowls with individual paper cups for each client. Headrest coverings and neck strips must be changed for each client.

Below is a list of guidelines in a quick reference checklist, it includes most requirements that must be followed but may not include all. This list is a helpful tool but for a complete list of requirements refer to the North Carolina Administrative Code.

1. Have a first-aid kit available in case of a blood spill. The kit should include adhesive bandages, gauze, antiseptic, and disposable latex gloves.
2. Do not allow pets or animals in a salon, except those trained to assist impaired or disabled individuals.
3. Premises must be kept free from rodents, vermin, or other animals.
4. Plumbing must be installed properly and provide both hot and cold water.
5. You must have one running sink and toilet. Toilet tissue and waste receptacles must be provided.
6. Working area must be well lighted, heated, and ventilated.
7. A drinking fountain with paper cups should be provided.
8. Clean doorknobs, especially in restrooms
9. Clean floors, sinks and toilets with commercial products that kill germs
10. Walls, ceilings, floors, and equipment must be free from dust.
11. Sanitize your work area with a disinfectant.
12. Hair needs to be removed from the floor and placed in a closed container.
13. The use of a brush, comb or other article on more than one patron without being disinfected is prohibited.
14. Cosmetologists should wear a clean clothing or uniform.
15. Always wash hands after using the restroom, and between each client.
16. Hand cleaning with anti-microbial liquid soap, sanitary towels or a hand-drying blower must be provided.
17. Do not place items in your mouth, such as combs, bobby pins, tools etc.
18. Do not place combs or other instruments in pockets.
19. Do not treat any inflammatory disease or condition of skin, scalp, face or hands.
20. Gloves need to be worn during manicuring, waxing, facials, shampoos, pedicuring, tweezing and any service where you may come in contact with any blood or body fluids.
21. Keep your nail services in a separate area of the salon.
22. Avoid touching your client's face or eye area
23. Clean dust and nail filings from your work area after every client
24. Discard emery board, orangewood stick, and any other disposable materials after use with one client.
25. All products used directly on patrons should be labeled, be clean and be in closed containers.
26. Always use a hospital-grade disinfectant on salon implements.
27. Disinfecting products should be available at all times to clean scissors, razors, clippers, etc.
28. Place all disinfected implements in a covered container. Each container should be labeled with cosmetologist's or nail tech's name, especially for booth licensees.
29. Clippers and other nail-care tools should be cleaned after every use and stored only with other cleaned instruments
30. Clipper guards should be disinfected and kept closed in a covered container, away from clippers.
31. Clippers can be stored in a drawer only if in a closed container. Hanging is recommended.
32. Scissors should be disinfected and kept in a closed clean drawer or closed clean container.
33. Cotton should be in a storage area or covered container so hair does not contaminate.
34. All paraffin wax that has come in contact with a client's skin should be disposed after each use. Used wax should never be re-used.
35. Headrests of chairs should be cleaned with a hospital-grade,
36. Clean linens should be kept in a dust-proof cabinet.
37. Soiled linens should be kept in closed receptacles.
38. Always use clean cotton balls, sponges or tissues when applying any cosmetics or skin creams.
39. Make-up should never be shared.
40. Never use the same towel on more than one client
41. Capes should not touch clients' skin
42. Sanitary towel/neck strips need to be provided for every patron.

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North Carolina EPA Regulations Relating to Nail Salons, Beauty Shops, or Barbershops

Please refer to this site directly for current text and recent regulatory changes: If you are running a nail salon, beauty shop or barbershop, you need to be aware of the North Carolina EPA regulations that apply to your business. If you have wastewater discharges from your business or generate other wastes, North Carolina EPA may regulate these activities.

It is important to understand and comply with the regulations to help avoid violations. The following section we explore important requirements of the North Carolina EPA that might apply to your salon. Please keep in mind that reviewing this section does not cover all rules and regulations that may apply to your salon, however, the following information is important to be aware of and will give you some idea what regulations you are required to comply with.

Managing wastes

Under North Carolina's regulations, any business that generates a waste needs to evaluate it to see if it is hazardous waste. Nonhazardous wastes that you generate include clippings, packaging, paper and empty containers that you put in the trash. Products you use in your business include tints, coloring, peroxide, toners, lighteners, relaxers, polish removers and other chemicals. Some of these may contain acids, alkalies or flammable solvents. You are trained to protect you and your customers from any harmful effects from these chemicals.

These same harmful properties may make these products become hazardous wastes when you can no longer use them. A waste that is ignitable, corrosive, reactive or toxic is defined as a characteristic hazardous waste. In addition, there are specific lists of hazardous wastes in North Carolina EPA's regulations.

Outdated products, partially full containers or unwanted products are considered wastes. And these may be hazardous wastes. Spent solvent from processing nails may also be hazardous waste. Under the regulations, hazardous waste must be sent for disposal at a permitted hazardous waste disposal facility. Hazardous waste cannot be disposed of in the trash. To help reduce hazardous waste generation, use up all of the products that you purchase and consider reusing solvents where possible.

You can call your local North Carolina EPA district office, Division of Hazardous Waste Management, for more information on the hazardous waste regulations.

Wastewater

If the sinks in your salon connected to a public wastewater treatment plant, you may be able to discharge your process wastewater to the treatment plant. Many wastewater treatment plants (also called POTWs) are operated by the city. However before you discharge wastewater to the POTW, though, you must contact the utility and check if it can handle the type of wastewater that will come from your shop.

Depending on the size and nature of your business, you may be required to get a permit before you can discharge your wastewater to the public plant. It is important to know that North Carolina EPA's regulations do not allow for the discharge of process wastewater or chemicals into an on-site sewage treatment system, like a septic tank and leach field. Discharging chemicals into an on-site septic system can kill the helpful bacteria that break down sewage wastes. In addition, chemicals can leach from the system into nearby groundwater. If you want to run a salon from your home or from a business location that is connected to an on-site sewage treatment system, contact North Carolina EPA to discuss options for managing your wastewater.

You can contact your local North Carolina EPA district office, Division of Surface Water for more information on the wastewater discharge and permitting requirements. If you are unsure of whom your local POTW contact is, you can also call the Division of Surface Water for assistance.

The Salons Drinking Water

The water supplied in the salon and intended for consumption must be odorless, colorless and free from any foreign matter. Crystal clear water may still be unsanitary because of the presence of pathogenic bacteria, which cannot be seen with the

1 STOP 8 HOUR CONTINUING EDUCATION PROGRAM

Crystal clear water may still be unsanitary because of the presence of pathogenic bacteria, which cannot be seen with the naked eye. Salons that have its own well that supplies water for drinking, cooking, washing hands, washing dishes or bathing, may meet North Carolina EPA's definition of a public water system. A public water system is one that has at least 15 service connections or regularly provides water to 25 or more people for 60 or more days a year. Establishments that meet these standards fall under the public water system regulations; as such, plans to install or change a well must be submitted. Well systems must be tested periodically and the test results records must be reported to North Carolina EPA. For more information on well system requirements contact your North Carolina EPA district office, Division of Drinking and Ground Water.

NORTH CAROLINA ADMINISTRATIVE CODE COSMETIC ARTS SALON RULES

North Carolina State Board of Cosmetic Arts Examiners: Salon Operation and Sanitation Rules

The following information are citations from the North Carolina Administrative Code. The entire NCAC Revised and Administrative Code regarding salon operation and sanitation, the statutory authority, effective dates and review dates for the selected law has not been included for practical purposes. The full chapter of cosmetology laws and rules can be found at <http://reports.oah.state.nc.us/ncac.asp?folderName=\\Title 21 - Occupational Licensing Boards and Commissions\\Chapter 14 - Cosmetic Art Examiners>. Please refer to this site directly for current text or recent regulatory changes.

The following information regarding sanitation and sterilization must be displayed in a conspicuous place within the salon as required by 21 NCAC 14H .0102. An appropriate display copy may be found at the following web address:

21 NCAC 14H .0102 COPY OF RULES TO BEAUTY ESTABLISHMENTS

The Board shall give copies of the rules of sanitation governing the practice of cosmetic art to all beauty establishments.

NORTH CAROLINA BOARD OF COSMETIC ART EXAMINERS North Carolina Administrative Code (NCAC)

21 NCAC 14H - SANITATION

SECTION .0100 - SANITATION

21 NCAC 14H .0101.COPY OF RULES TO COSMETOLOGY STUDENTS

Cosmetic art schools shall give a copy of the sanitation rules governing the practice of the cosmetic arts to each student for study.

21 NCAC 14H .0102.COPY OF RULES TO BEAUTY ESTABLISHMENTS

The Board shall give copies of the rules of sanitation governing the practice of cosmetic art to all beauty establishments.

SECTION .0200 - SHOP LICENSING AND PHYSICAL DIMENSIONS

(a) Rules in this Subchapter apply to all cosmetic art shops making initial application to operate a cosmetic art shop after the effective date of these Rules

(b) Shops licensed prior to March 1, 2012 may choose to comply with Rules .0202, .0203(c), .0204 and .0301 of this Subchapter.

(c) Shops licensed prior to March 1, 2012 must comply with Rules .0201, .0203(a)-(b), .0302-.0304 and Sections .0400 and .0500 of this Subchapter.

(d) Shops licensed prior to March 1, 2012 that make any structural changes must come into compliance with all rules in this Subchapter.

(e) Persons desiring to open a cosmetic art shop in the State of North Carolina shall make application to the North Carolina State Board of Cosmetic Art Examiner on the Board's application form. Persons desiring to change ownership of a cosmetic art shop, relocate or reopen a shop which has been closed more than 90 days shall make application to the North Carolina State Board of Cosmetic Art Examiner on the Board's application form.

21 NCAC 14H .0203 NEWLY ESTABLISHED SHOPS

- (a) A cosmetic art shop shall be separate and apart from any building or room used for any other business or purpose, separated by a solid wall of at least seven feet in height and must have a separate outside entrance.
- (b) A newly established cosmetic art shop, shall be separate and apart from any building or room used for living, dining or sleeping and shall be separate and apart from any other room used for any other purpose by a solid wall of ceiling height, making separate and apart rooms used for a cosmetic art shop. All entrances to the cosmetic art shop shall be through solid, full length doors installed in solid walls of ceiling height.
- (c) A residential cosmetic art shop shall furnish bathroom facilities separate and apart from the residence.
- (d) An entrance to a cosmetic art shop from a passageway, walkway or mall area used only for access to the shop, or to the shop and other businesses, may be open.

21 NCAC 14H .0204 DIMENSIONS WITHIN COSMETIC ART SHOPS

Within the clinic area each shop shall maintain no less than the following working distances:

- (1) 48 inches of space from the center to the center of each styling chair, esthetics table or manicuring table;
- (2) 24 inches from the center of the chair forward;
- (3) 48 inches from the backrest behind the chair to any other styling chair, esthetics table or manicuring table; and
- (4) at least 30 inches of space from the back of each styling chair, esthetics table or manicuring table to the wall of the shop.

SECTION .0300 - COSMETIC ART SHOP AND EQUIPMENT

21 NCAC 14H .0301 WATER

- (a) Cosmetic art shops shall have a sink with hot and cold running water in the clinic area, separate from restrooms.
- (b) When a service is provided in a room closed off by a door, the sink required in this Rule must be within 20 feet of the door or 25 feet from the service table or chair. The restroom sink shall not be used to meet this requirement.

21 NCAC 14H .0302 VENTILATION AND LIGHT

- (a) Ventilation shall be provided at all times in the areas where patrons are serviced in all cosmetic art shops and there must be a continuous exchange of air.
- (b) All doors and windows, if open for ventilation, must be effectively screened.
- (c) Light shall be provided in the service area.
- (d) All cosmetic art shops must adhere to any federal, state and local government regulation or ordinance regarding fire safety codes, plumbing and electrical work.

21 NCAC 14H .0303 BATHROOM FACILITIES

- (a) Toilet and hand washing facilities consisting of at least one commode and one hand washing sink with hot and cold running water, liquid soap and individual clean towels or hand air dryer shall be provided.
- (b) Shops with an initial licensure date after March 1, 2012 must have toilet and hand washing facilities in the bathroom.

21 NCAC 14H .0304 EQUIPMENT

Cosmetic art shops shall maintain equipment and supplies to safely perform any cosmetic art service offered in the shop.

SECTION .0400 - SANITATION PROCEDURES AND PRACTICES

21 NCAC 14H .0401 LICENSEES AND STUDENTS

- (a) Notwithstanding Rule .0201 in this Subchapter, this Rule applies to students and licensees in practice in cosmetic art schools and shops. Each licensee and student shall wash his or her hands with soap and water or an equally effective cleansing agent immediately before and after serving each client.
- (b) Each licensee and student shall wear clean garments and shoes while serving patrons.

- (c) Licensees or students must not use or possess in a cosmetic art school or shop any of the following:
 - (1) Methyl Methacrylate Liquid Monomer a.k.a. MMA;
 - (2) Razor-type callus shavers designed and intended to cut growths of skin including skin tags, corns and calluses;
 - (3) FDA rated Class III devices;
 - (4) Carbolic acid (phenol) over two percent strength;
 - (5) Animals including insects, fish, amphibians, reptiles, birds or mammals to perform any service; or
 - (6) A variable speed electrical nail file on a natural nail unless it has been designed for use on a natural nail.
- (d) A licensee or student must not:
 - (1) Use any product, implement or piece of equipment in any manner other than the product's, implement's or equipment's intended use as described or detailed by the manufacturer;
 - (2) Diagnose any medical condition or treat any medical condition unless referred by a physician;
 - (3) Provide any service unless trained prior to performing the service;
 - (4) Perform services on a client if the licensee has reason to believe the client has any of the following:
 - (A) a contagious condition or disease;
 - (B) an inflamed, infected, broken, raised or swollen skin or nail tissue; or
 - (C) an open wound or sore in the area to be worked on;
 - (5) Alter or duplicate a license issued by the Board;
 - (6) Advertise or solicit clients in any form of communication in a manner that is false or misleading;
 - (7) Use any FDA rated Class II device without the documented supervision of a licensed physician;
 - (8) Use any product that will penetrate the dermis; or
 - (9) Make any statement to a member of the public either verbally or in writing stating or implying action is required or forbidden by Board rules when such action is not required or forbidden by Board rules. A violation of this prohibition is considered practicing or attempting to practice by fraudulent misrepresentation.
- (e) In using a disinfectant, the user shall wear any personal protective equipment, such as gloves, recommended by the manufacturer in the Material Safety Data Sheet.

21 NCAC 14H .0402 COSMETIC ART SHOPS AND SCHOOLS

- (a) Notwithstanding Rule .0201 in this Subchapter, this Rule applies to all cosmetic art schools and shops. A cosmetic art school or shop shall be kept clean.
- (b) Waste material shall be kept in receptacles with a disposable liner. The area surrounding the waste receptacles shall be maintained in a sanitary manner.
- (c) All doors and windows shall be kept clean.
- (d) Furniture, equipment, floors, walls, ceilings and fixtures must be clean and in good repair.
- (e) Animals or birds shall not be in a cosmetic art shop or school. Fish in an enclosure and animals trained for the purpose of accompanying disabled persons are exempt from the prohibition in this Paragraph.
- (f) Cosmetic art shops and schools shall designate the entrance by a sign or lettering.
- (g) The owner of a cosmetic art shop or school shall not post any sign that states or implies that some action is required or forbidden by Board rules when such action is not required or forbidden by Board rules. A violation of this prohibition is considered practicing or attempting to practice by fraudulent misrepresentation.

21 NCAC 14H .0403 DISINFECTION PROCEDURES

- (a) Sanitation rules which apply to towels and cloths are as follows:
 - (1) Clean protective capes, drapes, linens and towels shall be used for each patron;
 - (2) After a protective cape has been in contact with a patron's neck it shall be placed in a clean, closed container until laundered with soap and hot water and dried in a heated dryer. Capes that cannot be laundered and dried in a heater dryer may be disinfected with an EPA registered hospital grade disinfectant mixed and used in accordance with the manufacturer directions; and
 - (3) After a drape, linen or towel has been in contact with a patron's skin it shall be placed in a clean, covered container until laundered with soap and hot water and dried in a heated dryer. A covered container may have an opening so soiled items may be dropped into the container.
- (b) Any paper or nonwoven protective drape or covering shall be discarded after one use.
- (c) There shall be a supply of clean protective drapes, linens and towels at all times.
- (d) Clean drapes, capes, linens, towels and all other supplies shall be stored in a clean area.
- (e) Bathroom facilities must be kept cleaned.

- (f) All implements shall be cleaned and disinfected after each use in the following manner:
- (1) They shall be washed with warm water and a cleaning solution and scrubbed to remove debris and dried.
 - (2) They shall be disinfected in accordance with the following:
 - (A) EPA registered hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) or tuberculocidal that is mixed and used according to the manufacturer's directions. They shall be rinsed with hot tap water and dried with a clean towel before their next use. They shall be stored in a clean, closed cabinet or container until they are needed; or
 - (B) 1 and 1/3 cup of 5.25 percent household bleach to one gallon of water for 10 minutes. They shall be rinsed with hot tap water and dried with a clean towel before their next use. They shall be stored in a clean, closed cabinet or container until they are needed; or
 - (C) UV-C, ultraviolet germicidal irradiation used accordance with the manufacturer's directions.
 - (3) If the implement is not immersible or is not disinfected by UV-C irradiation, it shall be cleaned by wiping it with a clean cloth moistened or sprayed with a disinfectant EPA registered, hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) or tuberculocidal, used in accordance with the manufacturer's directions.
 - (4) Implements that come in contact with blood, shall be disinfected by:
 - (A) disinfectant, used in accordance with the manufacturer's instructions, that states the solution will destroy HIV, TB or HBV viruses and approved by the Federal Environmental Protection Agency; or
 - (B) EPA registered hospital/pseudomonacidal (bactericidal, virucidal, and fungicidal) and tuberculocidal that is mixed and used according to the manufacturer's directions; or
 - (C) household bleach in a 10 per cent solution (1 and 2/3 cup of bleach to 1 gallon of water) for 10 minutes.
- (g) All disinfected non-electrical implements shall be stored in a clean closed cabinet or clean closed container.
- (h) All disinfected electrical implements shall be stored in a clean area.
- (i) Disposable and porous implements and supplies must be discarded after use or upon completion of the service.
- (j) Product that comes into contact with the patron must be discarded upon completion of the service.
- (k) Clean, closable storage must be provided for all disinfected implements not in use. Containers with open faces may be covered/closed with plastic wrapping. Disinfected implements must be kept in a clean closed cabinet or clean closed container and must not be stored with any implement or item that has not been disinfected.
- (l) Lancets, disposable razors, and other sharp objects shall be disposed in puncture-resistant containers.
- (m) All creams, lotions, wax, cosmetics, and other products dispensed to come in contact with patron's skin must be kept in clean, closed containers, and must conform in all respects to the requirements of the Pure Food and Drug Law. Any product apportioned for use and removed from original containers must be distributed in a sanitary manner that prevents contamination of product or container. Any product dispensed in portions into another container must be dispensed into a sanitized container and applied to patrons by means of a disinfected or disposable implement or other sanitized methods. Any product dispensed in portions not dispensed into another container must be used immediately and applied to patrons by means of a disinfected or disposable implement or other sanitized methods. No product dispensed in portions may be returned to the original container.
- (n) As used in this Rule whirlpool or footspa means any basin using circulating water.
- (o) After use by each patron each whirlpool or footspa must be cleaned and disinfected as follows:
- (1) All water must be drained and all debris removed from the basin;
 - (2) The basin must be disinfected by filling the basin with water and circulating:
 - (A) Two tablespoons of automatic dishwashing powder and 1/4 cup of 5.25 percent household bleach to one gallon of water through the unit for 10 minutes; or
 - (B) Surfactant or enzymatic soap with a n EPA registered disinfectant with bactericidal, tuberculocidal, fungicidal and virucidal activity used according to manufacturer's instructions through the unit for 10 minutes;
 - (3) The basin must be drained and rinsed with clean water; and
 - (4) The basin must be wiped dry with a clean towel.
- (p) At the end of the day each whirlpool or footspa must be cleaned and disinfected as follows:
- (1) The screen must be removed and all debris trapped behind the screen removed;
 - (2) The screen and the inlet must be washed with surfactant or enzymatic soap or detergent and rinsed with clean water;
 - (3) Before replacing the screen one of the following procedures must be performed:
 - (A) The screen must be totally immersed in a household bleach solution of 1/4 cup of 5.25 percent household bleach to one gallon of water for 10 minutes; or

- (B) The screen must be totally immersed in an EPA registered disinfectant with bactericidal, tuberculocidal, fungicidal and virucidal activity in accordance to the manufacturer's instructions for 10 minutes;
- (4) The inlet and area behind the screen must be cleaned with a brush and surfactant soap and water to remove all visible debris and residue; and
- (5) The spa system must be flushed with low sudsing surfactant or enzymatic soap and warm water for at least 10 minutes and then rinsed and drained.
- (q) Every week after cleaning and disinfecting pursuant to Paragraphs (a) and (b) of this Rule each whirlpool and footspa must be cleaned and disinfected in the following manner:
 - (1) The whirlpool or footspa basin must be filled with water and 1/4 cup of 5.25 percent household bleach for each one gallon of water or EPA registered disinfectant with bactericidal, tuberculocidal, fungicidal and virucidal activity in accordance to the manufacturer's instructions; and
 - (2) The whirlpool or footspa system must be flushed with the bleach and water or EPA registered disinfectant solution for 10 minutes and allowed to sit for at least six hours; and
 - (3) The whirlpool or footspa system must be drained and flushed with water before use by a patron.
- (r) A record must be made of the date and time of each cleaning and disinfecting as required by this Rule including the date, time, reason and name of the staff member who performed the cleaning. This record must be made for each whirlpool or footspa and must be kept and made available for at least 90 days upon request by either a patron or inspector.
- (s) The water in a vaporizer machine must be emptied daily and the unit disinfected daily after emptying.
- (t) The area where services are performed that come in contact with the patron's skin including treatment chairs, treatment tables and beds shall be disinfected between patrons.

21 NCAC 14H .0404 FIRST AID

- (a) Each cosmetic art shop and school must have antiseptics, gloves or finger guards, sterile bandages and other necessary supplies available to provide first aid.
- (b) If the skin of the licensee or student is punctured, the licensee or student shall immediately do the following:
 - (1) Apply antiseptic and a sterilized bandage;
 - (2) Disinfect any implement exposed to blood before proceeding; and
 - (3) Put on disposable, protective gloves or a finger guard.
- (c) If the skin of the patron is punctured, the licensee or student shall immediately do the following:
 - (1) Make available to the patron antiseptic and a sterilized bandage;
 - (2) Disinfect any implement exposed to blood before proceeding; and
 - (3) Put on disposable, protective gloves or a finger guard.

SECTION .0500 - ENFORCEMENT, MAINTENANCE OF LICENSURE

21 NCAC 14H .0501 INSPECTION OF COSMETIC ART SHOPS

- (a) A newly established cosmetic art shop, a shop which has been closed for more than 90 days, or a shop which has changed ownership must file an application for licensure with the Board prior to opening. A newly established cosmetic art shop, a shop which has been closed for more than 90 days, a shop which has changed ownership or a shop which has been operating without a license shall be inspected before a license will be issued.
- (b) Each cosmetic art shop must pass inspection by an agent of the Board pursuant to this Subchapter. Inspections shall be conducted annually and may be conducted without notice.

21 NCAC 14H .0502 FAILURE TO PERMIT INSPECTION

If an inspector is twice unable to inspect a salon after making an appointment to inspect the salon the Board may initiate proceedings to revoke or suspend the salon license or may refuse to renew the shop license.

21 NCAC 14H .0503 SANITARY RATINGS AND POSTING OF RATINGS

- (a) The sanitary rating of a beauty establishment shall be based on a system of grading outlined in this Subchapter. Based on the grading, all establishments shall be rated in the following manner:
 - (1) all establishments receiving a rating of at least 90 percent or more shall be awarded a grade A;

- (2) all establishments receiving a rating of at least 80 percent, and less than 90 percent, shall be awarded grade B;
 - (3) all establishments receiving a rating of at least 70 percent or more, and less than 80 percent shall be awarded grade C;
 - (4) any cosmetic art shop or school with a sanitation grade of 70 percent or below shall be awarded a failed inspection notice.
- (b) Every beauty establishment shall be given a sanitary rating. A cosmetic art school shall be graded no less than three times a year, and a cosmetic art shop shall be graded once a year.
- (c) The sanitary rating or failed inspection notice given to a beauty establishment shall be posted in plain sight near the front entryway at all times.
- (d) All new establishments must receive a rating of at least 90 percent before a license will be issued.
- (e) The operation of a cosmetic art shop or school which fails to receive a sanitary rating of at least 70 percent (grade C) shall be sufficient cause for revoking or suspending the license.
- (f) A re-inspection for the purpose of raising the sanitary rating of a beauty establishment shall not be given within 30 days of the last inspection unless the rating at the last inspection was less than 80 percent.
- (g) A whirlpool and footspa sanitation record must be kept on each whirlpool and footspa for inspection on a form provided by the Board.
- (h) All cosmetic art shops and schools with a failed inspection report shall be sufficient cause for the immediate suspension of licensure. All cosmetic art shops and schools with a failed inspection report must close until the sanitation conditions have improved to be awarded a passing grade.
- (i) Mobile cosmetic art shops and schools are prohibited.
- (j) A copy of the itemized and graded inspection report must be provided to the operator at the time of the inspection.

21 NCAC 14H .0504 SYSTEMS OF GRADING BEAUTY ESTABLISHMENTS

The system of grading the sanitary rating of cosmetic art schools and shops based on the rules set out in this subchapter shall be as follows, setting out areas to be inspected and considered, and the maximum points given for compliance:

Sanitation	Point Value
Each licensee and student shall wash his or her hands with soap and water or an equally effective cleansing agent immediately before and after serving each client.	2
Each licensee and student shall wear clean garments and shoes while serving patrons.	2
The cosmetic art facility shall be kept clean.	3
Waste material shall be kept in receptacles with a disposable liner. The area surrounding the waste receptacles shall be maintained in a sanitary manner.	4
All doors and windows shall be kept clean.	2
Furniture, equipment, floors, walls, ceilings and fixtures must be clean and in good repair.	3
Clean protective capes, drapes, linens and towels shall be used for each patron.	3
After a cape, drape, linen or towel has been in contact with a patron's skin it shall be placed in a clean, closed container until laundered with soap and hot water and dried in a heated dryer.	5
Any paper or nonwoven protective drape or covering shall be discarded after one use.	2
There shall be a supply of clean protective drapes, linens and towels at all times.	2
Clean drapes, capes, linens and towels shall be stored in a clean area.	5
Bathroom facilities must be kept cleaned.	3
All implements shall be washed with warm water and a cleaning solution and scrubbed to remove debris and dried.	2
All implements shall be disinfected.	10

All disinfected electrical implements shall be stored in a clean area.	2
Disposable and porous implements and supplies must be discarded after use or upon completion of the service.	10
Any product that comes into contact with the patron must be discarded upon completion of the service.	3
Disinfected implements must be kept in a clean closed cabinet or clean closed container and must not be stored with any implement or item that has not been disinfected.	10
Lancets, disposable razors, and other sharp objects shall be disposed in puncture-resistant containers.	2
All creams, lotions, wax, cosmetics, and other products dispensed to come in contact with patron's skin must be kept in clean, closed containers and dispensed in a sanitary manner. No product dispensed in portions may be returned to the container.	10
After each patron's use each whirlpool or footspa must be cleaned and disinfected.	10
The water in a vaporizer machine must be emptied daily and the unit disinfected daily.	2
The area where services are performed that come in contact with the patron's skin including chairs, tables and beds shall be disinfected between patrons.	3

21 NCAC 14H .0505 RULE COMPLIANCE AND ENFORCEMENT MEASURES

(a) The use of or possession of the following products or equipment in a school or shop shall result in civil penalty in the amount of three hundred dollars (\$300.00) per container of product or piece of equipment:

- (1) Methyl Methacrylate Liquid Monomer a.k.a. MMA; or
- (2) Razor-type callus shavers designed and intended to cut growths of skin including but not limited to skin tags, corns and calluses.

(b) The use of or possession of the following in a school or shop shall result in civil penalty in the amount of one hundred dollars (\$100.00) per use or possession:

- (1) Animals including insects, fish, amphibians, reptiles, birds or mammals to perform any service; or
- (2) Variable speed electrical nail file on the natural nail unless it has been designed for use on the natural nail.

(c) The action of any student or licensee to violate the Board rules in the following manner shall result in civil penalty in the amount of one hundred dollars (\$100.00) per instance of each action:

- (1) Use of any product, implement or piece of equipment in any manner other than the product's, implement's or equipment's intended use as described or detailed by the manufacturer;
- (2) Diagnosis of any medical condition or treatment of any medical condition unless referred by a physician; or
- (3) Use of any product that will penetrate the dermis; or
- (4) Provision of any service unless trained prior to performing the service; or
- (5) Performance of services on a client if the licensee has reason to believe the client has any of the following:
 - (A) a contagious condition or disease;
 - (B) inflamed infected, broken, raised or swollen skin or nail tissue; or
 - (C) an open wound or sore in the area to be worked on; or
- (6) Alteration of or duplication of a license issued by the Board; or
- (7) Advertisement or solicitation of clients in any form of communication in a manner that is false or misleading; or
- (8) Use of any FDA rated class II device without the documented supervision of a licensed physician.

(d) The presence of animals or birds in a cosmetic art shop or school shall result in civil penalty in the amount of twenty-five dollars (\$25.00) per animal or bird. Fish in an enclosure and animals trained for the purpose of accompanying disabled persons are exempt.

(e) The failure to record the date and time of each cleaning and disinfecting of a footspa in a cosmetic art school or shop as required by this Subchapter including the date, time, reason and name of the staff member who performed the cleaning or the failure to keep or make such record available for at least 90 days upon request by either a patron or inspector shall result in civil penalty in the amount of twenty-five dollars (\$25.00) per footspa.

- (f) The failure to clean and disinfect a footspa in a cosmetic art shop or school as required by this Subchapter shall result in civil penalty in the amount of one hundred dollars (\$100.00) per footspa.
- (g) The failure to maintain in a cosmetic art shop and school antiseptics, gloves or finger guards, and sterile bandages available to provide first aid shall result in civil penalty in the amount of twenty-five dollars (\$25.00) per item.
- (h) The failure to maintain a sink with hot and cold running water in the clinic area, separate from restrooms, shall result in civil penalty in the amount of one hundred dollars (\$100.00).
- (i) The failure to maintain a water supply within 20 feet of the door or 25 feet from the service table or chair shall result in civil penalty in the amount of fifty dollars (\$50.00) per inspection occurrence.
- (j) The failure to provide ventilation at all times in the areas where patrons are serviced in all cosmetic art shops shall result in civil penalty in the amount of twenty-five dollars (\$25.00).
- (k) The failure to effectively screen all doors and windows open for ventilation shall result in civil penalty in the amount of twenty-five dollars (\$25.00).
- (l) The failure to maintain equipment and supplies necessary to safely perform any cosmetic art service offered in the shop shall result in civil penalty in the amount of one hundred dollars (\$100.00).
- (m) The failure to maintain a sanitation grade of 80 percent or higher shall result in a civil penalty in the amount of two hundred dollars (\$200.00).
- (n) Repeated violations of the rules in this Subchapter exceeding three written notifications of any one rule documented to any one individual, shop or school shall result in a mandatory disciplinary hearing.

SECTION 3

OSHA FOR THE NORTH CAROLINA SALON (Two Credit Hours)

Section Learning Objectives:

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

- Boost awareness of OSHA history
- Understand OSHA Regulation.
- Understand FDA Regulation.
- Increase knowledge of MSDS Sheets
- Know the changing standards in MSDS format
- Learn the recommended safe practices
- Become familiar with hazardous chemicals sometimes used in salons and salon products

Section Overview: This course covers areas regulated by the Occupational Health and Safety Administration (OSHA) that is pertinent to the cosmetology industry. It will educate readers on applicable Food and Drug Administration regulations and material safety data sheets. The course material will recommend proper placement of MSDS's and provide suggestions for easy organization of these sheets. It will provide a list of hazardous chemicals commonly used in the salons today, their toxic effects, and where they are found.

North Carolina OSHA Regulations

North Carolina businesses must follow the regulations of the federal Occupational Safety and Health Administration, which provides health and safety guidelines for workplaces around the country. North Carolina is not among the 26 states that implement their own health and safety rules as part of a state OSHA program. Instead, only the federal regulations apply.

What is a State OSHA Program?

Section 18 of the Occupational Safety and Health Act of 1970 (the Act) encourages States to develop and operate their own job safety and health programs. OSHA approves and monitors State plans and provides up to 50 percent of an approved plan's operating costs. There are currently 26 States and jurisdictions operating complete State plans (covering both the private sector and State and local government employees) and 5 - Connecticut, Illinois, New Jersey, New York and the Virgin Islands - which cover public employees only. (Eight other States were approved at one time but subsequently withdrew their programs).

The Occupational Health and Safety Administration- History and Mission

December 29, 1970 President Richard M. Nixon signed the Occupational Safety and Health Act of 1970. In May of the following year the first standards were adopted to provide a baseline for safety and health protection in American workplaces.

OSHA's mission is to ensure safe and healthful workplaces in America. Since the agency was created in 1971, workplace fatalities have been cut in half and occupational injury and illness rates have declined 40 percent. OSHA is focusing on three strategies:

- 1) strong, fair, and effective enforcement;
- 2) outreach, education, and compliance assistance; and
- 3) partnerships and voluntary programs.

While no specific rules exist, individuals engaged in the practice of cosmetology are expected to abide by basic rules contained within the Code of Federal Regulations (29 CFR) that deal with workplace safety and health. These rules describe the responsibilities of employers and employees in dealing with hazardous chemicals, personal protective devices, proper ventilation, prevention from over exposure to dusts, and overall health and safety plans.

OSHA Services

OSHA and its state partners have approximately 2100 inspectors, plus complaint discrimination investigators, engineers, physicians, educators, standards writers, and other technical and support personnel spread over more than 200 offices

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throughout the country. This staff works to establish protective standards, implement and enforces those standards, and reaches out to employers and employees through technical assistance and consultation programs.

OSHA's Jurisdiction

Nearly every working man and woman in the nation comes under OSHA's jurisdiction (with some exceptions such as miners, transportation workers, many public employees, and the self-employed). Other users and recipients of OSHA services include: occupational safety and health professionals, the academic community, lawyers, journalists, and personnel of other government entities.

Strong, Fair, and Effective Enforcement Program.

OSHA's efforts to protect workers' safety and health are built on the foundation of a strong, fair, and effective enforcement program. OSHA seeks to assist the majority of employers who want to do the right thing while focusing its enforcement resources on sites in high hazard industries -- especially those with high injury and illness rates.

Outreach, Education, and Compliance Assistance

OSHA plays a vital role in preventing on-the-job injuries and illnesses through outreach, through education, and compliance assistance. OSHA offers an extensive website at www.osha.gov. It includes a special section devoted to assisting small business as well as interactive e-Tools to help employers and employees. For example, the agency provides a broad array of training and information materials on its record keeping standard as well as materials to assist employers and workers in understanding and complying

OSHA Regulation

OSHA regulates the chemical materials decided to be hazardous, ensuring appropriate warnings, proper labels, emergency planning, precautions for safe handling and use, and other health related issues. The Food and Drug Administration has the responsibility and authority to ensure that all chemicals and cosmetics used in a salon are deemed safe. Chemicals and cosmetics will not cause harm if used properly, and there are many precautions to help ensure that the products you use daily are safe. As a cosmetology professional, you should become educated on the safety rules for proper use and disposal of all chemicals and cosmetics used in the cosmetology profession, as well as, their health hazards, warnings and emergency procedures.

Material Safety Data Sheets

The standard's design is simple. Chemical manufacturers and importers must evaluate the hazards of the chemicals they produce or import. Using that information, they must then prepare labels for containers, and more detailed technical bulletins called material safety data sheets. Material Safety Data Sheets (MSDS) are mandatory and must be supplied to you by all manufacturers. These sheets have vital information and facts to ensure the safety of you and your clients. Chemical manufacturers, importers, and distributors of hazardous chemicals are all required to provide the appropriate labels and material safety data sheets to the employers to which they ship the chemicals. The information is to be provided automatically. Every container of hazardous chemicals you receive must be labeled, tagged, or marked with the required information. Your suppliers must also send you a properly completed material safety data sheet at the time of the first shipment of the chemical, and with the next shipment after the MSDS is updated with new and significant information about the hazards. Some of the common yet important information located on the MSDS is as follows:

CHEMICAL AND PHYSICAL DATA

This will provide technical information necessary for the proper use of the product. It will explain how the product could become dangerous if not used properly. For example, improper mixtures of products can burn or explode.

FIRE AND EXPLOSION HAZARD DATA

This is important because some products used in your salon or shop are flammable. This part of the MSDS tells you when an ingredient will catch fire or explode and how to put out the fire.

HEALTH HAZARD DATA

This indicates what kind of health problems a particular product or ingredient may cause, how it may hurt you, and what types of exposure should be avoided. It gives what medical conditions could be made worse by exposure, and what emergency procedures to take if you are exposed in a dangerous way.

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HAZARDOUS INGREDIENTS

This section provides the names and information about ingredients classified as "hazardous." Products are mixtures of ingredients, and the hazards from the product will be different from that of the ingredient. Remember that this does not mean the product is unsafe for intended use, but that special precautions may be necessary to use it safely.

PRECAUTIONS FOR SAFE HANDLING AND USE

This section gives instructions about how to protect you, co-workers, and clients when using products containing a particular ingredient. It will tell you what to do if it is spilled, how to safely discard the material, and how to safely handle and store this ingredient.

PRODUCT INFORMATION

This section provides the name of the product, the manufacturer's name and address, and a telephone number to call in case of an emergency.

SPECIAL PROTECTION INFORMATION:

This section gives specific information about how to protect you when using this product. It will tell you about necessary ventilation, breathing something dangerous, and whether special equipment or clothing is needed to protect your hands, eyes, or other parts of the body. It is wise to be knowledgeable on how to do your job safely. By being properly trained, well informed, and by knowing where to look for information, you can be assured of safety for you and your clients.

One regulation that indirectly impacts the cosmetology profession is placed on the manufacturers of many of the products that you may use in your business. The federal government requires that product manufacturers make available to customers Material Safety Data Sheets (MSDS). Each MSDS must contain basic information on the each product manufactured.

Recommended Format for Material Safety Data Sheets (MSDSs) OSHA's Hazard Communication Standard (HCS) specifies certain information that must be included on MSDSs, but does not require that any particular format be followed in presenting this information (see 29 CFR 1910.1200 (g)). In order to promote consistent presentation of information, OSHA recommends that MSDSs follow the 16-section format established by the American National Standards Institute (ANSI) standard for preparation of MSDSs-(Z400.1).

By following this recommended format, the information of greatest concern to workers is featured at the beginning of the data sheet, including information on chemical composition and first aid measures. More technical information that addresses topics such as the physical and chemical properties of the material and toxicological data appears later in the document. While some of this information (such as ecological information) is not required by the HCS, the 16-section MSDS is becoming the international norm.

The 16 sections are:

- Identification
- Hazard(s) identification
- Composition/information on ingredients
- First-aid measures
- Fire-fighting measures
- Accidental release measures
- Handling and storage
- Exposure controls/personal protection
- Physical and chemical properties
- Stability and reactivity
- Toxicological information
- Ecological information
- Disposal considerations
- Transport information
- Regulatory information
- Other information

SECTION 3 OSHA FOR NORTH CAROLINA

SAMPLE - MATERIAL SAFETY DATA SHEET (MSDS) Back Page

<i>Material Safety Data Sheet (MSDS)</i>			
Section V — Reactivity Data			
Stability	Unstable		Conditions to Avoid
	Stable		
Incompatibility (Materials to Avoid)			
Hazardous Decomposition or Byproducts			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur		
Section VI — Health Hazard Data			
Route(s) of Entry:	Inhalation?	Skin?	Ingestion?
Health Hazards (Acute and Chronic)			
Carcinogenicity:	NTP?	IARC Monographs	OSHA Required?
Signs and Symptoms of Exposure			
Medical Conditions Generally Aggravated by Exposure			
Emergency and First Aid Program			
Section VII — Precautions for Safe Handling and Use			
Steps to Be Taken in Case Material is Released or Spilled			
Waste Disposal Method			
Precautions to Be Taken in Handling and Storing			
Other Precautions			
Section VIII — Control Measures			
Respiratory Protection (Specify Type)			
Ventilation	Local Exhaust	Special	
	Mechanical (General)	Other	
Protective Gloves		Eye Protection	
Other Protective Clothing or Equipment			
Work/Hygienic Practices			
Page 2			

In 1985, OSHA established a voluntary format for MSDSs (OSHA Form 174) to assist manufacturers and importers who desired guidance on organizing MSDS information. When completed correctly, an MSDS prepared using Form 174 contains all of the information required by OSHA. However, Form 174 does not use the more organized and comprehensive 16-section format. OSHA believes that use of a consistent format will improve the effectiveness of MSDSs by making information easier for the reader to find, regardless of the supplier of the MSDS. Because the 16-section format is accepted by consensus as the

1 STOP 8 HOUR CONTINUING EDUCATION PROGRAM

most appropriate format, OSHA no longer endorses that Form 174 be used for the preparation of MSDSs. Use of Form 174, however, is still acceptable under the HCS if it is completed correctly.

The Food and Drug Administration

FDA regulates over \$1 trillion worth of products, which account for 25 cents of every dollar spent annually by American consumers.

The Food and Drug Administration touches the lives of virtually every American every day. For it is FDA's job to see that the food we eat is safe and wholesome, the cosmetics we use won't hurt us, the medicines and medical devices we use are safe and effective, and that radiation-emitting products such as microwave ovens won't do us harm. Feed and drugs for pets and farm animals also come under FDA scrutiny. FDA also ensures that all of these products are labeled truthfully with the information that people need to use them properly.

FDA is one of our nation's oldest consumer protection agencies. Its approximately 9,000 employees monitor the manufacture, import, transport, storage and sale of about \$1 trillion worth of products each year. It does that at a cost to the taxpayer of about \$3 per person.

First and foremost, FDA is a public health agency, charged with protecting American consumers by enforcing the Federal Food, Drug, and Cosmetic Act and several related public health laws. To carry out this mandate of consumer protection, FDA has some 1,100 investigators and inspectors who cover the country's almost 95,000 FDA-regulated businesses. These employees are located in district and local offices in 157 cities across the country.

Inspections and Legal Sanctions

These investigators and inspectors visit more than 15,000 facilities a year, seeing that products are made right and labeled truthfully. As part of their inspections, they collect about 80,000 domestic and imported product samples for examination by FDA scientists or for label checks. If a company is found violating any of the laws that FDA enforces, the FDA encourages the firm to voluntarily correct the problem or to recall a faulty product from the market. A recall is generally the fastest and most effective way to protect the public from an unsafe product.

When a company can't or won't correct a public health problem with one of its products voluntarily, FDA has legal sanctions it can bring to bear. The agency can go to court to force a company to stop selling a product and to have items already produced seized and destroyed. When warranted, criminal penalties, which may include prison sentences, are sought against manufacturers that are noncompliant. About 3,000 products a year are found to be unfit for consumers and are withdrawn from the marketplace, either by voluntary recall or by court-ordered seizure. In addition, about 30,000 import shipments a year are detained at the port of entry because the goods appear to be unacceptable.

Hazards the Cosmetologist Faces

While the salon profession can be extremely rewarding, it can have its drawbacks, the least of which the impact that daily work in a salon can have on an individual's overall health. Salon professionals have at least three major complaints about their work: they suffer from back and leg problems, hand and arm stress, and allergic reactions to the chemicals they use in the salon. Moreover, a study by the NIOSH found that cosmetologists in North Carolina who worked full-time and performed a range of chemical services had a moderately increased risk of miscarriage. Another agency study concluded that cosmetologists had a higher risk of developing lung disorders as a result of exposure to hair spray.

Long Periods of Standing

Standing all day can put a strain on feet - especially in salons where concrete floors are the rule. A regular shift for a stylist lasts from eight to ten hours, and hairdressers are usually on their feet for most of that time. This can result in stabbing pains radiating up the legs and development of varicose veins. Lower back, knee and joint pain can also result from several of the repetitive movements that a stylist makes such as leaning over to shampoo clients. Upper back pain is another complaint particularly pain in the shoulder blades that causes the most problems.

Here are a few steps you can take to help alleviate some of these pains:

- Support your weight on both feet. If you lean to one side constantly and do not distribute your weight evenly, it can result in pinched nerves
- Invest in a side chair. To give your feet a rest, invest in one of the versatile working stools available for salon professionals. These are little seats with no arms that can be adjusted according to the client's height. At the same time, these chairs can help raise the cosmetologist to a more appropriate level, which might alleviate the shoulder blade problem.

1 STOP 8 HOUR CONTINUING EDUCATION PROGRAM

- Exercise and watch your diet. The more weight you carry, the more strain is placed on your feet, legs, and back.
- Use a rubber mat in your workspace. Covering the floor around your client's chair with a rubber mat will help cushion your feet and protect your back.
- Invest in a good pair of shoes. Experts recommend that employees should wear flat shoes with no more than a 2-inch heel. Ideally, the shoes should have shock absorbent pads, skid resistant soles, and laces, which provide more support. Salon professionals who already have foot pain might want to buy a pair of insoles or orthotic device, according to the association.
- Get regular massages. Take time to pamper your body. Massage can help alleviate back pain, and massage therapists can determine your specific problems and give you tips on how to avoid them. If pain persists, see your doctor.

Preventing Repetitive Injuries

Many salon professionals also suffer from repetitive strain injuries from the repetitive nature of haircutting and other salon work. These injuries, caused by repeating the same motions hundreds and even thousands of times a day, are a serious hazard. Tendonitis can cause excruciating pain and make it difficult or impossible to perform even the simplest of tasks. Carpal tunnel syndrome, a pinching of the median nerve in the wrist, may cause irreversible nerve damage and require surgery.

If you feel like your fingers and arms are starting to ache, tangle at night, or cramp up for long periods, experts suggest the following precautions:

1. Take breaks: When working on a job like this, take breaks as often as possible. Stretch your hands and shoulders. If time allows, try to schedule jobs that take more than a couple of hours over a two-day period.
2. Get professional help: See a physician immediately if you suffer numbness or tingling in your fingers: this is a sign of carpal tunnel syndrome. You should also see a doctor if you feel chronic pain or a heavy feeling in the arms or hands, which can signal tendonitis. The treatments may include prolonged rest, physical therapy, and (in the case of carpal tunnel) surgery.
3. Invest in ergonomically correct tools: You might want to check out, for example, a relatively new product called swivel-thumb scissors, which allow your thumb to rotate 360 degrees while cutting hair and gives you more mobility in your wrist and elbow, thus relieving pressure on those areas

State Initiatives: Reducing Workplace Risks

State plan states have been a strong national force in recognizing emerging workplace hazards and originating new methods for addressing those hazards, including the adoption of new standards. State plans emphasize that whatever the emerging issue, employers are still required to provide a safe and healthful place of employment

In particular, California was the first state in the nation to adopt an ergonomic standard in 1997. State plans are continuing efforts to reduce the number and severity of musculoskeletal disorders caused by risk factors in the workplace. Several state programs are developing formal rules as well as voluntary guidelines to help prevent workplace violence. In 1997

California's Repetitive Motion Injury (RMI) standard, which became effective July 3, 1997, was the first ergonomic standard adopted in the nation. The application of the standard is triggered when at least two employees at the employer's worksite report RMIs that were: (1) diagnosed by a licensed physician and (2) predominantly caused by identical work activity, and (3) occurred within 12 months of each other. However, ergonomics continues to be a difficult issue to regulate.

HAZARDOUS CHEMICAL SUBSTANCE LIST

Chemical Name	Toxic Effects	Occurrence	Precautions
ACETIC ACID	In weak concentrations, acetic acid can be a mild skin and eye irritant.	Oxidizing materials (trace).	
ACETONE (dimethyl ketone)	Prolonged inhalation can cause headache, dryness, and throat irritation.	Nail glue remover, polish remover, nail sterilizer, and brush cleaner.	Some alkaline silicates can cause fibrotic changes (scarring) of lung tissue.
ALKYLATED SILICATES	Alkylated Silicates affect skin as mild caustic agents, causing damage to the keratin layer. Chronic exposure to alkalinity can lead to a skin condition that resembles eczema.	Bleach powders.	Aminophenol is a mixture that has three isomers. Para-, Ortho- and Meta-aminophenol.
AMINOPHENOL	A.) Para-aminophenol has high to moderate oral toxicity. A skin and eye irritant. Allergic sensitivities can develop to the material B.) Ortho-aminophenol is found to be moderately toxic when introduced to the system via ingestion. It is a skin and eye irritant. C.) Meta-aminophenol is found to be moderately toxic when introduced to the system via ingestion. It is a skin and eye irritant.	Oxidation hair color.	Overexposure can cause conjunctivitis, swelling of eyelids, coughing, dyspnea and vomiting. Corneal burns can result from eye contact.
AMMONIA	A powerful eye and respiratory tract irritant.	Alkaline wave lotions bleach oils, oxidation hair dyes, permanent wave solutions, and permanent hair color.	High toxicity via oral and inhalation routes.
AMMONIUM HYDROXIDE	A powerful eye irritant.	Hair spray (trace), waving lotions, thioglycolate waving lotions, and oxidation dyes.	It can be a fire hazard if it is reacted with organic materials or reducing agents such as acids. It is a strong oxidizing agent. The material must be stored carefully as it readily decomposes.
AMMONIUM PERSULFATE	A moderate tissue irritant and allergen.	Bleaching agents, pre-lighteners.	This material can cause dermatitis and is a strong allergen.
AMMONIUM THIOGLYCOLATE	High toxicity via oral and inhalation routes.	Permanent waving solution.	A skin and eye irritant.
BENZYL ALCOHOL	Moderate toxicity via ingestion and inhalation.	Permanent waving solutions.	Butane is an asphyxiant. Breathing the gas may cause drowsiness. Butane is a dangerous fire/explosion risk.
BUTANE	Moderate toxicity via inhalation.	Nail enamel dryer, aerosol propellants (MANP)	The material is a strong respiratory irritant.

HAZARDOUS CHEMICAL SUBSTANCE LIST

Chemical Name	Toxic Effects	Occurrence	Precautions
BUTOXYETHANOL (ethylene glycol monobutyl ether)	Moderately toxic via ingestion, a mild to moderate skin and eye irritant.	Direct non-oxidation dyes.	In high concentrations the material can cause respiratory irritation and narcosis.
n-BUTYL ACETATE	A skin and eye irritant, low toxicity via ingestion, inhalation. It is a mild allergen.	Nail lacquer.	Local exposure yields irritation.
CAMPHOR	High to moderate irritation, ingestion hazard.	Hair relaxer.	A skin and eye irritant.
CETYL ALCOHOL	Low oral toxicity, an irritant.	Hair relaxer.	EDTA is found in products as either tetrasodium or disodium salt. It reacts chemically to "bind" metals.
EDTA (ethylene diamine tetracetic acid)	Eye irritation. High oral toxicity.	Shampoo (trace), Penn neutralizer, and thioglycolate permanent waves, products that remove coatings from hair.	Experimentally, ethanolamine causes severe eye irritation. It is a caustic material, which causes moderate burns. Inhalation tolerance is low.
ETHANOLAMINE	Tissue damage. Oral toxicity.	Waving lotions, oxidation dyes.	Repeated exposure can cause conjunctivitis and corneal clouding. High concentrations can cause congestion of the liver and kidneys. It is a dangerous fire risk.
ETHYL ACETATE	Causes irritation to mucous linings in eyes, respiratory tract and gums. It can act as a mild narcotic. It can also cause dermatitis.	Nail lacquer solvent.	It is oxidized by the liver to form carbon dioxide and water. It is generally not considered an occupational health hazard, however it is a safety hazard due to its flammability.
ETHYL ALCOHOL (S.D. Alcohol)	The term "S.D.A." or "S.D. Alcohol" means "specifically denatured alcohol". S.D.A. is ethyl alcohol, to which another substance, such as methyl isobutyl ketone, has been added, making it unfit for human consumption.	Hair spray, setting lotions, mousse, conditioner, nail sterilizer. Ethyl alcohol is familiar as the alcohol in beverages.	In low concentrations, the material can cause skin irritation. Products containing hydrogen peroxide must be capped and stored securely.
HYDROGEN PEROXIDE	Concentrated solutions are highly toxic and strong irritants. Solutions of 35% can blister the skin. The material is a powerful oxidant, which readily reacts to release oxygen, and can therefore be a dangerous fire and explosion risk.	Oxidation hair dye developer, neutralizers for permanent waves, hair lighteners, peroxide based neutralizers, permanent wave activator solutions, oxidizers, and enzyme developers.	A dangerous fire risk when exposed to heat, flame or oxidizers.
ISOBUTANE (2-methylpropane)	A simple asphyxiant, this material is otherwise practically non-toxic.	Aerosol propellants.	The material can de-fat and dry the skin. The material is a physical hazard due to its high flammability.

HAZARDOUS CHEMICAL SUBSTANCE LIST

Chemical Name	Toxic Effects	Occurrence	Precautions
ISOPROPYL ALCOHOL	Eyes, nose, and throat irritant. In high air concentrations it can induce mild narcosis and can cause corneal burns and eye damage.	Permanent dye, hair spray, nail enamel dryer, oil hair dressing, hair styling mousse, setting gels/lotions, bleach oils, semi-permanent and oxidation hair dyes, and peroxide-based neutralizers.	Liquefied petroleum gas is a mixture of propane, isobutane, isobutylene, and other short chain hydrocarbons. The material is a simple asphyxiant, and its chief health hazard is attributable to its high flammability.
GLYCEROL	Low toxicity generally, but can be a respiratory irritant when in mist form.	Mousse, oxidation hair colors, permanent hair colors, LPG (liquefied petroleum gas) hairspray propellants.	A moderate fire risk when exposed to heat, flame, or oxidizers.
METHACRYLIC ACID (glacial)	A strong skin irritant	Acrylic, nail-bonding agents.	Vapors can cause lung irritation and pulmonary edema. Prolonged exposure can cause dermatitis, liver and brain damage. It is a suspected carcinogen. The body metabolizes methylene chloride to carbon monoxide. Heavy smokers and those with cardiovascular disease or anemia are at increased risk.
METHYLENE CHLORIDE (dichloromethane)	Very dangerous to the eyes; vapors have narcotic properties, which include fatigue, headache, and dizziness.	Nail enamel dryer, oil hair-dressing, aerosols.	Serious fire hazard and risk
MINERAL SPIRITS	Moderately irritating to skin, eyes, and mucous membranes.	Hairdressings, hair sprays.	An experimental carcinogen and mutagen.
PHENACETIN	Toxic via inhalation and ingestion routes.	Peroxide-based neutralizers.	This material is a powerful skin irritant, which is implicated as a cause of aplastic anemia and is a suspected carcinogen.
PARA-PHENYLENEDIAMINE	When used in hair dye, it has been known to produce vertigo, anemia, gastritis, exfoliative dermatitis, and is suspect in at least one death.	Oxidation hair dyes, permanent hair dyes, semi-permanent hair dyes.	A skin, eye, and respiratory tract irritant.
PHOSPHORIC ACID	A skin, eye and respiratory tract irritant.	Oxidizers, neutralizers.	The material will liberate oxygen when exposed to heat or chemicals, and is therefore a moderate fire risk. It will decompose if not stored properly.
POTASSIUM PERSULFATE	A moderate tissue irritant and allergen.	Bleach powders, lightener powders.	A skin and eye irritant.
PROPYLENE GLYCOL	A skin and eye irritant.	Oxidation hair dye base, semi-permanent hair dye base, hair relaxer, and thioglycolate,	This material can cause serious eye and skin injury in susceptible individuals. If the material is in a carrier, which can be absorbed through the

1 STOP 8 HOUR CONTINUING EDUCATION PROGRAM

HAZARDOUS CHEMICAL SUBSTANCE LIST			
Chemical Name	Toxic Effects	Occurrence	Precautions
		permanent wave lotion.	skin, local hyperemia (flushing), itching, dermatitis, edema, and possibly corrosion of the skin can occur. Local lymph gland swelling may also occur.
RESOKCINOL	Primarily a skin irritant.	Oxidation hair dyes.	Prolonged exposure to crystalline silica dust can lead to fibrotic changes (scarring) of lung tissue, however the health hazard is minimal if exposure is controlled. Fumed silica is found in some products. Colloidal type silica does not pose the toxic risks of the crystalline type.
SILICAS	Silica in dust form can constitute an inhalation hazard.	Frosts, activator powders.	Concentrated solutions are strong irritants to skin and other tissues.
SODIUM BISULFITE	The material is an allergen.	Oxidation shampoos.	Prolonged exposure to dilute solutions can cause burns and ulceration of skin and other tissues and can cause severe eye damage.
SODIUM PEROXIDE	Toxic by ingestion and may cause severe burns to the skin and scalp.	Hair relaxer, thioglycolate permanent waves, waving gel.	An oxidizer, which needs to be stored carefully, as the material decomposes in moist air.
SODIUM PERSULFATE	A strong tissue irritant, toxic by ingestion.	Bleach powders, lightener powders.	Toxic by ingestion.
TETRASODIUM PYROPHOSPHATE	Toxic by ingestion.	Oxidizers (trace).	Hydrogen sulfide gas derived from this material. Irritant to skin and eyes.
THIOGLYCOLIC ACID	Corrosive to mucous membranes.	Waving lotions, oxidation dyes.	The material can react violently with lithium and other metals.
TITANIUM DIOXIDE	A skin irritant, which is also an experimental neoplastic and tumorigenic agent.	Hair relaxers, dyes, nail powder.	Eye irritant, toxic when ingested.
TRICRESYL PHOSPHATE	Eye irritant.	Nail lacquer.	Vapors have narcotic action and can cause headache and nausea. The material is an experimental mutagen.
TOLUENE	Chronic toluene overexposure can lead to changes in the blood-forming organs (bone marrow).	Nail lacquer solvent.	

Records

OSHA regulations stipulate that employers must allow employees to see any records the employer has regarding an employee's exposure to potentially harmful substances. Companies must use OSHA forms to record work-related illnesses and injuries and post summaries of those records in the workplace. Companies are exempt if they have 10 or fewer workers or operate in a field that OSHA classifies as low-risk, such as retail and finance.

1 STOP 8 HOUR CONTINUING EDUCATION PROGRAM

Protective Equipment

Employers must provide protective equipment for all workers at no cost to the worker. Depending on the line of work, examples include helmets, goggles, earplugs and hard-toed boots or shoes

Hazard Communication

Any employer whose business deals with hazardous materials must properly label containers that hold the materials. Employers must train workers in using the labels to identify and safely handle hazardous materials.

Reporting Accidents

A company must report a workplace accident to the OSHA within eight hours if the accident causes either a death or the hospitalization of at least three employees. OSHA may investigate the accident and rule on whether a violation of agency guidelines was a factor.

Enforcement

OSHA has the right to investigate companies after receiving an accident report or a safety complaint from an employee, as well as to conduct regularly scheduled investigations. The average penalty for a violation is \$1,000, but some of the most egregious violations carry a penalty of \$70,000. OSHA hopes to toughen sanctions.

Not Covered

OSHA does not cover a few categories of workers in North Carolina. These include anyone who is self-employed, works on a farm where only members of the farm owner's immediate family work, or works at a place of employment covered by other federal agencies or laws. For example, mine workers have their own set of federal protections.

POST COURSE LEARNING ASSESSMENT ANSWER SHEET

At the end of each of the course section you can find a post course learning assessment. If you will be mailing your assessment in for us to grade for you use the answer sheet grid below.

Answer the assessment questions at the end of each section using the answer grid below to record your answers. Carefully detach this sheet and select **one** answer per question by filling in the box next to the correct answer. After completing the post course learning assessments for each section click on the link in the bottom box to open the online quiz and enter you answers in the online quiz using the answers you entered on the answer sheet. You can also open the online quiz by returning to the web page where you opened this training booklet and click on the large yellow button labeled "[Click Here To Open Online Quiz](#)". You can also call and give your answers over the phone, or you can mail in this completed answer grid, along with the completed licensee Information page and your course fee payment, check or money order. Mail to the address at the bottom of the licensee Information page.

8-HOUR MANICURIST POST COURSE LEARNING ASSESSMENT ANSWERSHEET GRID

1. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
2. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
3. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
4. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
5. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
6. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
7. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
8. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
9. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>
10. TRUE <input type="checkbox"/>	FALSE <input type="checkbox"/>

[CLICK HERE TO OPEN THE ELECTRONIC ONLINE QUIZ](#)

By completing this course online, you can save time and money. The online course cost less because it requires less time and staffing to process your records and we pass that savings on to you.

If you want to complete this course online [Click Here](#) then enter the answers that you entered on your completed answer sheet into the online quiz.

1 STOP 8 HOUR CONTINUING EDUCATION PROGRAM

POST COURSE LEARNING ASSESSMENT

This is the learning assessment portion of the 1Stop 8 hour Continuing Education Program, in this section you will test your retention of the material that you have just read. Take your time when selecting the correct response. It sometimes helps to read the question over if you are not sure. Read each question carefully, decide if the statement is true or if it is false, put a check mark in the box on the right of the correct response directly below the statement. Check only one response per questions, any questions that are unanswered, or if both responses are selected is counted as an incorrect answer.

1. You can get the AIDS virus while donating blood or plasma.
True ☐ False ☐
2. HIV is spread from one person to another through sharing of needles, unprotected sexual contact, blood, and body fluid.
True ☐ False ☐
3. The first sign of syphilis is generally a sore that is painless and becomes visible at the site of initial contact.
True ☐ False ☐
4. A female with untreated syphilis can transmit the disease to her unborn child.
True ☐ False ☐
5. Tuberculosis is spread through the air.
True ☐ False ☐
6. It is required by law to use a sanitary towel or neck strip around the client's neck to avoid contact of the shampoo cape with a client's skin.
True ☐ False ☐
7. Bacteria are responsible for a large degree of illness and suffering.
True ☐ False ☐
8. Clients with an infectious disease can be served in a salon if they are kept in a separate room from all the other clients while the service is being performed.
True ☐ False ☐
9. The FDA makes sure that the chemicals used in a salon are safe if used properly.
True ☐ False ☐
10. OSHA regulations require salon owners to maintain the MSDS sheets and make them available to employees to read.
True ☐ False ☐

[**CLICK HERE TO OPEN THE ONLINE QUIZ FOR THIS COURSE**](#)

Information Sheet

Please mark all of your answers clearly on the answer sheet. Mark only one answer for each question. Include your check or money order, the answer sheet, and this information sheet. Please fill out the information on the form below. **Make sure you print clearly!**

Name _____
LAST FIRST

North Carolina License Number _____

Name as seen on your license _____

Address _____

City _____ State _____ Zip _____

Day Phone ____ (____) _____ Evening Phone ____ (____) _____

Signature _____ Date _____

* E-mail address _____

(**E-mail address is required**, confirmation that your report was sent, a link for you to print your certificate of course completion, and notification email if any processing issues were found such as not passing or incorrect course selected are emailed to you at the email address that you provide us on this form, invalid or incorrectly typed email address, or if you do not return to your email address that you give to check for our follow-up email prevent you from successfully completing the processing of the course completion records for this course).

On a scale of 1 to 10, 1 to disagree and 10 to completely agree, please rate this course. Circle one only.

- | | |
|------------------------------------------------------|----------------------|
| 1) The course will benefit my work performance. | 1 2 3 4 5 6 7 8 9 10 |
| 2) I found the information too difficult. | 1 2 3 4 5 6 7 8 9 10 |
| 3) The course was clear and well organized. | 1 2 3 4 5 6 7 8 9 10 |
| 4) I would recommend this course to others. | 1 2 3 4 5 6 7 8 9 10 |
| 5) I found the information to be current. | 1 2 3 4 5 6 7 8 9 10 |
| 6) I found the instructional method to be effective. | 1 2 3 4 5 6 7 8 9 10 |
| 7) The content of this course met my expectations | 1 2 3 4 5 6 7 8 9 10 |
| 8) I would rate this course | 1 2 3 4 5 6 7 8 9 10 |

Send:

1. The Answer Sheet
2. The Information Sheet
3. And a Check for \$28.95 payable to: **EVA PRICE**

Mail to:

(Manicurist Course posted on 1stopceus.com website/not prepaid)

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- By completing this course online you can save time and money. The online course cost less because it requires less time and staffing to process your records and we pass that savings on to you. If you want to complete this course online [Click Here](#) then enter the answers that you entered on your completed answer sheet into the online quiz.

Look Before You Mail!

One Last Reminder! Please check your envelope to be sure that you have included the answer sheet, the information sheet and, that your check is signed and is made out for **\$28.95**. Also check the envelope for a full address and a return address.

IMPORTANT NOTE ABOUT YOUR CERTIFICATE AND ELECTRONIC COURSE REPORTING

Remember to write clearly on the information sheet and to give an email address that you will return to so you can find open and read the follow-up email that we will send you at the time that we process your assessment and send a report to the state for you. If we cannot understand what has been entered on the information sheet we can not contact you to let you know if the reporting was successful and send you the link you need to print your certificate, or to notify you if there is an issue.

Electronic reports of course completion are sent to the state the day that we receive and process your course learning assessment and course fee payment, we then email you to notify you of your status. That follow-up email will contain a link for you to use so you can go online to print your certificate of completion for this course and it will also let you know if the processing of your course completion records and a subsequent report to the state was successful. Alternatively if we run into an issue with the processing of your assessment or any other item regarding this course completion, it will be found in that same follow-up email along with the instructions on the action you need to take to correct the issue. It is your responsibility to return to the email inbox for the email address that you give us on the information page that you are required to mail us at the time you mail your answer sheet. If you do not return to your email inbox and there was an issue with your processing you will not know about it and it could cost you valuable time and money. Please take the time to follow through by checking for the email that we will send you at the time we receive your test questions answer sheet. Also your information will be sent to the state electronically on the same day that we receive your assessment answer sheet provided you pass with a minimum of a 75% score.

A link to print your certificates online is the method used to provide you with your course completion certificate for this course. We do not send hard copies of certificates of course completion, we are an Internet based company and we provide certificates of course completion in the same manner that the course training document used to complete the course was made available, that being electronically from our website. You are able to print the certificate online at our web site after successfully completing the online quiz or after we receive your assessment that you printed online and mailed to us, then you can print your certificate on our web site by using the link that we provide in the email we send. If you have problems with your printer you can move to another computer that has an Internet connection and a working printer to print your certificate. The public library, or the local office supply location provides computers and printing resources that you can use to print your certificate of completion, using the link that we will email to you in the follow-up email. The course is accessed on the Internet and the certificate is provided to you to access in the same manner that you accessed the course and is the way that our company meets the legally requirement to provide a certificate and/or copies of the certificate to participants of our courses. You can call your answers and your course fee payment in over the phone for faster service if you cannot complete and pay for the course using the online quiz by contacting our office at: **321-217-0554**.

Thank you again for your patronage! If you have any questions regarding the course material or the testing process, please feel at liberty to contact our office at: **321-217-0554**

You can E-mail us at: **cosmetology@flceo.com** or you can write to:

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PLEASE NOTE: A charge of \$35.00 will be imposed for all checks returned because of insufficient funds.

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